8 – What are the next steps?

Progress is needed on all three of the MyData principles: human-centric control, usable data, and open business environment. Implementing human-centric control will require raising awareness and improving education around the topic, shifting the attitude among organizations and companies, and increasing regulatory awareness. Usable data requires that companies offer machine-readable personal data via APIs. An open business environment will require the development and adoption of MyData account model and common standards for MyData operator businesses.

The core technical components of MyData already exist, but they require maturation. Technical elements need to be tested and integrated into existing software, such as customer relationship management (CRM) and identity provisioning (IdP) systems. There will also be a strong emphasis on user experience design. Current demonstrations show that managing MyData accounts will be a similar experience to how people currently use online banking services to provide strong authentications and manage their finances.

Many online service companies have developed APIs and successfully integrated data flows across organizations. However, there are not many examples of more traditional companies that have opened up their data APIs. In Finland, MyData has raised interest among companies, ministries, media, and researchers. There are currently several research and innovation projects addressing challenges related to principles and the implementation of MyData, and initial pilots are in preparatory stages. Industry and research organizations have ongoing innovation projects focusing on developing the MyData operator model (see links at the back) and work on interoperability and operator alliance issues. The current operator model is being built based on the UMA standard and the Minimum Viable Consent Receipt project. Test sandbox instances of a MyData operator are expected to be released for open tests in early 2016.

The newly elected Finnish government has stated in its strategic government plan that Finland will "strengthen citizens' right to monitor and control the use of their personal data, and at the same time guarantee the fluid exchange of data between public authorities". This combination of strategic priorities lends itself to speedier adoption of MyData principles – hopefully providing an example to the private sector to follow.

The goal of MyData is to build an infrastructure level service for the management of personal data. This work is intended to have international impact. An efficient way to achieve functional design for a MyData system is to carry out hands-on pilot projects. On the next page, we outline a few key examples of MyData service scenarios.

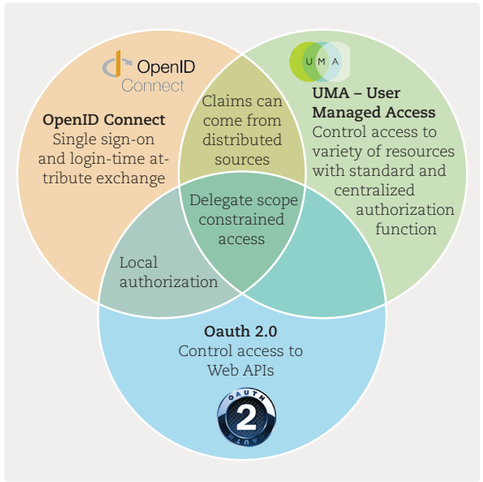

Figure 8.1: Core parts of the MyData authentication mechanism and the MyData APIs can be realized using the User-Managed Access (UMA) standard created by the Kantara Initiative (version 1.0 was released on early 2015). UMA specification and its open-source implementations let individuals to control authorizations to share their data and to manage how their data is shared between online services. UMA is a profile of OAuth 2.0 (control access to web API's) and it shares features with OpenID Connect (federated single-sign-on) It brings together two essential elements to the authorization workflow: asynchronous consent and centralized consent management. (Figure modified after Eve Maler @xmlgrrl)

The roadmap towards MyData includes:

- Progress on all three fronts: human-centric control, usable data, and open business environment
- Maturation of existing platform technologies and mapping out how they will comply with regulations such as EU General Data Protection Regulation (GDPR) and the specifications developed in the Europe wide electronic identity and trust services (eIDAS) initiative.
- MyData-supported service pilots

1 – What is MyData?

The term **MyData** refers 1) to a new approach, a paradigm shift in personal data management and processing that seeks to transform the current organization centric system to a human centric system, 2) to personal data as a resource that the individual can access and control. Personal data that is not under the respective individual's own control cannot be called MyData.

The aim is to provide individuals with the practical means to access, obtain, and use datasets containing their personal information, such as purchasing data, traffic data, telecommunications data, medical records, financial information and data derived from various online services and to encourage organizations holding personal data to give individuals control over this data, extending beyond their minimum legal requirements to do so.

Personal data has increasingly significant social, economic, and practical value. According to The World Economic Forum, "Personal data is becoming a new economic asset class, a valuable resource for the 21st century that will touch all aspects of society". The wider application and use of personal data, however, is often conflated with negative predictions of a future devoid of individual privacy.

Currently, individuals have little or no control over how data about them and their activities is created or used by businesses, governments, or data brokers. By giving individuals the power to determine how their data can be used, the MyData approach enables the collection and use of personal data in ways that maximize the benefits gained while minimizing the privacy lost.

Personal data is presently an underused 'raw material' for new services due to the lack of interoperability and portability between datasets across services and sectors. We need a new **infrastructure level** approach on how to manage personal data.

The growth of Big Data analytics has brought privacy issues to the forefront. Regarding the ethical use and analysis of personal information, MyData and Big Data are complementary rather than mutually exclusive concepts. The concept of Big Data emphasizes the potential of combining and analyzing large datasets from the organization's perspective while MyData focuses on the individual's ability to control and benefit from the value of his or her personal data. The MyData approach provides organizations with the practical means for implementing data protection and privacy in the course of big data analytics and brings individuals transparency as to how their data are being collected and processed. Without addressing the human perspective, many of the potential innovative uses of big data might become impossible if individuals perceive them as invasive, shadowy, and unacceptable.

The MyData approach incorporates the 'Open Data' movement philosophy that providing access to information in a free and transparent format increases its usefulness and value. By definition, Open Data is technically and legally free for anyone to use, reuse, and distribute. Similarly, data collected about a person will meet the criterion of MyData if it is technically and legally available for the individual to use, reuse, and distribute as s/he wishes.

Figure 1.1: Personal data is everywhere. Businesses in all sectors as well as governmental organizations collect increasing amounts of data about us.

MyData is:

- An infrastructure-level approach for ensuring data interoperability and portability – open infrastructures make it possible for individuals to change service providers without proprietary data lock-ins
- Sector independent – there is currently significant progress being made in individual sectors, such as health and finance, but a cooperative approach could work across all sectors
- Consent-based data management and control – it is not necessary for the individual to store all his/her data in centralized repositories in order to control the data flow

- Right to know what personal information exists.
- Right to see the actual content of personal information.
- Right to rectify false personal information.
- Right to audit who accesses and processes personal information and why.
- **Right to obtain personal information and use it freely.**
- Right to share or sell personal information to third parties.
- Right to remove or delete personal information.

Figure 1.2: Rights and the level of control that individuals have over their personal information can vary. The minimum requirement for MyData is that individuals have the right to access and use their personal data.

MyData – A Nordic Model for human-centered personal data management and processing

2 – What are the benefits of MyData?

We think the individuals should have legal right and technical tools to manage personal data collected on them. This is a means of digital identity management and an extension to the freedom of thought and expression we all have as citizens. At the same time, organizations should have practical methods for getting individuals' consent to use their personal data when they discover innovative new uses or applications.

As the situation currently stands, individuals grant legal consent to organizations and software applications for the collection and use of their personal data online through the standard practice of clicking "yes" that they have read and agreed to terms of service that they usually do not understand and have no realistic way of enforcing. On the other hand, under the current state of data protection regulations, it is often prohibitively difficult for organizations to create innovative services around personal data – organizations are frequently deterred from innovating or may try to figure out ways to bypass existing regulations.

MyData is a progressive approach to personal data management that combines digital human rights and industry need to have access to data. This approach benefits individuals, organizations, and society at large. MyData enables individuals to aggregate intelligence about themselves from multiple sources (see Figure 2.1). With this rich and valuable data the individuals can interact with vendors who can provide more valuable data- and consumer services.

For individuals – MyData provides easy-to-use and comprehensive tools for personal data management, transparency mechanisms that openly show how organizations use their data. The individuals also enjoy the benefits of the new innovative services and increased freedom of choice.

For companies – MyData opens opportunities for new kinds of data-based businesses by facilitating the legal and technical access to pre-existing personal datasets when the individual is willing to give his/her consent. MyData is based on standards and developed to support interoperability. This lowers the barrier of entry for new businesses and makes the landscape more balanced and competitive.

For civil society – MyData creates the necessary structures, processes, and policies for protecting the rights of individuals and fostering the use of personal data in the development of innovative services.

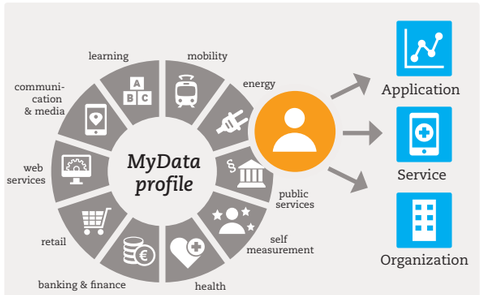

Figure 2.1: Individual may obtain personal data from all areas of life and across all sectors and share selected parts of this rich MyData profile with service providers and applications.

For individuals:

- better data based services (ie. personalized recommendations)
- better privacy and transparency, control over personal data
- insight into own behavior (self tracking)
- increased choice of services through data portability
- consumer empowerment, more balanced power and better ways to interact with companies and public organizations
- monetization of personal data

For companies:

- consumer trust strengthens engagement
- integrated complementary services enhance the core service product
- lower critical mass of users for new innovations through data portability (open business environment)
- insight and transparency into consumer behavior and its impact (optimized service production)
- tools for complying with data protection legislation
- lower transaction costs for data acquisition

For society:

- parallel development of digital rights, innovation and business growth
- infrastructure facilitates smart regulation in practice
- more informed decision-making based on rich data
- encouraging responsible and sustainable citizen behavior

Figure 2.2: Benefits of MyData approach to the individuals, companies (and other organizations) and civil society.

7 – How does MyData help me manage my privacy?

MyData is a model that equips individuals to control who uses their personal data, to stipulate for what purposes it can be used, and to give informed consent in accordance with personal data protection regulations. It makes data collection and processing more transparent and it helps companies or other organizations implement comprehensive privacy protections.

As a digital service that focuses on managing and visualizing data use authorizations, the MyData account service will establish a unified environment for managing and understanding the status of one's privacy – a service that is easier to use than the wide spectrum of point solutions available on the web today. It will be as easy to use as the common authentication mechanisms used in online services, for example. The user interface lets individuals activate or deactivate the sharing of specific dataflows and lists currently active authorizations. It would be like switching on or off a particular feature on your smartphone.

MyData addresses the concept of data control rather than data ownership. It is tempting to proclaim that individuals should own their data, but the concept of ownership as an exclusive right is difficult to apply to data. In most cases, multiple parties, including both the individuals and the organizations, have legitimate interests in the same datasets. For example, retail stores have rightful claims to use customer data that they collect using loyalty cards, while the individual card owners also have rights to the same data.

The common "I have read and agree to the terms" -acceptance mechanism is not adequate, because the terms of service and privacy policies are too long and too complicated to understand. One critique of the easy consent management approach proposed by MyData is that companies would take advantage of it by increasingly demanding access to an even a greater variety of personal data in exchange for improved services. It is important to mitigate this risk by carefully designing the consents so that they are understandable to individuals. Consents given to various data controllers are currently heterogeneous. However, the consents often contain similar elements that could be formatted among standard guidelines. When standardized, the consents can be made machine-readable and easy to compare, bundle, visualize, and process automatically. The Creative Commons licensing framework provides an example of how the equally heterogeneous sphere of author rights was harmonized according to a common set of standard licences (see Figure 7.1).

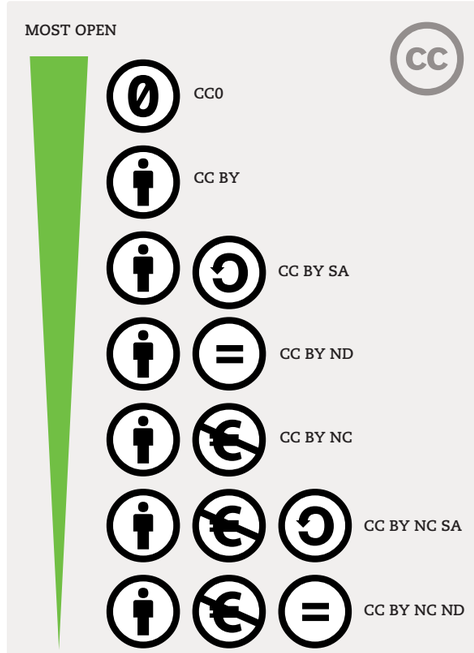

Figure 7.1: Creative commons is an example of established licensing framework that has made the management of rights practical and comprehensive. A consent commons approach aims to harmonize consents in a manner that is as comprehensive as the creative commons suite is for copyright licensing.

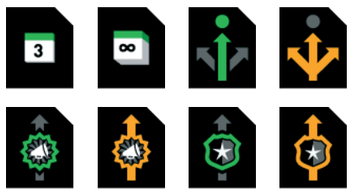

Figure 7.2: Another example of standardization but more related to MyData and personal data is the Mozilla privacy icons project by Mozilla Foundation and Aza Raskin, which is focused on creating common visual language for privacy settings in websites.

MyData helps me manage my privacy:

- with MyData infrastructure data flows become manageable, comprehensive, and transparent.
- users can deactivate information flows and withdraw consent
- machine-readable consents can be visualized, compared, and processed automatically.