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Davide M. Parrilli

Informational Privacy for Service Design

An Ethical Framework for Designing Privacy-Oriented Services

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Preface

Human beings need privacy. We all need a space where nobody has access, where we feel completely free from prying eyes and judgments. Complete transparency is the denial of freedom, and it is the dream of the most dystopic regimes—of course, with the exception of the people in power, who cherish their privacy with great care.

Privacy is on the top of the policymaking agenda for decision-makers and over the years it has become a social concern in many countries, ranging from Europe to China. However, we probably never lived in an era where human beings enjoyed of less privacy. Unless one lives in a very remote area, escaping physical surveillance is nearly impossible, as cameras installed by governments on streets, in stations, and on public transport, by businesses in shops, and by individuals outside their homes are ubiquitous. The explosion of digital services in the last few decades generated another, and perhaps more pervasive, form of surveillance: the surveillance of and through personal information. As a consequence, the privacy of people's information and data (*informational privacy*) perhaps is not completely dead, but certainly is not in good shape.

To put things in context, it is no exaggeration to say that the primary purpose of smartphones, which we carry with us for most of the day, is not communication with others but rather the provision of services to users. Users frequently pay for services with their personal information. Consequently, smartphones—and other digital gadgets like smartwatches—have become tools designed to capture as much personal information as possible.

The area of design most focused on creating services where users interact with service providers and each other—resulting in a flow of personal information—is *service design*. It is both important and urgent to assess informational privacy from the perspective of service design and for the practice of service design. Our contribution aims to fill in this gap.

This book is the culmination of years of research that led the author to earn a Ph.D. in design and to discover a multi-perspective approach to privacy. With a background in privacy and IT law, the author's critique of the legal approach to informational privacy in this research and book may come as a surprise to readers. However, the author's motivation to approach privacy from a different angle—focusing on

the design of services that capture people's data—stemmed from the frustration of realizing that data protection legislation and privacy policies often serve as formal tools, giving the illusion of respecting citizens' and users' privacy rights, while in reality, people are treated as revenue sources through the exploitation of their data.

The aim of this book is to equip designers with a deeper understanding of informational privacy, emphasizing why and how people's privacy should be respected and enhanced. The answer to the former question is relatively straightforward—we relied on excellent definitions of informational privacy to provide our interpretation of privacy for service design. The solution to the latter issue is more important and challenging. In our quest to understand the rationale for privacy in service design, we embarked on an extensive journey through various disciplines and practices. Ultimately, we grounded our findings in ethics and philosophy. The next challenge was to translate these ethical and philosophical principles into practical guidelines for designers. It is up to the readers to determine whether we have succeeded in this endeavor.

In our defense, we acknowledge that our research lacked solid references specifically addressing privacy in the context of service design. While there is extensive literature on privacy and service design individually, there is a notable absence of research focusing on privacy within or for service design. Basically, this book opens a new field of research and practice about privacy *and* service design. The readers will hopefully excuse us if some statements are too bold, or if different perspectives and solutions are possible. We sincerely hope that researchers and practitioners across various fields—from design to marketing, social sciences, and even law—who are the intended audience of this book, will build on our work to explore new multidisciplinary directions and foster a deeper, more comprehensive understanding of informational privacy in service design.

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The author extends gratitude to their Ph.D. research supervisor, Prof. Rodrigo Hernández-Ramírez, for their continuous support and trust. We also thank Prof. Mette Birkedal Bruun for hosting the author at her Centre for Privacy Studies, University of Copenhagen: it has sincerely been one of the most mentally stimulating periods of the author's life; Prof. Merja Lina M. Bauters for welcoming the author at the School of Digital Technologies, Tallinn University for a workshop to assess their Ph.D. project; Prof. João Batalheiro Ferreira for their support—and, of course, all three academics for their feedback and comments that pushed the author to do more and better.

Last, but definitely not least, special thanks to my wife Bernadette and my daughter Beatriz for their encouragement and patience. No words can explain the role that they had in this incredible journey.

Delft, The Netherlands Davide M. Parrilli

Contents

Chapter 1
Introduction

Abstract In this chapter we introduce the book, starting with the identification and presentation of the problem background. The research discussed in the book is about informational privacy and service design in the era of massive surveillance and data-driven interactions. The chapter briefly explores why informational privacy in service design is important and introduces the key milestones of the book: the ethical framework of privacy for service design, that helps service designers build a designerly understanding of privacy. We discuss the research questions and objectives addressed in the book, the state of the art of research about informational privacy and service design, and our research approach and strategy. The introduction ends with a chapter overview.

1.1 Problem Background

At the beginning of our research about informational privacy and service design, we had a limited understanding of the complexity of the problems we would be facing. At the onset of our investigation, we defined the research problem, which subsequently evolved and branched out into various interconnected research problems. Nevertheless, we are confident that the original question remains significant. *How can designers effectively incorporate privacy into the practice of service design?*

We were (and still are) concerned about privacy in the field of service design, and we intuited that the human-centered design approach, together with ethics, are adequate approaches. After 3 years of intensive research—this book is part of our PhD thesis discussed in April 2024—we can say that our initial hypothesis was validated. In the following chapters, we will detail a privacy ethical framework to address privacy concerns within service design from a human-centered perspective, alongside its conceptual foundations and practical implications.

What began as a singular problem—privacy within service design—gradually unraveled into several problems, leading our research to broaden into multiple investigations. Before delving into the details of this process, we need to take a step back and focus on the underlying reasons behind our concern for privacy in the context of

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service design. The research discussed in this book is relevant beyond design, and we are confident its importance will only grow in the future. To assert that human privacy is under threat would be an understatement.

We are physically monitored when we walk on the streets, use public transport, or withdraw money from an ATM. However, surveillance goes beyond closed-circuit television (CCTV) cameras in our immediate vicinity. We are monitored through our data. In principle, any digital gadget can become a surveillance tool because it collects and uses data about its owner. Devices with microphones and cameras—such as the mobile phone in everyone's pocket—can be used to surreptitiously listen to conversations and spy on people around them. This is the unsettling reality that surrounds us.

Surveillance is the background issue guiding our research. A literature review on the topic reveals that surveillance involves many contradictory aspects. The biggest challenge is to understand whether surveillance can be curtailed. Is there room for optimism? We will discuss the emergence of data protection legislation to protect people's data, and we will show that legislation is not enough to establish effective barriers against surveillance and its operators.

Surveillance is intrinsically related to privacy. During our research, it clearly emerged that privacy is a complex concept. First, privacy is neither understood nor cared for consistently across cultures. This heterogeneity is problematic because we developed and propose a privacy framework with the ambition to be universal. Nonetheless, we consider that the emerge of technologies for massive surveillance played a role in making the need for privacy a universal issue.

When people are monitored by family and community members, proximity ties may prevail and make privacy concerns irrelevant. When people are surveilled by corporations and governments, the perspective may be different, and privacy emerges as a pressing need to protect people's identity and interests.

Privacy is about people's physical identity and their information (Acquisti et al. 2015). When surveillance focuses on the physical identity of a person, we refer to it as 'bodily privacy'. Bodily privacy is threatened by CCTV cameras and physical stalking. Architecture and design offer simple effective solutions to protect people's bodily privacy. Walls, curtains, and doors are perhaps the most basic means to achieve a minimum degree of privacy.

However, in our research we are mostly concerned with the type of privacy that involves people's information, which we refer to as 'informational privacy'. Informational privacy is about protecting people's data, including their name, contact details, financial information, and health and genetic data, but it can also encompass their geolocation, their daily activities and behavior, and their preferences and tastes. In other words, informational privacy has to do with everything that defines a person as an individual and that can be datafied. In this book, we discuss the fundamentals of informational privacy protection, and why its value cannot be taken for granted.

In our research, we explore different dimensions of privacy, including one that is generally overlooked by surveillance scholars: peer-to-peer surveillance. Peer-to-peer surveillance highlights the fact that people in cyberspace can be tracked by corporations and governments, but also by other users of digital services. It is

concerning, but also necessary for peer-to-peer interactions to be left to individual management. Legislation in liberal societies does not dictate how individuals handle their friends' personal information, nor does it govern and restricts the (willful) exchange of personal data between individuals. However, our research shows that this flow of information generates several risks for people.

Another complex dimension of our investigation concerns service design. Service design deserves careful attention because it is arguably the most holistic domain of design practice nowadays. While we could have focused on privacy for digital design, or UX or UI design, in our opinion, only service design is simultaneously concerned with the user, the service provider, the service as a product, and every other point of interaction between stakeholders. Only by considering every aspect of a service one can truly understand how it affects people's privacy and, therefore, tackle potential threats and design adequate solutions.

During our research, we realized that many aspects concerning service design remain open for debate, including the very definition of service design and what it entails. We also understood that the prevailing approaches to service design are not ideal because they tend to overlook how people's data is managed and disregard their informational privacy.

Nonetheless, before establishing the relation between service design and privacy, we had to deconstruct service design as a field and characterize it as a practice. We carried out this process through the lens of servitization and virtualization, focusing on what 'service' and 'design' actually mean in this field. By distancing ourselves from the marketing understanding of service design which focuses almost exclusively on the business side of services, our research locates service design into the field of design practice. In this way, interactions and experiences are understood as key aspects of service design.

Service design is not only the design of services. Above all, it is the design of solutions that enhance user experience through interactions. Interactions are the real *fil rouge* of our research. Ultimately, we seek to identify what are the necessary conditions for privacy-enhancing interactions between people, between people and service providers, and between people and technologies. In this sense, we firmly distance ourselves from a conception of privacy as solitude. Privacy guarantees that people's information and dignity are protected during any sort of interaction, be it between people or between people and services. Our research thus establishes a (much needed) logical connection between service design, interactions, and information.

Service design relies on interactions. Interactions, however, presuppose the exchange of information. When people interact, regardless of the medium, they share data, including personal information. It follows that service design should necessarily be concerned with information and data, particularly when those interactions take place in a digital environment.

Services require information exchange. For operational and (sometimes) legal reasons, service providers need people's personal information including name, contact details, or credit card numbers. Often, data itself is the payment customers give to use a service. For example, several newspapers in Europe increasingly force readers without a subscription to accept tracking cookies in exchange for reading

articles. This essentially means that readers can either pay with money *or* with their data to access content.

Money is a commodity. Personal data, in principle, is not, but some authors argue that personal information and human experiences have been commodified. This reveals a concerning aspect about contemporary societies. If data about people and their experiences have no intrinsic value, do people have intrinsic and individual value? A multidisciplinary literature review in Chaps. 3 and 4 helps us understand that not only people, but also their data have value because they refer to people' identity. We strongly reject the idea that human beings' personal information is a commodity, but this standpoint is difficult to reconcile with current understandings of service design, since this field does not yet have the conceptual and methodological tools to even consider informational privacy.

Although current approaches to service design are largely built on human-centered design, we argue this framework lacks a clear conceptualization of personal data, and hence of privacy. The first steppingstone in our research is therefore to build a designerly understanding of privacy for service design. Without such comprehensive and consistent understanding, no action plan to incorporate informational privacy into service design can be designed. However, the designerly understanding alone is not sufficient to achieve the results we are aiming for. A further step is required: the definition of an enabling tool and a methodology. The enabling tool that we identified in our research is a privacy ethical framework for service design.

The implementation of the framework helps designers achieve a designerly understanding of privacy for service design, and it helps service designers design products that effectively respect and enhance people's privacy. With this respect, we would like to emphasize one crucial point. Arguably, several different potential designerly understandings of privacy may exist. The implementation of the framework implies the exclusion of approaches and solutions that do not protect and enhance people's privacy. In other words, the designerly understanding and the framework are not morally neutral.

1.2 Research Questions and Objectives

Our research addresses 3 main questions, which point to an existing gap regarding a thorough understanding of privacy within service design practice. The research questions place service designers at the forefront, as our study aims to enrich service design as a practice by equipping service designers with tools to create privacy-enhancing solutions.

The research questions approach privacy for and through service design from an ethical perspective. In this sense, they build upon existing literature on design ethics and seek to validate the ethical approach to solve social challenges currently affecting design.

In the following chapters, we will therefore address the following research questions:

1. Do service designers have an ethical duty to integrate informational privacy into service design?
2. Which ethical grounds and reasons justify and support this duty?
3. How can service design effectively embrace privacy concerns under a universally acceptable framework?

The 1st research question is addressed in Chap. 3, Chap. 4 deals with the 2nd one, whereas Chap. 5 deals with the 3rd question.

The research is both for and through design, and it has various objectives, both practical and academic. Therefore, it seeks to advance both academic knowledge about informational privacy within service design *and* service design as a practice that respects people's information.

The practical objectives of the research are closely related to the research questions:

1. Identify and elaborate operative definitions of service design and informational privacy for service design that facilitate the emergence of a real practice of service design for privacy.
2. Identify the gaps that prevent the integration between informational privacy and service design and analyze scenarios and blocking threats to such integration.
3. Propose, conceptualize, and list new and enhanced ethical tools in a framework that can adapt to the changing technical, business, and legal environment.

The 1st practical objective is key for answering the 1st research question, because assessing whether service designers have an ethical duty to integrate informational privacy into service design presupposes a firm understanding of both service design *and* informational privacy. Similarly, the 2nd objective is necessarily linked to the 2nd question because our ethical approach to informational privacy and service design is necessarily designerly and pragmatic. The existing human, social, and economic gaps are carefully considered when proposing effective and implementable ethical foundations for informational privacy for service design. Finally, the 3rd practical objective is related to the 3rd research question.

The academic objectives aim to strengthen the conceptual knowledge in the field of service design and informational privacy:

1. Propose a definition of service design which builds upon the existing literature and encompasses the potential developments in service design practice regarding the collection and use of people' information.
2. Present a definition of informational privacy for service design that helps build a designerly understanding of privacy and enables further research.
3. Establish a conceptual link between ethics, service design, and informational privacy and fill the research gap in this field.

1.3 State of the Art

The starting point of the research is the fact that current technological developments allow the collection, storage, and processing of increasingly vast amounts of data about people's activities and behaviors. Service providers often deliberately and surreptitiously accumulate unjustifiably large amounts of information about their users. This practice is the hallmark of what has been called "surveillance capitalism", a new economic system that not only threatens privacy rights but also democratic freedom (Zuboff 2019). When we talk about privacy, what is really at stake is freedom and social equality, because personal data is potentially a toxic asset (Véliz 2020).

This has a major impact on service design, because service design is the design practice that designs the arena where interactions between service providers and consumers and between users take place (Meroni and Sangiorgi 2011; Penin 2017). Service design emerged as a design practice—and arguably discipline, although we contest this characterization—at the beginning of the twenty-first century. Its conceptual approach is largely informed by marketing and business studies, which shows a strong scholarly interest in the definition and role of the 'service'. Our research reveals a gap in the understanding of the relation and interactions between service provider and customers, between technology and customers, and between customers themselves within the service journey. This gap is particularly strong when one considers customers' information and data. The interactions that take place in service journeys increasingly involve the exchange of information, which nowadays is the real, unavoidable key aspect of digital interactions between service providers and customers..

To illustrate this point, we use an example from the travel industry. Buying a train ticket in person at a ticket office or online meets the same goal—providing the traveler with a train ticket. However, the interactions that take place in these scenarios are very different. In the former case, the main interaction happens between 2 people, while the seller interacts with the digital ticketing system of the railway operator to issue the ticket. The main interaction has an expectable outcome—the traveler will get their ticket—but the content of the interaction is not directly controllable by the parties. Possibly, the traveler may ask additional information to the seller, or comment about the weather or the recent strikes that affected the service.

Even if the traveler has to provide their identity to buy the ticket, the core of the interactions does not conceptually and practically involve information. The most important aspect of the service journey is the transaction—money for a ticket—between the customer and the train operator, mediated by the seller. This paradigm is completely altered in online scenarios. The traveler likely has to log in into the rail company website or app with their authentication data to start buying the ticket. Once they have chosen the travel details, they will handle their payment data (possibly through digital intermediaries, such as PayPal) and will receive their digital ticket. All those moments in the service journey are information. The user interaction with the website or app is only about and through data.

Service design is essentially human-centered (see Chap. 2 for a literature review on this topic). Human-centered design is arguably the most influential approach within contemporary design practice. Human-centered design is a comprehensive design philosophy guided by human needs. In this sense it is "fundamentally an affirmation of human dignity" (Buchanan 2000:37). Designers following human-centered design should therefore be concerned about the impact of their products over their users' privacy. Nonetheless, human-centered design does not have yet a comprehensive built-in understanding of privacy. The same applies to other popular design approaches. It is remarkable, for example, that the Value Sensitive Design approach (Friedman et al. 2003; Cummings 2006; Friedman and Hendry 2019) identifies privacy as a human value relevant to design, but without considering the designers' responsibility to tackle ethical and social issues (Parsons 2016).

Since the 1970s, designers have been called to follow a socially responsible paradigm (Papanek 2019). However, privacy was never specifically a part of this agenda. More recently, there have been new claims for designers to engage this problem. According to this view, designers have a responsibility as "gatekeepers" of human liberties and therefore should strive to make sure that their creations always respect their users' interests (Monteiro 2019). This ethical approach should be endorsed because the mere legal recognition of privacy and data protection rights is not enough to explain why designers should care about privacy.

Nonetheless, the concepts of privacy and data protection remain vague and unclear. Among the authors that investigated the direct relationship between privacy and design, Ann Cavoukian stands out for having created the very concept of Privacy by Design (2012). Nonetheless, it does not provide a comprehensive answer as to why privacy should be part of any service design process. This approach provides a good starting point, offering general principles to assess how design products should meet legal privacy requirements. However, designers continue to need a clear, universal framework that allows them to integrate privacy rights into service design. Furthermore, privacy should be part of the whole service design process and practice and not be limited to the design of the final product.

The violations of personal privacy by badly designed services are prone to affect more and more the wellbeing of the persons involved and of the society as a whole (Koch 2019), because everyone's decisions and tasks are increasingly dependent upon 'artificial agents' (Floridi 2016). Designing without protecting the privacy of all stakeholders equates to designing a car without having in mind the safety of the driver and passengers.

Given this urgency, this book fills the existing gap to create new conceptual and operative tools for service design to respect and enhance the privacy rights and interests of human beings, being them users and stakeholders of the designed solutions.

1.4 Research Approach and Strategy

The research presented in this book is in the design field, although it regularly intersects other disciplines and fields of knowledge. In Chap. 2 we discuss what 'design' means for and in the context of service design, in particular with the objective of clearly distinguishing service design from marketing and management practices. Although there is no single definition of design, to the ends of our investigation we accept a comprehensive and product-related notion of design as the "activity for planning and implementing new products, which includes the byproducts of the processes involved such as drawings, models, plans, or manufactured objects." (Frankel and Racine 2010:3).

The research activity related to design that led to this book is exploratory and is a way of inquiring and producing new knowledge (Downton 2005; Cross 2006). The research discussed in this book follows different and interrelated approaches, strategies, and methodologies. Building on the contributions of Buchanan (2001) and Friedman (2000), the adopted approach to new knowledge in our research is diverse. Primarily, our research fits into the definition of basic research. Basic research focuses on empirical assessment of fundamental principles to develop theories about design that has extensive consequences for design (Buchanan 2001). In our case, we examine fundamental principles from a multidisciplinary perspective that lead to a privacy ethical framework for service design that adds knowledge to service design practice.

Following Cross' identification of design research features (2006), our research is:

- Purposive: it is based on the identification of an issue or problem worthy and capable of investigation: the protection of people's information in service design.
- Inquisitive: it seeks to acquire new knowledge aimed at building a designerly understanding of privacy for service design and enhancing informational privacy in service design.
- Informed: it is built on and with awareness of previous research.
- Methodical: it follows an approach and a strategy and is carried out in a disciplined matter.
- Communicable: it generates and reports accessible, testable, and implementable results.

The research presented in for this book is also applied research, because it focuses on investigating general classes of design problems—in this case, informational privacy in service design practice—establishing connections among several individual cases (Buchanan 2001). The cases discussed in our research are both real and speculative, but they all aim at investigating their common traits, challenges, and threats to people's informational privacy in order to extrapolate and propose solutions that work in a broader context.

The adopted research strategy is multiple. The literature identified 3 categories of design research: research for design, research through design, and research about design (Frayling 1993; Archer 1995; Findeli 1999; Friedman 2003; Downton 2005;

Cross 2006; Jonas 2007). Because of the contributions from other disciplines (in particular ethics), our research is unmistakably research *about* design (Findeli 1995). The main aim of the investigation is to define a privacy ethical framework for service design. Therefore, it is research about the ethics of service design. Building a designerly way of knowing (Cross 2006) is a typical character of research about design. One of the scopes of our investigation is indeed the definition of a designerly understanding of privacy for service design.

In line with the idea that emerged in the design literature about the relation between problem and solution (Schön 1983; Gedenryd 1998; Dorst and Cross 2001; Buchanan 2007), our research intends to find solutions but also to raise problems. In particular, issues related to informational privacy and surveillance have been discussed by scholars from other disciplines but have not been taken into consideration by service design authors. The challenges we comment on in our book are typical "wicked problems" (Rittel and Webber 1973) where the problem and the solution may emerge together (Lawson 2010). This is more evident in Chap. 5, where we identify and comment on the principles of the privacy ethical framework. These principles are intended to be a solution to informational privacy challenges, but they also raise problems. Through the lenses of the framework principles, challenges emerge that perhaps could not have been clearly identified without the framework.

However, our research adopted also the other 2 strategies. Because it provides implementable implications for designers to achieve end-results in their design process (Downton 2005; Forlizzi et al. 2009), our investigation possesses the typical traits of research *for* design. Building on Downton's contribution (2005), the outcome of the research—the privacy ethical framework for service design—aims to help designers achieve specific and feasible design solutions. The literature suggests that one of the key aspects of research for design is to embody and test the proposition, principle, process, or function that come out of research (Archer 1995; Visocky O'Grady and Visocky O'Grady 2017). Indeed, the privacy ethical framework, intended as a proposition and a set of principles, has been embodied in a prototype of a digital product and tested with real users. The prototype and the test are discussed in other academic publications (Parrilli et al. 2024).

Finally, the research shares some important characters with research through design (Schneider 2007), which combines the practice-based research approach of practitioners and a general research question not limited to the product on which research is carried on. The implementation of the framework through the design of prototypes of design products involves a designer's practice-based approach, according to a logic of "Dialectic Strategy" (Buchanan 2007:57).

The methodology adopted to collect data and generate new knowledge relies on literature review. For our research about and for design, a multidisciplinary literature review plays a key role to gather and elaborate information and knowledge that is used to generate new knowledge.

For each of the following chapters of the book, Table 1.1 provides a comprehensive overview of the scholarly disciplines and practices from which the literature is extracted, as well as the outcomes of the review exercise.

Table 1.1 Literature review and outcome per chapter

Chapter	Literature disciplines and practices	Outcome
Chapter 1	Design ethics Design theories and practice Design thinking Economics, business, management Human-centered design Interaction design Marketing Philosophy and ethics of technology Service design Servitization, product-service system (PSS) Social studies Sustainability studies	Definition of service design upon which we can build the idea of service design for privacy and a designerly understanding of privacy for service design
Chapter 2	Design ethics Design theories and practice Interaction design Legal studies and legislation Philosophy and ethics Philosophy and ethics of technology Privacy studies Service design Social sciences Speculative design	Mapping of informational privacy threats and challenges for service design Definition of privacy for service design

(continued)

Table 1.1 (continued)

Chapter	Literature disciplines and practices	Outcome
Chapter 3	Design ethics Design theories and practice Human-centered design Interaction design Interaction design Legal studies and legislation Philosophy and ethics Philosophy and ethics of technology Privacy studies Service design Social sciences Speculative design Value sensitive design	Foundations of a designerly understanding of privacy for service design Ethical foundations of privacy for service design
Chapter 4	Computer science Design ethics Design theories and practice Human-centered design Interaction design Philosophy and ethics Privacy studies Service design Social sciences Speculative design	Definition of the privacy ethical framework for service design

1.5 Chapters Overview

In this final section of the introduction to our work, we briefly present the content of each chapter. This book is composed of 6 chapters. Each chapter is designed to function as a standalone unit, encapsulating a comprehensive assessment of a topic that is relevant to the overall research.

In Chap. 2, we assess the relationship between service design and design culture, and we delineate the origins of service design practice in the Italian project-centered design culture. Building on an extensive literature review, we propose getting over

the idea of service design as the design of services. Instead, we focus on interactions as a key pillar of service design practice. We map the service design interactions, and we identify 3 fundamental interactions relevant for service design: interactions between users and service; interactions between users, touchpoints, and interfaces; interactions between users and stakeholders. We approach the interactions between users and service through the lenses of dematerialization and servitization in relation to innovation and the creation of new service value proposition. Further, we comment on interactions between users and service providers and between users and technology and the diverse range of implications for customers.

The interactions between users and stakeholders are very important for our research. We map this kind of interactions based on their nature and strength, paving the way to our assessment of service design in context. In particular, we comment on the relation between service design and modernity, characterized by liquidity, flexibility, and ambiguity. Although these concepts are often perceived negatively, we suggest not to reject them but to embrace their potential for a better service design practice. We claim that ethical considerations are inescapable when one considers how to design for liquid communities and, building on existing research, this can be extended to sustainability. However, we identify a gap in the research about service design, ethics, and sustainability and we argue that service designers should be concerned about the ethical and sustainable aspects of their products.

We then focus on the notion of service in service design, and we consider whether contemporary service design practice is concerned with the design of liquid services. We identify the features of service proposed by the literature from a multidisciplinary perspective and we focus on a dimension which tends to be underexplored in service design research: service as experience. In the final part of the chapter, we assess the relation between service design and design thinking, and we propose an operative definition of service design. Lastly, we comment on the challenges of designing services.

Chapter 3 focuses on informational privacy for service design. It firmly establishes the background condition of the research—the surveillance era, fueled by the digitization and servitization of businesses and products. The risks of surveillance are discussed with reference to the scholarly perspective of "surveillance capitalism". However, we propose a critical view of this approach, which, despite its merits, has biases and some important conceptual flaws. We adhere to the idea of surveillance society, where citizens play an active role in the massive surveillance processes and promote an authentic surveillance culture.

We explore then the different meanings of privacy. We reject some older ideas of privacy, generated before the digital revolution and the emergence of the surveillance society and culture, and we focus our research on informational privacy—that is, the protection of people's information and data. The idea of informational privacy is consistent with the legal notion of data protection applicable in the European Union (EU) and with a diffused and respected definition of privacy, proposed in 1967 by the US legal scholar Alan Westin.

To introduce the relation between service design and informational privacy, we propose a conceptual—but with strong practical implications—opposition between

privacy utopia and dystopia, with reference to the Panopticon and Michel Foucault's idea of the panopticism. Then, we map privacy scenarios and potential threats in service design contexts and, finally, we propose and comment on our definition of privacy for service design.

In Chap. 4 we set the foundations of an ethical approach to privacy for service design. First, we delve into the potential perspectives on privacy. We identify a gap in the service design and human-centered design research about informational privacy, and we critically comment on Value Sensitive Design, its idea of privacy, and its practical implications. We recognize that an alternative approach to privacy for service design is through legislation. However, although there is remarkable privacy and data protection legislation in several jurisdictions, including the EU, we conclude that legislation is not the best tool to protect people's informational privacy in service design contexts, primarily because of its loopholes. Additionally, we agree with the literature that claims that legislation has not been able to change the surveillance capitalism and society paradigms. A similar critical perspective guides our analysis of Privacy by Design, which is a useful compliance tool but is not able to justify privacy for and within service design.

In the second part of the chapter, we comment on the ethical foundations of privacy for service design. We emphasize the significance of ethics, rather than relying solely on legislation, in sustaining the protection of individuals' information within service design contexts. However, the fact that ethics has been largely overlooked in privacy research is a major challenge. Therefore, we identify a double gap which needs to be filled: bringing privacy into the discipline and practice of service design *and* sustaining privacy with ethics. We specify that in our research philosophy and ethics are instrumental in building a designerly understanding of privacy and sustaining privacy for design. Therefore, our approach to ethics is pragmatic and intended for design.

Then, we map the moral approaches to privacy for service design, introducing and pragmatically commenting on utilitarianism, deontology, virtue ethics and techno-moral virtues. However, we argue that the philosophical and ethical approach that can sustain privacy for service design more comprehensively is Luciano Floridi's information ethics, because of its ontological connection between information and human being. Claiming that 'I am my data' paves the way to a strong foundation of informational privacy in all domains, including service design. Due to the cultural differences in approaching privacy, intercultural information ethics supports information ethics and brings a broader perspective, where privacy emerges as a human universal. Since decades, empirical research and evidence shows that privacy is both culturally specific and culturally universal and is a true universal human need (Véliz 2024; Altman 1977; Acquisti et al. 2015).

In Chap. 5, we define the privacy ethical framework for service design. First, we assess why a privacy ethical framework for service design is needed, claiming ethical and pragmatic reasons. We introduce the characters of the framework, which is ethical, universal, human-centered, heuristic, and evolutionary. We show how the framework is a tool that helps service designers gain a designerly understanding of informational privacy and apply that understanding to design privacy-protecting and

privacy-enhancing products. The framework is composed of 10 principles, which are extensively discussed with the help of real and speculative case studies. The principles are increasingly practice-oriented, but they are all immediately implementable. They are focused on the user of the service design solution and on the stakeholders affected by the solution. Transparency, interactions, security, freedom, moral agency, user experience, usability and understandability are key aspects of the framework. In the last part of the chapter, we delve into the potential challenges and opportunities of the framework.

In the last section of the book (Chap. 6), we discuss the concluding remarks and implications of our research, and we introduce the reader to our future investigation and the potential developments of our work.

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Chapter 2
Designing for Human Interactions: An Approach to Service Design

Abstract In this chapter, we explore the interplay between service design and design culture, tracing the roots of service design within the Italian project-centered design tradition. Through an extensive literature review, we move beyond viewing service design merely as the design of services, emphasizing the importance of interactions. We identify three critical interactions in service design: between users and services, users and touchpoints/interfaces, and users and stakeholders. These interactions are examined through the lenses of dematerialization, servitization, and innovation, highlighting their implications for new service value propositions. We stress the significance of user-stakeholder interactions, analyzing their nature and strength within the context of modernity characterized by liquidity, flexibility, and ambiguity. Ethical considerations in designing for liquid communities and sustainability are underscored. Additionally, we address the often-overlooked aspect of service as experience, and conclude with an operative definition of service design, discussing its challenges and relation to design thinking.

2.1 Service Design and Design Culture

The scope of this book is to propose an ethically minded framework to integrate informational privacy into service design and to show the possibilities and challenges associated with the implementation of the framework. Our task begins with the definition and conceptualization of service design, which is inherently challenging since—as the existing literature shows—scholars have not reached an agreement about the nature of this field (is service design a practice, an approach, or a discipline?). Service design scholars primarily focus on identifying the key aspects of service design and exploring its practical applications. The fact that service designers struggle to explain the material they work with adds an additional layer of complication (Blomkvist et al. 2016).

In the following pages, we delve into service design, examining its broad scope and encompassing elements. We approach service design from the perspective of service dematerialization and servitization. Building on multidisciplinary literature,

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we discuss the relationship between service design and 2 key features of the contemporary social, business, and design landscape: interactions—service design is not conceivable without interactions—and liquidity. In the final part of this chapter, we introduce our operative definition of service design.

As the name implies, service design is about *design* and *services*. Understandably, it would be easy to conclude that service design is merely about designing services. However, although this idea is not far from the truth—service design is *also* about designing services—it is not satisfactory because it does not consider the cultural, economic, and social aspects of service design.

The term 'service design' originates in the marketing literature (Shostack 1982). The business academic literature has shown interest in service design since the 1970s, and characterizes it as something that involves designing, managing, and improving the service delivery system (Sasser et al. 1978). These management and marketing researchers regard services as processes, focusing on the organizational aspects of services that are not directly visible to customers. Conversely, areas such as product and interaction design focus on the user experience and the interface between service providers and customers (Morelli 2009). The study and understanding of service design from the perspective of interactions can be traced to the end of the twentieth century—for example, Pacenti's work has been a pioneering steppingstone in that regard (1998). Pacenti focuses on service interaction and on the 'design of services' (or '*progettazione dei servizi*'). Interestingly, the words '*progettazione*' and '*progetto*' in Italian are deeply rooted in the national design culture and represent concepts that go beyond the mere design of solutions.

'*Progetto*', in the Italian design heritage, is not only a design project to conceive and materialize things but also the reflection of a deep culture. Specifically, '*cultura del progetto*', with its codes and models, is one of the main components of design, together with creativity (Zurlo 2019). In the Italian context, the '*cultura del progetto*'—and design culture at large—is deeply humanistic, mainly because of the emphasis traditionally placed on the arts in the national school system—as famously noted by Vico Magistretti during a tour in the United Kingdom in the 1980s (Zurlo 2019).

This explains the view of design as '*progettazione*' of services held by Pacenti, and the focus on interactions within services—i.e., interactions between humans using designed services. The humanistic approach to the design of services is markedly different from traditional definitions of design and of the act of designing. For example, in L. Bruce Archer's definition, the subjective, human dimension of design is absent. According to Archer (1984:58–59) the elements of designing are "the prior formulation of a prescription or model", "the embodiment of the design as an artifact", and the "presence of a creative step". This restricted view leaves no space for the user of the artifact and the interactions between the user and the artifact and other users of the artifact.

In the years since Pacenti's contribution, service design has continued its expansion, due to the emergence of social and businesses phenomena—in particular, the digitization of products due to computational technologies and the development of servitization. Service design thrives within service-oriented organizations that face

complex processes, spanning physical and digital environments, involving different stakeholders, interactions, and touchpoints (Mahamuni et al. 2022). In simple terms, service design merges processes, technology, interactions—and people.

Service design has the potential to break the rigid ties between design, solution, and needs. In Archer's words, "Design begins with a need. The product is a means for fulfilling that need. It is a tool" (1984:60). The incumbent requirement of a need to solve in the design process is part of a legacy (Alexander 1963) with contemporary echoes. This applies also to human-centered design, which starts "with a good understanding of people and the needs that the design is intended to meet" (Norman 2013:9). Solving needs is also part of the typical design situation envisioned by Kees Dorst, which involves a design problem—together with a designer, a design context, and a design process, but curiously not a design subject, which may or may not imply a specific need to solve (2019).

The reality is that service design has less to do with solving specific users' needs, unlike other design fields—such as product design, where a bed or a table are clearly designed to meet the user's need to sleep or eat. The expression design field, instead of more connotative terms like design practice or design discipline, is used intentionally. Later in the chapter we will clarify if service design can be considered a design discipline and/or practice. The traditional approach to product design, in fact, does not entirely correspond to the contemporary reality of the design market. In more and more products, the aesthetic qualities prevail over the functional ones, and such manufacts appeal more to the users' need to have a beautiful object than to their incumbent, practical necessities. These products, that merge design and art merits, are called DesignArt manufacts (Coles 2005).

However, the consideration that service design does not directly aim to solve specific users' needs does not mean that service design is not people-centered: "Whereas previously designing services might have started with politics (viability) or organizational capacity to deliver (feasibility), a service design approach asks it to start with people (desirability)" (Drew 2018:6).

Service design has a collective and social dimension, first because the products and solutions are used by many users (and affect many stakeholders), not only individually but collectively. The difference with other design fields is clear. A piece of fashion design clothing may be sold by the millions, but it will be worn by each user individually. Similarly, a successful furniture object or book is experienced individually or in small groups. Whereas users experience public transport or healthcare collectively. The simultaneous use of the solution by other users affects every user. It follows that service design is based on a complex set of interactions.

2.1.1 Mapping Service Design Interactions

Interactions are of utmost importance in service design and, more generally, in the contemporary discussion about design, users, and technology. Contemporary philosophers of technology turned their attention to the field of interaction design,

"founded upon the idea that, ultimately, it is not *things* that are designed, but rather the *interactions* between humans and things" (Verbeek 2015:26). Interactions have an ontological dimension: "To be is to be interactable, even if the interaction is only indirect" (Floridi 2010:12).

The literature, beginning with the fundamental contribution of Pacenti (1998), defines service design as the area that designs for interactions (Penin 2017). Hence, some authors establish a connection between services and interactions and claim that services essentially are series of interactions between customers and the service system (Stickdorn and Schneider 2011). Recently it emerged the idea of 'service as interaction', which refers to "the moment in which individuals, groups of people, citizens or service beneficiaries (we use different ways of indicating the main subjects, depending on context) interact with the service infrastructure, with peers, or with technological components, all with the aim of creating value" (Morelli et al. 2021:22).

Under this perspective, one of the features of services as interactions is the unbalanced roles between server (the service provider) and served (the customer or user). Although the word 'service' has its etymological origin in the Latin term '*servus*', meaning 'slave', the power dynamics in contemporary service scenarios have undergone a reversal. In today's context, service providers hold more power than users due to their possession of information and data. This shift in power dynamics will be discussed in the subsequent pages.

Commenting more specifically on the tasks of service designers, Penin notes that "The main role of service designers is therefore being able to define what are the interactions contained in a service; what needs to happen in these interactions; what they enable; and how a digital platform, system, or interface behaves with a user" (2017:269). More holistically, "understanding value and the nature of relations between people and other people, between people and things, between people and organisations, and between organisations of different kinds, are now understood to be central to designing services" (Stickdorn and Schneider 2011:39).

However, in the case of service design "what is in effect being designed is not the end result (the interaction between people), but an action platform. This means a system that makes a multiplicity of interactions possible" (Meroni and Sangiorgi 2011:3). Or, in other words, "Designers can never fully design services. Instead, they can design the conditions of the interaction, its details, conditions, and touchpoints, but never the interaction itself" (Penin 2017:42). As a consequence, the experienceable outcome of the service design process is not a service, but rather "a number of interaction devices consisting of physical, technological, logical or organisational micro-structures that could facilitate the process of value creation" (Morelli et al. 2021:66).

When we refer to interaction, some key questions arise. Interactions between whom? Or between whom and what? First and foremost, between people: users and stakeholders. However, interactions also happen between users and the service. Pacenti (1998) indeed defines service design as the area where interactions between the service and the user happen. Service providers play also a fundamental role. Services are essentially created through the interaction between users and service providers (Stickdorn and Schneider 2011). In the next paragraphs we propose a

mapping of the interactions stimulated by service design and we analyze their implications.

2.1.2 Interactions Between Users and Service

Service is a complex, multidimensional word. Service indicates an immaterial value proposition offered by a provider to a user (such as, e.g., services provided by medical practitioners, plumbers, lawyers, accountants, …). More recently, services expanded rapidly in areas traditionally dominated by physical products. The dematerialization and servitization of products paved the way for the emergence of mobility-as-a-service (e.g., car and bike sharing services) and real-estate-as-a-service (e.g., Airbnb and other companies that added a layer of servitization to the traditional house rental business model), just to name a few.

The engine of dematerialization and servitization is the digitization of services and of our world (Baskerville et al. 2020), where most services became digitally enabled and digital services are probably more important than traditional services (Tuunanen et al. 2023)—or, at least, they catch more attention that traditional services by investors, policy makers, and users. A key feature of the contemporary design and business landscape is certainly the growth of service-dominant activities that rely on IT-enabled services to challenge the traditional goods-centric paradigm (Vargo and Lusch 2004; Lusch et al. 2015; Peters et al. 2016).

In Sect. 2.4 we will comment on the impact of dematerialization and servitization with some examples. Dematerialization refers to several different concepts, including using less material to produce objects, thus reducing its environmental footprint (Fischer-Kowalski 2011); having a less materialist output on consumption; and the virtualization of communication and interactions (Halton 2011). When we talk about dematerialization, we refer to the virtualization of the physical means that allow people to interact and, consequently, to the virtualization of interactions.

The literature on servitization is extended (Leoni and Aria 2021). Servitization has been analyzed by scholars from different disciplines and theoretical approaches (Ruiz-Martín and Díaz-Garrido 2021). These reasons make the conceptualization of servitization challenging (Pinillos et al. 2022). Servitization has been analyzed and applied mainly in the manufacturing and industrial sector (Osterrieder 2021; Alves et al. 2022)—from where we extract some of the examples discussed in Sect. 2.4—and can be summarized as the shift from product-centered value propositions to more complex product-service system propositions (Mastrogiacomo et al. 2020). However, finding a general definition of servitization is taxing, also because—as we will examine in Sect. 2.4—there is no consensual understanding of what a service is (Posselt 2018). The definition of servitization is disputed in the research community, hence there is not "a common lexicon and analytical tools that might structure scholarly or practice-led debate" (Kowalkowski et al. 2017:6).

Additionally, servitization implies a transformation process (which reflects the necessity of important changes within organizations) and innovation in the business model in the logic of creating, transferring, and receiving value (Georgievsky 2022). Transformation for organizations that adhere to servitization means adopting a service-centric business model and logic (Normann 2001; Grönroos 2006).

It is intriguing to shift the attention from the product provider to the product itself and propose an operational definition of servitization. We understand servitization as a shift from physical products to services, which encompasses a network of interactions between the customer, the service, the service provider, and other users, with the goal of offering a better value proposition for users (Kindström and Kowalkowski 2014).

Servitization is a term used in different contexts that usually involve innovation. In more complex scenarios, products and services coexist in a value proposition. The provision of tangible goods and services merges within Product-Service System (PSS) (Mont 2002), that relies on dematerialization and servitization of products (Halton 2011). This trend is growing in several business sectors, from manufacturing to art. We illustrate our point and the potential of PSS and other business models that rely on dematerialization and servitization through an example from the decoration business sector. Renting paintings to hang in a residential living room or in a corporate meeting room definitely involves a physical product (the artwork), provided by the galley but also additional services, ranging from transport and insurance to curatorial services.

Services may often involve some form of technology. Hence, interactions happen between the user and the service/service provider *and* between the user and the technology. Interactions between users and technologies—or service encounters—have primarily a social dimension (Hildebrandt et al. 2023). When users interact with technologies, they expect a natural and social customer experience (McTear et al. 2016). Thus, interactions between humans and technologies are fundamental for understanding how the user experience is built and lived.

As a way of example, we invite readers to consider the interaction between the user of a "fluid assemblage" (Redström and Wiltse 2020) such as a mobile phone and the underlying technology to fully grasp the meaning of the relation and interaction between the user and the mobile communication services. Coherently with this view, technological objects such as phones are referred to as 'interaction devices' by some authors because they are designed to contribute to value creation. Interaction devices "do not imply value per se but rather mediate between actors and facilitate the development of value in a specific time and context" (Morelli et al. 2021:66).

In the words of Latour et al. (1992), technology carries a script written by designers and developers. This is relevant for understanding the implications of the interactions between users and technologies (and services). One can claim that the script written by service designers is to create interactions. That is, through the interaction with the technology (and service) users receive instructions or indications about what to do with that technology.

Users of a dating app follow the script embedded in the technology to connect and establish interactions with each other for (allegedly) romantic purposes. The

developers of the app wrote the code that nudges users to use the digital artifact. However, in contrast to the dramatic arts, users are not actors. Users can decide to alter the script and use technology for different, unforeseen goals. At the same time, designers are cultural intermediaries that make meaning possible (Press and Cooper 2017)—but the final meaning is given by users. Our research experience reveals that instant messaging apps created to share peer-to-peer information are often used to share copyright-infringing material, or to destroy somebody's reputation (think revenge porn). An intriguing case of unintended usage of dating apps was reported by a student of the author: in Chile, the LGBTQ + dating app Grindr has become a platform used by drug dealers and buyers to engage in the illicit trade of substances.

In this section we focus on the technology, rather than on the service (providers), also for a practical reason. Different providers often rely on the same technology to offer services; and technology, rather than the provider, essentially characterizes the service offered. A certain strand of philosophy of technology assert that human beings experience and interpret the world through technology (Verbeek 2014). More holistically, we build our experiences and interpretations through a combination of technology and services. Technology without services and providers is not sufficient. We can communicate with other users through a messaging app because peer-to-peer communication technology has been embedded in it by a service provider. It emerges that services can simply not exist without technology.

Depending on the service design scenario and on the corresponding level of technological richness (and complexity) involved, users interact with the service, the service provider, and the technology behind the service. When digital services are involved, these interactions take place simultaneously. Technology, typically accessed through user interfaces, enables service providers to offer their services, establishing a contractual relationship with users who often hold them accountable when technology malfunctions.

2.1.3 Interactions Between Users, Touchpoints, and Interfaces

The interaction between users and service touchpoints or interfaces serves as a tangible manifestation of the broader interactions between users and technology or services. According to the common understanding of the expression, a service touchpoint is any way a user can interact with a service (and its provider), being it a person-to-person service desk, a website, or an app, just to name a few possibilities. In summary, "Touch-points are the points of contact between a service provider and customers" (Clatworthy 2011:15).

When the interaction happens in the digital world through a website or a mobile app, the touchpoint must necessarily have an interface. This digital interface will be the "gate through which a user can be present in cyberspace" (Floridi 2010:11). User interface (UI) design and Human–Computer Interaction (HCI) are rich design

approaches and practices that study the relationship between human beings and digital interfaces and how to design satisfactory experiences for users (Coleman 2017; Hernández-Ramírez 2019). Our primary research focus lies in examining the influence of the interface on users' informational privacy, and therefore a detailed analysis of the relationship between UI design, HCI, and service design would go outside of the scope of this work.

The service touchpoint and the interface are crucial for the relation between user and service (provider). Normally service providers collect users' personal information through a service touchpoint (e.g., a reception desk in a hotel or hospital) or a digital interface. The difference between the 2 situations is that in the former the collection of personal information is sporadic whereas in the latter, personal information can be collected instantaneously (e.g., when a user fills in a digital form to have access to a service) or continuously (through cookies, web beacons, and similar technologies).

We will discuss this matter in the following chapters. For the moment it suffices to say that the interaction between user and service is manifold, and it involves technology, a service provider, and at least 1 service touchpoint or interface. This last component is the most visible layer of the service as far as the informational interactions between users and service are concerned; hence, its relevance for privacy.

2.1.4 Interactions Between Users (and Stakeholders)

The final layer of interaction in a service design scenario is between users. These interactions are even more unpredictable and difficult to control by designers than other forms of interaction. According to Manzini (2019:28), "it is not possible to design interactions between people directly and bring them into being. Instead, conditions can be made more favorable for them to emerge by creating artifacts dedicated to making them possible and probable." This is achieved through the design of services, touchpoints, and interfaces.

The so-called sharing economy (Hamari et al. 2016; Albinsson et al. 2018) and service economy (Alves et al. 2022) fuel the servitization of products, which naturally involves a rich complex of interactions between users. In Fig. 2.1, we propose a mapping of interactions between users based on their strength and nature. Interactions can be strong and direct, or weak and indirect. Properly understanding interactions between users is essential for grasping the risks they pose to informational privacy. When strong and direct interactions occur, users' information becomes more susceptible to threats from other users.

To explain the difference, consider the following examples from the hospitality industry. The service provider Booking.com allows users to book hotel rooms and other accommodations. Users interact primarily with the platform and, once a reservation is confirmed, possibly with the accommodation provider. Furthermore, users can leave a public review after each stay, and a numeric grade is assigned to the accommodation based on users' reviews. Before booking a place, users can read

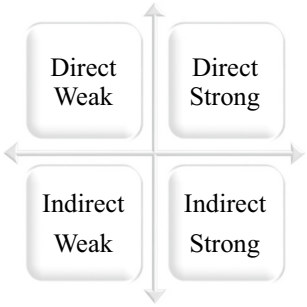

Fig. 2.1 Mapping interactions between users based on their nature and strength

reviews from previous guests about the accommodation. Public reviews are likely to influence users' choices. From a relational point of view, the interactions that take place are weak (users can rely on such reviews or not) and indirect (no communication between users is allowed).

Strong (because they are unavoidable) and direct (for they involve straight communication) interactions between users happen on Airbnb. There, users interact with other registered users (as hosts or guests) and with the service provider. In general, all peer-to-peer platforms involve strong and direct interactions between users. The sharing economy multiplied such service platforms. Although it is mostly silent, the role of the platforms in user-to-user interactions is not necessarily passive. The service provider normally has access to all communications between users on the platform and may intervene.

A service touchpoint (in offline scenarios) or a digital interface makes interactions between users possible. This reinforces the relevance of the touchpoint and interface from the privacy point of view because users in their interactions may share personal information. As we will discuss in the following chapters, users' privacy does not rely only on the informational security level of the touchpoint and interface and their underlying infrastructure but depends on the way they were designed. This is particularly relevant when we consider services that allow people to establish strong and direct interactions. Peer-to-peer instant messaging apps are typical examples of such services. There, the designed interface allows the sharing of personal and often sensitive information, and the risks of information abuses and misuses can be mitigated or eliminated through a privacy-oriented design of the service.

One aspect that is frequently overlooked is the involvement of third parties in user interactions, whom, for the sake of simplicity, we consider stakeholders within the service design context. One may book an accommodation for someone else or may share third party's information on a platform. Alarming phenomena such as cyberbullying and revenge porn rely precisely on the surreptitious communication and exchange of other people's personal information online. The potentially devasting effects of such acts extend well beyond the boundaries of the Internet, and deeply affect the victim's physical existence.

2.2 Service Design in Context (Part 1): Designing for a Liquid Society?

The analysis of service design interactions shows that they share a common aspect: they are fundamentally unstable and unpredictable. Or, in other words—and from a more positive, at least semantically, perspective—they are flexible and ambiguous. Vignelli (2010:18) declares to "have a positive interpretation of ambiguity, intended as a plurality of meanings, or the ability of conferring to an object or a design the possibility of being read in different ways—each one complementary to the other to enrich the subject and give more depth." A chair, being a classic example of a product, allows limited possibilities of interaction with its users: one may sit on it, or use it to stand on it; one may turn it upside down to lie on its back, but basically no other consistent possibilities are offered.

The 'script' of the chair is simple and straightforward. This applies basically to all industrial artefacts that serve a well-defined purpose. Service design, for its focus on interactions, distorts this paradigm. Service design "designs entities in the making, whose final characteristics will emerge only in the complex dynamics of the real world" (Meroni and Sangiorgi 2011:3). Perhaps due to this complexity and for the challenges in the diffused adoption of service design approaches (Mahamuni et al. 2022), service design, although it has been adopted by several large organizations, is not yet mainstream (Covino and Bianco 2018).

This shift empowers users, who are usually free to choose the role they want to play in the service context, and transforms the designer from a maker to a facilitator or provoker (Meroni and Sangiorgi 2011) and orchestrator (Morelli et al. 2021). However, this lack of precise script reveals a general trend in design practice—and in society at large. People, including designers and their solutions, do not have clear objectives. The dangers of the so-called liquid society have been famously denounced by Bauman (2000). Although a thorough analysis of Bauman's ideas escapes the scope of this book, it suffices to say that for Bauman the fluid and light (constantly changing) state of human interactions changes the conditions of social and political life, with unavoidable consequences for design.

Discussing liquid societies and communities entails the broader macro-reality in which we are immersed: capitalism and the neoliberal paradigm (and its political impact); colonizing technology that transforms people and their experiences into commodities (Manzini 2019; Couldry and Mejias 2020); massive concentration of wealth into few hands and, correspondingly, social inequality (Tegmark 2018). And, of course, the development of the service sector in post-industrial societies, that contributed to the emergence of service design (Julier 2017). However, it would be a disservice to limit the discussion to the detrimental effects of impoverishing liquidity caused by neoliberalism, as intellectual honesty demands a more comprehensive analysis. The geopolitical situation provides examples of countries and societies where political liquidity is not allowed, because the political party or strongman in charge does not allow any change or reform. Assuming that the world is liquid because our Western, liberal societies are, is simply wrong, and extremely unfair

towards people who strive for the level of freedom (and liquidity) we enjoy in liberal societies.

In this section we follow the mental map of the challenges presented within a liquid society and discuss the topics that we assume are more important for understanding service design and for our research. From the methodological perspective, liquid society forces researchers to think holistically and grasp connections between topics and challenges that, at first, may seem distant. The surrounding reality necessitates engaging in thought exercises. For instance, service design solutions that compromise privacy by collecting vast amounts of users' personal data rely on data centers, which significantly impact the environment and give rise to sustainability concerns. In Fig. 2.2 we present an overview of liquid society challenges and their interrelations.

Can we thus embrace a positive idea of liquidity? Design studies offer enticing concepts of liquidity. Manzini (2019:2) advocates fluid communities, that is "voluntary, light, open communities, in which the individuality of each member is balanced with the desire to do something together", opposed to a rigid reality where "there is only the solitude of connected individuality or a reactionary attempt to reproduce the closed identitarian communities of the past". Determining the extent to which these fluid communities dominate the present social and economic landscape is challenging. Many digital businesses promise to create and empower open communities, but the reality is different. Can one claim that social networks helped design ideal human communities that live up to Manzini's definitions? Many voices in the literature have raised concerns—some tend to assert that social networks are toxic, rather than empowering, places (Monteiro 2019; Véliz 2020).

However, service design should strive to create fluid—that is, free—communities that respect their members and improve their wellbeing. This aspiration is based on the social and ethical responsibility of design and designers, and, more fundamentally, on the responsibility of corporations and organizations. As far as online service

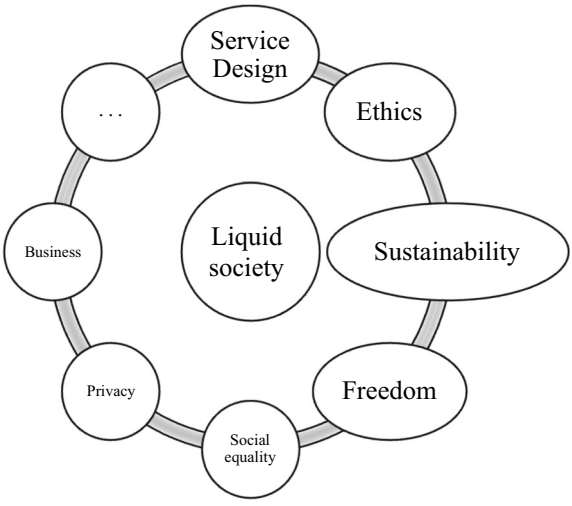

Fig. 2.2 Mapping liquid society challenges and their interrelations

providers are concerned, we agree that "ethical considerations need to become a constitutive part of their design process and business model" (Taddeo 2019:4). The same applies to service design.

Almost accidentally we introduced ethics into the discussion about liquidity and service design. Indeed, ethical considerations are inescapable when considering how to design for liquid communities. In Manzini's words (2019:2), "voluntary, light, open communities" necessarily relate to morally-led communities. A community that is voluntary, light, and open is inevitably ethical. When expanding our focus to service design for liquid communities, it becomes necessary to address the role of ethics within our society driven by capitalism.

The topic of the relationship between business and ethics is challenging and complex. While traditional liberal theories admit that economic actors should consider the wellbeing of society (Fukuyama 2022), in the second part of the twentieth century ideas emerged that claim that the only responsibility of companies and their executives is to maximize shareholders' value. Friedman's contribution (2007:1), originally published in 1970 and considered to be the manifesto of neoliberalism, however, tends to be read reductively, omitting that directors are called to conform to the "basic rules of society, both those embodied in law and those embodied in ethical customs".

However, there is a growing consensus that conforming to the basic rules of society is not enough. Emerging threats reveal that businesses and designers should aim for higher targets, beyond legal requirements and the basic ethical principle (the so-called Golden Rule of Reciprocity) of "Do unto others what you would have others do unto you"—although, according to Klüng et al. (2019), a global ethics can and should be built around this postulate.

The discussion about ethics, service design, and business inevitably raises questions about sustainability. In its simplest form, sustainability, holistically regarded as "a dynamic and systemic property, one that relates to the interactions between the environment, society, technology, culture and economy" (Ceschin and Gaziulusoy 2020:4), should push designers to conceive solutions that improve the conditions of all inhabitants of the planet Earth, and not just the revenues of the shareholders of the companies they work for.

We notice a loophole in the research about service design as practice on one side, and ethics and sustainability on the other side. The literature primarily focuses on comprehending the ethical aspects of sustainability through the lens of implemented service systems, rather than exploring them from a service design perspective. Interestingly, PSS emerged also to tackle environmental sustainability concerns and to reduce the environmental impact of production and consumption (Baines et al. 2007). When PSS and virtualization—typically, in the form of digitization (Bustinza et al. 2017; Ardolino et al. 2018)—merge, the potential for PSS to have a larger environmental and social impact grows (Bressanelli et al. 2018).

Some authors propose sustainability targets for PSS in the form of guidelines for designers (Vezzoli 2010; Vezzoli et al. 2014). In particular, employment and working conditions, equity and justice for stakeholders, integration of vulnerable and marginalized people and communities, enhancement of social cohesion, and the

valorization of local assets are aspects to consider when designing PSS solutions (Vezzoli et al. 2014)—and, if they are successfully met, one can talk of PSS for sustainability (Ceschin and Gaziulusoy 2020).

For its potential, we propose to extend this operative understanding of sustainability to service design, building on the literature's understanding of the capability of service design to assess the relation between social, technical, and environmental aspects to guide progress in the digital servitization process (Münch et al. 2022; Marcon et al. 2022; Iriarte et al. 2023). Further, despite their differences (Costa et al. 2018), PSS and service design share a common focus on services and attention to the user's experience. Claiming that service design can legitimately propose discriminatory or marginalizing value propositions—or that service designers should not be concerned with the sustainability of their solutions—is untenable.

2.3 Service Design in Context (Part 2): Designing Liquid Services?

In this chapter we map the constituent aspects of service design, trying to put these characters in the macro social and economic context. A missing point to consider is the nature of the designed outputs in service design—that is, the answer to the question: What do service designers design? The reader may reasonably infer the answer from the preceding sections: "entities in the making" (Meroni and Sangiorgi 2011:3), conditions for interactions (Penin 2017), physical and virtual touchpoints. While these responses may be accurate, they fail to provide a satisfactory explanation of the meaning of 'service' in the context of service design and its significance within the field.

Once again, it is essential to comprehend the broader context to strive for a solution. In the last decades we witnessed the effect of liquidity in many design fields, including industrial and product design. The virtualization and dematerialization of products and solutions paved the way to the servitization—that is, the shift for a business "from selling products to offering product-service system solutions" (Costa et al. 2018:112)—of entire economic and business sectors. Software is probably the most evident field. Computer programs, once stored on physical supports, moved to the virtual, immaterial sphere of the Grid and, later, the Cloud, paving the way to the advent of Software-as-a-Service (SaaS) (Parrilli et al. 2008; Stanoevska et al. 2008; Thanos et al. 2010). Case studies have shown that service design is a means "to advanced services value proposition design in digital servitization" (Iriarte et al. 2023:96).

Information, traditionally stored on physical media, became digital, virtual, and liquid. Despite the comeback of vinyl records, music streaming platforms gained popularity because they allow users to listen to virtually endless music everywhere. Netflix's users do not have to wait for the postman and do not need to have a DVD player at home. The consumption of videos is now ubiquitous and instantaneous.

The dematerialization of goods and experiences affected all sectors of society. Until a few decades ago, a store was only a brick-and-mortar shop. A store now can be an online shop, accessed by future customers through a website or a mobile app. Dematerialization and servitization go hand-in-hand. Businesses that traditionally propose tangible goods to customers through physical selling points (think a car dealer where consumers can choose the preferred car model, color, and engine) are fast replaced by hybrid models where the service dimension prevails. Tesla's customers can buy their electric vehicle (EV) directly online. Polestar, an EV brand established by Volvo, offers clients the possibility to know the brand and the vehicles' features in Polestar Spaces, advertised as not being a showroom, but "a space to explore the brand", staffed by "specialists, rather than salespeople".[1] These examples from the mobility industry indicate that servitization is a growing trend and will dominate the upcoming business landscape. Although these companies are still in the trade of producing and selling cars, they invest considerable attention to the services related to the experience of buying a vehicle.

An extra layer of servitization is added when consumers are offered the possibility to use a material good such as a car not as owners, but as users. Leasing contracts and other similar agreements, once reserved to professionals, became popular among consumers because they give the freedom to use a car against a monthly fee without worrying about maintenance, insurance, road taxes, etc. But car producers are increasingly turning into mobility providers because they cater to users' transport needs beyond offering the mere possibility of buying or renting a vehicle. As a way of example, various European car producers joined forces in the carsharing company Share Now. Registered users in selected cities in Europe can drive shared vehicles, simply thanks to a mobile app. However, the fact that the company was forced to massively downside the service offer in the last years may reveal that some aspects of servitization are not here to stay.

Servitization sustains the PSS design and business model. Further, servitization is a necessary condition for service design to emerge and thrive. Next to the exploration of the touchpoints of the so-called customer journey (Clatworthy 2011), service designers design services. This fact—which apparently seems obvious—raises complex challenges. First, there is a loophole in the research about the design of a service within a service design context. It emerges that the literature so far privileged the inquiry of the activity, process, and practice of service design instead of researching its outcome: the service (Tuunanen et al. 2023).

Further, defining service in service design is taxing. The literature in the last 2 decades explored the meaning of service for service design, starting from its immateriality—understanding services in opposition to physical goods, and consequently described as immaterial, heterogenous, inseparable, and perishable (Zeithaml et al. 1985). But this idea has been challenged by various authors (Lovelock and Gummesson 2004), and a more neutral and 'liquid' idea of service emerged: one that see services as "both social and material" (Kimbell 2011:48), and service outcomes as tangible or intangible, temporary or lasting (Edvardsson and Olsson 1996). Other

[1] Source: https://www.polestar.com/pt/spaces/

scholars focus on the economic nature of a service, seen as the basic activity of economic exchange, recognizing the role played by material goods in creating value within services (Vargo and Lusch 2004).

To provide a comprehensive understanding and establish a contextual foundation, we will briefly outline the prevailing perspectives found in the existing literature. For Vargo and Lusch (2004), because service is the foundation for all exchange between providers and clients, users determine value in using the service. Service-Dominant (S-D) logic asserts that value co-creation emerges from the use of the service proposition (Vargo et al. 2020) and providers should consider customer interactions as fundamental to value co-creation (Prahalad and Ramaswamy 2004). For S-D logic scholars, the value of a service (and good) does not exist by itself. It descends from the users' perceived contextual experiences that the service enables (Prahalad and Ramaswamy 2004; Woodruff and Flint 2014).

Interestingly, the discussions summarized in the previous paragraphs originated in the marketing literature and have been adopted by service design scholars. The connection between marketing and service design is very strong: "Of all the disciplines that have something to contribute to service design, marketing is probably the one that can claim to already have done so in significant ways" (Stickdorn and Schneider 2011:35). When applied to design, the applicability of the idea that services embrace also material goods must be discussed. Starting from an analysis of the situations where service design so far brought a valuable contribution, it emerges that service designers create primarily intangible solutions (Penin 2017; Raun 2017). However, some authors claim that the service exchange relations between service providers and customers rely necessarily on the materiality of their interfaces, and that the service interface materializes those exchange relations. As a consequence, designing the service interfaces means designing the service itself (Secomandi and Snelders 2011).

Service design focuses on creating value through a human-centered approach (Lin et al. 2011; Andreassen et al. 2016; Bouman and Simonse 2023). Service design represents "new human-centered service value propositions" (Costa et al. 2018:118) and aims at bringing "value for all stakeholders, including service users, staff, and the business" (Mahamuni et al. 2022:3). But service design, for its intrinsic holistic nature, is not forcibly restricted in scope. Depending on the specific context, the value proposition can be incorporated into any product, being it a tangible artifact, but also "information products, visual communications, services and processes, and even organizations" (Buchanan 2005:507).

Clearly, the ability of service designers to conceive and materialize different design products should be put in the real professional and business context. The mission of service designers is not to design industrial products (such as cars), but to work together with industrial designers, (interior) architects, graphic designers, and several other professionals to offer solutions to users and customers. Increasingly, service designers will be called to design digital services that allow value co-creation between a service provider and users (Tuunanen et al. 2023). This entails a radical shift from the perspective of goods in relation to services to a new paradigm focused on different stakeholders in a process of value co-creation (Morelli et al. 2021).

Liquidity, flexibility, value co-creation, and sustainability are some of the fundamental elements in service design that we identified in our research. However, they are not specific to service design, and hence they do not define it. In the next section we will embark upon the challenge of defining service design, building on its identified constituent elements.

2.4 Service as Experience: A Definition of Service Design

Just as service design itself, research about and around service design is expanding, and service design conquered an autonomous space within design studies and practice only relatively recently (Stickdorn and Schneider 2011). However, defining service design, and not merely describing its characteristics, is a challenging task. The common understanding of service design is "when design as an approach is used to create new, or improve existing, services" (Raun 2017:14). The idea that services can be designed is not new and has been proposed some decades ago by Lynn Shostack (1982)—interestingly, once again, not in a design-oriented publication, but in a marketing journal.

However, defining service design as the branch of design that design services—a sort of industrial design, but focused on services—is reductive. We commented above that service designers not only design immaterial services, but also tangible touchpoints. The distinction between service design and industrial design in many instances tends to blur—and service design often needs the work of professional industrial designers to create functioning and effective touchpoints.

Service design, as it evolved in the last decades, can be described as a design for services (Kimbell 2011), "in which the design activity is seen as an inquiry and services are perceived to be facilitated by the work of the designer rather than as an 'output' of the design process" (Raun 2017:58). Recalling what we said above about the evolving role of the designer in service design, scholars describe service designers as facilitators rather than 'real' designers (Meroni and Sangiorgi 2011). This approach, however, is flawed, because it confuses the process followed by service designers with the object of their work. Service designers are invited to design in a collaborative and cross-disciplinary way (Yu and Sangiorgi 2018; Drew 2018) to deliver service innovation, following a bottom-up rather than an authoritative top-down approach, but this cannot be the final objective of their work. To put it briefly, co-design and co-participation of users and stakeholders are means and not goals in themselves (Tromp and Hekkert 2019).

One may legitimately wonder whether service design is a design activity, considering that the approach of service design is more related to the process of designing rather than to the outcome of such process (Stickdorn and Schneider 2011). Service design shares many interests and perspectives with marketing and management studies, but it can be regarded as design for its creative component (Meroni and Sangiorgi 2011; Penin 2017; Costa et al. 2018).

Service design fits in design definitions that are not artifact-centered, such as Simon's (1988:67): "Everyone designs who devises courses of actions aimed at changing existing situations into preferred ones." But product-oriented definitions of design also support the claim that service design is a design activity. One of the most fitting notions of design with a focus on the product of the designing process has been suggested by Buchanan (2005:504): "Design is the human power of conceiving, planning, and bringing to reality all of the products that serve human beings in the accomplishment of their individual and collective purposes."

A review of the literature about service design reveals how challenging is to define a clear role and place for service design. Is service design a practice, or rather an approach and a philosophy? For it is human-centered, co-creative, holistic (Costa et al. 2018), multidisciplinary (Morelli et al. 2021), but also exploratory and iterative (Kimbell 2009; Arico et al. 2017), and it designs co-experience to enhance empathy (Meroni and Sangiorgi 2011), it appears that service design is both a practice and a method. Besides, expecting a rigid categorization of service design, which is the result of the 'liquification' of our societies and of design itself, would be pointless.

2.4.1 Service Design and Design Thinking: 2 Sides of the Same Coin?

The human-centered character of service design is recognized unanimously in the literature (Pacenti 1998; Meroni and Sangiorgi 2011; Penin 2017; Raun 2017; Costa et al. 2018). In this sense, service design can be associated with design thinking, a popular approach to design, management, and product development that "translate observations into insights and insights into products and services that will improve lives" (Brown and Katz 2019:55) following a human-centered paradigm.

Scholars and practitioners do not agree on a definition of design thinking and the identification of its main characteristics (Clatworthy 2017). For Tim Brown (2008), design thinkers show empathy, integrative thinking, optimism, experimentalism, and collaboration. This list of wishful aspects may be applied to human-centered designers in general, including service designers. As such, it does not define design thinking, nor it is helpful to distinguish design thinking from other design approaches. Next to Brown's list, another common aspect between service design and design thinking is the focus on interactions between people and products and, consequently, between people.

Are service design and design thinking the same thing? Clatworthy (2017:170) claims that "Service design may be described as a service-specific application of design thinking". However, our answer is that service design and design thinking are 2 sides of the same coin—and the fact that part of the service design literature talks openly about 'service design thinking' when referring to service design supports our opinion (Stickdorn and Schneider 2011; Clatworthy 2017). Design thinking is an approach to design that fuels service design. While service design is a design practice,

it may also be considered a discipline (Evenson et al. 2010; Meroni and Sangiorgi 2011). Some authors do not agree that service design is a discipline, because it is interdisciplinary (Stickdorn and Schneider 2011). We do not take position in the discussion whether or not service design is discipline, and not only a design practice and approach. Providing an answer would be irrelevant for our research because our focus is on building an operative ethical privacy framework for service design as a practice and activity.

Design thinking is a methodology that can be applied to service design—and, in general, to all practices and disciplines that deal with 'wicked problems' (Rittel and Webber 1973), that is, social challenges that escape from the dichotomy right versus wrong. Designing complex systems (e.g., in the mobility, housing, or health sector) requires assessing and solving many wicked problems. Design thinking, through observation and other techniques, helps service designers understand the issues at stake and propose adequate solutions.

2.4.2 An Operative Definition of Service Design

In the previous paragraphs, we analyzed the challenges of defining service design. Moreover, it is clear that service design faces challenges outside academia: several organizations do not have a dedicated function for service design (Mahamuni et al. 2022). Often, service designers are invited only after projects have started; sometimes, service design is seen reductively as an approach to address specific complaints rather than a proactive and holistic method for designing something from scratch (Blomkvist 2015).

At the end of this chapter, we feel confident to propose an operative definition of service design: service design is the activity of creating solutions, embedded in products (either tangible or immaterial), that enhance the user experience in a specific context or situation, through interactions with the solution provider, other users and stakeholders, and touchpoints.

Service design is a design practice

Service design is not merely a methodology, although it is *also* a methodology which proves helpful to design the entire process of a service to increase value for the customer (Kwon et al. 2021). Service design is primarily a practice, that requires training, if not formal design education. We claim that the complexity of our world and the proliferation of 'wicked problems' across all social and business areas requires trained and well-versed service designers with considerable expert knowledge (Morelli et al. 2021).

Service design encompasses the expertise of skilled designers, not just individuals without formal design training or education, who are sometimes referred to as 'diffused designers' (Manzini 2015). It would be interesting, but definitely beyond the scope of this work, to discuss whether a formal design education is required

to be a good, or at least conscious, service designer. Probably the answer is negative. However, in an increasingly complex world an understanding of the issues at stakes, possible solutions, and methodologies to get there require multidisciplinary education and training. This applies, however, to all design fields and practices: can a contemporary furniture designer prescind from (at least, a basic) knowledge of social media marketing, industrial production management, and pricing strategies?

We agree, however, that service designers cannot isolate in their ivory tower away from the communities and people they have to work for (and with). Design should be embedded in the life of citizens, beyond the domain of specialized professional designers (Julier 2017), who are called to support individual and collective projects aimed at social change (Manzini 2015). In these scenarios, questions related to informational privacy emerge (Valtonen 2020).

Service design requires a product

Service design is not (only) a process, it needs to instantiate that process in a product, being it typically a service, a set of services, an organization, or a combination of these products (Stickdorn and Schneider 2011). The outcome of service designers' work is necessarily meaningful, relevant, and helpful products to users and stakeholders, with a focus on the needs, capabilities, and values of the service customers and other stakeholders (Junginger 2017; Mahamuni et al. 2022). Our understanding of service design combines a product-based and user-based idea (service design requires both a product and users to exist) that builds upon the consideration that service design is rooted in the tradition of product and interface design (Mager 2008). The key aspect of service design (and services) is the outcome of the design process and methods: a product designed for people.

The product is used by consumers through touchpoints and interfaces, as discussed in the previous paragraphs. That is, service design requires a double embodiment: in a product and in physical or digital touchpoints.

Service design is strongly focused on the user experience

The scope of service design is to create solutions that are satisfactory for the user, since the focus of service design is about the flow of experiences across channels (Løvlie et al. 2010) and providing experiences over time and across different touchpoints (Clatworthy 2012). The literature reveals that service design is an effective approach for developing experience-centric services (Zomerdijk and Voss 2010), and some scholars suggest organizations to adopt service design to improve the customer experience of their services (Mahamuni et al. 2022). Other authors propose developing service design methods that support the design of service experiences (Patrício et al. 2011) and to enhance service experiences to a service system level of transformation (Patrício et al. 2020), through the orchestration of service elements (Jaakkola et al. 2015).

Since "functionality and usability are not enough in our lives", customers are looking for "emotional bonds and experiences", which "help us create and express our identities" (Stickdorn and Schneider 2011:122). Service designers do not simply design products but human practices, experiences, and existences as well (Verbeek

2015). Hence, service designers bear an important ethical responsibility towards the people they design for. Such responsibility concerns the quality of the products, and by understanding how different features impact the service experience, service designers can design better products (Ordanini and Parasuraman 2011).

Service design is human-centered, but also user-centered

The claim that "designing for services seems to move designers from user-centered to human-centred design" (Meroni and Sangiorgi 2011:41) is arguably shortsighted. Designers must consider the needs, ambitions, expectations, and shortcoming of the users. Service design is also inherently customer-focused, going beyond the simple identification of customer needs. However, we propose to merge the different points of view and say that service design is human-centered *and* customer-centered *and* user-centered *and* stakeholder-centered.

Service design as a practice is not restricted to human beings. It encompasses a broader scope that can transcend the limitations of traditional human-centric approaches. Service designers that design for non-human entities (pets, animals, artificial creatures, robots, non-human civilizations) should consider their wellbeing and the quality of their experiences. This perspective supports our assertion that service design is also inherently user-centered.

Service design is context-based and situation-based

A context or situation comprises several users' needs—think, in a mobility context, the requirements to move across a city fast, comfortably, and safely; in a health context, to have the issue solved or treated and to be received respectfully and empathetically. When people need to share information remotely, the context is given by their need (sharing information and communicating) and situation (their mutual remoteness). Without specific contexts and situations no services can be designed.

Service design relies on interactions

Interactions happen between users and the service provider; between users; between users and stakeholders; and between users, stakeholders, and service on one side and touchpoints of the service, on the other side. These interactions should be understood holistically because they influence each other. However, this task is challenging, when the service and the touchpoints are digital and IT-enabled. IT-enabled solutions are not technological solutions, but rather a complex socio-technical phenomenon where services are designed through several means to realize value for both providers and users (Grönroos 2006; Tuunanen et al. 2023).

2.5 Designing Service Design Services

In the previous sections of this chapter, we explored the multifaceted and challenging nature of service design, identifying its potential as design practice to conceptualize and implement innovative solutions that benefit users and stakeholders. Service

design is an enabler for societal transformation and change (Sangiorgi 2011; Kimbell 2014). We also proposed a definition of service design, building upon the existing literature. This definition serves our purpose of providing designers with a practical explanation of service design, enabling them to create tangible service design solutions in real-world scenarios.

Our research reveals that service design is not simply a methodology, but a practice, and that requires the embodiment of the design process into a design product. That product will typically be a service, intended as the basis of economic exchange regardless of its material or immaterial nature. In this book, we examine how to integrate informational privacy into the practice of service design and into services. Starting from the assumption that contemporary services are increasingly digital (Tuunanen et al. 2023), we focus on the design of digital services.

Despite recent efforts to systematize the design of IT-enabled services (Maglio et al. 2009; Patrício et al. 2011; Grenha Teixeira et al. 2017), many challenges emerged (Lin and Villari 2022; Tuunanen et al. 2023). Such obstacles are technology-related, but not only. The first challenge is to define IT-enabled services in a world where digital technologies are ubiquitous. Some researchers defines IT-enabled services as "any type of service-based activity that utilizes IT to satisfy users' needs and requirements during the consumption process" (Tuunanen et al. 2023:2). The spectrum of IT-enabled services is very wide, ranging from self-service solutions (e.g., online banking) to SaaS and mobile applications.

The biggest challenge when designing an IT-enabled service is to define the service design method to be applied to the development of the service. A literature review reveals that different methods have been proposed for a service design process (Lin and Villari 2022). For the creation and development of services, service blueprints and the MINDS method gained momentum in the last years.

Service blueprinting (Shostack 1984)—a special sort of flowcharting technique (Shahin 2010) representing the order of actions in service interactions (Morelli et al. 2021)—is the method of process modeling adopted by organizations to visualize, analyze, organize, monitor, and develop service processes. Service blueprints aim to improve the internal and external processes of a company or organization (Gersch et al. 2011). They allow organizations to see the most important challenges customers will experience in relation to the service (Bitner et al. 2008). As a consequence, service providers are in a better position to understand the critical points in their service (Abugeddida and Donnellan 2021) through a visual display of activities (Coenen et al. 2011).

Considerations about customer experience are key aspects of the Service Experience Blueprint (Patrício et al. 2008, 2009), a method that "involves studying customer service tasks and customer experience requirements independently of the service interface used" (Patrício et al. 2011:183). Service Experience Blueprint is useful for multi-interface service systems because the results gathered are used to assess which interface is the best to provide the desired customer experience for each task and to design flexible service interface links that enable the service experience.

The Management and Interaction Design for Services (MINDS) (Grenha Teixeira et al. 2017) is an interdisciplinary method that merges management and interaction

service design perspectives to support the creation of innovative technology-enabled services. MINDS recognizes the contribution of interaction design for service design for its focus on understanding how humans engage with digital technologies and on designing meaningful digital artifacts (Kaptelinin and Nardi 2009).

However, we contend that these methods, their conceptual structures, and implementation processes—like all other methodologies that emerged to guide service designers to create services— should be regarded as beacons rather than as prescriptive guidelines. We commented that service design relies on service liquidity. Hence, the methods to design services should be liquid, adaptive, and flexible too.

Some authors recently suggested that services ought to be designed following design principles (DPs), that is, "generalizable design guidelines and abstractions that can be applied to develop service-specific solutions" (Tuunanen et al. 2023:3). This approach, which reflects the need to develop a theory-based service design method, goes beyond traditional ways of conceptualizing service design methods. It requires re-thinking the expected outputs of service design and how DP-driven service design should be executed.

In general, the method adopted by service designers should consider the specific design situation. The methods followed are functional for future service design and action-driven practice (Mager 2020; Koskela-Huotari et al. 2021). Furthermore, when service designers choose or create methods, they shall be conscious of the impact of the services they create, including the intended and unintended consequences for people, communities, and the world at large, to better deal with uncertainty (Mager 2020).

For its focus on design doing with the mindset of an innovator and in a human-centered and creative way, design thinking—more than any specific method—has the potential to be the right approach to design services (Dunne and Martin 2006; Brown 2008; Martin 2009; Brown and Katz 2019). In other words, we argue that it is crucial for service designers to understand the issues at stake, design meaningful solutions, and solve a project brief (Clatworthy 2017). The method followed in the service design process should not distract the designers from their objective.

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Chapter 3
Informational Privacy for Service Design

Abstract This chapter delves into informational privacy within the context of service design, set against the backdrop of the surveillance era driven by digitalization and servitization. It critiques "surveillance capitalism", highlighting its biases and conceptual flaws, while adopting the perspective of a surveillance society where citizens actively engage in surveillance culture. The chapter redefines privacy for the digital age, focusing on informational privacy, which aligns with EU data protection laws and Alan Westin's influential 1967 definition. By contrasting privacy utopia and dystopia through the lens of Panopticon and Foucault's panopticism, the authors introduce privacy scenarios and potential threats in service design. The chapter concludes by proposing a nuanced definition of privacy tailored for service design, emphasizing its practical implications.

3.1 The Era of Surveillance

The emergence of service design fueled by servitization and dematerialization and the central role of services in contemporary business models caused a shift in business and society at large from valuing ownership of material products to valuing the use of immaterial services. Value-in-exchange has been replaced by value-in-use (Alves et al. 2022). However, this shift has driven designers to explore a new material for service design: data. This justifies a revision of the designers' tools from a data-driven perspective (De Götzen et al. 2018; Kun et al. 2019).

Until a few decades ago, this text would have been typed on paper with a typewriter. Instead, it was created using a digital device. Every word is a string of bits stored in the Cloud. The interaction of the written text with the writer is through pixels, which basically are units of information. The advantages provided by information are clear. Data is ubiquitous, can be replicated infinitely, and can be easily and cheaply stored.

Services do not rely solely on the transformation of tangible goods into information, but information is required for providing services. Consider the difference between buying a book in a physical bookstore and buying a digital copy online. The bookseller will not need much information from the buyer, whereas the online platform will likely need personal data from the buyer to manage payment and delivery.

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Services, while often being ontologically information themselves (think the electronic book, dispatched in the form of a digital file), need information from the buyer, client, or user to be delivered and consumed.

Service design and Product-Service System (PSS) scenarios offer interesting cases where the provision of services is unthinkable without people's information.

Case Study 1

Car sharing and mobility companies know who is driving their vehicles, where every vehicle is located, and all details of journeys (speed, petrol or battery consumption, roads taken). Access to the service is never anonymous because users need to preregister with their identification document and driving license.

Service providers collect increasing amounts of personal information, and information has a natural relation with time. Service design relies on time dilation of service consumption (Clatworthy 2017). In our example, the temporal extension of providing mobility services directly relates to the varying frequency of usage of the shared car-as-a-service, which may range from several times in a day to once a week or a few times per month or year. The temporal extension of service provision and use corresponds to a temporal extension of information collection by the provider and of information supply by the customer.

Case Study 2

In the last weeks, Olivia is particularly and constantly tired. She makes an appointment with a physician at a local clinic. When checking in, the assistant requests her ID and insurance. The physician prescribes some tests (blood exam and electrocardiography), which Olivia sends back to her physician in the following days. The physician believes that Olivia just needs to slow down a bit and that she does not suffer from anything serious. In this scenario, personal information is collected by the physician and the clinic before and after the appointment. Once Olivia receives a diagnostic and the physician's advice, the information flow stops.

Case Study 3

Same as in case study 1. But the tests reveal that Olivia might be suffering from a heart condition. The physician prescribes Olivia to use a wearable heart monitor that collects real-time data about her heart and sends the data directly back to the physician. In this scenario, there is an information flow which is diluted in time, pertaining to the provision of health services by the doctor.

The relation between time and information is strong, but not necessarily linear. In case study 1 and in case study 3, the relation is linear—if time increases x, information grows correspondingly. However, in service design cases, alternative scenarios may arise.

Case Study 4

When a bank customer opens a free bank account with a deposit of 100 € but never uses the account, the service relation between bank and client is diluted in time, but

not the information flow, because there is never new information supplied by the customer to the bank.

These case studies are useful to introduce the topic of surveillance. "Perhaps the most important transformation in social, cultural, and economic life since the year 2000 has been the arrival of social media and, with it, the ubiquitous surveillance culture" (Valtonen 2020:509). The pervasive use of security cameras in public spaces and alongside facial recognition technologies for alleged safety purposes makes anonymity virtually impossible. The development of products that use sensors, geolocation, and communication networks (Gea et al. 2013) and the corresponding unrestrained collection of users' data has given rise to heated debates. Various authors claim more transparency and security against leaks and the inappropriate use of personal information (Abdul-Ghani and Konstantas 2019; Nobre et al. 2019).

The dangers of being constantly surveilled have been denounced by several scholars, probably the most vocal being Shoshana Zuboff (2019) with her (highly appraised, but also widely contested) 2019 book "The Age of Surveillance Capitalism". Building on previous conceptualizations of surveillance capitalism (Foster and McChesney 2014), Zuboff criticizes the dominant data-obsessed business model adopted by major service providers. Surveillance capitalism, which relies on "extreme asymmetries of knowledge and power", makes that "our lives are unilaterally rendered as data, expropriated, and repurposed in new forms of social control, all of it in the service of others' interests and in the absence of our awareness or means of combat" (Zuboff 2019:54).

In Zuboff's view, Big Tech corporations such as Google, Facebook, Amazon, and Microsoft are to blame for the growing influence of surveillance capitalism. Google, in particular, "exploits information that is a byproduct of user interaction, or data exhaust, which is automatically recycled to improve the service or create an entirely new product" (Zuboff 2019:68) to target advertisement to a particular individual. The reason behind this strategic decision is straightforward: "The idea of being able to deliver a particular message to a particular person at just the moment when it might have a high probability of actually influencing his or her behavior was, and has always been, the holy grail of advertising" (Zuboff 2019:77). The next step is to predict consumers' behavior, and to influence it for commercial and non-commercial purposes.

One of the preferred arenas for testing these techniques, and one where the potential consequences are more worrying, is political campaigning and advertising. Recent scandals, such as the Cambridge Analytica case, show how pernicious political targeted advertising can be (Rukuuka 2022; Akpinar 2022; Kandemir 2023). In the 2010s the British consulting firm Cambridge Analytica collected personal data of millions of Facebook users, mostly for political advertisement (Adewuyi 2023). The information collection was performed through an ad-hoc app, called "This is your digital life", where people were asked to respond to a series of questions to build psychological profiles of users. Additionally, personal data of respondents' Facebook friends were collected.

The information harvested has been used to provide analytical assistance to the 2016 US presidential campaigns of the Republican candidates Ted Cruz and Donald

Trump. In practice, the operation sought to enable highly targeted digital advertisements on platforms, such as Facebook. All this without the consent of the respondents and their Facebook friends. While only 270,000 people downloaded the app, data was collected on 87 million Facebook users. The information collected and processed was detailed enough for Cambridge Analytica to build psychographic profiles of the subjects.

Knowing the preferences and sensitivities of a consistent portion of the electorate allows to direct more effective advertisement to each individual voter. Clearly, it is part of the democratic process that each person can freely decide which party to support and which candidate to listen to. But we argue that this must be an individual choice, with full awareness and agency. In the Cambridge Analytica case, full human agency has been replaced by an algorithm built on psychological profiles. Besides the legal implications of the case, one can claim that it is unethical to treat people—and their data—as means to achieve a goal. A deontological approach to privacy, that inspired legislation in the EU and in the other countries that modelled their privacy legislation on the EU's model (Burk 2005), relies on Kant's categorical imperative. Its 2nd formulation teaches to treat humanity never as a means, but always as an end (MacKinnon and Fiala 2015).

Various authors (Zuboff 2019; Véliz 2020) claim that these practices are to blame for the outcome of some pools, such as the 2016 US presidential elections and the Brexit referendum. Other scholars talk openly of psychological manipulation to control the electorate (Berghel 2018). However, these assumption have several flaws. First, despite the importance of data-driven political advertising (Fulgoni et al. 2016), we lack definitive evidence that the outcome of the elections would have been altered had these advertising techniques not been employed. Then, surreptitious political targeted advertisement should be condemned regardless of which party or politician uses it. A critique of this model solely on the basis that it led to an undesired outcome, despite allegations that it is widely adopted across the whole US political spectrum—and probably the same applies to other democracies around the world—is biased and unscientific.

Furthermore, surveillance capitalism should be analyzed in the context of a so-called surveillance society, fueled by "new developments in the field of digital networking and mobile devices (ubiquitous computing)" (Capurro 2005:38). The surveillance society is populated not only by governments and Big Tech corporations eager to capture people's data for power and profit, but also by users who are more than happy—although, maybe, not so conscious—to power the surveillance systems with their information. In practice, people are not only victims of surveillance capitalism, but participate actively in it in a sort of voluntary surveillance (Albrechtslund 2008; DeBrabander 2020), which is the reflection of a diffused surveillance culture (Staples 1997; McGrath 2004; Lyon 2017). Surveillance culture, fueled by social media, is a revolution in the human understanding of privacy (Colomina and Wigley 2016).

Within surveillance culture, surveillance "from being an institutional aspect of modernity or a technologically enhanced mode of social discipline or control, it is now internalized and forms part of everyday reflections on how things are and of the

repertoire of everyday practices" (Lyon 2017:2). The evolution of surveillance society may be labeled as society of control, which "achieves perfection when subjects bare themselves not through outer constraint but through self-generated need, that is, when the fear of having to abandon one's private and intimate sphere yields to the need to put oneself on display without shame" (Han and Butler 2015:46).

Finally, supporters of the surveillance capitalism characterization forget that the mechanisms they describe and criticize bring (perceived or real) benefits to society and users in terms of knowledge, pleasure, satisfaction, self-esteem, and ego needs (Acquisti et al. 2015; Lyon 2017). In particular, Big Data collected online "can offer new kinds of information to study—information that had never previously been collected" (Stephens-Davidowitz 2018:59). From the user's perspective, receiving tailored information and advertisement may be beneficial in many situations. As an example, being presented with job offers that align with one's educational background and experience in a professional networking platform proves to be beneficial for users. For users giving personal data to platforms and service providers in many cases is a trade-off for personal benefit (Pew Research Center 2014).

Imagining a future where companies and governments decide to give up the massive accumulation and use of data about users and citizens is utopian. We agree that, with the increasing developments of the digital economy, "we have little choice but to consider that surveillance is here to stay, and likely expand" (DeBrabander 2020:xi).We also have little choice about whether or not we want an online life, which nowadays is necessary more than voluntary (Waldman 2018). Furthermore, we should consider whether or not people are willing to give up the benefits offered by technology in exchange for more privacy. Some authors judge it unreasonable and unrealistic (DeBrabander 2020).

Before evaluating the impact of service design on the privacy discourse, it is essential to establish a clear understanding of privacy within the context of our research and identify the specific aspect of privacy that is relevant for service design.

3.2 A Journey Through the Meaning(S) of Privacy

Privacy is a complex word, and still it "has not developed a unified generic meaning" (Kudina and Verbeek 2019:299). It refers to many aspects of one's life. First, we should make clear what privacy is *not* to the ends of our research. Privacy differs from anonymity (Matthews 2010). We do not claim that anonymity should be the ideal condition to live, both online and offline, for the dangers it entangles. Fraud, blackmailing, spread of fake news, incitement to hate are just examples of bad practices usually related to anonymity, or to the use of a fake identity. Many online toxic behaviors are fueled by a perceived feeling of anonymity by users. However, creating an account on a social media platform using a fake name, or using an invented nickname, does not ensure real anonymity—the user's identity can be traced back from the device's IP address, or following the trail of digital breadcrumbs left behind. Perfect anonymity requires a certain degree of technical know-how and great care.

Second, we should make a distinction within the notion of privacy. We propose a distinction between *bodily privacy* and *informational privacy* (Parrilli and Hernández-Ramírez 2023). The former regards the protection of one's physical identity from external eyes. Architecture is the field concerned with bodily privacy. Think about the arrangements of walls in a locker room, or the installation of doors to separate an inside space, protected from the outside and from prying eyes. Whereas bodily privacy is commonly associated with the offline realm, it is also pertinent in the online sphere. Covering a laptop camera with tape is intended to protect the user's bodily privacy from unwanted intrusions. Incidentally, this example reveals that the distinction between online and offline is blurring (Cohen 2006). The notion of "onlife", coined by Floridi (2015), is particularly useful to describe our current situation. For instance, individuals experience an onlife state when they engage in remote chats with friends through their smartphones while physically present in a restaurant alongside close friend.

Informational privacy relates to one's information, or personal data—the expressions personal data and personal information are used interchangeably in the text. For its comprehensiveness, we embrace the legal definition of personal data contained in the EU data protection legislation, the 2016 General Data Protection Regulation (GDPR).[1] According to its article 4(1), "'personal data' means any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person". In plain language, any piece of information that can be related to a person is personal data, including their picture, drawing, and any other representation that can be matched to that person.

Once it is clear that informational privacy refers to any information that relates to a physical person, we must determine what privacy is. Privacy is a kind of protection or, more precisely, it works as a protection against external influences and manipulations. Among the most common interpretations of privacy—a detailed multidisciplinary literature review across the works of legal and social sciences scholars would definitely go beyond the scope of this book—is the definition proposed by the US legal author Alan Westin in 1967, which is particularly effective. Privacy "is the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent information about them is communicated to others" (Westin 1967:7).

Privacy, as the right to control one's information, applies to individuals, but interestingly also to social groups, thus recognizing a collective dimension to the information that deserves to be protected—and, consequently, recognizing privacy as an

[1] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), OJ L 119/1, 4.5.2016, p. 1.

"aggregate public good" (Sætra 2020). This claim is appealing but it requires overcoming some conceptual difficulties. If the data refers to individuals within a group, a consensus among all members is required to claim control over everyone's data. This may prove to be difficult in practice. In alternative, we can assign a public nature to personal data that relates to large collectivities. This, however, proves to be difficult to implement because of the dominating phenomenon of "privatization [of data] by stealth, an extraction of knowledge value from public goods" (Crawford 2021:120).

During the height of the COVID-19 pandemic and the strive of national governments to secure enough vaccines for their population, the Israeli authorities closed a deal with Pfizer to get all required boosters in exchange of health data from the Israeli population (Choun and Petre 2022). This example shows that personal data of an entire country cannot be considered simply as the sum of individual personal information, but as a collective data entity that must be protected jointly in a free and democratic way. In these situations, individual consent to have personal information processed and traded should not count, and the collective dimension of data protection should prevail.

From a different perspective, a communitarian perspective of privacy—one that "frames privacy as a public good, the benefits of which concern the community and not just the individuals" (Taddeo and Floridi 2016:1591)—and its protection is appropriate in cultures where the collective dimension prevails over individual identities, or "where communal or group obligations take precedence" (Burk 2005:10), such as in East-Asian contexts. A more extreme—but substantially not very different—approach to the communal understanding of privacy is the socialist conception of privacy, regarded as the collective right of workers and consumers to "protect humans against the misuse of their data by companies" (Fuchs 2012:141).

Despite conflicting claims found in the literature (Floridi 2014), privacy protection should not solely depend on information being kept secret. Indeed, data subjects can choose to share information about them exclusively with people or in a (physical or digital) environment they trust. Trust has been correctly described as one of the core elements of privacy (Waldman 2018). The fact that a personal information has been shared among trusted people or on a trusted platform does not mean that it can be freely used by anyone without the data subject's control. Trust, however, poses challenges. Users may wrongly believe that people and platforms deserve trust. Users of digital services may fall into the "dataism" trap, that is the belief that they can safely hand over their personal information to big corporations (van Dijck 2013, 2014).

This leads us to clarify that informational privacy applies in several interaction contexts: between data subjects and companies and governments, but also between data subjects themselves. Data protection legislation, though, does not protect peer-to-peer exchange of personal data. According to the GDPR, the processing of personal information for personal purposes is outside of its scope. But data exchanged between individuals maintains its value and deserve protection: consider worrying phenomena such as revenge porn, body shaming, or cyber bullying. These actions are carried out by platform users, who may often be the trusted and intended recipients of the information shared by the victims, rather than by Big Tech corporations—although

these companies may create the conditions for such toxic behaviors or do not take all possible steps to impede them. In other words, privacy violations by other individuals and users are particularly noxious (Fukuyama 2022) and should be carefully assessed.

In conclusion, the idea of privacy that we embrace in our research goes beyond the protection granted to personal data by legislation in the EU (but not only). Privacy refers to the claim of individuals and groups to decide what others, being them companies, governments, or individuals, may or may not do with their personal information. Privacy is a right to control dissemination, access to, and use of information (Rachels 1984; Moore 2008)—although, as we will see later, privacy claims are not based on ownership of personal information, but they rely on more fundamental and essential reasons. The decision to exercise control over information reflects the management of the boundary between us and others, representing the fundamental essence of privacy (Matthews 2010).

3.3 Privacy Between Utopia and Dystopia

Privacy evolved considerably in the last decades (Holvast 2009). Modern privacy emerged at the end of the nineteenth century with the claim that privacy should be understood as the right to be left alone—in particular, against the press (Warren and Brandeis 1890). In the following years, privacy was recognized as a fundamental precondition for humans to be able to make choices. "The importance of privacy can be related to the fact that privacy has a very close connection with human dignity, freedom and independence of the individual" (Lukács 2016:256). Privacy is also a right to self-determination to one's body and information, and also a sort of right to take risks and make errors (Holvast 2009). About human dignity, Floridi (2016:2) claims that "The protection of privacy should be based directly on the protection of human dignity, not indirectly, through other rights such as that to property or to freedom of expression."

Privacy, being it bodily or informational, is a necessary condition to be a truly independent human being: "Privacy provides that crucial space where we can be self-determining individuals, in tune with our unique wants, values, and designs—where we feel safe and emboldened to contemplate and cultivate them" (DeBrabander 2020:34). Without privacy, it would be challenging, even impossible, to ponder one's choices (Alfino et al. 2003). Privacy is about "self-possession, autonomy, and integrity" (Garfinkel 2001:4) and not merely about hiding information. Further, "protecting a person's privacy also means allowing that person to construct and change herself profoundly. The right to privacy is also the right to a renewable identity" (Floridi 2014:124).

However, some authors propose a more nuanced view: "Surveillance matters, and Big Tech's use of surveillance *is* an existential risk to our species, but not because surveillance and machine learning rob us of our free will" (Doctorow 2020:68). Basically, the main risk of massive surveillance is that it is highly ineffective at reaching its target, be it fighting terrorism or targeting advertising: "Surveillance capitalism's

primary failure mode is mistargeted ads while mass state surveillance's primary failure mode is grotesque human right abuses, tending towards totalitarianism" (Doctorow 2020:70).

How is life under constant surveillance? Which space is left for individual freedom? In the literature it emerged that "it is still unclear how a significant threat to one's privacy affects psychological growth. Scientists know too little about how people respond under constant surveillance. A concern, however, is that people may become more conformist as they suppress their individuality" (Holvast 2009:17). In his well-known book, "1984", George Orwell depicts a life under the constant watchful eyes of Big Brother under a dystopian regime (2017). History is rich with examples of violent governments that banished citizens' privacy—the massive wire-tapping activities executed by East Germany Stasi are just one infamous example (Lewis 2021).

The archetype of modern massive personal control systems is arguably the Panopticon, an architectural form (typically a prison, but potentially also a school, or a factory) where the surveilled are constantly watched by a guard, are barred from any contact with other prisoners and, more importantly, without knowing if and when the guard is actually monitoring them. The Panopticon, first proposed by the utilitarian philosopher Bentham (2009) at the end of the eighteenth century and represented in Fig. 3.1, was characterized in the twentieth century by the French thinker Foucault (2003) as the archetypical means to manage power relations with citizens.

The Panopticon is a political tool disguised as architecture to control and dominate inmates, pupils, workers, and citizens. No freedom is left to them, not even the possibility to know if, and when, they are being watched. The Panopticon, and the corresponding phenomenon called "panopticism" (Foucault 2003), reveals that privacy has an intrinsic political dimension. The suggestion that "the concept of privacy is much more politically determined than legally" (Holvast 2009:16) is right. Privacy refers to individuals, free and thinking human beings living in a society.

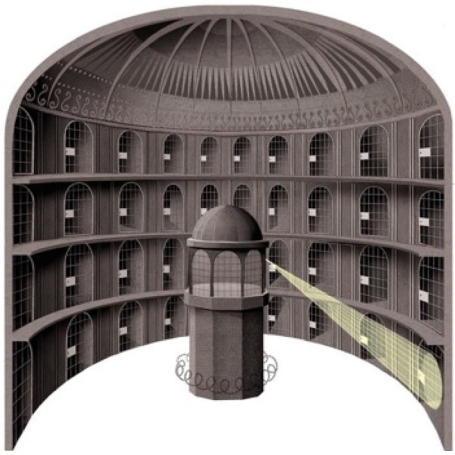

Fig. 3.1 The Panopticon, originally described by Jeremy Bentham in 1791

"Privacy is that purifying element that allows citizens to exercise consent, and be free in the state" (DeBrabander 2020:117).

In our technology-driven age, we are witnessing a troubling phenomenon: the escalating power held by corporations that offer online services and exercise control over people's personal information. One of the manifestations of the political dimension of privacy is that it involves a power dynamic between providers and processors of personal data (Waldman 2018; Zuboff 2019; Couldry and Mejias 2020). As a consequence, "We have a right to fear that better and better use of online data will give casinos, insurance companies, lenders, and other corporate entities too much power over us" (Stephens-Davidowitz 2018:255).

When we shift our attention to the broader political context, we see an imbalance in informational power between state authorities and citizens. We agree that "A crisis of privacy may also be a crisis of democracy, which, many political theorists contend, requires the inviolate privacy of its citizens" (DeBrabander 2020:ix). Given that democracy without privacy is not possible, we are left to choose between utopia and dystopia. In a utopic world, we have control over our data, and we can freely decide who and when will have access to it.

While this should ideally reflect reality, the truth is that the forces driving surveillance capitalism and the failure of legislation to curtail this trend (which will be further elaborated in the upcoming chapter) contribute to a rather dystopian existence for individuals as information subjects. A dystopian scenario where "it's corruption that allows surveillance capitalism to grow by dismantling monopoly protections, by permitting reckless collection and retention of personal data, by allowing ads to be targeted in secret, and by foreclosing on the possibility of going somewhere else where you might continue to enjoy your friends without subjecting yourself to commercial surveillance" (Doctorow 2020:103).

However, there is a significant difference between the contemporary digital Panopticon—think social media, and all 'surveillance capitalism' platforms—and the one ideally designed by Bentham. In the former its inhabitants communicate with each other and, in practice, "actively collaborate in the digital panopticon" (Han and Butler 2015:viii). Furthermore, this digital Panopticon does not have a central observation point, but a potentially infinite number of perspectives (or, perhaps, no perspective at all). As a consequence, the difference between center (where the guard stands) and periphery (the place of the inmates) is completely blurred (Han and Butler 2015). Especially in social media, the Panopticon is reversed, because the controlled user is in the middle of the structure, virtually surrounded by the controllers—the other users (Romele et al. 2017). In Byung-Chul Han's view (Han and Butler 2015:46), the digital platform and its surveillance mechanism is almost the outcome of a sort of co-design process, initiated by platform owners but fueled and propelled by their users, "by putting themselves on display and baring themselves."

Finally, one should not neglect an important aspect related to the definition of utopian or dystopic scenarios, one that may generate discussion and conflicts. People have different perspectives, and what may be utopian for one may be dystopic for others. In the field of privacy, this is very clear in relation to the topic of transparency. Absolute transparency, or post-privacy, praised by some authors (Brin 1998; Dean

2002), is completely rejected by others, who claim that a transparent society is not based on trust, but on control (Han and Butler 2015).

3.4 Privacy and Service Design: Scenarios and Threats

Service design is a privileged field for understanding the possibilities—and threats—of processing people's information. Essentially, service design cannot exist without the free flow of information between customers, stakeholders, and service providers. The servitization of products, and its transformation into digital information, multiplied the quantity and frequency of data. Financial institutions have been early adopters of service design solutions and approaches (Stickdorn and Schneider 2011). In the pre-digital era, banks collected information about customers sporadically. The predominant use of cash for payments rendered it impossible for banks to discern what was purchased and where. The massive distribution of bank cards and digital technologies created a flow of information that banks did not previously have—valuable information that reveal users' habits, trends, patterns.

Banks are regulated entities and may be scrutinized by public authorities. Hence people expect that they treat users' personal information with care. But everyday users confide their data to various service providers, ranging from online shops to social networks, and to fellow users of digital platforms. Often the data processing carried out by such providers is opaque. Despite legislation, privacy policies still tend to be difficult to read and understand (Litman-Navarro 2019). Digital interfaces often use unethical methods, such as dark patterns, to trick users into surrendering more information than they would normally do (Luguri and Strahilevitz 2019; Narayanan et al. 2020; Rieger and Sinders 2020; Nelissen and Funk 2022; Parrilli 2022). Security is a major concern too. News about data leaks appear with a worrying frequency and reveals that the world is well-supplied of data-hungry hackers.

However, despite the importance of privacy in service design, the scholarly literature has largely overlooked the topic. This gap is not justifiable because all conceivable service design scenarios involve the collection and processing of personal information. When service designers create, or lead the co-creation process, of solutions in the health, financial, or mobility sector, just to name few relevant areas for service design, users and stakeholders are required to provide personal information. Service providers must collect, store, and process data to provide services. Potentially, third parties may obtain, legally or illegally, users' data—in the former scenario, think about companies that buy personal data for marketing and advertisement purposes; in the latter case, think hackers that sell stolen data in the dark web.

Since service design is essentially multidisciplinary (Stickdorn and Schneider 2011; Morelli et al. 2021), privacy must be part of the service design thinking and process—and, first of all, of the service design conversation. Service designers shall be aware of the data interactions that take place across the service journey. The proposed approach differs slightly from one that focuses on the identification of the stakeholders and the understanding of their role in the context of the interaction,

as suggested by some service design researchers (Morelli et al. 2021). Instead, we suggest mapping the data collected and exchanged in the framework of the interaction, rather than focusing simply on identifying the stakeholders and their interactions. In a design process, this step should be one of the first actions to take because it aims to analyze and understand the context (Morelli et al. 2021). Data interaction refers to every flow of personal information that happens when a customer uses a service. In Table 3.1 we consider and map the data interactions in an instant messaging app.

Mapping data interactions in a service journey is key to understand opportunities and threats. The activity of mapping the interactions should be part of the service design practice methodology, and the interaction map shall be a proper service design tool, either as a standalone document or as part of one of the widely used service design methods and tools (in particular, customer journey map, design scenario, storyboard, service blueprint, customer lifecycle map, business model canvas) (Stickdorn and Schneider 2011).

The exchange of personal information should be regarded as a source of possibilities to learn and grow. Envisioning a world where every data interaction is intended to deceive and exploit people for financial gains is just as dystopian as constructing a world devoid of privacy protection. However, an excess of privacy protection that makes data interactions impossible or meaningless must be similarly avoided. Along with privacy, trust and freedom are key values in service design that should always be respected and enhanced. Hence privacy in the context of service design must be built on moral principles that give true meaning and value to services, but also to life in general.

Table 3.1 Data interactions in an instant messaging app

Interaction	Data interaction
User (U)-Service Provider (SP)	When registering for the first time, SP collects U's information: typically, name, phone number, location, IP address, but possibly also other information such as e-mail address
User (U)-Service Provider (SP)	When using the app, SP collects information related to U's use of the app (e.g., log in attempts). If messages are end-to-end encrypted, SP normally will not have access to the content of U's communications, but SP will store backup copies of chats
User (U1)-User (U2)	When chatting, U1 and U2 will share personal information and media, such as videos and pictures

3.5 Defining Privacy for Service Design

Service design as practice which nonetheless lacks an understanding of privacy reveals that what is actually missing is what Cross (2006) calls a *designerly* understanding: a designerly understanding of privacy. That is, an understanding of privacy by and for design. In the next chapter we will analyze on which grounds such designerly understanding of privacy should be based: ethics, legislation, or a combination of both.

Initially, it is important to note that design ethics alone has not fully developed a comprehensive understanding of privacy. Design ethicists, including Victor Papanek (2019) and Dieter Rams (Jong et al. 2017), overlooked privacy within their principles. Contemporary designers who worry about privacy tend to approach this topic from a utilitarian perspective, skipping fundamental assessments about why privacy should matter for (service) design and what privacy for design really is.

Building a designerly understanding of privacy requires a methodology. The privacy ethical framework that will be discussed in Chap. 5 aims to be *the* tool to build a designerly understanding of privacy for service design. The framework is influenced by established design methodologies and approaches, but its main foundations—ethics—are exogenous to design.

One concern when building a designerly understanding of privacy is time. We claim that this understanding shall be evolutive and projected in the future—the framework is evolutionary and designed to withstand future scenarios (see Sect. 5.6). Using a long-term perspective, "service designers should not only evaluate the past and present of the relevant system but also think about the possible futures" (Lin and Villari 2022:8). Vision building, intended as the capacity of imagining feasible, possible, and desirable futures is recognized as a specific and necessary service designers' capability (Morelli et al. 2021). In this sense, the speculative approach encourages designers to envision different future scenarios and has the capability of constructing alternative futures, introducing collective reflection into service design practice (Dunne and Raby 2013; Kimbell and Vesnić-Alujević 2020). The speculative approach is capable of dealing with complex social issues, such as privacy (Auger 2013; Jones 2014; Mitrovic 2015). However, speculative design has a serious limitation. It uses "design to create future innovation as a social dreaming approach" (Lin and Villari 2022:10). Speculative design possesses inherent limitations when it comes to generating viable, practical, and feasible solutions that are future-oriented (Malpass 2019). For this reason, its impact on the framework is very limited.

Systemic design is an approach that recognizes system complexities. It integrates systems thinking and human-centered design and helps designers consider the whole picture, instead of single elements, by considering the various actors within the system (Jones 2018). The design of the framework is certainly systemic because it considers the whole picture of privacy challenges and opportunities in service design. However, the framework, in its essence, does not emerge because of the systemic design approach, since the primary objective of the framework does not revolve around specific systems. To the contrary, the framework is universal (see Sect. 5.3).

The notion of society as a service system with various sub-services and sub-service systems has gained support in the literature (Fisk 2009; Maglio et al. 2009; van der Bijl-Brouwer 2022), but possibly it is not entirely persuasive to everyone. Reducing all interactions to services and service systems is an oversimplification of reality. Often, a service generates interactions (e.g., between users) that cannot be labelled as services. For instance, while users engage in personal interactions within the context of a messaging app, these interactions lack the essential components that define a service.

Utopia and dystopia are expressions frequently used in privacy contexts. We previously noted that dystopian scenarios can be imagined when there is no room for privacy, or when informational power is so unbalanced in favor of service providers that users have virtually no control over their data; but also, when privacy protection is pushed to its extreme. For instance, messaging apps (such as Confide app) that do not allow to freely share information with other users—that is, that do not permit users to trust the recipient of the information—are as dystopian as apps that impede any form of users' control over their information.

Privacy is not a cage but an enabler of our freedom. Paradoxically, some privacy-protecting solutions available in the market put users in a sort of inverse Panopticon. The designerly understanding of privacy should rely on users' freedom and independence, although it should realistically consider that not all users have a sufficient understanding of privacy. The main problem is that, when we consider users' freedom and autonomy, we think about fictional personas who have enough agency to decide what is better for them, and act accordingly in a rational and ethical way. Such stereotypes exist, but they do not represent all users.

To illustrate this point further, consider the following scenario. While most drivers prioritize the safety of other drivers as well as their own, a significant number of reckless drivers disregard these concerns. To complicate things further, an otherwise conscious driver may act recklessly on any given day. Similarly, the users of a service may occasionally handle data— including other people's data—in a reckless manner.

A way for service designers to overcome these problems is to use personas in their data interaction maps. Table 3.2 presents some speculative examples of privacy personas.

Table 3.2 Examples of privacy personas

Persona 1: John is 30-year-old and works as IT security consultant. John is very attentive to privacy, he tends to read privacy policies of websites that he does not know, and always refuses cookie. John does not have active social network profiles and always surf the Web using VPN
Persona 2: Julia is 32-year-old and works as a trader in a bank. She is aware of privacy risks, but she feels annoyed when websites ask her to accept or refuse cookies and she tends to accept all cookies. She has a profile on all social media. Since she is single, she is very active on Tinder and other dating websites

Personas are certainly helpful because they reflect the complexity and richness of the human experience. They are also relevant due to the inherent challenge of simplifying privacy into a single, universally applicable concept or definition (Solove 2009; Waldman 2018). However, we feel confident to propose a definition of (which is also a sort of statement for) privacy for service design, built on our definition of privacy for design (Parrilli and Hernández-Ramírez 2021). We define privacy for service design as:

- The right not to be forced or pushed, directly or indirectly, to surrender more personal information than it is strictly necessary for the provision of the service, or for allowing interactions by the user.
- The right to not be subject to any decision, or intrusion into the user's and citizen's life, based on the processing of personal information that has been collected abusively or without their full, knowledge and agreement.

The definition of privacy for service design is operational, it applies to all service design contexts and guides designers to build privacy-oriented solutions. It can (and ideally should) be deconstructed in the form of questions for service designers. The answers will help them understand if their work respects users' and stakeholders' privacy. The first part of the statement can be reformulated as follows:

1. Does the service design solution directly force or indirectly push, e.g., through misleading communication or dark patterns, users to provide excessive information to the service provider?
2. Is the personal information required or obtained by the service provider strictly necessary for the provision of the service, or to allow interactions between users and service provider and between users?

The second sentence in our definition applies in every context where users, stakeholders, and citizens are subject to (usually automated) decisions. Although the resolution to adopt an automated decision system may escape from service designers' responsibility, it is a key part of the designed solution and has an impact on users and stakeholders. Hence service designers should be aware of the risks involved and must avoid—or at least oppose to—the use of such systems unless they fully respect people's privacy.

We propose some thought examples of unethical automated decisions systems that fit our definition of privacy for service design.

Case Study 5

A large company has implemented a new system to recruit candidates. A service design firm has the task to design a transparent and engaging recruiting process that shortens waiting time offering the candidates useful feedback throughout the process. However, the management of the company wants to be sure that new recruits cannot embarrass the employer. Hence all pre-selected candidates will go through a secret scrutiny. The HR department works in cooperation with a company specialized in online reputation management to verify if the pre-selected candidates ever posted

embarrassing, offensive, or dubious comments on social media. Only candidates with a clean record will be selected.

Case Study 6

A bank intends to make the process to get a credit more streamlined and cost-effective. They recruit a service designer to help with this task. However, before granting a loan, the bank will assign a trustworthiness score to the candidates, based on their online activities. Such information is collected and analyzed by a specialized company. e.g., people that are part of radically oriented political, social, or environmental groups on Facebook or other social media get a lower score. This verification takes place without the applicants' knowledge or consent.

Case Study 7

A large hospital is confronted with the management of many patients. An in-house service designer is working hard to improve the patients' experience and reduce waiting times. To decide which patients should be treated first, the hospital required (and obtained, through payment of a fee) access to the database of all major health insurance companies to determine whether patients suffer from undeclared health problems that affect their life expectancy. Patients who are red flagged will fall at the bottom of the waiting list.

These examples reveal the massive impact of privacy (and the lack of privacy) on people's life. Sometimes, as it happens in healthcare scenarios, this effect should be understood literally. It may be a matter of life or death. Service design has a role and a responsibility to play in making sure that people's privacy is not only protected, but also enhanced. In the next chapters we will analyze how and why service design must strive to create a more privacy-respectful world.

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Chapter 4
An Ethical Approach to Privacy for Service Design

Abstract This chapter lays the groundwork for an ethical approach to privacy in service design. It begins by identifying a gap in current service design and human-centered design research regarding informational privacy, and critiques Value Sensitive Design and its practical implications. The author argues that privacy legislation, such as in the EU, is insufficient due to loopholes and its inability to challenge surveillance capitalism. Privacy by Design is also critiqued for its compliance focus without addressing deeper privacy needs in service design. The second part emphasizes the importance of ethics over legislation for protecting informational privacy in service design. The author identifies the need to integrate privacy into service design practice and sustain it through ethics. They explore various moral approaches, ultimately advocating for Luciano Floridi's information ethics due to its ontological link between information and human identity. This view, supported by intercultural information ethics, positions privacy as a universal human need, culturally specific yet universally relevant.

4.1 Perspectives on Privacy: An Overview

This chapter and the following one focus on service design and privacy. This section connects service design *and* privacy, by answering one fundamental question: *Why shall informational privacy be a concern in service design?* From a methodological standpoint, our approach relies on a multidisciplinary selection of literature. By drawing upon a diverse array of works from various disciplines, we aim to gather a comprehensive understanding of the subject. This multidisciplinary approach ensures a broader perspective and allows us to incorporate insights and findings from relevant fields, enriching our analysis and providing a more robust foundation for our study.

We identified a major gap in the literature, as far as privacy *and* (service) design are concerned. This gap has been recognized by some authors: "Regional differences in data protection and privacy illustrate the values-laden nature of the topic, but only rarely it is explicitly discussed as centrally relevant to the work of technology designers, or to values brought to the design process" (Donia and Shaw 2021:26). It

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follows that privacy scholars are often not familiar with design processes, and ethicists and philosophers may not prioritize the practical implications of their theories.

Designers are inherently responsible for considering the broader impact of their work. They cannot afford to overlook the consequences of their designs on people and context in which they are implemented. Designers often focus solely on solutions that seem immediately effective, oversimplifying the intricate processes that lead to those solutions. This narrow focus overlooks important nuances that should be considered during the design process.

In Chap. 3 we argued that privacy has not been a concern for design ethicists of the twentieth century. This fact is relatively reasonable, considering that only in the last decades the digital revolution created several privacy challenges and the need to build effective solutions. Design thinkers such as Victor Papanek, Massimo Vignelli, and Dieter Rams were concerned with the ethical challenges of industrial design, and privacy was not one of them. Similarly, human-centered design does not have a deep understanding of privacy (Parrilli 2021), but it is more oriented at comprehending how a product impacts users and people from the point of view of its use.

Human-centered design is concerned with the front end of the interactions between people and the product. However, privacy concerns tend to arise in the back end of such interactions. The processing of collected data by the service provider remains invisible to the user. This also applies to information transmitted in peer-to-peer communications. Privacy abuses are usually silent. In this sense, human-centered design—that is, "the process of ensuring that people's needs are met, that the resulting product is understandable and usable, that it accomplishes the desired tasks, and that the experience of use is positive and enjoyable" (Norman 2013, p. 219)—may not provide adequate answers to tackle privacy-related problems.

More recently, designers have shown increasing concern for privacy. Several authors from the design and ethics field recognize that products should respect users' data and reject surveillance capitalism (Monteiro 2019; Falbe et al. 2020; Ngai 2020). However, all these contributions miss a fundamental point. They do not explain *why* service providers should restrain from freely processing users' personal information for their (business or political) purposes.

At this point, we need to address a potential criticism of our position. Why is it important for designers and design ethicists to be concerned with the logical justifications for privacy, considering its widely recognized importance in our society?

Privacy cannot be taken for granted—the fact that notable actors in the technology world, such as Mark Zuckerberg, declared in 2010 that privacy is no longer a social norm (Zuboff 2019), reveals how privacy is actually under attack. Privacy must not be a temporary plaything for political or social gains. Privacy for service design must necessarily rely on strong conceptual foundations that protect it against attacks justified by commercial and financial interests.

Going back to the review of privacy-related design orientations, Value Sensitive Design deserves to be discussed (Friedman et al. 2003; Cummings 2006; Davis and Nathan 2013; Friedman and Hendry 2019)—incidentally, another relevant and interesting approach that considers privacy in the design process is Disclosive computer

ethics, that is attentive to the ethical decoding of values and norms set in computer systems, applications, and practices, proposing 4 key values (justice, autonomy, democracy, and privacy) (Brey 2000).

Starting from the assumption that "ignoring values in the design process is not a responsible option" (Friedman and Hendry 2019:1), Value Sensitive Design aims to provide theoretical, methodological, and procedural tools to include human values—that is, "what a person or group considers important in life" (Donia and Shaw 2021:8)—in the design process systematically. The focus of Value Sensitive Design is on the design of technology. Hence, privacy does not escape from its attention. The notion of privacy, viewed as the right of an individual to decide what information about themselves can be shared with others (Friedman and Hendry 2019), is consistent with Westin's definition.

The assertion that human values—including privacy, which Value Sensitive Design scholars explicitly recognize as a crucial value in design—should not be considered in isolation but rather balanced with one another, is indeed valid. In particular, privacy should be balanced against security and community (Friedman and Hendry 2019). Understandably, absolute privacy intended as informational anonymity is beneficial for people with bad intentions. More generally, an absolutist approach to privacy is potentially nefarious: "If we see rights as universal applications of moral law, we have to be consistent: if people have the right to privacy, so do terrorists" (Bowles 2018:138).

The Value Sensitive Design's approach to privacy is reasonable. It is also effective, for "design matters. That is, values can be embodied, at least to some extent, within the features of a tool or technology" (Friedman and Hendry 2019, p. 29). However, Value Sensitive Design has shortcomings because—albeit being aware of cultural differences about the idea of privacy—it adopts a Western-based idea of privacy. This may be a consequence of the fact that Value Sensitive Design originated and expanded in academic settings in the USA and Europe, at the Value Sensitive Design Lab at the University of Washington and at Delft University of Technology. Further—and this is our key criticism to this approach—Value Sensitive Design does not justify *why* privacy is a value. Value Sensitive Design contributes (although to a limited extent) to bring privacy to technology. We refer in particular to the informed consent online project (in the field of cookies and web browser security) developed in the Mozilla browser (Friedman et al. 2002). However, we reinforce that Value Sensitive Design does not answer the fundamental question. Why is privacy a value for design? Such gaps justify the claim that Value Sensitive Design is not able to address complex normative issues (including privacy) arising from developing contemporary technologies (Cenci and Cawthorne 2020).

An attempt to justify privacy for (service) design exposes us to the difference (and potential conflict) between law and ethics. That is, one can assert that privacy matters for design because of legislation, or because it is an ethical obligation. In the next sections we will analyze both possibilities, and we will build solid grounds for privacy for service design.

4.2 Privacy for Service Design Through Legislation: A Critical View

An increasing number of countries have adopted informational privacy legislation. The trend, which originated in the USA and Europe (particularly in France and Germany) in the last decades of the twentieth century, extended to all continents. Recently, an increasing number of countries, including China, have been implementing robust and comprehensive data protection legislation. These laws are significantly aligned with the EU model of data protection, either formally adopting similar regulations or adopting equivalent principles and provisions (e.g., in Brazil). In the United States, where the modern idea of privacy originated, there is no federal data protection law, but instead a plethora of State and sectorial laws and rules (Solove 2017).

One way to justify privacy for service design is by relying on existing legislation. Article 12 of the 1948 Universal Declaration of Human Rights (UDHR)[1] protects citizens' privacy, as do article 8 of the 1950 European Convention on Human Rights (ECHR)[2] and article 11 of the 1969 American Convention on Human Rights.[3] Nonetheless, these provisions safeguard privacy at a general level and, therefore, they are of little help when it comes to protecting people against massive tracking or surveillance. The idea of a formal human right to privacy is still disputed, and "we'd need plenty more detail to understand what that means in practice" (Bowles 2018:138).

At the regional level, there are comprehensive conventions and laws about data protection: in Europe, the 1981 Convention 108 of the Council of Europe for the Protection of Individuals with regard to Automatic Processing of Personal Data[4] and, more recently, the GDPR; in the Asia–Pacific region, the Asia Pacific Economic Cooperation (APEC) body issued in 2004 a Privacy Framework[5] based on the 1980 Guidelines on the Protection of Privacy and Trans-Border Flows of Personal Data[6] of the Organisation for Economic Cooperation and Development (OECD).

Only Convention 108 and the GDPR have enforceable legal value in Europe. No universal legal privacy rules and principles exist to date. It goes beyond the scope of this book to assess whether the legal culture is mature enough to design a universal privacy legislation. It is of greater interest to understand: (1) if regional regulations such as the GDPR can turn into global standards of informational privacy; and (2) to what extent legislation is genuinely effective at securing and improving privacy.

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[1] The text is available at https://www.un.org/en/about-us/universal-declaration-of-human-rights.

[2] The text is available at https://www.echr.coe.int/Documents/Convention_ENG.pdf.

[3] The text is available at https://www.cidh.oas.org/basicos/english/basic3.american%20convention.htm.

[4] The texts of the Convention and Protocols are available at https://www.coe.int/en/web/data-protection/convention108-and-protocol.

[5] The text is available at https://www.apec.org/publications/2005/12/apec-privacy-framework.

[6] The text is available at https://www.oecd.org/sti/ieconomy/oecdguidelinesontheprotectionofprivacyandtransborderflowsofpersonaldata.htm.

Regarding the former point, it is undeniable that the GDPR is the most ambitious attempt to regulate privacy from a deontological approach (Burk 2005; Ess 2020). The GDPR is a reference for many privacy laws across the globe—a recent example is the 2020 Brazilian data protection law[7]—and is becoming de facto a global data protection standard (Bradford 2020).

In March 2021 the European Parliament published a resolution concerning the first 2 years of the GDPR application (European Parliament 2021). The document "urges the Commission and the Member States to use this momentum to push at UN, OECD, G8 and G20 level for the creation of international standards that are shaped on European values and principles without undermining the GDPR; underlines that a dominant European position in this field would help our continent better defend the rights of our citizens, safeguard our values and principles, promote trustworthy digital innovation, and to accelerate the economic growth by avoiding fragmentation" (European Parliament 2021, para. 1).

This approach risks failing at the international level—because it assumes that other countries are willing to accept European values and principles—and when design decisions need to be taken. We propose a thought case study where teams from 3 different countries (China, France, and the US) are involved in a global service design project. If the French team were to follow the European Parliament's suggestion, they would advocate for the application of the GDPR in the design process, although most of the end users of the designed solutions would be located outside the EU. From a logical standpoint, this would be irrational, unless the French team assumes that their values are the only ones that count, or are the only right ones, based on ethical absolutism (Ess 2020). Problems arise when different teams working together assume the same ethical monist attitude.

Imposing European values about privacy to the rest of the world deserves criticism for resembling new forms of colonialism (Couldry and Mejias 2020). Through our research, we propose an alternative approach to establish a shared, potentially universal, understanding of privacy across cultures. We advocate for fostering dialogue and promoting mutual understanding and acceptance to achieve this goal. Technical standards operate under a similar rationale. The work of the Institute of Electrical and Electronics Engineers (IEEE) Standards Association deserves appraisal and is a step in the right direction We refer in particular to IEEE 7000™-2021(IEEE Standard Model Process for Addressing Ethical Concerns during System Design) standard integrating ethical and functional requirements to mitigate risk and increase innovation in systems engineering design and development.[8]

Efforts by European lawmakers to build international legislation based on European values miss the point of whether legislation is an effective means to improve privacy—moreover, these efforts follow a 'Europe First' paradigm that somehow forget that Europe is a kaleidoscope of languages, cultures, and political traditions.

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[7] LGPD—Lei Geral de Proteção de Dados Pessoais (General Personal Data Protection Law), Law 13.709 of 14 August 2018, in force since 18 September 2020, O.J. (DOU) 15/08/2018.

[8] Source: https://engagestandards.ieee.org/ieee-7000-2021-for-systems-design-ethical-concerns.html?utm_source=businesswire&utm_medium=pr&utm_campaign=ais-2021.

Although the European Parliament, in its 2021 resolution, declared that "the GDPR has been an overall success" (European Parliament 2021, para. 2), and some authors comment that more privacy regulation is needed (Véliz 2020), legislation is far from being effective. Looking at the European experience, after some years of being implemented, the GDPR has contributed little to shifting the information capitalism paradigm that it was supposed to curtail (Zuboff 2019; Couldry and Mejias 2020; DeBrabander 2020). This lack of success—partially recognised by the European Parliament itself—may be explained by the GDPR's inability to capture "the negative externalities of the platforms' negligent over-collection and over-retention"(Doctorow 2020:49), and a lack of aggressive implementation by regulators. Furthermore, the GDPR has actually contributed to consolidating the monopoly of companies that dominate online advertisement, such as Facebook (now Meta) and Google, to the detriment of users' privacy and fair market competition (Geradin et al. 2020).

Also, it is important to remember that laws, including the GDPR, result from complex negotiations between several stakeholders, including businesses represented by lobbyists and lawyers (Zuboff 2019; Doctorow 2020). And while legislation may help challenge the status quo or at least raise awareness about an issue, it is, according to some authors, insufficient to remove the damages caused to human autonomy by data colonialism (Couldry and Mejias 2020). It could also be argued that privacy regulations can only be successful when most users and citizens understand and unambiguously embrace privacy (DeBrabander 2020). Understanding how people feel about privacy, however, is challenging and depends on many factors, including cultural background. However, although the European Parliament claims that "individuals are increasingly aware of their rights under the GDPR" (European Parliament 2021, point B), some authors are less optimistic and argue that people are actually renouncing privacy in the digital world (Solove 2006; DeBrabander 2020).

A hypothetical universal privacy legal framework faces many challenges, and ultimately it risks being an inadequate solution. Laws depend on institutions and politics. Currently, a universal data protection treaty could only be drafted by the United Nations, provided a global agreement is reached first. Then, the treaty should be ratified and implemented by all nations. While the concept may appear theoretically feasible, its practical implementation poses significant challenges that would undoubtedly be confronted by regulators. One potential risk is that governments would defend their interests, rather than people's individual rights. Standardising legal regimes could be useful from a utilitarian point of view—assuming that an imperfect regulation is better than no regulation—but at the cost of ignoring potential alternative approaches (Burk 2005). The biggest challenge, however, is the same the GDPR faces in Europe: inability to curtail massive tracking and surveillance. Laws rely on enforcement to be successful. Given the amount of data created every day in the world—approximately 2,5 quintillion bytes (Bulao 2021)—it is implausible that regulators would have the capacity to deploy effective enforcement mechanisms.

To be truly effective, a global privacy legal framework should be accompanied by changes in the way privacy is understood and handled at the political, economic, and technological level. As we will see in the next sections, ethics can, and should, be the

engine of this change. First, because laws change, but ethics stays (Taleb 2018). Then, because relying exclusively on laws to decide what is ethically right and wrong is dangerous: "The claim that the law is the best ethical arbiter is particularly wretched; it essentially argues we should allow all behaviour except the criminal. Ethics should be about living our best lives, not seeing how low we can sink" (Bowles 2018:5). Furthermore, as a rule, laws struggle to keep pace with technology and fail to address emerging problems caused when new technologies are introduced.

4.3 A Critical Overview of Privacy by Design

In the last years of the twentieth century a new approach to privacy emerged, which recognised that regulation was showing limits and loopholes to protect privacy against threats. Privacy by Design (Martín-Romo Romero and De-Pablos-Heredero 2017; Romanou 2018) was first proposed by Ann Cavoukian (2012:18), the then Information and Privacy Commissioner of Ontario, Canada, as "the framework to proactively embed privacy directly into information technology, business practices, physical design, and networked infrastructures—making it the default". Recently, Privacy by Design received attention from design and technology scholars (De Oliveira et al. 2023), who use it as a guide to design products and service that respect users' privacy since their conception (Perera et al. 2016).

Privacy by Design, which is essentially "a process map for putting the essential elements of accountability into effect" (Cavoukian et al. 2010:409), relies on 7 foundation principles: Proactive not Reactive, Preventive not Reacting; Privacy as the Default; Privacy Embedded into Design; Full Functionality—Positive Sum, Not Zero-Sum; End-to-End Lifecycle Protection; Visibility and Transparency; Respect for User Privacy.

The 3rd principle (Privacy Embedded into Design) is particularly relevant for design since "Accountable business processes work best when privacy is embedded into design. This would be part of the mechanisms to implement policies" (Cavoukian et al. 2010:410). However, this definition of the principle is problematic because it does not explain what embedding privacy into design means. More than explicative, it is tautological. Privacy by Design has emerged as a widely embraced concept in recent decades and has garnered substantial recognition, leading to its incorporation into data protection laws such as the GDPR. Recital 78 of the GDPR states that "When developing, designing, selecting and using applications, services and products that are based on the processing of personal data or process data to fulfil their task, producers of the products, services and applications should be encouraged to take into account the right to data protection when developing and designing such products, services and applications and, with due regard to the state of the art, to make sure that controllers and processors are able to fulfil their data protection obligations."

Article 25(1) of the GDPR provides more insight about how to implement Privacy by Design in practice: "Taking into account the state of the art, the cost of implementation and the nature, scope, context and purposes of processing as well as the risks of

varying likelihood and severity for rights and freedoms of natural persons posed by the processing, the controller shall, both at the time of the determination of the means for processing and at the time of the processing itself, implement appropriate technical and organisational measures, such as pseudonymisation, which are designed to implement data protection principles, such as data minimisation, in an effective manner and to integrate the necessary safeguards into the processing in order to meet the requirements of this Regulation and protect the rights of data subjects."

Given its focus on rights, obligations, and accountability, Privacy by Design is clearly a legal tool, and not a design one. Although Privacy by Design may ensure greater security and privacy, it is typically implemented in a stage of project development where the entire ecosystem of the relationships between technologies and stakeholders has already been designed (Padyab and Ståhlbröst 2018). This context "goes far beyond designing a product, interface or providing a good experience" (De Oliveira et al. 2023:187). Therefore, the impact of Privacy by Design on the design of the products, interfaces, and touchpoints experienced by users is limited.

However, due to its legal nature, it shows all its limits when legislation does not exist, or when conflicting legal principles may apply in an international project. For example, in December 2022 the European Data Protection Board (EDPB) declared that Meta platforms, such as Facebook and Instagram, are not allowed to rely solely on their terms of service as a justification to provide users with personalized ads. Specific consent is indeed required.[9] However, such consent may not be required in other jurisdictions, including the USA, where Meta platforms are designed.

In this situation how would privacy be applied by design? The answer will differ in the EU, in the USA, and in China, for instance. One could reasonably argue that Privacy by Design is ineffective. At the end of the day, what truly matters is unequivocal compliance with the relevant legislation. A more nuanced approach, which we embrace, is that Privacy by Design is indeed a useful legal compliance tool. It helps organizations implement privacy-protecting strategies in the framework of existing applicable laws. To facilitate the worldwide distribution of products, it is essential to incorporate multiple Privacy by Design principles that align with global standards and regulations.

4.4 Ethical Foundations of Privacy for Service Design

Service design is tasked with finding solutions that work well across countries and cultures. Besides traditional situations involving several States—for example, social networks that operate worldwide—service designers face intercultural challenges also when designing locally. In countries experiencing a significant influx of newcomers or with a high percentage of individuals from 2nd or 3rd generation immigrant backgrounds, it is crucial to develop tailored solutions that enhance

[9] Source: https://noyb.eu/en/noyb-win-personalized-ads-facebook-instagram-and-whatsapp-declared-illegal.

the overall patient experience within hospitals, considering diverse sensibilities and values. Mobility services in a major metropolis will naturally be used by visitors who do not speak the local language and may be unaware of customs and rules. In the realm of service design, it is essential that designers adopt a global mindset.

Service designers who work internationally are required to deal with privacy across borders. Grounding privacy for service design purely on legal rules is unfair—because it opens the door to neo-colonialism—and non-viable from a practical point of view. This is not to say that compliance with legislation is irrelevant or wrong. However, depending on the quality of the data protection principles included in legislation and on the democratic climate of the country in question, compliance with the law may be *ethically* challenging.

We believe that a government that forces companies and service designers to handle citizens' information for discriminatory purposes is acting unethically. History shows that the Nazi regime designed a complex legal and bureaucratic system to disfavour and even eliminate entire sectors of the population, both in Germany and in the occupied territories. Indeed, the typical defence of Nazi criminals is that they complied with legitimate orders and rules (Arendt 2006). In the best scenarios, when not blatantly evil, legislation may be ethically neutral: "Compliance is necessary but insufficient to steer society in the right direction. Because digital regulation indicates what the legal and illegal moves are, so to speak, but it says nothing about what the *good* and *bad* moves could be to win the game—that is, to have a better society" (Floridi 2018:4).

Legislation is also unreliable because it changes with time (and not always for the better) and because its design is influenced by many factors, including industry through lobbying. Moreover, legislation may be controversial. In 2021 the EU institutions passed temporary legislation that allows web-based service providers to continue detecting and reporting to law enforcement agencies online content that involved child sexual abuse. Although these measures apply for a maximum of 3 years, the EU Commission plans to turn them into permanent legislation. Prominent figures such as EU Commissioner for Home Affairs Ylva Johansson declared that ideally it should be mandatory for service providers to detect and report anything illegal.

This example is not from 1970's East Germany or Cambodia, but from a set of mature, European constitutional democracies. Privacy and human rights advocates claim that these rules are clearly too intrusive. Cases such as those of parents red-flagged as child abusers for having sent pictures of genitalia of their children to paediatricians to detect health issues corroborate this allegation. If one does not consider for a moment that the rule is intended to protect children, that is, the most vulnerable part of our societies, and to detect perpetrators of particularly repulsive crimes, it appears undeniable that such legislation perfectly implements the model of the digital Panopticon discussed in Chap. 3. Hence privacy advocates cannot claim its illegitimacy—because the legislation has been adopted according to the correct formal and substantial procedures—but its immorality.

Privacy and security must be balanced. Both scenarios—one with absolute privacy and secrecy and no security granted to citizens, and the other with no privacy left but

total security—are horrific. In the words of Taddeo (2015:1127), "Cyber-security and individual rights appear to be antithetical, for it seems that the greater our enjoyment of the former, the less we experience of the latter."

It is necessary to decide which value should prevail, and unfortunately it is hard to take a neutral stance in this conversation. In the child abuse example from the EU, the lawmaker made an explicit choice. Security wins over privacy. Designers are not exempted from the duty of giving their answer. As a general principle, we advocate prioritizing privacy as a paramount consideration. But design, and designers, shall think pragmatically and consider whether the proposed or adopted solutions are the best and the most effective ones: is scanning all digital conversations efficient to prevent and detect child abuse crimes? Further, are there technical means used by criminals (dark web, VPN, encryption) that can easily bypass legislation? Without a doubt, the answer is a resounding yes.

From a wider perspective, if legislation is not sufficient to ground privacy for service design, we turn to ethics to build solid foundations to sustain informational privacy in service design. Legislation is not necessary for design to protect users' and citizens' privacy. Architecture has long been adept at providing effective solutions to safeguard personal bodily privacy and intimacy. Using doors, walls, and room dividers, architects have addressed these needs even before formal rules and regulations were established. The same applies to industrial design: informational privacy of written documents has been safeguarded with envelopes and strongboxes since centuries without any law requiring it. The instinct and the will to protect intimacy of the body and documents against prying eyes was sufficient to design effective solutions.

However, instinct and goodwill may not be effective in complex and fragmented societies. The digital Panopticon cannot be fought off simply because we want it, or we feel that this is the best thing to do. First, because the digital Panopticon is invisible. While writing these words on a word processor and listening to music on a popular streaming service, the author is not aware of the information collected by the service providers. Without a clear awareness of the threats, it is challenging to feel how to act. Users may feel that the digital Panopticon is wrong, but probably service providers and governments feel the opposite. Whose feelings will prevail? Probably those of the more organized and motivated stakeholders. Finally, it is important to recognize that relying exclusively on instinct can often lead to irrational outcomes and unintended consequences. In summary, building privacy for service design on what one feels to be appropriate, is flawed.

Privacy for service design requires stronger foundations. When considering the limitations of legislation and instinct as standalone guides, a compelling alternative is ethics. "Ethics, or moral philosophy, asks basic questions about the good life, about what is better and worse, about whether there is any objective right and wrong, and how we know if there is" (MacKinnon and Fiala 2015:3). Ethics should lead scholars and practitioners to assess whether protecting informational privacy is good or bad—that is, is ethical or unethical; whether the protection of privacy is a value objectively, regardless of the circumstances, cultures involved, and legislation. More generally, one should consider that "Data scientists and technologists need to understand users

in order to humanize technology and ensure that it is ethical. Designers and those working in social innovation need to understand the potential of data, but also the ethical implications of working with it" (Drew 2018:14).

Ethics allows to make the right questions before attempting to provide satisfactory answers. Along this chapter we examine how the most preeminent ethical approaches, primarily rooted in the Western tradition, could support privacy for service design: utilitarianism, deontology, virtue ethics, information ethics, and intercultural information ethics. In Chap. 5, we will build on this analysis to draft and discuss a global privacy ethical framework for service design.

However, ethics has been largely absent in privacy research: "It is safe to say that one thing largely—and regrettably—missing from many mainstream surveillance studies is any serious attention to ethics" (Lyon 2017:12). Therefore, a double gap needs to be filled: bringing privacy into the practice of service design *and* sustaining privacy with ethics.

Before proceeding further with our inquiry, it is imperative to clarify that our research is *for* design and *through* design. Philosophy and ethics are instrumental in building a design understanding of privacy and sustaining privacy for design. The objective is not to build a new ethics applicable to design, but to mould a design approach to privacy through ethics and based on ethics. We do not suggest that service designers should turn into philosophers and ethicists to understand privacy and implement it into their solutions. Basically, the same applies in relation to legislation. Service designers should design products that are compliant with the law, without necessarily becoming legal experts.

The challenges faced by service designers dealing with privacy imply transcending from the design domain and exploring different territories, such as philosophy, anthropology, social sciences, economics, and the law. Should service designers be experts in all these domains? Design requires its practitioners to think 'out of the box' and be innovative (Zurlo 2019). Curiosity about other disciplines fuels innovation and creativity, but it is not expectable that a service designer becomes a proficient philosopher, anthropologist, social scientist, economist, and lawyer. Cooperation with other disciplines, rather than intellectual selfishness, is key to good design (Brown and Katz 2019). The mission of design is to define a preferable future working in collaboration with experts from other fields (Dunne and Raby 2013).

Design, including service design, relies on other disciplines and sciences to thrive. Due to the extension and complexity of problems service designers are confronted with, service designers should complement their work with capabilities from other disciplines and collaborate with other experts (Morelli et al. 2021). Consequently, service designers do not have the professional and ethical duty to toughly justify the existence of the issues they deal with, such as the need to protect our personal information against widely recognized threats in the surveillance society. However, on a larger scale, service design needs to build an understanding and approach to privacy based on inputs from other fields when it is useful or necessary, starting from ethics. Ethics applied to design is not abstract, but it is a pragmatic and operative

ethics for design. In other words, ethics "should not be seen as something abstract or disengaged, but rather something that prompts political agendas and action" (Lyon 2017:12).

4.5 Moral Approaches to Privacy for Service Design

Ethics is a rich branch of philosophy. It evolved during history—and it still does—and is heavily influenced by the dominant cultural, religious, economic, and political background. We remind that the approach to ethics followed in this research is for design, thus necessarily pragmatic. Our focus is ethics in action. We aim to develop an actionable ethics that can sustain privacy for service design. To establish actionable ethics in the context of design and privacy, it is essential to explore the most pertinent ethical approaches that have been applied to these areas. A full mapping of all ethical traditions across cultures goes beyond the scope of this book.

In the field of privacy, 2 main approaches standout for their potential to sustain the protection of personal information: utilitarianism and deontology. The latter inspired the European privacy legal framework and every other legislation based on the GDPR (Burk 2005; Ess 2020). Traditional deontology principles serve as powerful grounds to informational privacy.

Kant's 2nd formulation of the Categorical Imperative ('Always treat humanity, whether in your own person or that of another, never simply as a means but always at the same time as an end'), condemns any attempt to treat users of digital services as sources of information and data for exploitation. This principle sustains privacy claims by individuals and groups, whereas privacy protection through legislation and ethical codes relies more solidly on Kant's 1st form of the Categorical Imperative ('Act only on a maxim that you can will as a universal law'). Laws and codes, because they apply to anyone, respect the principle of fairness contained in the 1st form of the Categorical Imperative. In summary, if one does not want their personal information to be commodified and traded without their consent, this should become a (universal) law.

Utilitarianism proves to be more challenging, and less successful, in supporting privacy claims. In the previous section we reviewed an application of the utilitarian principles—which can be summarized in the goal of maximizing the greatest happiness for the greatest number—within legislation: the monitoring of digital conversations of EU-based users to detect child abuse. This example, like many others where privacy rights are limited or discarded in favour of other interests and values (most often, security), reflects the utilitarian maxim 'The end justifies the means'. Despite the disdain commonly attached to this phrase (MacKinnon and Fiala 2015), one should wonder if this principle can really be abandoned in practice and, more radically, if it can be applied ethically.

During the research that led to this book, we proposed the re-design of a common unethical method used to capture users' data without their full awareness: dark

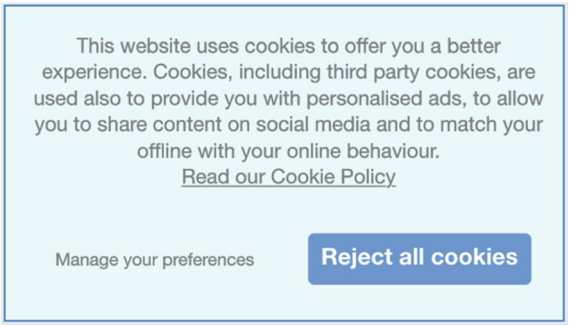

Fig. 4.1 Example of an 'ethical dark pattern'

patterns. Dark patterns are inherently immoral because they nudge users into surrendering more data than they would normally do (MacDonald 2019; Narayanan et al. 2020; Rieger and Sinders 2020; Nelissen and Funk 2022). In this sense, they are quintessential tools of surveillance capitalism. However, can they be applied ethically?

We speculated that it is possible, although morally challenging, to design 'ethical' versions of dark patterns, thus leading to interfaces that nudge users to maximize their privacy protection (Parrilli and Hernández-Ramírez 2020). Figure 4.1 shows an example of 'ethical dark pattern'.

In practice, users are not immediately given the possibility to share their data with the provider, according to a non-capitalist (but not necessarily anti-capitalist) logic. Why should personal information be part of the deal between user and service provider?

We are aware that the speculated ethical dark pattern may be difficult to accept from an ethical standpoint. One may legitimately argue that it treats users as means, and not as ends, to push a privacy-driven agenda. If users are willing to provide their data to the provider, why should they be deprived of that possibility? We do not exclude that the answer is because the end justifies the means, *but* for the good.

Deontology and utilitarianism often diverge when it comes to privacy claims. Both may sustain different aspects of privacy for service design. The rigour of traditional deontology—exemplified in Kant's statement that one shall never lie, even if it leads to the death of a friend—should arguably be tempered with utilitarian pragmatism. A world of absolute privacy is dystopian, and it kills all pleasures and benefits arising from a varied, multi-faceted user experience.

However, deontology and utilitarianism do not encompass the whole spectrum of possibilities to justify privacy—or to mark its boundaries. Virtue ethics, despite its remote origins in Greek philosophy, has been rediscovered in the last years: "Virtue ethics is a uniquely attractive candidate for framing many of the broader normative implications of emerging technologies in a way that can motivate constructive proposals for improving technosocial systems and human participation in them" (Vallor 2016:33).

However, virtue ethics—for its focus on what one ought to be, instead of what one ought to do—may prove challenging to apply in design contexts. According to virtue ethicists, designers shall act fairly, but should also develop "traits of character, habits, tendencies, and dispositions that make a person good" (MacKinnon and Fiala 2015:150). The development of moral virtues in a design context can be seen from 2 perspectives. On one side, designers need to grow ethically to deliver consistent products and solutions, and on the other side designers, with and through their products, shall help users nurture their moral values. Regarding this latter aspect, Sicart (2009) claims that game designers should help players grow morally when playing. The game story, design, and interactions with other players and characters play a crucial role in this process.

Due to its appeal both in Western and Eastern cultures—for example, Buddhist ethics may be regarded as a form of virtue ethics (Vallor 2016)—virtue ethics sustains a "contemporary technosocial virtue ethics [which] must resonate broadly enough to motivate significant social cooperation on a global scale" (Vallor 2016:52). Is the contemporary technosocial virtue ethics able to embrace and support privacy for service design? The answer is not straightforward. Traditional approaches to virtue ethics, both in the West and East, do not direct sufficient attention to individual privacy. For Aristotle, the accomplishment of human virtues happens primarily in the social and political context. In Eastern philosophies such as Buddhism, the family dimension prevails over the individual sphere, leaving little or no room to personal privacy (Vallor 2016; Ess 2020). However, one important aspect cannot be neglected: societies and their moral values change over time. If virtues depend at least partially on the practices and cultural norms of a society in a given time (MacIntyre 2007), practices and norms are not static.

Supporters of contemporary technosocial virtue ethics indeed agree that the protection of informational privacy is a trait of the virtuous person. This because privacy plays a crucial role in creating the moral and cultural conditions for the development of people and communities, where ethical virtues will flourish (Cohen 2012). But also, because personal information is not only about the data subject. Personal data concerns other people related to the data subject. In the words of Shannon Vallor, "information about me is also usually information about the others with whom I share my life, and thus to focus only on the question of whether I have something to hide is a profoundly solipsistic attitude to privacy concerns, one incompatible with the virtue of moral perspective" (Vallor 2016:191).

Finally, contemporary technosocial virtue ethics, applied in the domain of "technomoral justice" (Vallor 2016:128), should guide how technologies are developed and used both individually and collectively. As an example, digital surveillance tools are used by despotic regimes to suppress freedom, but also by activists fighting against them. In essence, virtue ethicists do not condemn any specific technology but rather assert that all technologies can be utilized fairly and responsibly with the cultivation of virtuous character traits. A partially similar claim is shared by the information ethicist Luciano Floridi (2014:115): "Digital ICTs do not necessarily erode privacy; they can also enhance and protect it. They may have eroded anonymity as a proxy for privacy, but they have introduced privacy through the proper design of our

technologies and social environments." In summary, the virtuous person will make a virtuous use of the technological tools at their disposal.

4.6 Information Ethics: I Am My Data

Utilitarianism, deontology, and virtue ethics are useful to shape a designerly understanding of privacy. However, none of them are solely or primarily centred around privacy. We already noted that utilitarianists tend to give preference to values conflicting with privacy (e.g., security). But deontology may also lead to the complete deny of privacy rights. If one shall always tell the truth, what room is left to hide information for the sake of privacy?

The defence of privacy within virtue ethics is also tenuous. Faced with contemporary challenges, including terrorism, gender violence, drug, and human trafficking, is it safe to say that the virtuous person should prioritise the protection of personal information instead of fighting violence, injustice, and crime? It appears that the moral development of design with the potential to invade personal privacy is left to a case-by-case assessment, possibly biased by individual and social preferences and inclinations.

In the last decades, a moral philosophy that gives attention to privacy and that tries to justify it logically and ontologically has developed. Luciano Floridi's information ethics tackles the challenges posed by contemporary technologies with modern conceptual tools. As a starting point, we endorse Floridi's characterization (2010:9) of contemporary onlife as situated within the infosphere, a region populated by inforgs: "we are not standalone entities, but rather interconnected informational organisms or inforgs, sharing our environment with biological agents and engineered artefacts." Life in the infosphere is "seamlessly analogue and digital, offline and online" (Floridi 2018:1). Information ethics is concerned with ethical issues *in* the infosphere and, perhaps more interestingly, ethical issues *of* the infosphere (Capurro 2006).

Information ethics has a clear advantage compared with other traditions. It tries to understand and explain our world without unnecessary references to the remote past and its contextual virtues. Traditional moral approaches undoubtedly offer valuable insights, but it seems somewhat amusing to construct ethical rules for social network designers and users solely based on virtues like courage, which Aristotle attributed to soldiers facing enemies. The past is indispensable to comprehend the present, but we need new conceptual tools for modern times. This because, in Floridi's words (2010:11), "ICTs are not merely re-engineering but actually re-ontologizing our world."

Furthermore, information ethics gives the space and attention it deserves to information, because our nature, as human agents, is "intrinsically informational" (Floridi 2010:10). Information composes us and the reality that surround us. More precisely, "[…] an ecological approach to information ethics also treats information as an entity as well. In other words, we move from a broadly constructed epistemological or semantic conception of information ethics—in which information may be roughly

equivalent to news or contents—to one which is typically ontological, and treats information as equivalent to patterns or entities in the world" (Floridi 2010:109).

We live immersed in information, both online and offline. And actually, the distinction between onlife and offline lost its relevance. In reality, we live "onlife", where our online and offline experience merges almost indistinguishably (Floridi 2015; Taddeo 2015). When a person stands at the entrance of a restaurant and checks a mobile app on their phone to see the rating given to that establishment by other users, it becomes difficult to discern which dimension, whether online or offline, takes precedence in that moment. That person is, in fact, living an onlife experience. It can be argued that the evolution of the metaverse has the potential to significantly further erode the distinction between online and offline realms, blurring the boundaries between what is traditionally considered "real" reality and virtual reality. As this immersive digital space continues to develop, it may reshape our perceptions of reality, challenging our conventional understanding of the online and offline divide.

For its focus on information, information ethics is concerned with privacy: "The ethical problem of privacy has become one of the defining issues of our hyperhistorical time" (Floridi 2014:102). However, as pointed out above in Sect. 3.2, we identified a major flaw in Floridi's approach to informational privacy. That of conceiving informational privacy as "freedom from informational interference or intrusion, achieved thanks to a restriction on facts about her that are unknown or unknowable" (Floridi 2014:103). By limiting privacy claims solely to the realm of secrets, there is a risk of diminishing the significance of privacy altogether. Further, it is a dangerous claim, because it negates protection to sensitive information that is not unknown or unknowable but that can expose the data subjects to serious consequences if it is misused by the wrong people.

As an illustrative example, personal information regarding an activist advocating for the rights of a minority group may not be completely unknown or unknowable. This is because the activist might willingly share such information with their friends and fellow advocates on social networks or other platforms. However, if that information were to leave the trusted circle of friends and fall into the hands of aggressive political extremists, it could pose a severe threat to the life and integrity of the individual whose data is exposed. This example shows, once more, the pertinence of Westin's definition of privacy as the right to decide who, how, why, and when has access to personal data, regardless of it being secret or not.

Floridi's attitude towards privacy appears ambivalent across his works. Despite powerfully justifying it ontologically and logically, he shows a perspective about people's claim to conceal their private data which is open to question. In Floridi's words (2010:15), "We use and expose information about ourselves to become less informational anonymous. We wish to maintain a high level of informational privacy, almost as if that were the only way of saving a precious capital that can then be publicly invested by us in order to construct ourselves as individuals discernible by others."

Acknowledging the potential limitations or shortcomings of Floridi's definition of privacy, we prefer relying on a more widely accepted and robust definition such as

Westin's one. However, the claim that "privacy requires [a] […] radical reinterpretation, one that takes into account the informational nature of our selves [sic] and of our interactions as infogs" (Floridi 2014:119) is imperative. Indeed, it is relevant to consider incorporating an additional dimension into the human ontological framework: the informational sphere. This sphere seamlessly intertwines with the physical and psychological dimensions to shape the identity and existence of everyone.

For the sake of clarity and simplicity, we accept the Enlightenment view that in the human an inanimate element (the psychological dimension, or the soul) animates the material body. However, the reader should be aware that this view has been challenged and criticized in the nineteenth and twentieth century (Donia and Shaw 2021).

Because everybody is made of personal information, an infringement to informational privacy should be understood as a form of aggression towards that person's identity (Taddeo 2015). While this claim may initially appear abstract, it unveils a truth that is challenging to refute. That is, contemporary digital technologies allow to harm people simply by misusing and abusing their personal information. In Floridi's view (2010:120), "Looking at the nature of a person as being constituted by that person's information enables one to understand the right to privacy as a right to personal immunity from unknown, undesired, or unintentional changes in one's own identity as an informational entity, both *actively* and *passively*. Actively, because collecting, storing, reproducing, manipulating, etc. Alice's information amounts now to stages in stealing or cloning her personal identity. Passively, because breaching Alice's privacy may now consist in forcing her to acquire unwanted data, thus altering her nature as an informational entity without consent."

Revenge porn and cyberbullying are just some worrying examples. No physical aggression takes place, no offensive word is said in person to the victim, but the emotional (and sometimes physical) effects are real. Devastating interactions between infogs do not require their physical presence in the same place and at the same time. In Floridi's words (2016:2), "In post-modern philosophy, the need for mutual recognition may encourage a lack of privacy and explain why we care so little about how much we share online. Only within a philosophy of information that see human nature as constituted by informational patterns do breaches of privacy have an ontological impact."

As a consequence, "The value of privacy is both to be defended and enhanced" (Floridi 2014:119). Protecting informational privacy is not equivalent to shielding one's belongings (Floridi 2016)—since one does not own her information, but one *is* their information. But what are the consequences of this approach to the nature of personal data? "If personal information is finally acknowledged to be a constitutive part of someone's personal identity and individuality, then one day it may become strictly illegal to trade in some kinds of personal information, exactly as it is illegal to trade in human organs (including one's own) or slaves" (Floridi 2014:122).

This claim is fascinating and challenging at the same time. Prohibiting the trade of personal information indeed requires a profound transformation of the prevailing structure of surveillance capitalism and society as well as in the current design and implementation of business practices. We agree that surveillance capitalism "is

enabled not just by the individual companies but by the economic, regulatory, political and social system, and we argue that you cannot correct surveillance capitalism by simply eliminating, for example, Facebook. You have to change the entire business model and the supporting legal-political infrastructure" (Sætra 2020:3).

As far as service design is concerned, the impact would be important, since service design relies on the exchange and processing of personal information, as explained in Chap. 3. Further, a drastic legal intervention may be less effective than expected, just like the GDPR delivered much less than it promised in terms of reducing abusive data practices. In fact, we experienced "the litany of ineffective or counterproductive laws regulating the Internet that have been passed by legislative powers lacking either the technical expertise or the expansive user knowledge base needed to craft a prudent law governing the Internet" (Vallor 2016:148). There is no guarantee that things would be different for a law banning the trading of personal information.

4.7 A Broader Perspective: Intercultural Information Ethics

Information ethics provides design with the answer to a very fundamental question. Why should we (humans, including designers) care for privacy? By ascribing an ontological nature to information, it becomes apparent that our very being encompasses not only our physical body and soul but also the information that constitutes our identity. Consequently, just as we recognize the need to protect our body and soul, it follows that our information also deserves safeguarding. However, information ethics is a product of the Western culture and philosophy. In the literature it emerged a question whether information ethics is relative to only one culture, or it carries ideas and principles which are universally valid (Brey 2007). Given the ambition of our research to establish a universal privacy framework for service design, we should assess whether information ethics can sustain a global claim to privacy protection.

In fact, the consideration that information ethics tend to focus exclusively on Western philosophical and ethical traditions, thus ignoring other realities, gave rise to the emergence of Intercultural Information Ethics (IIE). "Intercultural Information Ethics (IIE) is the most significant development of the discipline of Information Ethics (IE). IIE is also arguably an untapped resource for one of the most relevant contributions to comparative philosophies facing an information society and an information culture" (Bielby 2016:234).

The scope of IIE scholars essentially is to find out shared norms for different societies, while maintaining and respecting existing differences (Ess 2007; Wong 2009; Ma 2021). The outcome of this inquiry should be "a *minimal moral denominator*", that is "the basic norms in ICTs-related ethical issues that can be accepted by *all cultural perspectives*" (Wong 2009:57). The logical starting point is ethical

pluralism, that is, the recognition of shared values across cultures, despite the differences (Ess 2020). IIE is a necessity in a globalized world: "The concept of humanity and consequently the concept of human rights need permanent interpretation on the basis of an intercultural ethical dialogue" (Capurro 2006:183). Ethical pluralism differs from ethical monism ('My values are right, and all other norms are wrong'). Ethical monism is the necessary condition of ethical imperialism, that is, the imposition of one's values onto another culture and moral system. But ethical pluralism is also very different from ethical relativism ('There are no universal values, because they are all relative, and we have to respect them').

The main challenge of ethical pluralism is to sustain an ethical programme that goes beyond the basic principles of not hurting or killing innocent people, or not stealing, codified in the most diffused religious traditions worldwide (Küng et al. 2019). The fact that these ethical rules exist since time immemorial does not mean that they are respected by everybody, but at least they are easier to defend logically on a global scale. When we turn our attention to ethical challenges posed by technology, things become less consensual (Wong 2009).

Is privacy a sufficiently universal value that justifies a global ethical framework for service design? We remind that we criticized the Value Sensitive Design approach because it recognizes privacy as a value, but without a contextual and analytical discussion. IIE has the tools to answer this question. The main challenge arises in relation to privacy in non-Western cultures, where discussions "are scattered and sometimes produce conflicting conclusions" (Ma 2021:161). However, there is consistent research about privacy in Eastern civilizations such as China (Yao-Huai 2005; Ma 2019) and Japan (Mizutani et al. 2004; Nakada and Tamura 2005). Despite the consideration that Chinese (and Japanese) "culture and the conceptualization of privacy itself is multidimensional, in that there can be a range of possibilities for understanding" (Ma 2021:161), the literature tends to agree that the predominant collective dimension of these civilizations hinder the emergence of informational privacy claim. In a nutshell, "In traditional Japanese, Chinese and Thai culture, which still has a strong presence today, distinctions are made that resemble the Western distinction between public and private, and customs exist that may be interpreted as respective of privacy, but there is no recognized individual right to privacy" (Brey 2007:15).

However, solely concentrating on the traditional aspects of a specific culture may hinder our ability to comprehend the evolutionary dimensions of various issues associated with modern technologies, including privacy. We agree that "the fact that a particular culture does not, currently, have concepts like privacy, intellectual property, and freedom to information does not by itself entails [sic] the culture does not have the resources to justify them; moreover, to claim that a particular culture does not have any resource to justify these concepts seems to appeal to a very simplistic picture of different cultural perspectives, and thus misses their complexity" (Wong 2009:53).

Furthermore, this type of analysis fails to acknowledge that cultures undergo continual transformations over time. Chinese millennials are definitely more individualistic than their parents (Ess 2020). Their concern for their personal information

(and, in general, for themselves) is new in Chinese culture. Regarding the impact of technology on the very idea of privacy, Capurro (2005:18) comments that "The concept of privacy as "the right to control one's information" arises in Japan with the arrival of the information society and particularly with the 'invasion' of privacy by some mass media."

In other words, it appears that technologies shape our values. As a proof, both China and Japan (together with other East Asian countries, such as South Korea) enacted data protection legislation. In the case of China, the government decided to implement a privacy law to reduce the overwhelming power of some corporations towards Chinese citizens and their data (Kharpal 2021). To a certain extent, non-Western cultures in Asia and Africa (Capurro 2008) keep their community approach to life and see privacy, at least to a certain extent, negatively. But when they tackle the issue of privacy "in a more or less positive sense, it seems that it loses its strong roots in Western anthropology and becomes a practical question of, say, how to deal or how to protect personal (digital) data in the information society" (Capurro 2005:19).

Interestingly for design, this pragmatic approach is not bad news. To the contrary, it frees privacy for service design from the risk of sinking in cultural quicksand. It also reduces the risk of rejection of a universal privacy framework for service design because it is perceived as too anchored to Western values. Essentially service design needs a privacy framework for practical reasons of convenience. This topic, however, will be discussed at length in Chap. 5.

IIE has the merit of studying privacy as a value from a multi-cultural perspective. However, "The complexity of a unified definition of the merits of privacy alone from an IIE perspective is lacking" (Bielby 2016:246). Despite IIE tries to find common elements and values across cultures, its focus on discussions about the nature of the self, and the consistency of such fundamental notions across civilizations, hinders the possibility to reach a conclusion and consensus. Starting from a Buddhist perspective, Soraj Hongladarom interferes that privacy is a human universal norm. Privacy is a human universal not because it is based on Western ideas and values (such as liberalism or virtue ethics), but "because privacy is recognized as one value in today's globalized information society which is indispensable if we are to maintain another deeper set of values that we in the modern world hold dear, such as democracy and respect for individuals" (Hongladarom 2016:7).

This kind of ethical pragmatism contradicts the view that "it is only justified for proponents of a particular moral value or principle to claim that it ought to be accepted in another culture if they make this claim on the basis of a thorough understanding of the moral system operative in this other culture" (Brey 2007:19).

A pragmatic idea of privacy may work in practice—and it does—but it can be challenged for the same reasons, and using the same arguments, used to criticize Value Sensitive Design's approach. Stating that a value exists because it is recognized as such, is tautological. One can claim that a pragmatic idea of privacy is also imperialistic because it imposes Western values worldwide. Among IIE scholars, Wong (2009:56) in particular critically comments on this perspective: "The use of pragmatic justifications can be constructed as a form of imperialism, because it presupposes *economic progress* (or, at least some form of progress) to be the most

basic value; however, the concept of *economic progress* is not neutral for different cultural perspective; by putting it at the core of IIE, then, run afoul of the original intention of IIE."

History shows that evil ideas have been venerated as values along history (think the idea that some human races are intrinsically superior to others, which has been accepted for centuries). Finally, it is true that privacy is recognized as value by legislation in many countries—with many loopholes and inconsistencies, as commented above—but the same does not always apply to businesses, which massively treat users as sources of personal information for profit. While it is valid to critique certain extreme or ideological aspects of the surveillance capitalism theory, it is undeniable that significant surveillance concerns persist in contemporary societies.

In conclusion, adopting a mixed approach that combines pragmatism with robust conceptual foundations is highly advantageous for privacy in service design. Pragmatism guides designers to overcome purely theoretical concerns that could prevent the development of effective privacy protections. In practice, the fact that the traditional local culture does not know or assign value to informational privacy is likely to be irrelevant for service designers. However, pragmatism alone is not sufficient. In this sense, Floridi's idea that 'we are our information' provides sturdy grounds to justify privacy and the value that personal information deserves. This mixed approach guides the development of the universal ethical framework for privacy for service design that we introduce in Chap. 5.

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Chapter 5
Defining a Privacy Ethical Framework for Service Design

Abstract This chapter defines an ethical framework for privacy in service design, emphasizing the necessity for such a framework on ethical grounds. The framework is described as ethical, universal, human-centered, heuristic, and evolutionary, serving as a tool to help service designers understand and apply informational privacy in their work. It comprises 10 principles, each elaborated through real and speculative case studies, aimed at creating privacy-protecting and privacy-enhancing products. These principles, while increasingly practice-oriented, are immediately implementable and focus on both the users and stakeholders of service design solutions. Key aspects of the framework include transparency, interactions, security, freedom, moral agency, user experience, usability, and understandability. The chapter concludes by discussing the potential challenges and opportunities associated with implementing this privacy ethical framework for service design.

5.1 Why a Privacy Framework for Service Design?

In Chap. 4, we delved into a comprehensive exploration of the ethical considerations associated with informational privacy, focusing on its conceptual underpinnings and the invaluable benefits it offers. We concluded that privacy should be protected and enhanced primarily on ethical grounds, because we *are* our information. We also assessed that privacy should be balanced with other rights and legitimate interests such as security. Building upon ethical considerations, we now move on to the operational dimension of our research. To support the integration of privacy ethics in service design, we clearly define the specific conditions required for successful implementation. This involves delineating a comprehensive privacy ethical framework specifically tailored for service design.

The scope of the framework is both epistemological and operative. It aims to help service designers build a designerly understanding of privacy and design real service design products that enhance users' and stakeholders' privacy—according to what Massimo Vignelli calls "intellectual elegance". In Vignelli's words (2010:28), "Intellectual elegance is our civic consciousness, our social responsibility, our sense

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of decency, our way of conceiving design, our moral imperative. Again, it is not a design style, but the deepest meaning and the essence of design." The ethical framework catches the essence of design and its consequences. The framework is also universal, human-centered, heuristic, and evolutionary. Each of these aspects will be commented at length in the next sessions.

Before delving into the specifics of the privacy framework for service design, it is crucial to underscore the pressing need for such a framework. Currently informational privacy is mainly regulated by and through legislation, technical standards and rules, privacy policies, and contractual arrangements between providers and users. None of these instruments specifically targets designers. Instead, they target businesses and organizations from one side, and users from the other side. Research about change through service design reveals that the actual understanding of how to use service design to produce change in society is fragmented. Social change through service design is confronted with challenges (Morelli et al. 2021). Further, the frameworks for effective implementation of change in professional and social contexts are few and limited (Niedderer et al. 2020). Our work intends to fill in this gap for informational privacy and its social impact. A literature review uncovers the growing necessity to embrace user-centered design practices that ensure data privacy. This entails identifying behaviors and recommendations that can be seamlessly incorporated into the work of designers (De Oliveira et al. 2023).

Service designers play a pivotal role as catalysts within innovative organizations, propelling the emergence of novel service propositions (see Chap. 2). Nonetheless, they continue to be excluded from debates and research about privacy and there are no tools that help service designers to integrate privacy concerns into their products. Further, products that defend and enhance users' and citizens' privacy make legislation, privacy policies, and terms and agreements redundant. In essence, it is imperative to shift the focus of privacy concerns from the consumption of services by users to the design of these services by designers. Privacy protection should be proactive and not just reactive—in this aspect, we agree with the advocates of Privacy by Design, despite we judge this approach flawed and largely ineffective (see Sect. 4.3).

Given that service design products are crafted by designers, it follows logically that a privacy framework tailored for service designers should directly address their specific needs, rather than vaguely targeting service design businesses in general. Within the realm of design practice, there has been a growing demand for designers to embrace the responsibility of creating products that refrain from treating users' personal information as mere commodities. Consequently, designers are being urged to uphold ethical liability when their designs fail to respect users' privacy and confidentiality. This happens when designers do not act as gatekeepers to defend users' rights and interests (Monteiro 2019), and when they do not respect their responsibility "to the public at large, the consumer, the user of the final design." (Vignelli 2010:33).

Our privacy framework for service design recognizes that the reality wherein services are created and implemented is multifaceted and challenging. Every stakeholder involved has rights and (legitimate) interests. Users may want that their data

is protected, but primarily they rely on a service provider to get a service. Businesses and organizations that offer service design propositions may have the interest to collect personal information to understand their users and offer tailored services, but also to exploit necessary and unnecessary personal information for the sake of profit, according to the dictate that information is the new oil (Brin 1998).

Perhaps surprisingly, service designers tend to disappear when we assess service design from the perspective of the service and the relationship between service providers and users. To make a comparison with the culinary world, service designers are like chefs in restaurants. Usually they are invisible to patrons, who interact only with the visible touchpoints of the service experience (if we consider only human-to human interactions: waitresses and the restaurant owner). However, the most important service product that customers consume (the food) is designed and prepared by invisible chefs. Would it make sense to talk about food security and hygiene without involving cooks in the conversation? The answer is clearly negative. Similarly, this applies to both service designers and users' informational privacy.

Since we do not seek to draft specific legislation for service designers, an agile framework will be best suited for service designers to understand the informational privacy issues at stake and design accordingly. In the following sections we will describe the main aspects of such framework, starting from its main aspect: the ethical nature of the framework.

5.2 An Ethical Framework

The privacy framework for service design is ethical, given that, as we explained in Chap. 4, both a legal framework and a commonsense framework (that is, a framework grounded on shared feelings and attitudes regarding privacy) would be flawed. Our approach, however, does not impose a unilateral moral view about privacy. The framework is built on strong foundations, drawing inspiration from information ethics ('we are our data'), but is sufficiently flexible to accommodate variations and interpretations of the value of privacy based on the culture in which it is implemented. Similarly, most cultural and religious traditions recognize human life as a value (Küng et al. 2019), but this does not mean that everyone shares the same view about when life starts, or how life should end. Consequently, the ethical privacy framework for service design must be minimal and able to generate consensus among service designers.

The framework's ethical foundations are understood from a designerly—that is, pragmatic—perspective. The framework develops from the notion of 'ethicist as designer', which calls for ethics to take a central role in design activity and practice, both as a key motivator and a mediator in the evaluation of the designed outcome (Krippendorff 1995; van Wynsberghe and Robbins 2014; Gray and Boling 2016).

Like the framework itself, its ethical grounds are not static and rigid, but open and fluid. Despite an inseparable connection with information ethics, other ethical traditions and approaches play a role in the design and implementation of the framework.

In practice, when the framework will be approached and used by, e.g., Chinese or Thai service designers, it is likely that Confucian or Buddhist virtue ethics will influence the understanding and implementation of the framework. This multi-cultural grounding of the framework is an enriching factor, because it adds unexpected and unplanned perspectives. One should not underestimate that ethical rigidity may undermine the ability of the designer to solve complex ethical issues in a sensitive and context-related manner (Buwert 2018).

The pragmatic character of the framework should be briefly, but carefully, discussed. Undoubtedly, a purely abstract framework would have no use for design. We subscribe to the 'classical' pragmatic tradition, particularly John Dewey's view, that ideas, models, and frameworks shall be judged primarily by their consequences—that is, the problem-solving power of a theory determines its utility (West 1989; Stuhr 2000). In this sense the designerly approach to privacy and the proposed framework is pragmatic. It gains relevance *because* it can be applied and used to design real products and solutions.

The implementation of the framework is also necessarily ethical. Because it cannot be enforced like laws and regulations, it requires the voluntary adherence of the service design community. The approach adopted relies on encouragement rather than obligation, grounded on the belief that "asking people to start thinking of the greater long-term good can be effective in certain cases." (Brin 1998:250) The challenges related to this task will be commented in the last section of this chapter. Therefore, when service designers experience the urge to implement it—or, more accurately, to participate in it and embrace its vision of empowering service designers to safeguard and enhance people's privacy—it will be based on ethical principles. No punishment or reward is foreseen for (not) adhering to the framework. The implementation of the framework relies also on the arbitration abilities of service designers in dealing with ethical design complexity, that is "the complex and choreographed arrangements of ethical considerations that are continuously mediated by the designer through the lens of their organization, individual practices, and ethical frameworks." (Gray and Chivukula 2019:9).

Regarding the question of whether the ethical framework is also political—meaning collective and inherently universal—as per Alain Badiou's perspective (Badiou and Barker 2011), the answer is yes. Design—which, it should not be forgotten, "is currently implicated in the world of uneven human development, dominantly in the service of inequality" (Fry et al. 2015:8)—is strongly linked to the political sphere. Both design and politics are universal, because they take "the risk of asserting a universal interest (a universal problem—or affirmatively, a universal possibility) and thus intrinsically [address] a universal subject; a subject capable of engaging with the need, of dealing with this problem, of rising to this possibility." (Fry et al. 2015:200) Informational privacy is a universal concern, but also a universal problem and possibility, therefore it has political relevance, and it is connected with design.

The privacy ethical framework for service design is political also because it endorses a privacy-oriented agenda within the service design community. However,

despite its macro-political aspirations, it stimulates micro-political interventions—basically, the design of actual privacy-enhancing services and touchpoints. Micro-political implementations of the framework dismiss any potential criticism about the abstract and unrealistic character of the ethical framework.

Potential criticisms of this sort would be valid if the framework were merely a well-intentioned ethical manifesto. On the contrary, as we will discover later in the chapter, the framework is constructed as ethically focused heuristics that are meant to be promptly actionable and implementable. The framework's ethics are designed to integrate into the design process, ensuring that the resulting solutions adhere to ethical principles.

5.3 A Universal Framework

The privacy ethical framework for service design is designed as a universal tool because privacy challenges are global. Universality does not imply the adoption of a global ethical view that applies to all human cultures—although efforts at defining a minimal global ethics have been attempted (Küng et al. 2019)—but the possibility for the framework to be implemented by service designers regardless of their background.

Earlier, we noted that countries that traditionally do not assign great value to individual privacy, such as China and Japan, enacted data protection legislation because of the global character of privacy threats to users' and citizens' information. The recognition of informational privacy as a significant challenge and a policy priority is genuinely global, as is the unrestricted flow of personal information across continents. Consequently, establishing a localized privacy framework would be myopic.

The world 'universal', however, is tricky. Too often global solutions are just unilaterally imposed by one dominant culture without the possibility of having a critical appraisal by, or conversation with, other cultures. There is truth in Karl Marx's words: "The ruling ideas of each age have ever been the ideas of its ruling class." (Marx et al. 2000:32) In many instances, the label of universality is applied to projects that aim to impose a form of colonization to achieve universalization.

Colonialism within design has been denounced by various designers and researchers. Especially in the technology and innovation sector, one may agree that "To date, mainstream design discourse has been dominated by a focus on Anglocentric/Eurocentric ways of seeing, knowing, and acting in the world, with little attention being paid to alternative and marginalized discourses from non Anglo-European sphere, or the nature and consequences of design-as-politics today." (Ansari et al. 2016:1).

The universal character of the framework implies ease of use, combined with flexibility and adaptability to local requirements and sensibilities. Universality should also serve the interests of users. Implementation of the framework must lead to services that are understandable to all users.

5.4 A Human-Centered Framework

We assume that the principle 'I am my data' is the best ethical guide to base privacy within and for service design. Therefore, when one discusses personal information, we refer to individuals. Dealing with personal data means dealing with human beings, and breaching privacy and confidentiality equates to a form of aggression against data subjects (Taddeo 2015). The emphasis on the human aspect of privacy is key for the framework.

In this section we discuss whether human-centered design has the tools to sustain such purpose. Human-centered design is one of the most influential design approaches in contemporary design (Ma 2015). For the purpose of our research and privacy protection, human-centered design is inherently ethical as it affirms human dignity within the realm of design (Buchanan 2000). Furthermore, we endorse human-centered design for its positive and proactive attitude: "Embracing human-centered design means believing that all problems, even the seemingly intractable ones like poverty, gender equality, and clean water, are solvable." (IDEO 2015:9) However, this is not sufficient to say that human-centered design has developed a good understanding and practice of privacy for design. Indeed, one of main loopholes of human-centered design is a lack of attention for challenges that go beyond mere human needs.

In other words, the proposed framework is human-centered because it focuses on human beings, not just users. It encompasses the whole of humanity, not users in a narrow sense. But the framework diverges from human-centered design for its rigidity in considering human needs and wants as absolute guidelines—basically because people often are not aware of what they want or need (Norman 2005; Rolston 2018). Perhaps counterintuitively, according to the strongest advocates of transparency, privacy is a basic human need (Brin 1998). However, privacy probably is not a conscious, primary need when consumers use a service. As a way of example, when readers access a media website to read the news, their need is to be informed in a clear and immediate way. Their need is not that of *not* having their information collected—or extorted—for the media company's profit.

In this sense human-centered design at its current state of development can inspire designers to design products that meet users' needs, but it may be of little help to design services that protect users' privacy. The human-centered strain endorsed by our framework recognizes the primary users' needs but it considers other ethically motivated needs that may (or may not) be unknown to users—such as privacy.

In our research about the privacy protection offered by instant messaging apps (Parrilli and Hernández-Ramírez 2023, 2024), we used thought examples to speculatively assess how users' information is really kept safe against interferences and abuses. One of them concerned the risk of a woman being exposed to revenge porn by an ex-partner with whom she shared intimate videos and photos. When the personal media have been sent, the primary interest of the data subject was indeed to create virtual intimacy with the person she trusted. Starting from this need, a human-centered solution should make such information exchange possible.

But should human-centered design provide designers with tools that are effective at limiting the risk of information abuse by the ex-partner? Should human-centered design address users' needs, even if those needs did not exist at the time they initially used the service? Should human-centered design have a long-term vision of the product, and therefore should designers create solutions that solve future and unexpected (but not unexpectable) problems?

Based on the findings presented in the previous sections, the answer is affirmative. It is a matter of fully developing the illimitable capacity of human-centered design to design for human beings. Human-centered design "offers problem solvers of any stripe a chance to design with communities, to deeply understand the people they're looking to serve, to dream up scores of ideas, and to create innovative new solutions rooted in people's actual needs." (IDEO 2015:9) In Norman's words, human-centered design is "an approach that puts human needs, capabilities, and behavior first, then designs to accommodate those needs, capabilities, and ways of behaving." (Norman 2013:8) Consequently, designers should consider that humans, beyond their needs, have the capability to infringe privacy and confidentiality—and must design accordingly.

A user-centered framework should be conceptually rejected for various reasons. In the thought example above, focusing on the person only as a user impedes considering the unintended consequences of the user-to-user interaction (such as revenge porn), which affect the victim as *human being* and not as user. Further, privacy violations equally affect users and other third parties, or stakeholders. An ingenuous social network user may post pictures of their children (who are not users of the service) that are later maliciously manipulated by another user. Focusing only on users and user-to-user interactions does not help to grasp the complexity of privacy abuses and of the network of parties potentially involved.

Speculatively, we delineate the potential upcoming limits of human-centered design: Will the future bring non-human moral agents, whose personal information deserves to be protected? Conscious Artificial Intelligence (AI) entities, such as robots, may hold interests (and rights?) to have their information protected. This scenario, which may seem at first implausible, should not be dismissed. Talks of animal rights also seemed ludicrous just a few decades ago, but now it is considered illegal and unethical to torture and mistreat animals.

Animal privacy rights receive far less attention than human privacy rights. However, the situation could be different for conscious non-human entities, whose relationship with information is undeniably more complex than that of a typical pet. We speculate that non-human moral agents will claim privacy rights if and when they will be conscious of being made of information. If such speculations were to come true, it will be necessary to extend human-centered design to such new entities, instead of entirely dismiss it. Will human-centered design evolve into Conscious Being-Centered Design? Only time will tell. In any case, such a future will bring more, and not less, privacy claims.

Human-centered design inspires the framework in all its aspects. In fact, this whole research is an exercise in human-centered design (Krippendorff 2007). In a

nutshell, this book is about conceiving possible futures where privacy is respected and enhanced, explaining why this future is desirable.

5.5 A Heuristic Framework

A corollary of the universal and human-centered characters of the framework is that it should be easy to understand, use, and implement. In practice the framework must be accessible to potentially all service designers—that is, it should be the opposite of the average privacy policy, which is lengthy and convoluted (Litman-Navarro 2019). Another crucial aspect is the translatability of the framework into other languages. The key issue lies in the challenge of translating complex ethical and philosophical expressions and concepts that may lack direct equivalents in other languages. It is important to note that while the framework is grounded in ethics, it is not merely a compilation of culture-specific ethical principles.

In the design field the need to clearly express principles and rules already emerged in the past: e.g., Dieter Ram's 10 Principles of Good Design (Jong et al. 2017). According to Rams, good design is innovative; makes a product useful; is aesthetic; makes a product understandable; is unobtrusive; is honest; is long-lasting; is thorough down to the last detail; is environmentally friendly; is as little design as possible.

The advantage of these principles is their conciseness and clarity. No particularly complex words and expressions are used, nor design jargon, that would make the principles inaccessible to most people. However, the principles—some more than others —lack direct operability. For instance, the 3rd principle (Good design is aesthetic) is explained by Rams with reference to generic and unspecified concepts: "The aesthetic quality of a product is integral to its usefulness because products we use every day affect our person and our well-being. But only well-executed objects can be beautiful." Clearly, people can disagree about when a product is well-executed or beautiful.

The conceptual and aesthetic rigor demonstrated by Rams throughout his career—and masterfully summarized in his principles—is not the only way to do good design. For Rams, good design makes a product understandable and self-explanatory (4th principle). But another heavyweight of twentieth century design, Massimo Vignelli, was a supporter (with great caution) of ambiguity and contradiction, that is the capability of giving to an object or design the possibility of being read and understood in different ways.

The Vignelli Canon is indeed a perfect example of a set of rules that are easily and immediately implementable, mainly in the field of graphic design and typography. However, for the lengthy and descriptive way they are structured, Vignelli's rules are of little help to inspire the ethical framework for service design. Further, the Canon is mostly based on the designer's experience and knowledge—indeed, the Canon carries his proponent's name. The framework, for being the result of academic research, is detached from personal feelings and know-how.

A third way to express principles and rules has been proposed and experimented with in the field of UI design. Starting from the assumption that "Any system designed for people to use should be easy to learn and remember, effective, and pleasant to use" (Molich and Nielsen 1990:338), heuristics emerged as principles for interaction design formulated as "broad rules of thumb and not specific usability guidelines." (Nielsen 2020) Heuristics developed through at least 20 years of research, testing, and implementation. Heuristic evaluation—that is, "an informal method of usability analysis where a number of evaluators are presented with an interface design and asked to comment on it" (Nielsen and Molich 1990:249)—proved useful to compile, finetune, and ultimately reduce the list of heuristics.

Indeed, heuristics are composed of recognized usability principles—that is, "general rules that seem to describe common properties of usable interface"—and possibly of "category-specific heuristics that apply to a specific class of products as a supplement to the general heuristics" (Nielsen 1994a). Based on a factor analysis of 249 usability problems (Nielsen 1994b), currently there are 10 usability heuristics (Nielsen 2020), listed in Table 5.1. Interestingly, the way they are structured does not differ dramatically from Ram's Principles—starting from the number of heuristics: 10, like the Principles. Each heuristic is composed of a title, followed by an explanation, tips, and examples. Heuristic's titles are particularly short and incisive. In a few words, they immediately define the scope of each heuristic.

For their immediate comprehensibility and operability, the heuristics inspire the ethical framework for service design. The framework is designed as a set of guidelines that service designers may incorporate into their practice, merging the sensitivities of the culture where they work and of the users they work for. The framework, like the heuristics, is not a set of top-down rules. In this sense, both the framework and the heuristics logically differ from Ram's Principles and Vignelli's Canon, which nonetheless remain a model for their design rigor and vision.

Table 5.1 List of Nielsen's usability heuristics

Heuristic number	Heuristic title
1	Visibility of system status
2	Match between system and the real world
3	User control and freedom
4	Consistency and standards
5	Error prevention
6	Recognition rather than recall
7	Flexibility and efficiency of use
8	Aesthetic and minimalist design
9	Help users recognize, diagnose, and recover from errors
10	Help and documentation

5.6 An Evolutionary Framework

The heuristics, formulated in 1994, have not been substantially altered in almost 30 years. This is a proof of their robustness even under the current pace of technological development. Although we desire that the ethical framework for service design maintains its relevance in the next decades, we envision it as an evolutionary tool. Privacy claims and needs indeed evolve over time, parallel to the advancements in design and technology. In the previous sections we mentioned revenge porn, which became a worrying phenomenon with the emergence of social media and instant messaging apps. The same can be said for cyberbullying, virtual body-shaming, and other similar odious phenomena.

The framework must carefully balance different requirements. On one side, it must be sufficiently stable to keep its relevance within a reasonable period of time. A framework whose validity expires in a couple of months is pointless. To accomplish this goal, the framework must be technology-neutral, meaning it should be applicable in the present technological landscape as well as in speculative future scenarios that are both probable and plausible (Dunne and Raby 2013). On the other side, the framework must be adaptable not only to include different cultural and ethical perspectives, but also to encompass the evolution of ethical values and norms.

We discussed in Sect. 5.4 the possibility of having, in a near or far future, non-human intelligent moral agents and data subjects. The framework should harbor this possibility. The framework should take a realistic stance regarding the value of information in contemporary and future data-driven economies. Expecting that society will go back to the privacy settings of, say, decades or centuries ago may be preferable, but it is certainly not possible. It is hard to disagree with Brin's statement (1998:8): "The djinn cannot be crammed back into its bottle. No matter how many laws are passed, it will prove quite impossible to legislate away the new surveillance tools and databases. They are here to stay."

The framework should help in building preferable futures within the spectrum of probable and plausible scenarios that lie ahead. It must treat users as moral data subjects that can take decisions, but it considers also vulnerable users who cannot decide for themselves (for example, children, people with mental disabilities, or with dementia). Furthermore, it considers that users' behavior is evolutionary too. Today, an individual may choose to disclose certain information about themselves, but tomorrow they might change their mind and demand a higher level of privacy and confidentiality for that information. Technology as it is designed now does not offer enough effective tools to meet such requests. For instance, when people interact through instant messaging apps, once information is disclosed it is virtually almost impossible to stop its dissemination.

5.7 A Framework Based on Autonomy and Trust

Privacy is a condition for freedom to blossom (Schwartz 1994; Kang 1998; Solove 2006). However, without freedom privacy is untenable. In the Panopticon, which we commented extensively in Chap. 3, inmates have no privacy *because* they have no freedom. All approaches to privacy—and all designs for privacy—should be built on, respect, and enhance people's freedom.

One way to understand freedom is autonomy. The link between human autonomy and privacy has been clearly established in the ethics literature. For Ess (2006) privacy is key for developing a sense of personal autonomy (intended as freedom), which is a basic element for participation in a democratic society. Refining Floridi's idea (2014) that we are our information, Capurro (2015) claims that autonomy is synonymous with our information, and that any breach of privacy is also a breach of human autonomy. Building on Kant's ethics and value assigned to individual autonomy (MacKinnon and Fiala 2015), the notion of informational autonomy ('*informationelle Selbstbestimmung*') emerged, intended as the capacity to choose and use autonomously knowledge and information in an electronic environment (Kuhlen 2004).

We propose a definition of autonomy for privacy that merges Kuhlen's conceptualization and Westin's idea of privacy: autonomy as the capacity to decide autonomously and freely who and how has access to one's personal information. Interestingly, the idea of autonomy as the power to decide emerged recently in the literature on ethical principles of AI in learning (Niemi 2021; Akgun and Greenhow 2022) but can (and should) extend beyond AI and education.

Although the definition of autonomy for privacy may appear to overlap with that of privacy itself, autonomy is, in fact, instrumental to achieving privacy. Privacy is the right and claim to control access to one's information, but privacy can only be implemented through autonomy for privacy. A touchpoint that forces users to grant everybody access to their information does not respect their autonomy and consequently their privacy. Similarly, a tool that does not give users the autonomy to decide who has access to information, rigidly blocking all data and informational interactions, does not respect their privacy *because* it does not respect their autonomy.

Autonomy for privacy, however, is only a part of a bigger picture. One must have the capacity and power to decide who is entitled to receive their personal information, and what can do with it. On which grounds is this decision taken? Critics of surveillance capitalism claim that users have no real autonomy because their personal information is constantly extorted and processed without their full awareness and, even less, agreement (Zuboff 2019).

Autonomy is complemented by trust. For instance, interactions on instant messaging apps are based on trust. Recently it emerged a scholarly orientation to sustain privacy with trust: "disclosures happen in contexts of trust, and trust is what's broken when data collection and use go too far." (Waldman 2018:4) Privacy-as-trust has the advantage to put a spotlight on the social dimension of privacy, that is, to approach privacy from a social and interactional point of view.

We agree—and it is consistent with the ideas of privacy and autonomy discussed in this book—with the following statement: "Privacy-as-trust recognizes that information privacy is not about excluding others, but rather about regulating the flow of information to some, restricting it from some, and opening it up to others." (Waldman 2018:6) Service and touchpoints designed for interactions, such as an instant messaging app, should embrace this approach to privacy, recognizing the autonomy of users to open their information to recipients they trust, while restricting access to and use of their data to recipients they trust less.

5.8 A Framework in 10 Principles

The number 10 carries great significance in the history of ethics. A cornerstone of Judaism and Christianity is the Ten Commandments revealed to Moses by God. Islam has Ten Recitations, or Ten Readings, which are 10 different forms permitted with reciting the Quran by scholars. The number 10 is significant also in Hinduism, Sikhism, and Buddhism; there are 10 virtues to be practiced that correspond to 10 wholesome conducts and actions. Within the design field, in the previous paragraphs we commented Dieter Ram's 10 Principles of good design and Nielsen's 10 heuristics.

For the intercultural ubiquity of number 10 and its association with moral principles, it seems logical to build a privacy ethical framework for service design based on 10 principles, listed in Table 5.2. We suggest a tripartite structure for each principle, consisting of a title, a sentence or brief text providing a concise overview of the principle's content, and a detailed description accompanied by comments and examples.

Table 5.2 The 10 principles of the framework

Principle number	Principle summary
1	Privacy is not about Data: It's about People
2	Information and Transparency are Key
3	Privacy Enables Interactions
4	Privacy Is Embedded in the Entire Service Journey …
5	… And in All Touchpoints
6	Privacy Needs Security
7	Users Can Flexibly Choose their Preferred Privacy Settings
8	Users Can Regain Control Over Their Data
9	Privacy Goes Hand in Hand with Good UX
10	Privacy Settings Are Easy to Understand and Use

5.8.1 1st Principle: Privacy is not About Data: It's About People

Service designers should treat people and their information as ends in themselves

The 1st principle states that service designers should consider that privacy is not abstractly about information, but about real people (data subjects). Consequently, people and their data must be treated as ends in themselves, and not merely as means to achieve the designer's goals. The origin of this principle lies in information ethics ('I am my data') and in deontology—Kant's Categorical Imperative which claims that people and humanity are ends in themselves and should not be treated as simple means.

The 1st principle embraces the whole spectrum of service design practice. It is all-encompassing and can be applied to the whole design process. At a macro level, the principle shows a strong commitment against the most nefarious aspects of surveillance society and the corresponding commodification of people and their information. The first and basic implication of the principle is that solutions must be designed to serve people's needs and requirements, and that personal information should be collected and processed to meet this goal.

Furthermore, the 1st principle implies that all strategies to force people to surrender their data, or to pay money to avoid surveillance.

Case Study 1

A growing number of media companies in Europe offers users the option to buy a subscription to the media content if they do not want to be tracked through cookies and other similar technologies. This is comparable to an extortion about users' personal data: money in exchange of privacy. Users' personal data is treated as means to reach a twofold goal: selling subscriptions to privacy-aware customers and obtain personal information to trade from users who prefer to have free access to the media content. The 1st principle of the framework rejects such practices.

The 1st principle does not apply only to interactions between users and service providers. It also concerns interactions between users and technology—which must adhere to the humanistic principle to treat people and their data with respect—and user-to-user interactions. In designing products, service designers should not only adhere to the 1st principle themselves but also ensure that users follow it in their interactions with other users and stakeholders.

Case Study 2

A team of service designers creates a new digital marketplace for second-hand clothes, where users are invited to post pictures wearing the clothing items they want to sell. In the first weeks of the live phase of the project the service provider receives many complaints from users who received denigratory and racist comments from unknown users. Because many users of the platform used their real name and full picture, in many cases harassment took place also outside the platform and extended

to social media. The 1st principle of the framework implies that effective solutions must be taken to protect users' privacy, including through policies and recommendations. For instance, users should be strongly and visibly advised not to use their real name, nor to post pictures of their face, and all users who send offensive messages should be immediately expelled from the community by policy.

As the 1st principle, its scope of applicability is wide-ranging. The subsequent principles become progressively more specific and detailed in their focus.

5.8.2 2nd Principle: Information and Transparency Are Key

Service designers should always inform users and stakeholders in a clear and transparent way, without using malicious design methods (e.g., dark patterns)

The 2nd principle essentially concerns how the service provider communicates the privacy features of the designed service to users and stakeholders at large. This issue is particularly relevant to service designers, as communication itself is an integral aspect of design. By design, service providers can be transparent or opaque. Disclosure of the privacy characteristics of a product is also part of the design of that product.

Further, communication is mediated by designed tools. In digital environments, cookie consent banners are familiar to all Internet users. They are the tools used by websites to inform users about the cookies and similar technologies that will be installed on their devices and to collect their consent when required by legislation. As previously mentioned, dark patterns have found a fertile environment in cookie consent banners. Frequently, users' data is obtained by exploiting their reluctance to manually oppose the collection of data by various third parties who claim legitimate interest reasons (Parrilli 2022).

However, clear and transparent information is required in all scenarios, both online and off-line.

Case Study 3

The city council of Town approves a plan to make public transport free for all Town residents. The project is assigned to a service design firm for development and implementation. Following meetings between the firm and Town senior officers, it is decided that all residents receive a personal public transport card that grants free access to all Town bus lines. The card is associated with the holder's personal phone number, which is necessary to activate the card through Town city services app. Every time a Town resident rides a bus, they need to scan their card on a card reader installed next to the bus door. Failure to scan the card is subject to a fine. After 3 infractions of this rule, the card will be revoked. Rumors spread that the system intends to track all residents and offer personalized ads based on users' location.

Implementing the 2nd principle would have prevented such rumors or effectively refuted them from the outset. Part of the briefing for the service design firm would be to design a simple and effective information campaign to explain all card features

to Town residents, including its privacy characteristics. The information campaign would ideally be conducted through a dedicated website, banners displayed on all city buses, and distributing leaflets to all residents. Good graphic design is paramount to the success of the information campaign.

But the 1st principle of the framework should help the service design team to question city officials about their true intention with residents' data, and to design more privacy-oriented solutions. In application of the 1st principle, service designers would ask questions such as:

- Is it really necessary to implement a digital card for exercising the right to travel for free on Town buses?
- Are less invasive solutions viable? E.g., residents could just show their ID card or a specific transport card to the driver or to a security officer for inspection.
- What is the purpose of the sanctions for residents who do not want to scan their card? Do they show a true concern by city authorities for residents' rights (and privacy)?

5.8.3 3rd Principle: Privacy Enables Interactions

Service designers should treat privacy as an enabler of interactions, not as a barrier

Privacy is the right to decide who, when, and how has access to personal information (Westin 1967)—that is, the right to decide how data subjects interact with other humans with their personal information—or, more decisively and also archaically, the right to be left alone (Warren and Brandeis 1890). Correspondingly, service designers must allow users to restrict their interactions with other people if they wish, but service designers cannot compel users not to interact with fellow users for privacy fears. Privacy is an enabler for socialization, not forced solitude.

Service designers and service providers should warn users of the risks that may arise from reckless interactions, but prohibiting interactions reflects a paternalistic attitude that is incompatible with the participatory and inherently liberated nature of service design.

Case Study 4

The University of Town creates a new communication tool for students to reduce the use of social media communication channel and nudge students to use a safer network. The platform—which is designed by an external team of service, UI, and UX designers—allow registered users to chat with other users using their ID student number. However, for alleged privacy reasons, it is not possible for users to upload their picture—instead, they must use an anonymous avatar—and the chat platform does not allow the exchange of media (pictures and videos) files. The scope is to avoid that students share personal images of themselves or third parties. However,

this solution also prevents the exchange of educational material and of creative files elaborated by the students.

The 3rd principle, like all others in the framework, functions in combination with the other principles. It specifically aligns with the 9th principle ('Privacy goes hand in hand with good UX'), as interactions are often unintentionally obstructed by poor UX design rather than by intentional barriers.

5.8.4 4th Principle: Privacy is Embedded in the Entire Service Journey …

Service designers should consider privacy in all aspects of the service and the service journey

The essence of service design lies not in designing isolated products but in crafting services that evolve through a network of interactions, forming a service journey. It is crucial to map this journey to gain insights into the stakeholders' emotions and sentiments (Stickdorn and Schneider 2011). The service journey, which is a critical feature of the servitization process (Martinez et al. 2017), is essentially complex because it involves several interactions: at least between users and service provider, technology, touchpoints of the service, and other users.

Privacy should be a concern across the entire service journey. The product at the core of the service offering may prioritize privacy, but if other aspects of the service proposition do not align with this objective, users' privacy can be compromised.

Case Study 5

Speedy is a car manufacturer that wants to become a full-scale mobility service. Its business model involves, next to selling cars, the offer of cars to users as a service, through subscription packages per year, month, day, or hour. To implement the servitization of its business, Speedy creates a specific service design department. Service designers work along engineers and other Speedy designers to create all touchpoints through which customers interact with the brand. Speedy cars are designed to collect and share with the company as little data as possible. For instance, the GPS system in the cars does not register the car position, unless it is requested by the user or in case an accident has been detected.

However, other aspects of the service journey are not designed with privacy in mind. Speedy customers manage their subscription through a platform that allows the sharing of information with third parties. Users do not have their location data shared with Speedy, but with several third-party service providers that use data to provide tailored advertisement.

Privacy should be considered holistically. Service design, which is essentially holistic, must possess the capability to maintain a comprehensive view and incorporate privacy considerations and solutions throughout the entire service journey. This

principle goes in pair with the following principle, which focuses on touchpoints through the service journey.

5.8.5 5th Principle: …And in All Touchpoints

Service designers should design all touchpoints of the service journey with privacy in mind and for privacy

The 5th principle is a direct corollary of the previous principle. Not only the entire service journey should be designed with and for privacy, but also all touchpoints that the user meets during the service journey should protect personal information. This applies both to digital and physical touchpoints. As we will discuss when commenting on the 6th principle of the framework, privacy is frequently not considered holistically and is often only considered in digital settings. Physical touchpoints are also potential sources of data leaks and should be designed to ensure the confidentiality of customers' data.

Case Study 6

Town public transport provider implemented a new system to buy and renew transport passes. Subscribers can do it online, using their electronic ID card to validate their identity and a valid bank card to pay; or through automated machines, where they will be required to insert their ID card and bank card; or at service desk, where people less familiar with technology and/or who do not have a bank card can buy and renovate their pass.

For security reason, the customer and the operator are separated by a heavy glass. To be understood by the operator, clients have to loudly tell their personal information, including name and address. The online and automated systems have a robust privacy and security shield, which is completely missing in the old-fashioned person-to-person scheme.

In this case study, privacy should have been considered when designing the entire service journey, but it has been neglected at the moment of designing some of the touchpoints met by customers during the service journey. The 5th principle complements the previous principle and sustains the holistic character of the framework. Privacy is not simply an aspect of the service design journey, but it must pervade it entirely.

5.8.6 6th Principle: Privacy Needs Security

Privacy must be strongly and holistically combined with information security

The 6th principle tackles informational privacy and security from a holistic perspective. In the previous section we commented on the consideration that a holistic view

of privacy across all touchpoints forces service designers to take security—that is, the voluntary or accidental intrusion into somebody's personal information—into account. In the 5th principle, security is a reinforcing character of privacy. Here security stands front and center.

A detailed evaluation of information security goes beyond the scope of this book. Service designers must acquire some notion of information security, but it is not realistic that service designers become proficient security experts. Therefore, information security is a fundamental requirement for all products, regardless of the technical intricacies of the security solutions that need to be implemented to adequately protect people's information. Information security is usually associated with IT security. In digital settings, IT security cannot be overlooked, and the tools to safeguard information typically originate from this domain. However, violations of personal data may happen through a very old-fashioned but still effective technique: prying eyes.

Work badges, subscription cards, and screens may reveal personal information to everybody. The data encrypted in the card or device may be secure, but information can be leaked to anybody who stands close enough to see it (and maybe to take a picture or record otherwise).

Case Study 7

Despite high IT security solutions deployed, Apple's iPhone settings boldly show the name and e-mail or phone number of the registered owner. Any person standing or sitting behind the person holding the device can get personal information—which can be potentially misused to commit identity thefts crimes—just with a glimpse. It would be more sensitive to make this information less visible—we assume that phone owners commonly do not forget their name.

Security carries a meaning that goes beyond the protection of information against unwanted intrusions. We refer to the common definition of security as being free from dangers, which opens the door to infinite applications. If service designers aim at designing solutions that keep people' information secure, personal data should not become a source of danger or threats. It may sound radical to state that personal data is intrinsically toxic (Véliz 2020), but it is undisputable that the more we reveal about ourselves to third parties, the more power we give them to know, influence, and maybe manipulate us.

The objective is not that of building a secretive world where access to personal information is impossible or extremely difficult (or, worse, bureaucratic). We remind the importance of the 3rd principle of the framework: privacy should be an enabler for human interactions. Human beings cannot interact without sharing information, which is part of themselves. But service designers must be aware that when they allow somebody to communicate their personal data to anybody else, a power shift takes places. This is more acute when the data communication is unilateral—when we have symptoms of a potential health problem, we ask Google for help to get a better understanding of what our problem could be, but Google does not tell us its problems. Things are even worse when bilateral communication is not fair and abusive conducts by the information recipients can take place.

Case Study 8

EduGames is a company that designs and manufactures games for children and adolescents. One of their products is an online tool for learning languages. The game is intended for children aged 12 to 16 and involves interactions between players on EduGames website. The content of the conversations and interactions is not moderated, nor it is expectable that minors of that age play under the supervision of an adult.

There is the risk that adults with bad intentions access the online game and interact with minors. The 6th principle requires designers and developers to implement adequate systems to verify the age of the players.

Keeping information secure—that is, as free as possible from potential threats—is a challenging task. In case study 8, it would be probably easier to ask users to prove that they are *not* over 18, commonly by uploading a copy of any official document showing their age. However, introducing layers of control and bureaucracy to access services with the intention of protecting privacy can give rise to additional privacy issues. Users may be reluctant to provide—and service providers may be impeded by law to ask—their official identification documents.

A solution could be to ask players to turn on their cameras before starting a gaming session to automatically verify their age, without recording or storing any image of the players. However, this system would not be bulletproof for several reasons. We suggest that AI-driven content recognition software could help avoid abusive conversation by adults with minors without raising privacy red flags. Whenever the tool assumes that the interaction deviates from a normal, acceptable conversation between players, the infringing user may be suspended and eventually verified.

Critics—including strong privacy advocates—may oppose this system and claim that it is a form of human control. And, in full honesty, it is. However, as we extensively discussed in the previous chapters, privacy should coexist with other values, including users' security. Further, privacy has no univocal meaning. The system exemplified here is aimed at protecting young players' privacy, that is, to avoid that they disclose their personal and intimate information to malicious users. Additionally, a strong control system could be justified in a digital environment used by children, but most likely not in a game or other service intended for adults. Freedom to decide how to interact with other users, like privacy, is not absolute and universal, but it must be understood and applied based on the specific design situation.

5.8.7 7th Principle: Users Can Flexibly Choose Their Preferred Privacy Settings

Users should be provided with the flexibility to determine their desired privacy settings, considering their level of trust in the recipient of the information

This principle recognizes the need for users to manage their privacy through privacy-enhancing tools and technologies (Padyab and Ståhlbröst 2018) and the role that trust deserves in connection with privacy (Waldman 2018). Denying the possibility for people to trust the recipient of their personal information, being it a service provider or another user, means designing dystopian scenarios. At the same time, it is incorrect to assume that a data subject must trust the recipient of their personal data without having the possibility to select more restrictive privacy settings or to claim control over their personal information once it has been shared. This principle applies in many contexts.

In interactions between users and service providers, the 7th principle allows users to securely transmit their data to companies and organizations that have earned trust by being recognized as privacy and security advocates. Assuming that all companies, authorities, and organizations are equally and indistinctively part of surveillance capitalism mechanisms is simplistic and incorrect. Zuboff (2019) recognizes that some BigTech companies more than other exploit our data for profit and power.

However, other authors assume that BigTech corporations should be trusted for they size and growth, that make them safe places for sharing information. Waldman's reasoning is possibly flawed—size in itself is not logically a guarantee of trustworthiness—but we agree with the author's claim (2018:86) that "Companies like Facebook, Google, Uber, and Match.com should be considered information fiduciaries for the same reasons that doctors, estate managers, and investment analysts are considered fiduciaries." Without commenting on whether such companies should be legally treated as fiduciaries and subject to similar disclosure and transparency obligations—data protection legislation such as the GDPR at least partially goes in that direction, although probably not strongly enough—it is interesting to focus our attention to the trust relation between client and service provider.

Basically, all relations with a service provider—lawyer, doctor, estate manager, investment analyst, just to name some examples—involve trust. Trust that the service provider will act professionally but also trust that they will respect the personal information and data shared by the customer or user. Trust is a subjective concept that is established within a legal and ethical framework, which ensures that professionals deserve the trust placed in them. In other word, we share our most intimate secrets with a doctor or lawyer because we know that they are ethically and legally obliged not to share the information with any third party.

For providers of service design solutions things are necessarily more complex. Unless they operate in a chartered profession or their services involve regulated sectors (legal or medical services, for instance), no secrecy obligations apply. The mobility provider in case study 3 above has no legal or deontological obligations to keep passengers' information confidential. Providers of service design solutions

must earn people's trust through their policies, actions, and how they communicate them to the public. And people have the right to trust them if they want. Similarly, they have the right not to trust them, if they feel that the service providers do not deserve their trust.

Case Study 9

Apple iCloud + subscribers can send and receive e-mail messages hiding their real e-mail address by using unique, randomly generated e-mail addresses that forward received messages to the e-mail address associated with the user's Apple ID. Users can thus share their real e-mail address with recipients they trust and instead use the Hide My Email function to communicate with other recipients. This tool fully recognizes users' right to choose their preferred privacy level in communicating with other people and organizations.

Case Study 10

Confide is an instant messaging app designed for security due to its patented Screen-Shield technology that prevents screenshots of messages. Confide allows users to send messages with the Confidential Mode ON or OFF. When Confidential Mode is ON (which is the default setting), messages are destroyed as soon as they are read and covered with a message text overlay. When Confidential Mode is OFF, messages are visible for 24 h after being sent before being permanently deleted. In summary, all messages sent on Confide are temporary.

Saving media and files and taking screenshots of chats and attachments is severely hindered in Confide. Regardless of the Confidential Mode selected, recipients of images, videos, or files cannot save them on their devices. They can only view them (for 24 h with Confidential Mode OFF or only once with Confidential Mode ON). Confide does not allow users, including message senders, to take screenshots. If a screenshot is attempted by any party in the conversation, the user is expelled from the chat, and all messages are deleted. The other party is also notified of the attempted screenshot. This feature is triggered whenever a party tries to take a screenshot of the chat or an attached file. Interestingly, if one attempts to take a screenshot, a file is recorded on the device, but the screen's content is replaced by a message stating that Confide prevents screenshots with the patented ScreenShield technology and an icon of a barred camera. This technology also works against attempts to record the screen.

Other features include that messages, media, and files cannot be forwarded to third parties and that users of the free version can delete messages but only for themselves. The Message Retraction feature, available for Confide Plus subscribers, allows messages to be unsent for all users. Further, all messages are hidden when the default Confidential Mode is ON, and a black strip covers the text. To read the text, the sender and recipient must tap on it with their finger. Media and files are not immediately visible, and a message with a clip and the text Confidential Attachment appears instead. The attachment requires action to be seen, such as a tap-and-hold gesture.

Confide provides a robust level of informational privacy. It offers a very high default level of privacy and confidentiality for both the sender and the receiver of information, dramatically reducing the risk of information abuse and misuse. Screenshots, message forwarding, and message saving are not possible, and the only way to record chat content is by taking pictures and videos using another device.

Incognito Mode (only for Confide Plus subscribers) offers additional privacy for users. It prevents users from being found by others unless they want to be found; e-mail and phone number searches do not work with Incognito users. Users can manage existing friends who can see and message them and Confide only tries to find friends from the contact list of Incognito users if they explicitly request to do so. However, these features do not impact the privacy and confidentiality of exchanged messages.

Although Confide's privacy features are robust, two dimensions of privacy are missing from the design of the instant messaging app: autonomy and trust. Users are forced to adhere to strict privacy settings, with the only notable exception of rejecting Confidential Mode. However, even with this mode off, all messages are destroyed after 24 h. Confide does not allow users to keep memories shared with other app users. As discussed in Sect. 5.7, freedom is a critical component of privacy because there is no freedom without privacy, but the opposite is equally valid.

The autonomy to choose the most appropriate privacy settings allows users to make ethical and careful choices. Users can take meaningful decisions when they are free to choose. In the case of Confide, users's privacy decisions are fully delegated to the app, which decides that the most stringent privacy settings are suitable for all users. One can legitimately claim that users are not forced to use Confide unless they work for an organization that uses it for their business. However, this is not an excuse for not allowing users to develop their privacy virtues when using the app.

Freedom is closely related to trust. Confide users cannot decide by themselves which recipients deserve their trust. The design of Confide's privacy features dictates that no recipient can be trusted. Users cannot keep received messages or reread them because they are emotionally valuable or just beneficial for the receiver. Nobody can record and store a picture or video sent by a loved one. In this sense, default privacy settings that do not allow trust, intended as the freedom to trust other users and memory, are dystopic. Despite being allegedly built for privacy and confidentiality, Confide inscribes itself onto the (digital) panopticism phenomenon (Foucault 2003). It takes for granted that all other users are watchers in the Panopticon, where we are forced to live without recognizing the possibility of being free and engaging in meaningful and equal interactions with other human beings.

Users should always be treated with care and respect. Service designers cannot assume that they do not care about their privacy, and therefore extract their personal information recklessly. But it is wrong also to presume that users must be over-protected because they are thoughtless about their privacy. The 7th principle of the framework claims that users have the right to choose independently their privacy settings. However, service designers should consider that users may make mistakes, and that they may want to reclaim control over shared information. This consideration leads us to the 8th principle.

5.8.8 8th Principle: Users Can Regain Control Over Their Data

Users must be allowed to change their mind and successfully reclaim privacy over their disclosed information

The mechanisms implemented to guarantee informational privacy and confidentiality should be adaptable over time. These mechanisms should recognize that people may change opinion about who and how a recipient has access to their information, and about what information. Legislation like the GDPR explicitly states that data subjects have the right to oppose to a data processing activity which lost its justifiability—the so-called right to be forgotten is an example of this legislative approach. Basically, service design solution must allow users to exit the service and have their data erased, unless stringent interests or legal provisions require otherwise. Further, the process to delete an account and have the data deleted—and the interface for that purpose—should be straightforward and easily accessible. This practice is well-known in the design literature and has been labelled "Roach Motel" dark pattern (Gray et al. 2018).[1] However, the study of its implications on users' privacy is still largely missing.

Case Study 11

Bow is an urban mobility service available in several cities worldwide that allows registered users to rent a shared bicycle and scooter, and to call a taxi or a car with driver. To register, users need to provide their identification, e-mail, phone number, and valid payment method (bankcard or PayPal). The management of the account happens through the My Account menu, where users can alter their preferred payment method and add up to 3 family members to allow them to use Bow services. Users who want to delete the service cannot find any Delete My Account button. Instead, they must find the answer about how to delete their account in the FAQ section, where it is explained that they need to send an e-mail with their request to customer service. No detailed information about what will happen with their data is provided.

The previous example, frequent in digital services, shows why the 8th principle is needed. Even after the account has been deleted, users have no clue about what happens with their data—will they be immediately deleted? If not, when will it happen? Will it happen at all? People cannot be taken hostages in services for which they lost interest—nor their personal data.

Other scenarios of reclaiming control over disclosed information are more challenging, and more difficult to solve. We refer to scenarios in which users digitally shared information with individuals they trusted, only to later realize that it would have been wiser to apply more stringent confidentiality settings. By its very nature, digital information cannot be retracted, and instead, it has the potential for infinite replication. Speculation and speculative design, however, may delineate interesting future scenarios where it is possible to get control of disclosed information. The

[1] See https://www.deceptive.design/types/roach-motel.

following case studies are a pure exercise of speculation, where we delineate some (preferred) future among those that are, if not probable, at least plausible (Dunne and Raby 2013).

Speculative case study 1

Olivia sends personal pictures to her boyfriend John. After ending their relationship, Olivia understandably wants her images back and remove them from John's possession. First, she submits the pictured she shared with the ex-boyfriend to an AI-driven tool, called Reputation, that 'reads' the patterns that make each image unique. Then she gives instructions to the software to police the Web and to notify her if any picture is encountered on any website, search engine, and social network.

Reputation offers an additional service to paying users: it searches for images (and videos) to delete across all Cloud and storage servers. Once the file has been found, it is immediately deleted without leaving any trace. Reputation's developers decided not to cross only a redline. Although it is technically possible, the software does not delete files stored on personal devices. But once the files to delete exit the personal sphere of the recipient and are published or stored on an external server, Reputation has no mercy.

Speculative case study 2

Michael is member of a group chat on WhatsApp. Once he writes about his health problems, which are making working increasingly complicated. The day after Michael realized that he has been potentially reckless and that his comments could be misunderstood, were they to be read by his employer. He knows that the AI-driven online tool NoHistory has the solution. He uploads screenshots of the conversation he wants to delete, and the software singles out all parts that relate to Michael's health problem, regardless of who wrote them. The initial step for NoHistory is to eliminate any chat content that could potentially cause embarrassment to Michael, whether it is stored online or on users' devices connected to the Internet.

NoHistory recognizes also if the chat has been shared with third parties by 1 or more recipients, either as text or as screenshot. If the unwanted content is identified in any online conversation, NoHistory swiftly removes it without leaving any trace and without notifying the participants involved in the conversation.

The above speculations may adopt similar technologies, but their design is radically different. In the speculative case study 1, there is clear redline. The personal sphere of the information recipient—that is, their device—cannot be infringed. If John keeps the files for himself, Reputation does not take any action. Olivia can be reassured that her images will not be shared and will not circulate online—thus preserving her privacy—but John's minimal privacy and security expectations are also met and respected. Speculative case study 2 is more worrying because content is cancelled without users' awareness and control, potentially undermining their agency and freedom. However, we are aware that one may judge both scenarios acceptable, for they maximize the data subjects' power to regain control over their information.

Speculative case study 3

A police investigation reveals that Tom, a 10-year-old boy, is victim of sexual abuse. The abuser, friend of his parents, took pictures of Tom and sold them to members of a pedophile gang. The law enforcement authority in charge of the investigation is authorized by the child protection court to use a software that infiltrates into targeted devices to single out and delete all images of Tom, breaking any encryption protection possibly used by the criminals. The tool can discover whether the files have been shared with other people, who become targets. Tom's images on their devices will be deleted too.

Speculative case study 3 is not very dissimilar from speculative case study 2. Although probably it will not inspire the same criticism, and even strenuous privacy advocates would approve it. This because of the interests at stake—the protection of a child—and because the use of the software has been authorized by a court. That is, because of democratic and transparent control. This consideration paves the way to a fundamental discussion—which goes outside of the direct scope of this book but that cannot be neglected when one talks about speculative futures—about the risks of intrusive technologies not subject to democratic scrutiny.

This conversation is urgent, because the matter is not *if* such speculative scenarios will become reality, but *when*. Invasive technology, such as spywares that can infiltrate devices and harvest data—the spyware Pegasus, developed by the Israeli cyber-arms company NSO Group, which became infamous in 2021 because it has been used against journalists and human rights activists, is only an example[2]—exist and are here to stay, grow, and improve their monitoring capacities. Therefore, ethical principles for the development and use of technology-driven designed solutions are indispensable.

5.8.9 9th Principle: Privacy Goes Hand in Hand with Good UX

Informational privacy protection should not come at the expense of the user experience

Informational privacy should be necessarily understood and protected in the context of the user experience of the service design product. In other words, privacy must be part of the user experience. Often websites take shortcuts to allegedly facilitate accessibility and use, while protecting their interest to harvest users' personal data, through immoral UI tools: dark patterns, an unethical phenomenon where "user value is supplanted in favor of shareholder value." (Gray et al. 2018:1) The possibility to immediately accept all cookies by clicking on a bold, highly visible button saves times to users who are 'happy' to surrender their data to the website provider and its

[2] Source: https://www.washingtonpost.com/investigations/interactive/2021/nso-spyware-pegasus-cellphones/.

business partners, but certainly it is not an example of how a good user experience should be designed.

An ideal satisfactory user experience should be inclusive, that is, should consider the needs of users who do not want to surrender their data without retaining a power of decision and control. Further, the design of a good user experience should consider the consequences in the long run. Accepting to be tracked and monitored may take less than a second—browsing through the privacy settings of any website is commonly a time-consuming activity—but it exposes the user to undesired consequences (e-mail marketing communications, invasive tailored advertisement, etc.).

Case Study 12

Bow users, after installing the app, are requested to open an account and agree to the processing of personal data. The interface shows 4 boxes to tick in order to give consent and use the service, without specifying which box(es) must necessarily be ticked to activate the service and which one(s) are merely optional:

- I declare that I read Bow's privacy policy [text hyperlinked to the policy] and I accept the processing of my personal data according to Bow privacy policy.
- I accept that my personal data is shared with Bow business partners to receive meaningful and tailored service and commercial offers.
- I accept that Bow and its business partners can contact me by e-mail or phone to promote their services and present their products and services.
- I accept that Bow app uses cookies to offer me access to its services and a better, customized experience.

Confronted with these options, and without being informed about which consents are mandatory to use the service, an average user may be tempted to tick all the boxes, thus relinquishing their power to carefully manage the privacy settings. The fact to tick 4 boxes may frustrate users who do not really care about their data and are (consciously or not) willing to surrender their data. Annoyance will be even bigger for users who instead want to browse through the privacy policy before accepting the processing of their data by Bow.

The 9th principle fills in a gap in the usability and user experience literature and guidelines. The application of Nielsen's heuristics (Nielsen 2020) would probably not help to detect the issues commented in case study 12. Hence the need to have specific guidelines about privacy and user experience.

Nielsen's heuristics and, to a lesser extent, Ram's Principles (as a source of inspiration) impact the design of interfaces related to privacy and designed for privacy purposes. Service designers should keep things simple. The design of touchpoints and interfaces where user data is collected and where information about the data processing activities is given and consent is requested, should respect the principle of match between system and the real world (2nd heuristic), consistency and standards (4th heuristic), and aesthetic and minimalist design (8th heuristic). Briefly, it must be an exercise of honest design (Ram's 6th principle).

Case Study 13

The settings of Spotify app have a Privacy and Social tab, where users can decide whether they want to show their followers and following lists on the profile; start a private session to listen anonymously; share what they listen to with their followers; show the recently played artists on the public profile. However, users who are interested in reading Spotify's Privacy Policy have to access the tab About. When users click on the Privacy Policy, a cookie consent banner pops up, hindering them from reading the policy before configuring their desired cookie settings.

Spotify interface is confusing. All privacy settings should be consolidated and presented together rather than scattered across multiple tabs or sections. Cookie settings should be put under a separate tab—once users give or refuse their consent to having cookies installed, it is not clearly and immediately possible to modify the consent. Again, it is a matter of combining usability, user experience, and privacy.

From qualitative research about UX and ethics it emerged that designers perceive that it is their duty to provide the best experience possible to users (Chivukula et al. 2020). What (service) designers should understand is that informational privacy is a key component of a good user experience. Informational privacy is not a useful appendix to a product. To the contrary, in an increasingly interconnected world privacy is a key component of good design. Consequently, service designers are called to add privacy in the script of the products through adequate solutions that do not undermine, but rather enhance, the overall user experience.

5.8.10 10th Principle: Privacy Settings Are Easy to Understand and Use

Privacy-protecting settings should be the default standard and be easily accessible, understandable, and usable for users

The last principle is a direct consequence of the previous one. A key component of a good user experience is the accessibility, understandability, and usability of privacy settings. Again, Nielsen's heuristics (Nielsen 2020) should guide the design process of the privacy settings in (digital) interfaces, but the 10th principle of the framework extends beyond the design of interfaces. It affects the whole design of the service experience, and it claims first of all that privacy-protecting settings should be the default standard across the whole service journey.

In practice, and as a rule, to effectively enhance privacy the highest protective settings should be the norm. As a way of example, only essential cookies should be installed on users' devices, unless users explicitly require otherwise. Further, privacy settings should be arranged by level of protection rather than, or in addition to, topic or service.

Case Study 14

Data and privacy settings of Google Accounts are very complex and difficult to be understood by the average user. Customers have to scroll through multiple settings to select which data is shared with third parties, how data from apps and services is used, how to make information invisible to others etc. Some topics are further split into sub-topics with the result of added complexity. For instance, Personalized Ads ("You can choose whether the ads that you see on Google services and partner sites are personalized") shows 2 settings sub-pages (My Ad Centre and Partner Ads Settings). Instead, Google should just offer users the option to explicitly decide to receive personalized ads if they wish, although the default standard should be the opposite to minimize tracking.

In addition, settings tabs do not always provide users with the possibility to take immediate action but refer to pages where lengthy and complex explanations are given about how to adjust settings. Dark pattern strategies such as obstruction, where a process is made more difficult that it needs to be (Gray et al. 2018), are in contracts with the 9th principle.

In this case study, the interface should be designed with privacy protection layers, starting with the initial default layer, where the highest level of privacy protection is preconfigured. The other layers should be designed to make sure that users have effective control and freedom (according to Nielsen's 3rd heuristic) to choose the desired privacy protection level across the different services.

When the highest level of privacy protection may badly affect the user experience, a lower level may be the default standard, but users must have the possibility to choose the highest privacy settings clearly and immediately in the interface, without going through annoying dark patterns aimed to dissuade users from shielding their personal information.

Case Study 15

Geolocation is useful in apps for mobility services to locate the user and find the nearest taxi and shared car, bike, or scooter. Geolocation in these services assures a good user experience of the app and the overall service journey. However, customers who do not want to be geolocated and prefer to manually input their location should be offered this chance through the privacy settings of the app.

Privacy is not a barrier to a good user experience, but the opposite is true. It is perfectly possible to design the conditions of a meaningful and enjoyable service experience without compromising on the protection of users' information. But first we conclude our journey through the conceptual foundations of privacy for service design with some comments about the challenges and opportunities of the proposed framework.

5.9 Challenges and Opportunities for the Framework in Service Design Scenarios

The privacy framework for service design seeks to reinforce, not replace, existing legislation, regulations, and design principles in the field of service design and privacy. As far as design principles are concerned, while they "are still effective in providing appealing appearances and utility in use", they reveal "serious concerns emerging with their ongoing use because the challenges and concerns of designing products have changed dramatically" (Hauser et al. 2021:1). In particular, the emergence of designed tools focused more on collecting people's data and surveillance than on utility and experience is particularly worrying.

Design principles, such as Nielsen's heuristics (Nielsen 2020), are problematic also for their focus on one touchpoint of a complex service journey. Indeed, designing an interface with privacy in mind for a service that is intentionally designed for surveillance would be futile. Service design requires a comprehensive perspective on privacy, and the framework is designed to fulfill this requirement. However, there are challenges ahead. The biggest one is that the framework is ignored—or, worse, rejected—by the service design community.

Dissemination is key for creating awareness among service designers, and a creative and useful conversation to constantly improve the framework. Assuming that the framework, like other codes of ethics, is "a useful starting point for doing design work in a value-focused manner, additional efforts should be made to teach tactics for mediating ethical complexities in ways that mirror the complexities of organizational design practice." (Chivukula et al. 2020:10) Therefore, the discussion must involve not only service designers but also developers, engineers, marketing professionals, and business decision-makers.

Rejection is a bigger threat, but not an impossible or unrealistic one. Although the framework—and its underlying foundations—rejects any ideological stance against capitalism, industry, and profit, it claims that surveillance society and capitalism are bad for users, citizens, and for design. The framework is built on the assumption that designers design primarily for people, and not for profit at the expenses of people's privacy. It is a contemporary affirmation of design ethics principles—a praise for the idea that design should satisfy the genuine needs of human beings, including their freedom, autonomy, and privacy, rather than their ephemeral wants and desires (Papanek 2019).

Therefore, rejection by service designers, industry, and society is a possibility. However, there are encouraging indications that rejection is not the automatic and predictable response to the framework. Service designers are increasingly recognized to have an important role in fostering change and steering it into preferred directions (Morelli et al. 2021). Design ethics, although still in its early stages of connecting the dots between informational privacy and service design, is a burgeoning field that is gaining momentum. The fact that courses on ethics are increasingly part of the curriculum of design education is a promising signal. Literature on design ethics is constantly expanding.

Ethics is seen as an integral part of the design process, where the ethical outcome of such process is a shared responsibility across organizational functions (Chivukula et al. 2020). That is, it is not only up to service designers to assure that their products are ethically mindful: the ethical development of products within an organization is a collective task. However, service designers, for their ability to supervise the whole design process, can and should take the lead in incorporating ethical (including privacy) concerns into the design practice and processes. Service designers have also another important skill: "One specific contribution designers can offer is the capability of translating abstract or narrative pictures of possible futures into operative indications on concrete action that also includes parameters for the evaluation of the impact of such actions." (Morelli et al. 2021:132).

This leadership attitude by service designers paves the way to massive opportunities. The biggest being that service design effectively assumes that good design necessarily implies the protection and enhancement of people's values and rights. A car is not only designed to move people from point to point, but also to protect its occupants in case of impact (and increasingly to avoid that accidents take place). The protection of human integrity and well-being is an integral component of cutting-edge digital gadgets: the iPhone and Apple Watch fall prevention and detection features are just some examples of meaningful and human-centered design. If our framework contributes only remotely to build a better service design practice, and therefore a better design landscape, its ambition will be fulfilled.

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Chapter 6
Conclusions

Abstract In this chapter, we provide a comprehensive overview of the concluding remarks and implications of our research. We reflect on the key findings and their impact on the field, offering insights into how our work contributes to existing knowledge and practice. Additionally, we outline our plans for future investigations, highlighting potential avenues for further exploration and development. By discussing upcoming research directions and anticipated developments, we aim to provide readers with a clear understanding of how our work will evolve and influence future studies and practices in the field.

Throughout the research that led to this book we encountered several challenges, including gaps in prior research concerning service design, ethics, and privacy, and the inherent risks of developing yet another framework. Nevertheless, we have a sense of accomplishment and firmly believe that the outcomes of our research are promising, setting the stage for future investigations in this field.

Perhaps the most important achievement has been to find a means to integrate privacy into service design research. We recognized a significant research gap that required attention, and we are confident that our contribution has helped bridge that gap. Informational privacy should be a concern for every designer, but above all for service designers. As we discussed in Chap. 2, service design ultimately deals with people and interactions between people—that is, with information and personal data. However, the gap that we identified at the beginning of our investigation implies that service designers prior to our research did not have the conceptual tools to develop a designerly understanding of informational privacy. Service designers could only rely on legislation and legal compliance, but regulations are prone to loopholes and vary from country to country.

To avoid misunderstanding, we clarify an important point. We do *not* argue that service designers should dismiss legislation and legal compliance as unnecessary. While it is true that data protection and privacy regulations may have certain loopholes, they still represent significant advancements in safeguarding privacy. With our research we show that legal compliance is not sufficient to have more and better

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privacy in service design and that service designers need designerly tools to really incorporate informational privacy concerns into the practice of service design.

In addition to contributing towards developing a designerly comprehension of informational privacy in service design, our research has established strong ethical foundations for privacy within the realm of service design. We explained why privacy is a concern and a value for service design. Despite our criticism towards Value Sensitive Design, which simply considers privacy as a value for design because society attaches importance to privacy, our research is a useful integration of Value Sensitive Design. It provides Value Sensitive Design designers, and all designers in general, with solid justifications of why privacy is a value for design.

We emphasized the need for designers to possess designerly tools that enable the integration of privacy considerations into the process of service design. The privacy ethical framework for service design is exactly a designerly tool, made by designers for designers, for service design to embrace informational privacy into its field of study and practice. The framework is a designerly tool open to other disciplines, practices, and knowledges. Its foundations are multidisciplinary; at the same time, the framework is project-based. Its scope is to help service designers to develop a designerly understanding of privacy and to implement such understanding in practice. It emerges that the expected outcome of the designerly understanding of privacy for service design and of the framework is the design of privacy-oriented products and solutions.

Although the task of defining the framework and its conceptual grounds has been demanding, basically because we had to create an entire new field of knowledge with little references in the literature and practice, the most challenging aspect of our research will be the diffused implementation of the framework. It is promising that the preliminary attempts to implement the framework to prototype service design products reveal that the framework works smoothly. In particular, the framework offers useful means to ensure consistency in the design choices and to achieve privacy-enhancing solutions. The framework is effective in correcting biases inspired by existing products and practices. It nudges designers to think and act consistently.

By design, the framework is not normative. It does not dictate choices to service designers. To the contrary, the framework offers enough flexibility to adapt the design choices to the situations and needs at hand, but without compromising on the mission of protecting and enhancing people's informational privacy. That is, protecting and enhancing people's identity and dignity.

Nevertheless, we must admit that the framework faces challenges. The first is dissemination. The framework can only gain recognition and acceptance within the service design community through its widespread dissemination and promotion. This book is the first major step in the dissemination process. Another important concern emerges: the framework must be validated and embraced by service designers to be really implemented.

Acceptance by service designers is one aspect. Endorsement by service design businesses is another key side of the issue. Companies and organizations that rely on service design solutions are invited to understand that the framework—and, in

general, the offer of privacy-oriented products to their customers—is beneficial to meet their goals.

This consideration raises issues that are beyond our action. They involve the 'destruction' of surveillance capitalism and the clearing of the idea that more and more data is necessary to offer services and make profit. We aspire for our framework to play a pivotal role in cultivating a more human-centered business environment, where the needs and interests of customers and users, including the protection of their information, are genuinely prioritized. From this perspective, the framework is not rigidly normative, but it surely reflects ideological standpoints.

We recognize that the framework is based on a humanistic idea of society, where people's interests prevail over concerns of businesses and organizations to concentrate wealth and power. It is important to note that the framework is not designed with the intention of being anti-capitalist or exclusively applicable in a post-capitalist world, which may be less ideal than imagined and speculated by many researchers and activists. Instead, the framework is purposefully designed to function within the existing world and operate effectively within the current socio-economic context. Hopefully, the framework will be implemented by service designers also in societies with limited political freedom. Confidently, we claim that the framework is a tool to build privacy and democracy.

The humanistic idea of society behind the framework is another challenge to its endorsement and implementation by businesses and organizations. Companies that see people's data just as a source of income and power are not likely to recognize the value of the framework and to proactively implement it. However, we have hope that things can change soon. History imparts the invaluable lesson that change, alongside death and taxes, remains the sole certainty in life.

Change is the main implication of our research. The development of a designerly understanding of privacy for service design and the framework are invitations to change how service designers, developers, businesses, and organizations perceive and treat personal information. Our research shows that data commodification should be rejected, because data commodification is tantamount to the commodification of human beings. The ultimate change that we advocate for, however, is more challenging. Our research seeks to discover tools that can transform not only designers' attitudes towards personal information but also how individuals, including users and citizens, handle personal information in their interactions.

In other words, our work suggests that by implementing the framework, service designers can become agents of social change in the realm of privacy. By designing products that respect and enhance people's privacy, service designers should build preferred futures for privacy. By designing products that allow people to fully exercise their moral autonomy in respect to personal information, service designers empower users to value their data and act consciously.

We recognize that our implicit program is ambitious. Privacy—in the sense of learning how to handle information—should arguably be integrated into the educational curriculum for all individuals, including designers. Too many people still believe that sending somebody else' picture and information without their consent is

not seriously bad or abusive. The same applies to cyberbullying and online defamation. Perhaps surprisingly, after decades since the Internet become part of our daily life, education about how to behave online is still missing.

Allowing children to surf the web with their digital devices without first teaching them how to protect themselves against online threats is akin to letting an inexperienced child ride a bicycle alone on a busy street. Sadly, this is a common situation in today's onlife societies, which calls for greater reasonableness and consideration.

Our research is not a call to reject modern technology and retreat to a pre-digital world. Such a claim would not only be unrealistic but also unreasonable. But why should we accept a view of modern life where personal information is a commodity or, worse, a means to insult and defame other people? Design is the right discipline to address these issues and propose solutions. Information is exchanged and processed through digital designed tools and platforms. By leveraging better designed tools and platforms, our expectation is that individuals will experience improved levels of informational privacy.

However, it is crucial to maintain a realistic perspective and acknowledge the limitations of our research as well. The framework is the result of individual research, and it has been discussed only a few times with other researchers. The ideological standpoint behind the framework is certainly widely shared in the literature, but it may potentially undermine the adoption of the framework by service designers, businesses, and organizations.

One of the major concerns that could potentially hinder the implementation of our research and framework revolves around the way individuals comprehend and appreciate their informational privacy. Through our research and the future implementation of the framework into various service design products, our objective is to encourage users to recognize the significance of their personal information and make conscious decisions when transmitting and receiving personal data. Nevertheless, we must acknowledge that the research and framework may primarily resonate with individuals who already prioritize informational privacy.

All our efforts will be directed to have as many service designers as possible to adhere to the framework. We firmly believe that privacy should not be solely governed by market-driven supply and demand dynamics. In other words, people should not have the option to choose between products that respect their information and products that show no consideration for their privacy. This topic is certainly delicate and touches upon individual freedoms. We absolutely reject that governments dictate what is good or bad for people, but we embrace the idea that safety regulations are in place to protect people.

By way of comparison, in many countries individuals can freely purchase tobacco products without significant restrictions, citing their freedom of choice. However, when purchasing a car in Europe, consumers cannot simply disregard safety concerns and demand that safety features such as airbags and ABS be removed from their vehicle. These features are mandatory and, although they do not prevent people from using their vehicles recklessly, are not negotiable. However, the foundation of this approach can be traced back to the shared understanding among designers and regulators regarding the importance of safety and the imperative to minimize the number of casualties on the roads.

Our research follows a similar approach, and it brings forward original knowledge for consideration and implementation in the service design community. We will build on this new knowledge and expand our research in new directions. The first immediate step in our future work is to understand how service designers would implement the framework.

Another area that we plan to investigate concerns the possibility of implementing the framework by service design businesses and organizations. In particular, we need to consider whether there are intrinsic or external barriers that can hinder the implementation of the framework in the real world. After mapping and analyzing the barriers, we will address them to understand how their effects can be mitigated. The same applies to potential enablers for the implementation of the framework.

Finally, we are intrigued by the role that education can play to foster privacy-enhancing design, and ethically minded design in general. Our experience as researcher, lecturer and coach shows that privacy and ethics awareness among future designers is limited, at least in Europe. One area of future research will be about design education, ethics, and privacy to understand how future designers can become effective actors of change. The purpose of education is not to indoctrinate future designers or to have them uncritically assimilate a single ethical vision or ideology. To the contrary, we envision an educational approach that stimulates students to think critically about the different ethical approaches, risks, and opportunities.

We fear that many designers take an unenquiring stance on their work and projects. Employers' or clients' values tend to prevail, regardless of whether they are ethical. From a broader perspective, our research and the framework intend to be a stepping-stone in the advancement of design ethics research and practice. Again, we do not suggest that service designers should sabotage or jeopardize the employers' or clients' business and goals. To the contrary, service designers need to make sure that the employers' or clients' targets and products are consistent with at least some basic ethical principles. Treating people and their information as ends in themselves and not as commodities and mere means to make profit should be one of such fundamental ethical principles, as per the 1st principle of the framework.