MORE IN RETURN
More in return
Enabling individuals to manage their personal data

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More in return is a master thesis exploring how we can use the upcoming GDPR law as a possible design opportunity.

This diploma can be considered holistic and exploratory, where we dive into a number of topics such as the GDPR law, personal data, data trading, business, and ethics. Because we have worked in a broadly manner with a designerly approach, we believe this has contributed to valuable findings and analyzes in an otherwise unknown field. The focus of this diploma lies in using these findings and analyzes to design opportunities, rather than designing hi-fi, pixel perfect prototypes.

**Context**

In our process, we begin by looking at several opportunities the GDPR law can create across different topics. Eventually we scope the project to the context of personal data-trading.

Personal data has a great value. In the data trading business enormous amounts of data is being traded every second between giant corporations. This is a trade individuals are excluded from, even though the data is produced by- and about them.

**Aim**

The goal of this diploma is to shed a light on the possibility of enabling individuals to manage their personal data. By designing ManagingData, a proposal for how individuals can control the economical trading of their own data, we hope to create discussion around the ownership of personal data.
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01.

Intro
This chapter presents why we chose this topic on our diploma, how we’ve used designerly methods, and our position as designers in the process.

Content:
Our motivation
Methods
Process
MOTIVATION

As interaction design students, we often hear the buzzword *big data*. When we found out that there is a new law coming (GDPR), that is trying to tame the big data univers, we became intrigued.

For us, the diploma became an unique opportunity to acquire new knowledge and develop our skillsets. We wanted our diploma to have a steep learning curve, where we gain knowledge on a topic we didn’t know anything about in the first place.
Our Process

The personal data trading business and GDPR are complex topics, and has led us into new directions throughout the project. We have therefore had several "hats" during this diploma.

The designer hat: As designers, we want to learn user-friendly solutions that are seamless and beautiful.

The Legal practitioners hat: We have analyzed the GDPR law to understand what opportunities may and may not be possible to design around.

The business Hat: As we design in a buying and selling context, we have had to think about the business aspect to make a proposal that is to some extent realistic.
Our approach to the diploma has been significantly explorative; we have delved into a topic which is generally difficult to grasp. We have used the following methods to seek understanding, and create possible design opportunities. In summary the process can be described as holistic, iterative and explorative.
WE READ US UP:

**Desktop research:**
In this diploma, we began with a starting point of not having any knowledge of GDPR and personal data. We used desktop research to gather data and information on the topic. Through reading scientific articles, reports and looking at ted talks, we acquired knowledge on the topic to be able to design within it.

**Mapping:**
To cope with the unknown and complex topic, we’ve used systems oriented (SOD) approach for structuring information and understanding systems and business models.

WE TALKED TO PEOPLE:

**User involvement:**
In this diploma we have conducted two rounds of user interviews, first to gather thoughts on the topic, and later on to validate concepts. The findings from user insights has actively been taken into consideration, which has resulted in steering the project in new directions during the process.

**Business interviews:**
We conducted interviews with companies in different sectors like news, telecommunications, media communications, IT and banking to understand how they relate to the GDPR law from a business perspective, and to understand the status quo of the upcoming law.

WE IDEATED:

**Sketching:**
Throughout this diploma we’ve actively used sketching to illustrate ideas, compose concepts, and as a method of communicating with each other within the group.

**Wireframing and prototyping:**
We’ve used paper prototyping and wireframing to test user-flow, outline core functions and rapidly explore concepts. Low-fi prototyping has been used to present concepts in a more realistic manner.
02.

BACKGROUND
This chapter aims to explain the background and context for the project.

This includes:
GDPR
PERSONAL DATA
GDPR (general data protection regulation) is an upcoming privacy law, being implemented in June 2018. giving businesses new duties, and individuals new rights. Although it’ll only be a law in Europe, it’ll have to be abided by every service used by a European citizen, no matter where the office of the business is situated. ("European Comission")

The law is 200 pages long with 99 articles. Here we present 5 articles to give you a picture of what the law is about. These 5 articles are considered the biggest changes from the previous privacy law. ("European Comission")
**FROM THE INDIVIDUALS SIDE:**

**Right to access:**
The individual has the right to know what data concerning them is stored in a business, and for what purpose.

**Right to data portability**
The individual has the right to transfer their data directly from one business to another.

**Right to data download**
The individual has the right to download all their data from a business.

**Right to be forgotten**
The individual has the right to demand that a business delete all the data which is stored on he/she.

**Right to correction of personal data**
The individual has the right to edit or delete data about themselves if it is wrongfully used and/or is incorrect.

(“European Comission”)

The businesses has to implement ways for the users to execute their rights, and in addition they need to follow requirements regarding handling of personal data internally in the business. Such as data processor agreement, privacy by design, data protection officer, and privacy policy. ("EU Comission")

The GDPR law can be interpreted in many ways, and in this diploma we relate to the law based on our own analyzes and interpretations. It is worth mentioning that we have not founded our analysis in legal method, but we believe that looking at the law with design-glasses on, can open up for interesting ideas.

As of today, no one really knows what the societal impact will be after the law is set in motion. But it is safe to assume that it some way change will happen.
PERSONAL DATA

What is personal data?

Personal data means data which relate to a living individual who can be identified, for instance by phone number, email-address or car license plate. Personal data also includes data about a person’s behaviour, such as shopping habits, geographical location or online search history. (datatilsynet, 2016) (Office of the data protection commissioner)

Every day we generate great amounts of personal data by using apps, websites or IoT.
03.

Explore
Research framework:
The research framework in our project may resemble a growing snowball. When we are exploring topic, we continuously dig into new directions to keep the snowball growing larger and larger. This allowed for a comprehensive and open research phase.

The topic of this diploma has many components and levels, in this report, we present four main areas of initial research:

Talking with people in businesses
Talking with people
Possible directions
Analyzing existing platforms
To get insights to what the different companies are doing to accommodate the privacy law, we scheduled interviews with eight different businesses. We talked to people from the banking-, news-, IT-, network-, telecommunication-, design-, market analysis- and consultancy industry.

We talked with a telecommunications company, and was told: “There is not going to be a single one of the big telecommunication-companies compliant for the gdpr implementation in may.” Our interview subject explained how these businesses have been storing anonymised, aggregated data for decades, data that now has to be rearranged, filed, and linked to its purpose in order to abide the upcoming law. A time consuming and expensive task.

A stressfactor is the huge fine of up to 4% of the annual income of the business, or 20 million Euros, so the need for becoming compliant is understandable. While the businesses talked about becoming compliant, we wondered how they are taking the users into account when implementing the requirements of the law?

**TAKEAWAY**

In our interviews with businesses, the overall finding was that everyone are stressing to become compliant, and the user aspect is rarely talked about.
Transcribing and analyzing the business interviews.
When we chose the topic of our diploma we were met with questions like “personal data, huh?”, “GDPR, is it a cracker?”. We therefore had two hypothesis that: “The everyday person doesn’t know what GDPR is, nor do they have control over their personal data”. We took it to the streets to examine whether these hypothesis had any truth in it. In the main pedestrian street in Oslo, we asked five groups of people about their relationship to GDPR and personal data.
None of the people we talked to knew what GDPR was, or knew anything about their personal data. Although this was a small test to investigate the hypothesis, we were able to see a tendency of lack of control over personal data. Because this was a minor test, and cannot be validated as statistics, we contacted The Norwegian Data Protection Authority (DPA) (norsk: Datatilsynet) to discuss our hypothesis.
What do we mean by control?
In the context of personal data, the word “control” is used often and for different purposes, and The word control can have different meanings.

In our exploration we have read the word control countless times, which led us to believe this is because there is overall little control in this context. The users don’t know where their personal data is, what it’s being used for or how they can take charge over it.

In this diploma we’ve used the word in two ways:

- The feeling of control: “the overall view” of our own personal data.

- The act of controlling: to “pull the levers” of data, and controlling what it’s being used for.
The Norwegian Data Protection Authority is both supervisory and representative. Their task is to control the privacy policy and prevent individuals from being violated through the use of information associated with them. A part of this is to ensure that laws and regulations regarding the processing of personal data are followed, and that errors and omissions are corrected. (Datatilsynet)

In our talk with The Norwegian Data Protection Authority, we confirmed our hypotheses that the everyday person doesn’t know what GDPR is about, and there is a need for control.

"Almost nobody has control over their personal data today, but that’s something GDPR tries to do something about". - Catharina Nes, senior adviser at The Norwegian Data Protection Authority.

TAKEAWAY

There is a need for control.
THE IMPORTANCE OF CONTROL

Control over personal data can be considered important, so we can participate in the decision making of how our data is utilized. Without control over personal data, we don’t have the ability to prevent our data from being misused, for example as in the Facebook + Cambridge Analytica scandal.
According to the European Privacy Barometer, two thirds of the citizens are worried that they don’t have full control over the information they enter online. (Tillit og Følelser)
Based on our findings, we defined the overall frame of the project:

CONTROL OF PERSONAL DATA FOR INDIVIDUALS
DIRECTIONS

In our first ideation phase, we sketched on what could provide individuals with control over personal data. In addition to regularly sketching, we used structured methods like forced relations and crazy eight, to stimulate creative processes. From this process we took 3 possible design directions further, who in different ways aims provide control to the individual.

1: Control by a complete overview

Our first direction is about giving the user the possibility to access and view all of their personal data. A place where the users can get to know their personal data, see which businesses who store their data, what kind, and for what purpose.

(This direction could be possible on the basis of GDPR art. 15 - right to access by the data subject, ) (Intemsoft Consulting)
Our personal data is being sold every day, (Wikipedia, 2018) but we have no control over what data is sold, and to whom. This direction is about including individuals in the data-trading business by designing a possibility for individuals to sell their personal data, with the control over who gets to buy what of their personal data.

(This direction could be possible on the basis of GDPR art. 20 - right to data portability.) (Intersoft Consulting)

Our third direction is about creating GDPR guidelines - in this diploma we gather valuable insights when analyzing the regulation. What if we could use these insights to develop a set of guidelines for helping other designers in making sure they comply to the gdpr rules properly, when developing ideas and concepts.

(This direction is based on the the GDPR regulation as a whole, and not a specific Article). (Intersoft Consulting)
To choose which direction to go in, we mapped out the different opportunities together with our initial research, «how might we» thoughts, potential user-scenarios and sketches of possible design interventions.
We chose this direction first and foremost because we believe this is an opportunity for new and exciting design interventions. The personal data market is extensive, and as design students we see the opportunity to influence change here, because it’s a relatively new and untapped field. We were intrigued by the thought of selling personal data, is this even possible?
This choice of direction set the context for our diploma:

PERSONAL DATA IN A BUY AND SELL CONTEXT
PLATFORM CHOICE

Taking into account the digital nature of personal data, we decided on a digital mobile UI as our choice of platform.

This concept would likely need to exist on both a desktop platform and a mobile platform. When we were to decide what platform to design for, we were quite unsure about which was most suitable. We saw that the data sets we downloaded (page ...) are in large amounts, and demand a lot of space visually.

Our immediate thought was that this concept is mostly suitable in a desktop view, because desktop view is larger than smartphone view, allowing more space for information. On the other hand, there were some important factors, which lead to our choice of a mobile platform.

The personal link:
Smartphone, is as personal data, an intimate product in our everyday lives. The smartphone is something we always have in our pocket, and it’s physically close to us all the time. We consider this personal relation between people and device as crucial in the choice of platform.

The feeling of availability:
We believe accessibility is important in the evaluation of platform choice. If individuals are to economically benefit from selling data, we want updates and insights into the platform to be checked frequently. The smartphone is e
One off the apps we analyzed called Citizen Me.
TRANSPARENCY

On a scale from Essential - Very transparent, we want to develop a platform which is very transparent.

SECURING OR SHARING PERSONAL DATA

On a scale from Securing - Sharing personal data, we’d be on the sharing side, as the user will be selling personal data.
We imagine that a platform selling personal data, might be on the complex side. Which could mean that the user needs to spend a bit of time getting into and understanding the platform.

The platform could be both active or live in the background, at this point - it is yet to be defined. We believe this also depends on the person using it - it could be a person who wants to actively engage and affect his earnings, or it could be someone who just want it all to be done for him/her.
ANALYZING EXISTING PLATFORMS

In order to understand what it would feel like to sell personal data, we had to test it out ourselves. There are several apps and services promising individuals money in exchange for their data.

We tested 20 digital services which offers their users to sell personal data. Because control is a key element in our project, we also tested services which in different ways aims to give the user control over their data. This included software applications, browser add-ons, and mobile applications.
One example is Citizen Me

CitizenMe is a platform where the user can receive money for answering surveys. The user is encouraged to do learning surveys, fun surveys, donating surveys, and sometimes you’ll get the chance to take a survey and earn money. In CitizenMe, the user taking the survey will receive about 0.25 cents (approx. 2 kroners)

A shortcoming we found was that the service did not explain where our data went. Who were paying us for our data? And what were they using it for?

In addition we didn’t know which data they collected. We were left with questions like: What is the data they collect - is it sensitive, behavioural, our location or interests? And do the answers from the survey make an “digital image” of me? If so, what does that look like?

By digital image we mean: the traces we leave online creates an image of our digital selves

Source: CitizenMe
When analysing the existing services we found two common shortcomings amongst them.

**We sensed a lack of:**

**.transparency** - We had no idea to whom or for how long the data was sold.

**.visualising the material** - We didn’t know what data we were selling, we were also missing a visual representation of the material.

We took the shortcomings from the tests, and turned them into potentials for further concept development:

**Be transparent:**
The platform must explain what data is being sold, to whom, for what purpose, and for how long.

**Visualize the material:**
The platform must explicitly show what types of personal data the user has, in a visual and understandable manner.
Based on the findings in our exploration phase our problem statement became:

How can we design a digital data-trading platform, which enables individuals to economically manage their personal data?

By economically manage personal data, we mean the individual controls what kind of data they want to sell and which companies has access to it.
In order to design a proposal with a realistic prospect, we needed to understand the concept of selling and buying personal data. When digging into the topic, we were met by an extraordinarily complex system. A network of businesses across the world, continuously trading personal data.

Data trading is, e.g. a sale where a company sells personal data to one or more companies and gets money in exchange for it. (Wikipedia, 2017)
The trading of data happens for a range of purposes like science, societal research, market analysis, and advertising. Most of all, and growing rapidly, is the trading of data for marketing reasons. (Intersoft Consulting)

The reason personal data is commonly used in advertisement, is due to the possibility to target the right person with customised ads. If the marketing businesses are aware of who sees the advertisement, they can specify the ads content to its viewers. (Wikipedia, 2018)

“I like personal advertising, I don’t want commercial about a lawnmower If I don’t have a lawn.” - Gabriella, 24 about her feelings for targeted advertising.
How do we, the people, feel about personal advertisement?

Targeted advertising requires the collection of large amounts of personal data, which may seem invasive. But on the other hand, this contributes to show us advertising we actually want.

Targeted advertising can be great, as we advertise with relevant offers. And we will probably be exposed to advertising in one form or another, so it doesn’t seem like a bad idea that it corresponds to our personal interests?

But we must be aware of the fact that targeted marketing companies develop in several dimensions.

Various companies that initially use targeted advertising, have seen the benefits of using personal data to change people’s behavior and influence their choices. One example is the previously mentioned Cambridge Analytica event.

Emotional surveillance is a new trend in targeted marketing. (kilde: tillit og følelser, 2018, p. 10) It’s artificial intelligence used to analyze humans feelings. One example of emotional surveillance is customized advertising signs, where the ads are customized to the person looking at the sign.

This technology that analyzes our feelings can feel like a step into our digital intimacy. But it can also contribute to education and healthcare. For example, for the prevention of depression. The Norwegian research project Intromat develops an app that can monitor mood swings in people with bipolar disorder and predict depressive or manic episodes. (Tillit og følelser, 2018, p. 12).

In a survey The Norwegian Board of Technology did in January 2018, it turned out that people are more negative than positive to emotional monitoring. A total of 68% were negatively tuned to advertising signs that track emotions.

It is clear that there are mixed feelings what feels comfortable regarding using personal data in advertising.

When we chose to position the concept in marketing, we found it extremely important that we stay within the limit of what people think is okay. Also included in the calculation, is what we as designers believe is ethically proper.
The Data Protection Authority noted: “No business in the world knows as much about us as the marketing industry. Simultaneously, our access to what the businesses is doing with the information is limited.” (kilde)

Intrigued by the fact that individuals don’t have access to the market, we decide to focus our further research on the market behind data-trading in a marketing context.

**Automated Marketing:**
A big part of the data used for marketing purposes, is traded at an ad exchange. (norsk: annonsebørs) *(Det store datakapløpet, 2015, page 5)* The ad exchange is quite like the stock market. In the stock market; vast amounts of stocks are being traded every second. In the ad exchange, stocks are replaced with personal data.

The industry of ad exchange is often referred to as “the black box”, due to its complexity.
“The saying (the black box) is used because from an outsiders point of view, this system is almost impossible to understand.”

The Data Protection Authority explains.
Figure 1
The map is based on Datatilsynets report, Det store Datakappløpet, 2015.
To acquire understanding for data trading, we mapped how data is being exchanged (Fig. 1). The map shows how data enters the trading from multiple businesses, and how it’s exchanged in real time and in one-time purchases.

We believe the map gave us a good understanding of how the data trade unfolds, and we saw potential places in the map where our concept could be positioned.

To make sure we had understood the trade correctly, we talked to three experts in the field. Surprisingly not even the experts knew the outlines of the data trading market.

**TAKEAWAYS**

The key finding from our research into data trading, is the complexity and the mystery. From here on, we realize that we have to design within a topic where we can’t know everything.
NECESSITIES

Based on our explorations, we’ve defined three necessities for the platform we are developing, which we believe can take the proposal to a realistic level, and enable it to exist in the data-trading business.

1. Data in quantities
2. Combined datasets are worth more
3. Dataportability
1. Data in quantities:

One could imagine that one individual could sell their data, but it turns out that the person would approximately earn 6 NOK a week, something we believe is too little in return for selling data. (Datacoup).

Research, mapping and sketching, has led us to believe that personal data are only economically valuable when it’s aggregated and sold in large quantities. Based on this, one of our future visions for the platform, is that many people are joining it.
2. Combined datasets are most wanted:

A sports store wants to advertise for a new mountain shoe. They want to sell the shoes to women between the age of 35-50 who are interested in outdoor activities. To reach out to women who may be interested, they hire a marketing company to advertise to the right people. Let’s call the marketing company Data X.

Data X uses combined data sets to advertise to the "right" person as much as possible. This is an example of how this plays out:

In the following example Data X consider the news channel VG.no as a suitable platform for advertising.
The platform we're designing depends on companies being interested in purchasing data, and we see the need to implement the combined data set method when developing our proposal.

A: Let’s say Data X first access gender and age data on the visitors, from cookies places on VG.no. The marketing company now knows which are women between 35-50; the target group. But there are still too many people visiting VG, to actually know who to target.

B: Data X combine the gender and age data with Facebook-likes data. By combining these, Data X can now know who of the women has liked posts or articles related to mountain or outdoor activities.

C: They combine the cookie-data, and Facebook-likes data, with another dataset from Google search history. Now Data X know who of the women visiting VG.no has: 1) the right age, 2) liked related posts or articles, and 3) done a Google search relating to outdoor activities.

The method of combining datasets, provides an accurate indicator of who to target with advertising, and is highly valuable in a marketing context.

TAKEAWAY

The platform we’re designing depends on companies being interested in purchasing data, and we see the need to implement the combined data set method when developing our proposal.

This example is based on the Data Protection Authorities report “Det store dataapløpet” (Det store dataapløpet, 2015)
3. The dataportability article:

Personal data already exists in all digital services. Services like Facebook, Google, Netflix, Spotify, etc. We wish to combine these datasets in the platform we’re developing. But why should for instance Google, transfer data to our platform? This doesn’t seem like something they would want to do. However, the new GDPR law requires them to do so.

We take advantage of the GDPR-law the right to data portability. (Internsoft Consulting) This means individuals has the right to transfer their personal data directly from one business to another. For example from Google directly into the platform.
Art. 20 -
“The data subject shall have the right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided.”
(Internsoft Consulting)
Because the law isn’t implemented yet, we couldn’t test the dataportability law, and experience the transfer of our data between businesses. What we could do, is to take advantage of the existing privacy art. called “the right to data download”. This allowed us to demand all data on us, from various services we use.

We received our personal data from nine businesses, in completely different formats. Some businesses sent the data in the format of 10 pages long Excel sheets, while others sent online folders. We received screenshots from back-end systems, and printed sheets as physical letters.

**We received data from:**
- LinkedIn
- Facebook
- Pinterest
- Google
- Rema1000
- Sparebanken 1
- Spotify
- Tinder
- Snapchat
The act of Data portability demands businesses to transmit personal data in a structured, machine readable and commonly used formats. (European Commission) But when downloading our data we saw that this is not yet the case. The data came in very different formats.

To combine datasets, like mentioned in the previous paragraph, we need standardized formats. Excel and a letter doesn’t combine well. Evidently, standardized formats are not there yet - but as GDPR-expert at Schibsted said, “Standardized formats will come”.

DECISION
In this diploma, we design on the premise that standard formats will come, and that the transfer of data will go smoothly.
THE INDIVIDUALS SIDE

In the trading of data, there are two sides; a seller and a buyer. Which in our platform means;

*The data seller* is the individuals who created the data in the first place, *and the data buyer* being the businesses buying data. As designers advocating for human beings, we narrowed down our project to designing the individuals side of the platform, as opposed to the business side.
04.

Concept Development
In this chapter we’ll elaborate on concept development and explore the chosen concept.

**Content:**
People’s motivation?
The platform
Requirement specification
PEOPLE’S MOTIVATION

What can be the motivation behind profiting on personal data? We considered various motives for what could be people’s monetary interest. We had dialogues with people in various ages, with different jobs and interests such as; economy, medicine, marketing, IT, sales, design, agriculture, cooking, hiking, and stock market trading.

To give the conversation a visual means to talk around, we brought a very simple sketch, which illustrates the idea of profiting from selling personal data. In the interviews, the discussions went from talking about long-term savings such as funds, and more short-term allowances. We discussed profiting from the data alone vs. profiting as a group.
Talking with "Roald" which has deleted his Facebook account
“This is genius, because apparently it’s already happening (the trading of my personal data) but now I can take advantage of it!”

Ingve, 25 yrs
A majority of the people we talked to, admitted they could be interested to join such a platform.

But the most interesting aspect from this test, was that even though they preferred different concepts, their interest was actually not so much on how they use the profits. But rather a step earlier - the part where the actual sale of data is happening.

The test resulted in us taking a step back. We realized we need to focus on designing the part regarding the actual sale of data. The part of what the users spend their profit on, will be a potential next step, and will not be designed in the platform.
The testing did not only give us a pointer for the diploma, but it also resulted in an incredibly valuable discussion, where several questions appeared. Here are three questions we have chosen to take with us in the development of the platform:

“Do I have to give access to all the data I keep here, or can I just give a section of it?”

“Do I have to sell access, or can I just keep them here, like a bank for my data?”

“But, can I choose who to give access to, may I give to research purposes?”
To sum up: We are creating a concept for a platform for the individuals, which enables them to economically benefit on their personal data.

Based on the findings from the concept testing with the users, from desktop research, user interviews, and from mapping (kilde til side i rapporten) we created a requirements specification of which functions we need to implement:

We divided the requirements into “must haves” and “nice to haves”

The platforms must have’s:
- Facilitate for selling of data
- Donate their data to scientific research
- Edit and view their data before selling it

The platforms nice to have’s:
Storage of data

Overall the platform must be:
Transparent and open
OVERALL: Be transparent

MUST HAVE’S:

Sell their data:
The platform must facilitate the sale of data by including suitable graphic elements and interactions to complete a sale.

Donate their data to scientific research:
The platform must facilitate for donating data to scientific research, by including suitable elements and interactions to complete a donation.

View the data:
The platform must present what kind of data the user has for sale. For example, the user must know that they sell both location and Facebook likes.

To view the data you’re selling, is something we evaluate as highly important to include in the data-trading platform, to reach a high level of transparency.

Edit the data:
Our personal data can say a lot about us, and surely we are not willing to sell everything. We’re maybe not be willing to sell how many ex-lovers we’ve had. Hence, the editing of data must be implemented.

NICE TO HAVE’S:

Storage of data:
Our projects main focus was initially on the economic aspect of personal data, but after the fruitful discussions in the motivation test, we see the need for a storing function in the platform. This means that the users of the platform should be able to only store the data, without having to sell it and/or donate the data to scientific research.

DECISION:
To scope down the project, we chose to only focus on the "must have’s" in further concept development.
I was entirely comfortable selling my data because I had seen it. It was that simple. …

Chris Down, Managing Direction of Normally.com and founder of Livework, sold his personal data on Ebay already in 2000.
One of the core principles of GDPR is transparency - to allow the individuals to understand, by providing knowledge through transparency. (Intersoft Consulting) Our explorations has led us to believe that being transparent is crucial to enable the users to trust the platform. Openness about what the data is being used for, by whom and for how long will be important to keep in mind when developing this platform.

Chris Downs stated, when selling his personal data on Ebay:

"...if our fears are predicated on the fact that we can’t see our data, then, why can’t we access our data more easily? Why aren’t we in regular, open contact with the data we create—possibly, even, at the point at which it is created? Step one to a trusted data relationship, surely, has to be a step towards data transparency."
05.

Prototyping
In this chapter we present how we have used prototyping methods to develop the platform.

Content:
Introducing categories
Paper prototyping
Digital sketching
Low-fi prototypes
med-fi prototypes
We began to sketch by hand on how personal data can be visualized. One challenge we faced was the fact that there are extremely large amounts of data, in one single datasets.

By analyzing the data we received from the services (p. 61) we saw that datasets often overlap in type and amount. For instance, Google, Talkmore and Instagram all have location data.

We needed a way of structuring the data in the platform.
INTRODUCING CATEGORIES

This is an infographic from Enterprivacy Consulting Group(iapp) which offers an overview of types of data relating to an individual’s public or private life.

There are probably several different ways of categorising data, but we consider this categorisation as a good framework for structuring personal data.
Using paper prototyping as a quick way to test ideas
WIREFRAMING

We wireframed a first version of a digital prototype, where we explored how we could implement the core functions from the requirements specification.

Which companies has bought the data, and for what purpose

An overview of the data the user has transferred into the platform

Which data has the user sold
Marketplace,

My data
Ragnhild F. Milter

My licensed companies

Research Analytics Ads Start-ups

Data processed
Rask forklaring av hva det betyr at bedrifter behandler dataene mine

Internal
Forklaring på hva internal data er og hva bedriftene bruker denne dataen til.

External
Forklaring på hva external data er og hva bedriftene bruker denne dataen til.

My account
Internal
External
Historical
Financial
Social
Tracking

Marketplace Trending My data
In order to generate new ideas on how to structure the content in the platform, and how the data should be visualized, we used a method where we printed all wireframes and sketches, and sketched on top of them. This method gave us new ideas, which led to the 1st version of the prototype.
1st VERSION
1st VERSION: FEEDBACK

There were two main findings from the test of prototype version 1:

**The categories are incomprehensible**
The categories are not telling enough. We see that we need to work on what the different categories are called, as it is the only hint that users get about what the category contains.

**There is a sense of information overload**
As we focus on transparency, we want to bring the information forward in the platform. But too much information can result in zero information. We see that prototype created information overload.

"I have no idea what these categories mean"

Ester, 30
in the continuation of prototyping, we realized that we were sketching without actually knowing how much the users could earn from selling data; this depends on how many licenses that are sold, for how long the license last, and what data is in the license (explained underneath). We were missing a number.

As mentioned in our exploration phase, the data trading business is quite secretive, so trying to calculate how much money the platform and the users will earn, and when - is difficult. But we saw the need for variables to design around, and calculate it ourselves:

We are aware that this calculation is a guesstimate, but having a number to relate to, was necessary to concretize the content of the ui.

626.000.000 NOK - was the yearly revenue of Acxiom in 2012 (Singer, 2012)

/  

500.000.000 datasubjects (people from which the data came from)

=1252 NOK per person

1252 NOK per person

x  

10.000 users (how many users we hope the platform might have)

= 12.520.000 NOK

12.520.000 NOK

/  

20.000 (what we picture a licence might cost)

= 626 licenses per year

When businesses buy access to the data of the platforms members, they purchase a licence. The license acts like a contract between the business and ManagingData. It specifies a time frame, for the period of time the business are allowed access. And it specifies what datasets they will have access to.
06.
The opportunity
In this chapter we'll elaborate on our delivery, and reflect around the status of the platform.
Prototyping, and iterating
With this delivery, we want to point at the opportunity of individuals profiting on their digital property. The ManagingData platform acts as an exemplification of this opportunity.

**ManagingData**

Managing data is a platform that function as a doorway for individuals. A doorway into the data trading business, where they can participate in the trading of their own data. It aims to be a platform of complete transparency.
THE PLATFORMS 3 MAIN TABS:

**Licenses**

- NEWEST LICENSE: STATENS FORSKNING...
  - 13.05.18 to 13.08.18
- STARTING: 12, 13, 14, 15, 16, 17, 18, 19, 20
- Day: ANXCOM #85265
  - $35
- Week: UNACAST #85260
  - $12
- Month: DENTSU AEGIS #85263
  - $27
- Year: NTNU MEDISIN
  - DONATED

**Activity**

- YOUR NEXT EARNING IS: 12 kr
- Earnings for the upcoming days:
  - Today at 12:43: $8
  - Tomorrow at 09:10: $15
- Expected earnings:
  - This week: $15
  - Out of the total: $53

**My data**

- 65% Interests and beliefs
- 88% What defines me
- 44% In a social network
- 90% Where I’ve been
- 35% What I’ve experienced
- 52% My financials
TAB: MY DATA
- for viewing and editing data

The “My data” tab’s main functions are to display all of the user’s personal data which is accessible for sale, and the possibility to edit that data.

A visual representation of how much data the user has for sale in each category.

Based on the category framework, there are in total six categories of personal data. Within each category is datasets from e.g. Facebook, Google, Netflix etc. The categories are colour-coded, so the users clearly can see which category is which when they are placed next to each other in the interface.

The percentage tells the users how much of the representative category is up for sale. We considered percentage as a good way to show amount, as it is visually easy to assess.
TAB: MY DATA
- category: interests and beliefs

Within each category are Datasets (e.g. Facebook, Google) which in total sums up to be the category. In this case all of the datasets sums up to be 65% of interests and beliefs.

By pulling the slider, the user can edit the amount of data accessible within the category "interests and beliefs". This means that the businesses buying data, will be able to access maximum 65%.

If the user wants a more detailed description of what the category implies, he/she can click this button to read more.

When first setting up a data profile, the access of data will be set to "Default settings". This means the user isn’t starting to use the platform by sharing everything. We imagined the platform could calculate a default package where for instance data relating to political preferences, or sexual preferences - data which to many are sensitive, and very private.

The user can choose to toggle the different datasets on and off, depending on what they want to give access to.

Detailed edit are for those who want to edit even more. Perhaps a specific location, or a particular song.
IN A SCENARIO:
Detailed editing of data

Sofia is working fulltime in an IT-consultancy. Her technical skills can be considered above average. Sofia uses the platform to earn a little extra on the side, but also because she has an interest for personal data. She edits data multiple times a week, if there is something she doesn’t want to give access to. In this example, Sofia has denied access to the times she has used Google maps to Tåsen in the previous months.

This example shows the process Sofia went through to edit this data. Since Sofia has edited the data, it now states *edited settings*, in stead of *default sharing*.

She clicks on Details Edit to deny access to Tåsen location data.
Here Sofia has two edit options. She can either search for a location, or she can use the map to navigate around.

Search option

This component shows Sofia’s latest visits, in case she wants to edit something that happened recently.

If she wishes, she can also see a complete location list.
She types in Tåsen to find the location and deny access to it.

After clicking EDIT, a deny access option pops up.

Sofia’s Tåsen visits come up. She can check the boxes with the visits she wants to deny access to.
She could also find Tåsen through the map.

She can also choose to delete whole groups of visits.
If she zoom in Sofia will see a more detailed view of her visits.

She uses a drag and drop function to remove the location-pins. She can always regret it later.
IN A SCENARIO:
Editing data across categories

Even is a fulltime student, and uses the ManagingData platform to earn some extra money when he’s pennyless. Yesterday, he was at Brun og Blid to tan. This data is something Even decides that he doesn’t want to sell access to. He decides to deny access to the data about Brun og Blid.

There are two entry points to editing data in the interface:

- One access point is to edit data across all the categories.
- The second way of editing, is to click into a category, and edit from there.

Even chooses to deny access of her Brun og Blid data across all the categories.
Even sees all of the data he has recently generated and which has been transferred into the platform. He clicks "search".

And a drop-down of filtering appears. He can either filter by date, or by the source of data.
He types in "Brun og blid" in the search field.

And sees which datasources includes the word "brun og blid". He marks Facebook- and google location data to deny access to them.
Before completing the deny of access, a pop-up appears, telling him that this affects several of her licenses, and -15 kr.

A confirmation pops up that the access has been denied.
TAB: ACTIVITY

Upcoming earnings

According to the calculations we made, we estimate that the user will in average profit from 1-2 licenses a day. **Activity** aims to keep the user updated on their upcoming profits.

- "Your next earning" shows when the next licence will expire, and the user will earn on their data. The user can also choose to see the details of the license.

- Licenses in a slider-menu shows the next earnings the upcoming days.

- "Expected earnings" is a complete view of upcoming earnings in a week, month and yearly horizon.

It also shows what type of data the user is selling, using the colour-coding of the categories. We believe this is one of the key elements to achieve transparency. By providing the user with an overview of what type of data the users is giving access to - she/hes the possibility to edit the data (My Data tab) if he/she might think: “Oh, I’ve sold a lot of financial data this week, I think it’s too much”.

The dashboard show the users upcoming earnings in a short-term and long-term perspective, and what type of data licensed out.
By clicking on one of the licenses, the user can view for how long the license last, for what purpose, which types of data it contains, and which company who bought it.

If the user wants to know more about the company, he/she can click on the “i” sign.

Which type of data Experian accessed.

Experian is meant as an example, and is not a legitimate case.
TAB: LICENSES

Active licenses

In the tab Licenses, the users can see all their active licenses at the time.

“The newest license” is the most recent license bought by a company. It states when it is bought, and for how long it is going to last. In this example, the data is donated to scientific research.

This component shows licenses that are sold that day, and licenses that are expiring that day.

“All active licenses” is a complete overview of all active licenses.

An interesting thought would be if the users could use this as an economically planner, knowing in which periods they’ll receive less or more money for their data.
BEHIND THE SCENES

The platform has a frontend which the user interacts with, but behind the scenes is a system, which we believe allows the platform to function. The following illustration explains the essential components of the system:

1. **Data portability**
   - The user determines from which data sources (e.g., Google) they would like to transfer their personal data. ManagingData transfers the data into the platform.

2. **Processing data**
   - ManagingData will anonymize and aggregate the data before letting any business buy the data. This means the platform will put the users’ datasets together with data from other members, and calculate “summaries.” That way, the businesses accessing the data, can’t define the person who generated it.
**3: Licenses**

The “summaries” are put into licenses. Meaning, licenses are combined datasets based on the businesses need for data. The members with data matching the license the business wants to buy, will then be able to join the purchase.

**4: Access for a time period**

Businesses buy licenses for a period of time. Time may vary because, one business may want the data for 1 month, while another may want it for 6 months. One could say that companies “rent” access to the data. When the time limit for the license expires, the profit is distributed amongst the members who have contributed with their data.
FURTHER DEVELOPMENTS:

Feedback from testing:

We tested the prototype on 6 different people, to get feedback on flow, information hierarchy and the basic structure of the platform. We were also curious to know their thoughts and feelings about selling data.

We structured the feedback into 5 main findings. This user test was the last test we conducted before our diploma was coming to an end. We have therefore defined these findings as needed further developments.

- Onboarding the users
  We see that there is a need for a quite detailed onboarding, to explain the elements of licenses and personal data. We consider onboarding as very important in this platform, due to it’s “unkown” topic - selling personal data.

- Building trust
  The platform needs to build more trust with it’s users. The transparency and openness in the platform supports the trust to a certain extent, but we see that some are quite unsure if their data is securely handled.

- Clearer language
  There were confusion amongst the testers about what some of the words meaning. There is a need for more “commonly used” words and descriptions

- The difference between ”my” data, and data that are in licenses
  The distinction between what is shared data and what is the user’s personal data, was on several occasions something the testers did not distinct.

- The link between main screens
  The overall structure of the platform needs more work. We have been discussing whether the global menu doesn’t provide the platform with a good structure.

Based on the findings from the user test, it is obvious that this platform require a lot of developing and improvements to function. But just talking about the platform with the testers, created really fun and interesting discussions, something we consider a great value in this diploma.
User testing the prototype
FURTHER DEVELOPMENTS:
A cooperative platform

We’ve considered what kind of business ManagingData could be. A cooperation is something we’ve evaluated as a suitable business model behind ManagingData.

A cooperation can contribute to values ManagingData would benefit from. Values like a democratic voting system, ethical guidelines and the members owning the business, aka their own personal data. We chose not to go further into the business aspect of our proposal, but find it important to mention. We believe it would strengthen the feeling of community and trust in ManagingData, something that can make the foreign concept of selling your own personal data far less intimidating.
Meeting with Samvirkeseteret in Oslo
07.

conclusion
Throughout the process, questions has lead to more questions than answers. This was perhaps not a conscious choice, but has lead us far out in a digital landscape. A place we found both scary and intriguing.

In this diploma we have worked hard to keep focus. Working with the subject of personal data has demanded us to gain a great understanding ourselves. We’ve been trying to steer this diploma. “Big data” “GDPR” “Cambridge Analytica” has been emerging in the news. These news stories was a “happy accidents” because they have contributed to an overall awareness about the topic, resulting in people joining in on discussions about the value of personal data.

Along the way this diploma taught us to work within a topic without knowing everything about it. Which for us was a big challenge, but it taught us that working with the “unknown” can be a really good practice for designers.

If we had more time..

..we would like to develop the platform as a cooperative. Through our interview with The Cooperative Centre (norsk: Samvirkesenteret), we got to learn that there is an emerging trend called "Platform Cooperatives" which are cooperatives living digitally. The cooperative business-model is really interesting when thinking about digital ownership, and people being the sole owner of their own data. If we were to develop the platform as a cooperative, we would have focused on making the memeber of Managing Data feel like they are a part of a community - that together they control and own their data. Something we believe would contribute a trusted relationship with the platform.

We would have worked further with the prototype.

To scope it down, we’ve chosen to design with 4 datasets. If we had more time, we think it would be really interesting to look at how for instance 10 datasets (e.g. Facebook, Google looke like in an interface), because then it becomes quite voluminous.

As we see it, the prototype is a means for discussing digital ownership and controlling of personal data. When we talked to people in the beginning of our diploma, the discussion was sort of untangible and "up in the air". In our latest test where we had a prototype to show to, the discussion became much more concrete and reflective. One even said "I’ve never thought about personal data as my own value, but when you show me this I understand that I actually have something that i create every day (personal data) which I can profit from". We therefore believe the prototype is an instrument for further discussions.
REFLECTIONS

If you can’t beat them, join them

We carefully considered whether we should step into the context of selling personal data. Not only because it’s extremely complex and mysterious, but also because it raises ethical questions. Personal data is intimate, and can tell a lot about a person - Therefore we asked ourselves is developing a proposal for selling personal data “the right thing to do”?

What we realized by digging into data-trading, is that this is a highly established industry. An industry where giant corporations earn skyhigh sums of money on the sale of personal data. (Desjarding, 2016). With its established place in society, it is safe to assume this industry isn’t going anywhere. On the contrary, it’s getting bigger and bigger.

The concerning aspect of this industry, is that the data-trading companies are dominating the business of selling personal data. This is because they are the ones with the knowledge and technology. (Det store dataappøpet, 2015) Personal data, has on several occasions, been traded in ways that can be considered unethical - the data ends up in other countries, in companies that do not handle the data in a sufficiently secure manner. And on top of that, use the data for purposes unknown to people who created the data.

The whole process of data trading, starts when we check off the “I agree” box, with the title terms and conditions. The minute we check this box, we grant permission to our data being used for various purposes amongst businesses we’ve never heard the name of.

What would happen if we didn’t check the box?

We like free apps and digital services. But how can social media platforms, e-mails, and search engines be free for us to use? The answer is that they’re not actually free. We’re paying for these services with our personal data. No one can really know what would happen if people started to deny these services their personal data. Do we then have to pay to use the service? Or maybe the service will be loaded with commercials? Perhaps we can’t use the service at all if we’re not willing to pay for it with our personal data.
In conclusion; The rigid industry of data-trading is increasing, and personal data will presumably be sold whether we like it or not. If we were to obtain from sharing any personal data, we might not be allowed to use digital services, which we depend on in everyday life. In this diploma we do not wish to design an activism where individuals should refrain from sharing data, nor an activism against data-trading. If businesses didn’t share and sell personal data, there would probably not exist as seamless and user-friendly apps and websites. Personal data is an extremely valuable input in developing good user experiences, because it can tell something about what people like, don’t like, behavioural patterns and so on. Which from a designers point of view is of great value.

Equally important, is that the trading of personal data is crucial for the survival of many digital services, because it’s their only source of revenue. Instead of criticizing the data-trading industry, we join it. And we design a proposal for a “sell-personal data platform” which is ethically correct for it’s users, transparent, and with the user in control.
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