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Dataslip: How Far Does Your Personal Data Go?

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Abstract. As we navigate the physical and digital world, we unknowingly leave behind an immense trail of data. We are informed about this via lengthy documents (e.g., privacy policies) or short statements (e.g., cookie popups). However, even when we know that data is collected, we remain largely unaware of its nature; what information it contains and how it relates to us. Data is highly personal. It contains and reveals information about our behavior and experiences scattered over time, which can be abstract and opaque even to us. Dataslip is an interactive installation where the construct of personal data is translated into a material and tangible representation in the form of a receipt or 'personal data slip'. The receipt contains detailed information and illustrative examples of the data generated from our interactions with five different categories of products and services: (1) personalized public transport cards, (2) supermarket loyalty cards, (3) credit and debit cards, (4) wearables, and (5) mobile apps. Its length is proportional to the amount of data collected about us. With dataslip, we aim to reduce the distance between individuals and their personal data, elicit confrontation and invite people to question their role within the personal data ecosystems in which they are embedded.

Keywords: Personal Data · Data Literacy · Awareness

1 Introduction

The European General Data Protection Regulation (GDPR) defines *personal data* as any information from which an individual can be directly or indirectly identified [2]. Private companies and public services collect and indefinitely store personal data as individuals interact with digital products and services. For instance, when a person registers on a dating app, she *volunteers* information about herself, such as her name and address (i.e., *volunteered* personal data [7]); when she uses the app to get a date, the app *observes* information about her behavior, such as her swipes and matches (i.e., *observed* personal data [7]).

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Individuals are informed about data collection and storage practices through lengthy documents, such as privacy policies, or short statements, such as cookie pop-ups. However, these are hardly effective for informing [8]. This means that most people are unaware of the data collection practices around them, especially when it comes to *observed* personal data. The dating app user hardly knows if personal data is collected; how personal data is collected; or exactly what types of personal data are collected as she interacts with it. There is a disconnect between the use of a product or service (e.g., scrolling through a dating app) and that such use results in the collection and storage of personal data (e.g., swipes and matches) [5]. Besides, even when a person knows that data is being collected, for the most part, she doesn't know exactly what data looks and feels like [3].

Recent narratives around personal data diminish the role of individuals in its generation [4]. These portray personal data as *'the new gold'* or *'the new oil'*; equating it to a natural resource that can be exploited, mined, and refined [4]. Here, those who mine and refine personal data, such as the dating app, are placed in a privileged position to *exploit* it [4,6]. But what about those from whom the data is generated? How do they benefit? These narratives create even more distance between individuals and their data and fail to acknowledge how personal data exists only in relation to a person [1]; whose actions and interactions result in the collection and indefinite storage of innumerable data points. It is intrinsically about people and it is meaningless if people are detached from it.

With the interactive installation dataslip (Fig. 1), we aim to reduce the distance between individuals and their personal data by illustrating (1) how and what data is being collected as a person interacts with digital products and services; and (2) how personal data is intrinsically about people. Ultimately, we seek to raise awareness, elicit confrontation and invite people to question their role within the personal data ecosystems in which they are embedded. How could and should they benefit from personal data collection? We represent the personal data that is collected as a person navigates the physical (e.g., the city, the supermarket) and digital (e.g., the internet, mobile apps) world through a receipt, or 'personal data slip'. In doing so, we bring materiality to the abstract and opaque construct of personal data. The receipt or 'personal data slip' can be explored and inspected. It can be measured and compared. It can be shared, shown, and worn.

2 Dataslip

We have designed dataslip to emulate an Automated Teller Machine (ATM) or cash machine. It invites the same type of interaction. Users interact with a touch screen where they answer a series of questions, based on their digital habits (e.g., routine interactions with connected products, services, and digital technologies), and obtain a physical receipt. We designed the interaction with dataslip to be short and easy, aiming for it to last approximately one minute per user. Hence we

Fig. 1. Dataslip installation and reactions to the receipt.

limited it to five questions encompassing a broad range of products and services that most people encounter on a daily basis: (1) personalized public transport cards, (2) supermarket loyalty cards, (3) credit and debit cards, (4) wearables, including smartwatches and smart rings, and (5) mobile apps, including weather, navigation, web browser, email, instant messaging, music, social media, dating, and period tracking apps. The receipt contains a comprehensive list of the data generated as users engage with these different products and services. It includes short but detailed examples to help users interpret their data.

The Receipt or 'Personal Data Slip'

We have designed the receipt to be intentionally long. Its length is proportional to the products and services people interact with, and to the amount and the different types of data they collect. To populate the receipt with accurate information and examples, the first author made 28 data portability requests and requested a copy of her own data. The 'right to data portability' was introduced in the European General Data Protection Regulation (GDPR) [2, Art. 20]. It allows individuals (i.e., data subjects) to request a copy of their personal data from a data controller (i.e., private companies and public services) and reuse it in a different context.

The first author reached out individually to each data controller, as indicated in their privacy policy, with a data portability request. We are based in The Netherlands, hence four of the requests were made to Dutch companies operating primarily in The Netherlands; the public transport company (1 request), the supermarkets (2 requests), and the bank (1 request). The information on

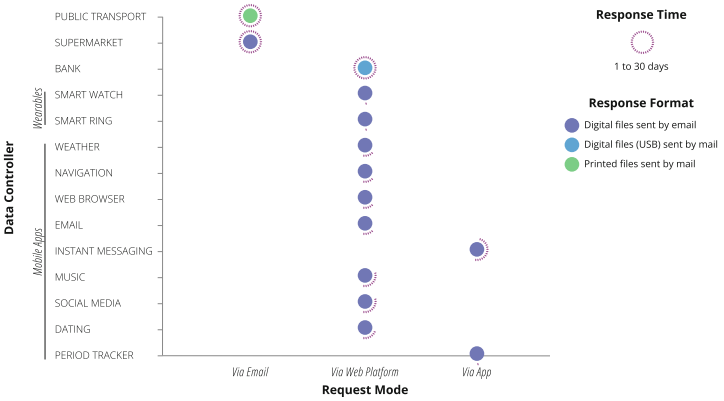

Fig. 2. Data portability requests and responses.

the receipt corresponding to these three entities is limited to the Dutch context and might not translate to other contexts and countries. The other twenty-four requests were made to companies operating in an international context. Figure 2 illustrates an overview of the request made for each category of products and services. It includes the request mode (i.e., how the request was made), the response time (i.e., how long it took to receive a copy of the data), and the response format (i.e., how the data was delivered). Most companies that provide a primarily digital service had dedicated platforms for making data portability requests; though these weren't easy to find and were in most cases a separate service (i.e., a dedicated page outside of the mobile or web app). Similarly, most requests were answered with a digital copy of the data, although the specific formats and files varied widely. For the first author, requesting and obtaining a copy of her data was a lengthy, confronting, and overwhelming process. Especially when the data was delivered digitally (i.e., a USB) and physically (i.e., printed files) by mail to her home address. The receipt aims to create a similar experience for dataslip users, by confronting them with the length and depth of their personal data.

3 Conclusion

We introduce the interactive installation dataslip; which translates the abstract and opaque construct of personal data into a material and tangible representation in the form of a receipt, or 'personal data slip'. The receipt contains detailed and condensed information as well as illustrative examples of the data generated from people's interactions with five different categories of products and services: (1) personalized public transport cards, (2) supermarket loyalty cards, (3) credit and debit cards, (4) wearables, including smartwatches and smart rings, and (5) mobile apps, including weather, navigation, web browser, email, instant messaging, music, social media, dating, and period tracking apps. The receipt seeks

to elicit confrontation. Its length is proportional to the amount and the different types of data these collect. It can be inspected, explored, criticized, and contested.

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