My Farm

Design for Government 2015
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Final report

Thank you

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- Finnish expert organization in rural entrepreneurship ProAgria: Jussi Juhola
- Municipality of Porvoo: Ritva Heikkilä, Siv-Ann Antell
- The National Service Architecture (KaPA) programme: Maria Nikkilä

Farms and farmers who taught us so much

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- Henrik Creutz, Malmgård farm
- Atte Hermansson and family, Majvik farm
- Paavo and Kirsi, Herlin farm
- Janne Rauhansuu, Myssy Farm
- Päivi Lappi, Hunajalähde farm
- Juha Raininko, Rainingon Luomutila farm
- Mikko Vättilä, Vaahteramäki Farming
- Bryn Phipps, Arctic Choc handmade organic chocolate
- Heikki, ex-farmer
- Take-it-natural farm
- Vuonoksen Jäätelö farm
- Lapin Kaamosliha farm
- Murtolan HamppuFarmi
- Elina Leiponen, Oskarin Aitta farm food webshop
- Keuda Group, farmer edaucation and training

Our teachers and tutors at DfG: Seungho, Taneli, Juha K, Boris and Juha L.

Contents

Introduction

"The Design for Government" was a unique co-design project involving civil servants under the Finnish Ministry of Agriculture and Forestry and farmers. We aimed to talk with a small number of farmers to better understand their unique needs in communication with the government. Our goal was to identify what could be done better to enable all farmers in Finland to live their lives successfully and with dignity.

During the project we generated an archive of over 1000 documents, which is the extent of our research and solutionising. The following report will guide through each stage of the project step by step and explain how and why we reached our final solution - MyFarm. We will start where the team began 14 weeks ago - gaining an overview of agriculture in Finland.

Agriculture in Finland

Finland is the only country in the world so far North with such a strong agricultural sector. With 52,800 farms and more than 150,000 people employed, agriculture forms a significant part of the Finnish economy.

Finland stretches over 1000 km from north to south which means the climate conditions can vary significantly; in southern Finland, the growing season is 170 days, but in the North it is only 100 days (Heinonen, 2012). Climate is an important factor in Finnish agriculture as it is related to National subsidies. According to the EU's common agricultural policy, Finnish farms situated below a certain degree of latitude are entitled to apply for farming subsidies (Overview of CAP reform, 2013)

Primary Producer's Notifications

For this particular project we worked with primary producers of food and feed whom in this report we call farmers. Usually farmers are required to notify several authorities and registers within the administrative sector of the Ministry of Agriculture and Forestry for food safety, animal health, welfare and other farm matters. Currently there is no such a system that would provide the single access point for farmers to comply with all regulations, so they have to give much of the same information many times and to different authorities. Besides, there is no common practice of notifying, so the notification happens both online and on paper. Moreover, the forms and the language in them are complicated.

Alongside the notifications situation, there are a number of trends in the agricultural sector that the team needed to remain aware of. First, the number of farms in Finland is decreasing, and the size of the remaining farms increasing. There are less small farms in Finland than there used to be. In fact, there are approximately 30% less farms in Finland now than there were in 2000. In terms of the human demographic, the average age of farmers is 51.7 years (MMM Report, 2014). Less young people are working on conventional farms and many farmers are nearing retirement. Although,

there are niche groups of younger farmers and enthusiasts working on organic or urban farms.

However, big or small it is difficult for most farms to comply with legislation (EU, national, sector by sector) and fill out all the necessary forms. Looking deeper, our research showed the burden is often greatest for small farmers who have the least help or support, who are often living with their family and few or no employees. It is these small farms that we focused on in our research. We realised that if we can find a solution that satisfies those small farms with the most difficulties, we have a solution that can satisfy all farmers. The report will now go on to describe our focus in more detail and discuss how we made decisions based on our brief and research.

Brief

The task given to our team by the Ministry of Agriculture and Forestry was to come up with a solution that would reduce the administrative burden on farmers and enhance data usage between authorities. The suggested solution was to develop an easily accessible, electronic service that would combine all separate notification processes under one roof. We took it into consideration but didn't limit ourselves in searching for the best possible solution to the case.

Our rebrief

First, we decided to focus on the current system of notifications to find out how information flows happen in the system now. Through our background research and meetings with a number of different authorities we found out that many government agencies already use electronic services for processing notifications. Yet, this does not solve the problem for the farmers; they are still required to provide much of the same information to all existing electronic services. This is because the information is not shared between all the relevant authorities. We dug deeper and discovered the national service architecture (KaPA) programme, which develops a comprehensive infrastructure for digital services in Finland. The aim of the programme is to make it simpler and easier for citizens to be in contact with authorities, companies and associations. However, KaPa has not yet envisioned the solution to our particular case of farmers' notifications, so we continued researching further.

We divided our research process into four stages:

1. Identify the research issue through engaging with stakeholders
2. Map the gatekeepers
3. Co-create potential solutions with the stakeholders
4. Verify the solutions and prototype

The issue we identified was the complexity of the whole notification system. We realized quickly that the idea of an integrated electronic service is just another silver bullet that might not ease the complexity but add to it. So, we decided to focus on possible added value our solution could bring to the primary user of the service - the farmer, by adopting a bottom-up strategy.

Project roadmap

Project Start - 24.2.2015

1) Atlas workshop - 3.3.2015

2) Meeting with the client

3) Desk research, learning empathy design methods

4) Interview:

- National Service Architecture (KaPA) team

5) Affinity mapping and opportunity questions

6) Research proposal, more desk research

7) Farmers interviews & observations

- Organic Food Fair: 12 farms interviewed
- Herlin farm visit
- Majvik Farm visit

8) Stakeholders interviews:

- ELY-keskus Uusimaa
- ProAgria
- Municipality of Porvoo

9) Second meeting with the client

10) System mapping & leverage points

11) Midterm presentation - 21.04.2015

12) More interviews:

- Malmgård farm visit

13) Prototyping solution ideas

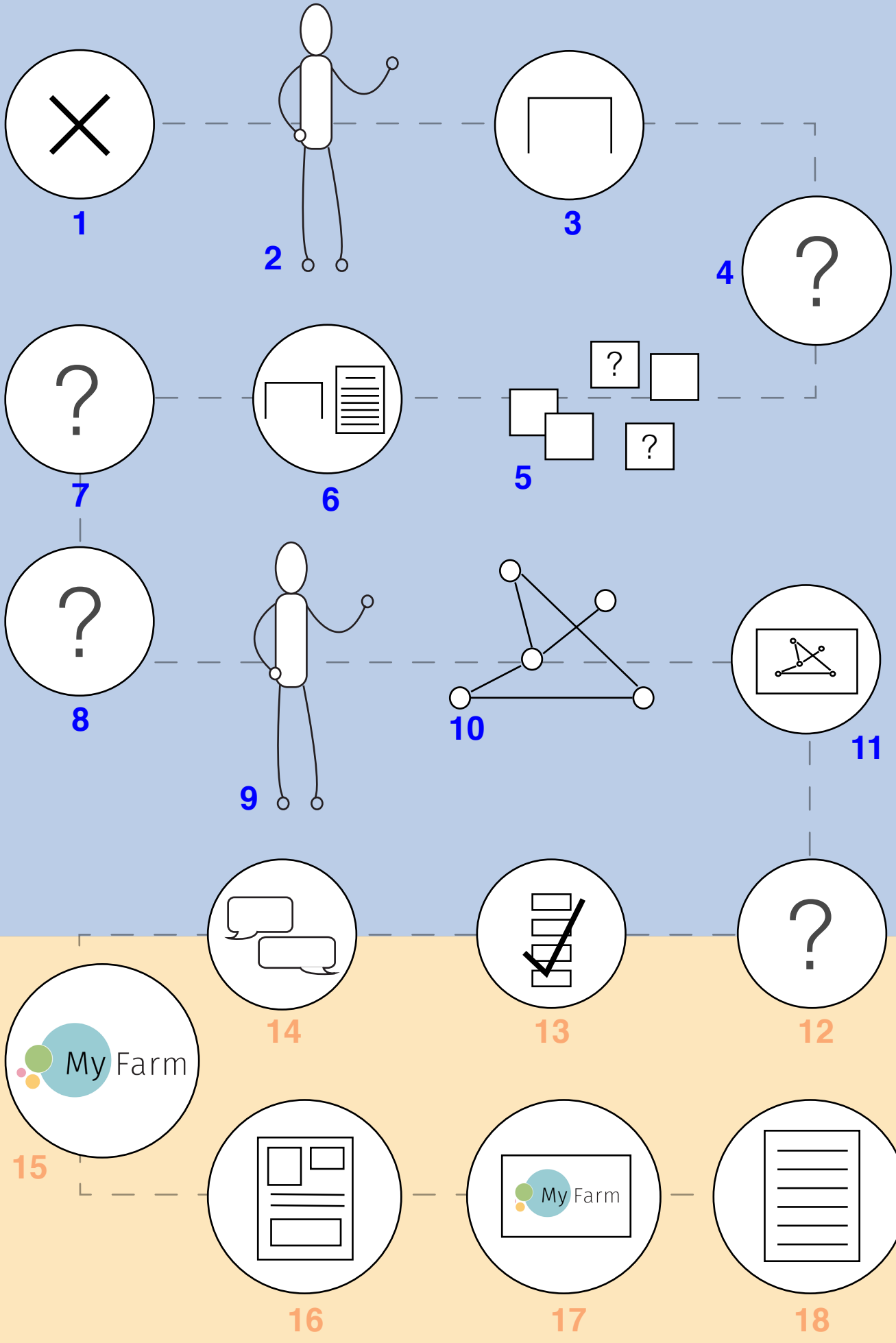
14) Co-design workshop with farmers and civil servants -12.05.2015

15) Service development

16) Interface design

17) Final presentation - 26.05.2015

18) Final report



Research Phase
11 weeks

Solutionising
3 weeks

Research methodologies

As a team we did not have much knowledge on public sector and agriculture in Finland. So we filled the gap by reading all available materials on the topic starting from general facts and figures and going as far as researching every single stakeholder that farmers in Finland must interact or communicate with concerning notifications. This relates to both the authorities and business sector. However, soon we realized that it is not enough to read online, we need to empathise with the stakeholders and understand their experience of the issue by meeting them face to face. Therefore, during the Design for Government course we mostly used a human-centered design approach, actively engaging with the people we are designing for through field work, interviews or co-design to understand the issue at a deep and personal level from multiple points of view.

Our methods

The International Organization for Standardization describes 6 main principles human-centered design

should stand on: It should involve users throughout the process and address the entire user experience; provide a comprehensive understanding of users, tasks and environments; it should be an iterative process open for user evaluation; and finally a design team in charge should be composed of members representing various disciplines and set of skills (ISO 9241-210, 2010). The term 'user' mentioned in the ISO standard was not that relevant to our research because it places the stakeholders we are collaborating with in a passive role. Whereas in our project, from the beginning, it was humans who was at the core of our research with their feelings, aspirations and hopes, so hereinafter we'll be focusing on humans not users.

Throughout our research we employed various methods of human-centered design, complimenting them with quantitative data and other secondary sources. Below we list five methods that were the most critical to our design research:

- Individual interview
- Group interview
- In context immersion
- Persona
- Challenge cards

Individual interview

The individual interview proved to be one of the most efficient methods for us, since it allowed us to get valuable insights into the behavior, reasoning and lives of people we interviewed. The most insightful interviews we had were held in the interviewees' homes and workplaces as we could see and feel the objects and spaces the interviewees talked about. To ensure comfort of the interviewees we sent no more than three people to each interview. To achieve privacy we used one of the tactics suggested by IDEO design firm (IDEO, 2011): one person from our research team would start the conversation with an interviewee while other members step aside and keep themselves busy until an interviewee feels more relaxed.

Group interview

Group interviews can be a good way to learn about community; its dynamics and lifestyle, issues and concerns. In addition to this, it is almost a unique chance to gather views of as many members of the community as possible. The main drawback of this method is it doesn't provide a deep understanding of any individual in particular. But the quantity can also lead to quality. What's important is to make sure that everyone in the group is able to speak freely: this can be achieved by dividing a big group into small ones, ensuring people express their opinion freely regardless of status or hierarchy.

In context immersion

Human-centered design would be impossible without understanding people we are designing for, not just on an intellectual level, but also on an experiential level. In context immersion is about being able to put yourself in someone else's shoes and understand them through their perspective and their experiences. We believe that meeting stakeholders at their workplaces and home helped us to understand their needs, hopes and constraints better, and revealed unexpected opportunities.

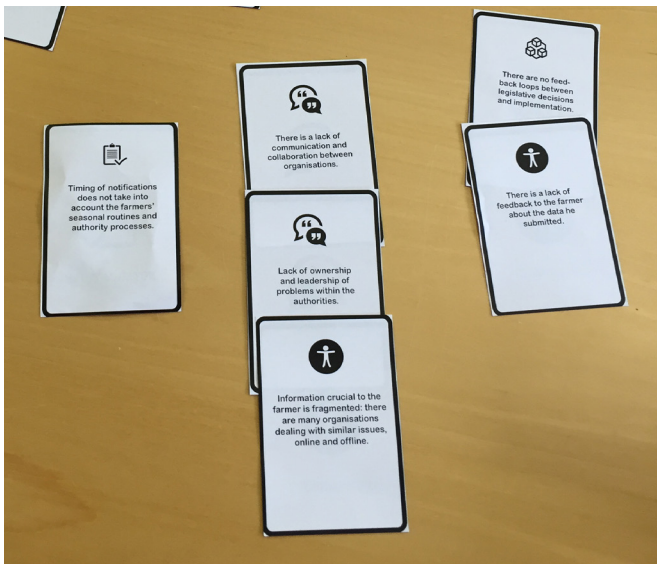
Persona

Early on in our research process we began to develop personas for different stakeholders. A persona is a fictional character created from a range of interviews with real people. Designers often create a variety of thoroughly described and visualised, fictional characters who represent relevant stakeholders with extreme views or practices. The aim of this tool is to help the design

team empathise with the people they are trying to find a solution for, to understand their needs and goals.

Challenge cards

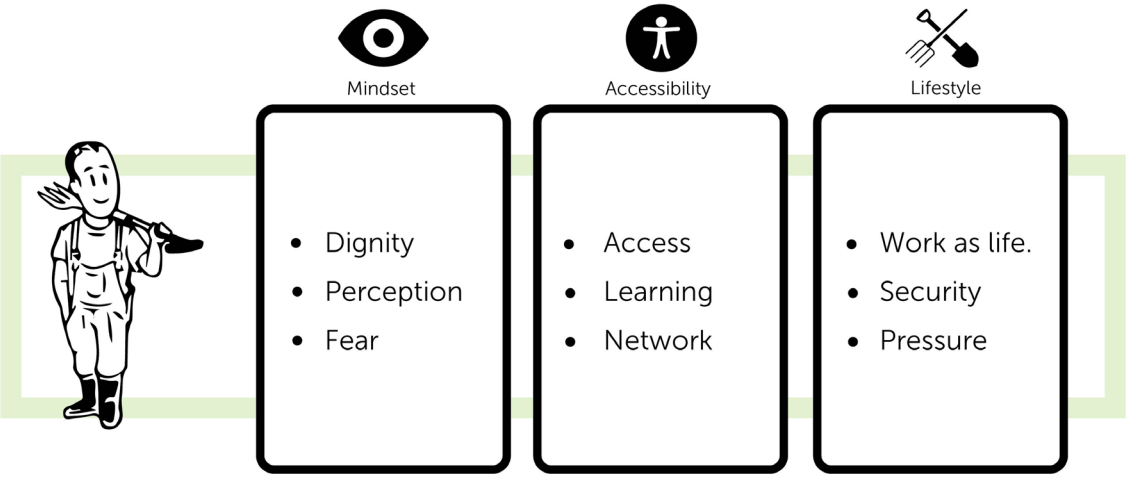
The group designed challenge cards for the farmer and the civil servants. This was a set of cards for both sets of stakeholders which the team used repeatedly in the solutionising stage to make sure we were keeping the core reasons for our solution in mind all the time. This helped the team to focus and create a solution with relevant value.



Understanding farmers

Farmers represent the major stakeholder group. Basically, any farmer in Finland who has to notify local authorities about events on his farm falls into this category. In our research we wanted to understand firstly, how farmers do their notifications and, secondly, how they feel about. In the first round of research we conducted interviews with eleven farmers whom we met at Farmer Trade Fair in March in Helsinki. That was a very hectic occasion which made it impossible for us to go into in-depth discussions but still brought relevant results. From the interviews we began to realize what stands behind the complex notification process: Fear, frustration and insecurity.

> ***"Dignity and stress are what I most relate to notifications. It is not a life of dignity because all your business and all your life depends on if you fill the form the right way".***
>
> **- A farmer at Farmer Fair in Messukeskus, 2015**



To gain deeper understanding of the notification procedures from a farmer's perspective, we packed our bags and went to visit few farms around Helsinki. The farmers not only gave us a short tour around their premises but also guided us through their daily farm paperwork. We discovered the farmers' living is even more intertwined with the whole notification system than any of us had imagined. The challenges we discovered were grouped into three categories:

1. Mindset

- The farmer has a fear of making mistakes during notifications and subsidy applications.
- The farmer does not feel in control of their own farm.
- Farmers do not understand the role of authorities.

2. Accessibility

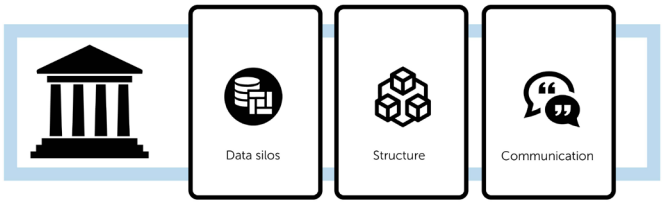
- There is a lack of feedback to the farmer about the data he submitted.
- The farmer does not always understand his own network and the support available.
- Information crucial to the farmer is fragmented: there are many organisations dealing with similar issues, online and offline.
- Farmers sometimes don't understand the benefits of an e-service or finds it difficult to use.

3. Lifestyle

- Important information about notifications and applications is often gained from unofficial sources, such as other farmers.
- Pressure from big business monopolies such as supermarket chains.
- Subsidy reliance and high personal risks.
- Paperwork chew up free time.

Understanding authorities

The other major stakeholder we collaborated with during this project was civil servants from different authorities. This collaborative process began with desk research into key authorities and interviews with individual civil servants. Arranging a meeting with the civil servants under the Ministry level was not easy due to their busy schedules. Eventually we managed to have a face to face meeting with several Porvoo municipality officers, the representatives from ProAgria (Agriculture consultancy), Evira (The Finnish food safety authority), ELY-keskus (Development-focused authority), and the Ministry of Agriculture and Forestry. Unfortunately, we were unable to reach the Finnish agency for rural affairs MAVI.



From the interviews we understood that civil servants are aware of some of the issues farmers experience, such as data silos, and are also frustrated. However, most of them admitted that there is a lack of agency to change the current system. Different authorities are involved in the notification process and they only see a fragmented parts of the process which they deal with. But none of them is currently able to lead the change as evident in a quote below:

"The chasm between authorities should not be this strikingly apparent and controversial"

- A civil servant, Helsinki 2015

We identified three levels of challenges civil servants face with:

1. Schedule

- Timing of notifications does not take into account the farmers' seasonal routines and authority processes.

2. Structural

- Farmers are not involved in decision making that affects them.
- Authorities and farmers have no agency to change the system.
- There are no feedback loops between legislative decisions and implementation.

3. Communication

- There is a lack of communication and collaboration between organisations.
- Authorities are struggling to orient towards a customer service mindset.
- Lack of ownership and leadership of problems within the authorities.

Co-design workshops

At different stages throughout the project we involved both farmers and civil servants in co-design workshops. This thorough immersion, as described earlier, allowed us to gain an empathic and system level understanding of issues for both farmers and authorities. By bringing both stakeholders together we realized that there are at least three problems they have in common:

- the lack of communication and collaboration
- fixed mindset and attitudes towards any change in the system
- poor usage of data

For this particular case we decided to focus on data. Given the fact that there are currently many business opportunities of big data and open data solutions, we feel that the value of data submitted by farmers and received by authorities was massively underestimated. If we are able to change the attitude from " data for authorities" to "data for yourself" we would bring farmers and civil servants on the same page and, second, start changing the system before anyone could even realize.

Affinity diagram

Most of the data collected in our research was analyzed using an affinity diagram. This method allows you to

Municipality Officer Raija

"The job used to involve going out and visiting the farm, it's a lot more in the office now."

Name: Raija
Age: 50
Job length: Working since 1982
Located: Municipality officer in Porvoo
Favourite activity: Walking her four dogs
Family: Husband is a hobby farmer in Porvoo

Traits

- Empathetic
- Organised
- Reserved
- Task oriented
- Strives for harmony
- Community oriented
- Attention to detail

Anxieties

- Responsibility to farmers
- Lack of information
- Time Pressure
- Inspections

Hobbies

- Nordic walking
- Walking the dogs
- Cooking & baking

break up a large amount of research data into small chunks and then arrange those chunks into groups of related information that highlight certain themes. We often used the affinity diagram to analyze interviews with farmers and civil servants in order to understand key issues or concerns. In practice, we gathered together and wrote main ideas from the interview on sticky notes (one data item per note), then we shuffle notes to eliminate any similar ones and after we group ideas that are similar in some way. The result was a visual interpretation of the interview describing the main insights that should be the focus of our design activities.

Affinity diagram is a good management and planning tool (Bonacorsi, 2008) that ensures that all ideas generated are acted upon and implemented. Below is one of our affinity maps that formed the basis for our final design solution.

Behavioral profile

Based on the analysis we created a behavioral profile, a fictional character called Pete. We imagined Pete as a small scale organic farmer from Uusimaa. The fictional character Pete also served a second purpose; by using him as a storytelling device in presentations to all stakeholders, it helped to create an engaging and relevant story that integrated the challenges and solutions. Bringing civil servants into Pete's world may help them to understand issues they had not realised were a challenge from the farmers point of view.

The following is an outline of how we described Pete in our design process to help us achieve these aims, it is important to think about his needs, dreams, goals, anxieties and hobbies so that he becomes a real person in the teams' mind. This is Pete's story:

Pete works hard to educate himself about new farm technology in Finland and Europe. Pete wakes up early at 6am to check the latest news and blogs, hunt for new advice and opportunities to improve the quality of his crop through natural methods such as crop rotation.

Pete feels pressure to find the balance between doing the best he can to keep the Earth clean and earn a secure livelihood for his family. His strong values mean he wants his children to grow up in a safe, clean Finland with access to good, chemical free food. He would like that to be the case for other people too and hopes people from the city might be able to access and experience country living.

Pete has strong, holistic principles and a well-defined ethical stance about how we should live with nature, so he cares deeply for his animals welfare. He takes great pride in the fact that his small herd of cows has lived such long and happy lives, each new cow feels like a new member of the family. Especially when their barn is just next door, attached to the house.

Pete's favourite thing in the world (apart from his family) is the smell of fresh hay. He enjoys, simple, natural joys in life but also spends time during his farm labours reflecting on his larger vision of pure and sustainable food and how his farm can be improved. He enjoys the challenge of making this small farm system work like clockwork and understand the patterns of nature. He likes to find advice about crop rotation methods and enjoys experimenting. When a new experiment succeeds Pete feels a great sense of accomplishment and likes to share his discoveries with other farmers on his own blog. However, lately Pete hasn't had time for his blog because it is April and there is simply too much to do and notifications always in the back of his mind, making him feel to guilty to do the activities he enjoys.

Pete leads a hectic life with both him and his wife working the farm and looking after their three children. He feels disappointed and frustrated when he needs to take time away from his farm and his family to do paperwork he doesn't fully understand. He feels guilty that his wife needs to help him do some of the forms, as well as pick the children up from school, take care of them at home and support him on the farm. After a long day in the the fields Pete just wants to spend the evenings with his family, not filling out forms. After struggling with this busy lifestyle and limited income Pete looked to other farmers online for advice. He discovered woofers and realised this could be an

Sipoo Farmer Pete

"I believe food sustainability is important for everyone to think about. I hope to achieve this on my farm through natural means. I know I can do it."

Name: Pete
Age: 35
Job length: Working as an organic farmer for 5 years
Located: Farmer in Sipoo
Favourite activity: Milking the cows and finishing making up the fresh hay
Family: Wife who works on the farms and three children

Traits

- Caring
- Pragmatic
- Reflective
- Practical
- Trusting
- Family oriented
- Philosophical
- Forward thinking
- Principled
- Stubborn
- Determined
- Calm under pressure

Current Anxieties

How will the children cope with the cow Milly's death?

I need to fill in a form for my cow dying for the first time...

My wife is tired, would she be stressed by work cow breeding?

My son isn't doing well in his maths class, am I helping him enough?

I need to get the vet to look at Milly's sister Sarah, she is unwell.

My Dad is wants to skype tonight, but I really should do those papers...

Favourite Activities

- Blogging
- Crop rotation experiments
- Teaching his kids to bike
- Making fresh hay
- Walking with his wife

A day In The Life...

It's Tuesday morning so Pete gets up at 6am. He checks his email and his favourite blog for any new crop rotation tips. He wants to experiment with some different techniques and blog about the results. He enjoys the sense of accomplishment from experimenting and making his farm run like clockwork. He hears his wife coming downstairs to get the breakfast ready. It must be time to go and milk the cows. He feels guilty that his wife needs to help him do some of the morning farm work, as well as get the children ready for school and support him with the paperwork. What would he do without her? At 4pm after a long, satisfying day working the fields and packing produce for sales, Pete just wants to spend the evening with his family. But it's April and he has forms to do. His heart sinks as he realises he won't have time to write his blog after all. Why didn't he do his paperwork in January like he promised he would last year? It just built up so fast...

opportunity to get some extra help for free on the farm and give him a little more time.

Last week Pete lost his favourite cow Milly, the second cow to die in his three years of farming. He feels sad about this loss and hopes the children will deal with it ok. He also worries that he needs to notify the authorities about this death as quickly as possible.

To summarise, the first stage of our research was titled “empathy block” and much of the methods outlined above relate to empathic design. This means they are methods that focus on understanding people, although they can be used to gain insight into the macro level system too. We focused even more on understanding this systemic level in the next stage of our research - the “systems thinking” block. But what is systems thinking?

Systems thinking

While systems thinking is not the easiest of frameworks, it's relatively simple to understand once one gets a hold of the basic concepts. It is at heart a process of understanding how we live in webs of interdependence, where complexity can rise very quickly from a set of relatively simple parameters. Noted systems thinker Peter M. Senge uses the example of a family as a system. It can be a close-knit group of people and the size is very limited, but it still produces outcomes that are unexpected. Senge makes the point that systems thinking is not really about understanding systems, but that it's more about understanding how these webs of interactions are responsible for some our most vexing problems. This in turn may allow some insight on potential points of leverage, points where you can actually impact the workings of a system. (Senge, 2011)

These points of leverage were a big focus of the whole course. We started by going through Donella Meadows' list of potential leverage points. Her list was as follows, numbered from the least impactful to the most impactful:

12.Numbers
11.Buffers
10.Stock & flow structures
9.Delays
8.Balancing loops
7.Reinforcing feedback loops
6.Information flows
5.Rules
4.Self-organization
3.Goals
2.Paradigms
1.Transcending paradigms
(Meadows 2008, 147-165)

In the beginning we had some issues identifying leverage points, but after we managed to wrap our heads around the way they can be of use, we started identifying that some were actually very useful for us. They weren't just these pre-existing frameworks which we could integrate into our existing concepts, but they offered us new venues of thought. They gave structure to the direction of our exploration, especially in the solutionizing phase of the course. However, the leverage points were definitely of varying usability for us. While it's possible to find elements from all leverage points in our end result, here we focus on the ones that really mattered.

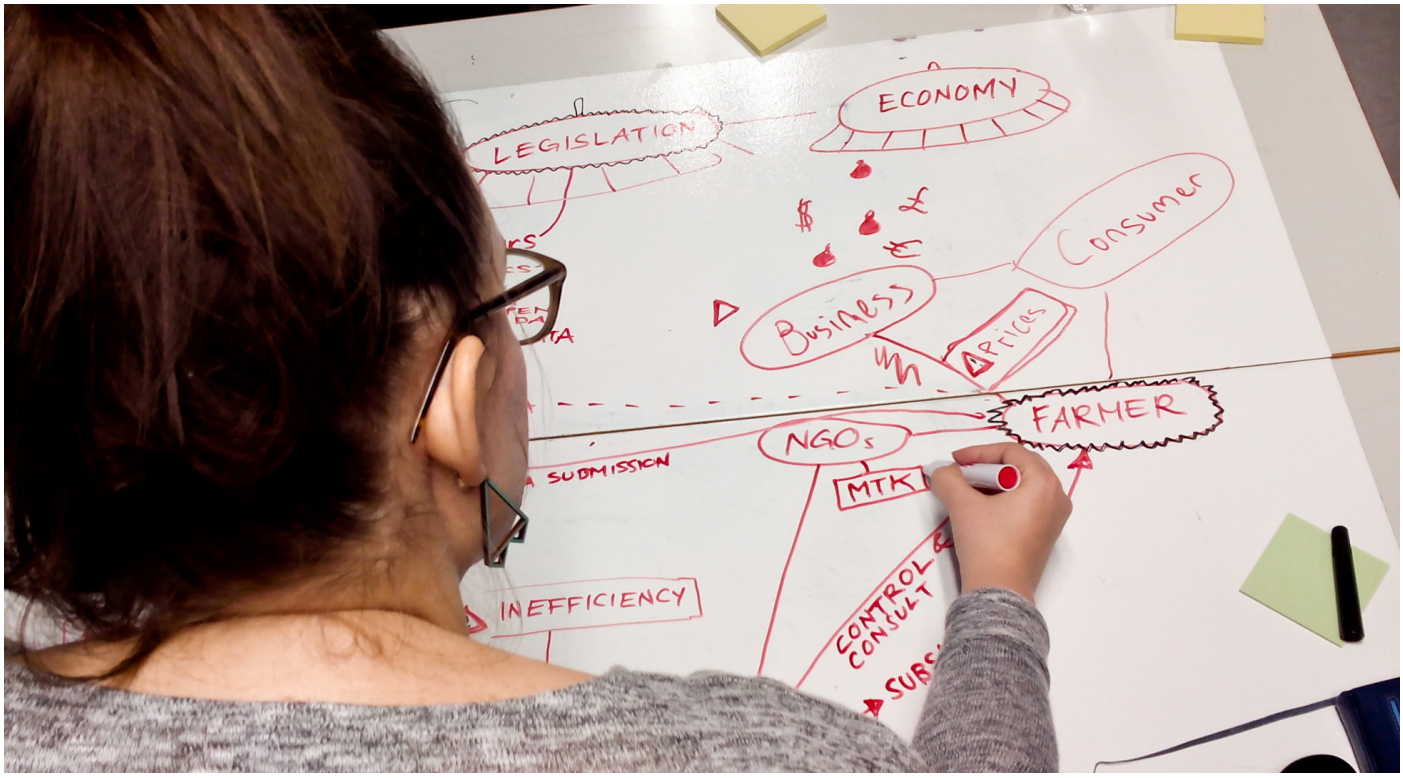
Numbers

Numbers and parameters represent the lowest leverage effects. They offered easy access – one could try fixing Finnish agriculture by adjusting the levels of certain standards or the level of subsidies. While this would result in immediate change within the system, a truly gargantuan system like Finnish agriculture would quickly swallow this effect. Changing the numbers wouldn't help, but it realizing this helped steer us in the right direction.

Delays

Donella Meadows talks about how timing of information can be as important as its content. The right information received at the wrong time can cause over - or underreaction or even an oscillating process where one is constantly responding events either too fast or too slow. (Meadows 2008, 151.) For us, this proved to be an hugely important point of leverage. We had an unstructured idea about the primary producer finding some use for his data.

Originally we were dead set on an idea of a tug of war between the big market chains and primary producer,



where the market chains have dominion over primary producers. This is something that got some press in the months leading up to the election. We wanted to give more control to the farmers, to give them access to the same kind of market data that the big chains use. While we think that our data analysis tool would incorporate some functionalities of this idea, this point of leverage ended up being more useful as a signpost towards the whole temporal aspect of our solution. We understood how important seasonal changes and certain times are for the farmer. To give them tools to manage their times better could prove vastly useful. This was later one of the inspirations for MyCalendar.

Balancing Feedback Loops

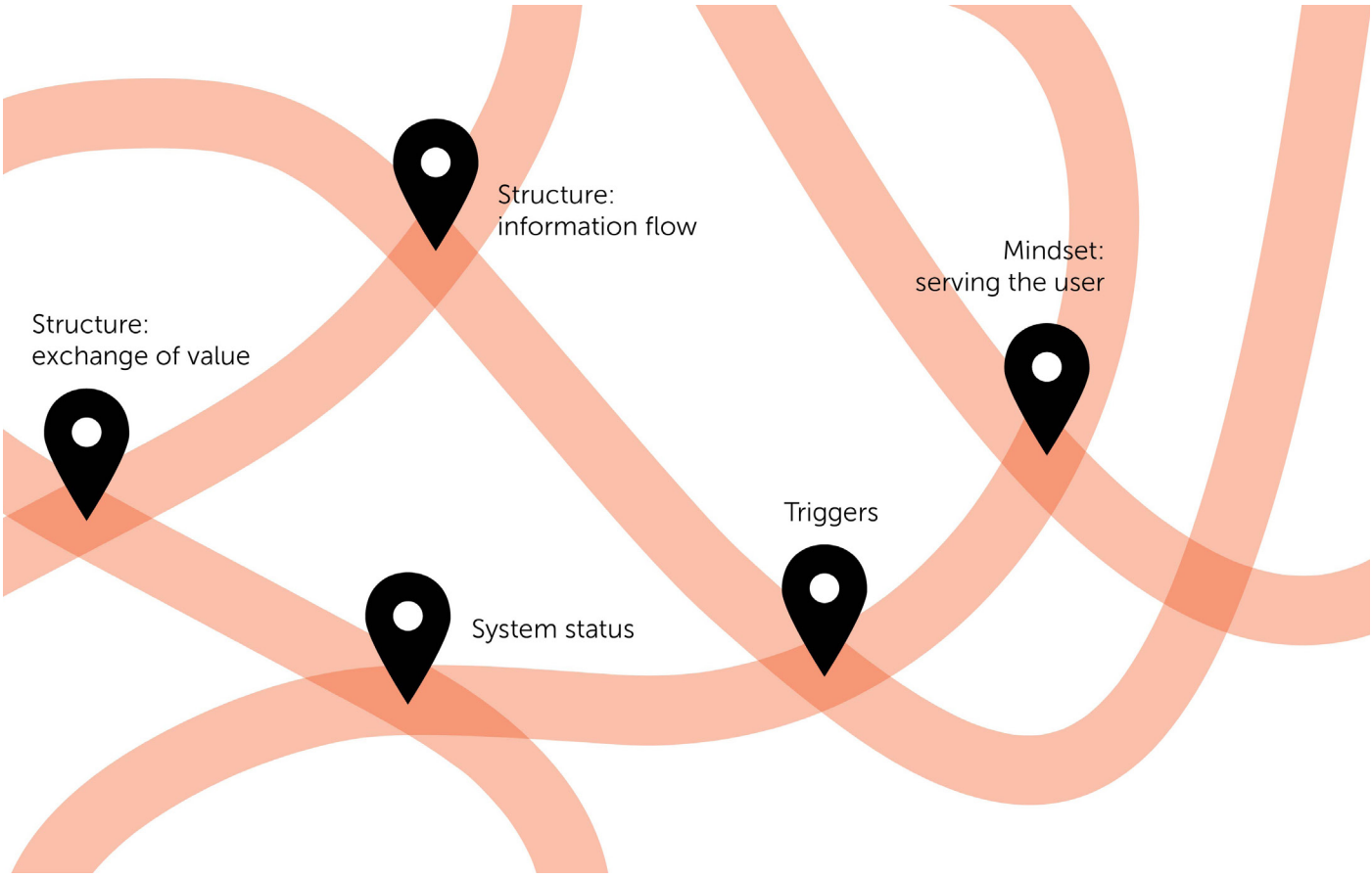
Balancing feedback loops fit also well in our original idea of trying to put the farmer on a more equal position with those that he's working for. Meadows talks about the markets as an example of a balancing feedback system. Supply and demand keep the system stable via prices, which serve as signals to both the sellers and the buyers. The clearer the price information is, the smoother the markets operate. (Meadows 2008, 153.) Our impression from our research was that in the Finnish agriculture system there exists an asymmetry of information, where especially the smaller operators may not have enough information for example about how much their produce is actually worth.

Like the previous leverage point, we thought that this would offer an opportunity to give the farmer added value through the usage of his own information. He would not only receive information on how much his products were worth but seeing analytics on his farm compared to others would actually give him access to some real time market data, the kind that maybe even the bigger companies don't have at the moment. This would create a balancing feedback loop for the whole farming industry, with farmers being able to optimize their planning better and allow for rapid responses to fluctuations in the market.

Structure of information flow

For us, the elephant in the room was the structure of the information. According to Meadows, missing information flows are one of the most common causes of system malfunction (Meadows 2008, 157). Information going somewhere it hasn't gone before can fundamentally change a system. And that's what we wanted to do.

Adjusting the flows of information is a great leverage point, because it often offers a big bang for your buck. However, Meadows' structure of information flows becomes even more relevant once you grasp her idea, that it's not just about information per se, but more about how feedback comes in many forms (pun not intended). Suppose a member of the Ministry of Agriculture and Forestry had to start notifying about his work with the same rigour as some farmers have



to about theirs. There's a good chance that the whole system of notifications would change quite soon.

It can be hard to pinpoint exact places where we used this leverage point, because it became so ubiquitous in the end for us. Everything needed to change. We think that that was one of the revolutionary aspects of our solution. We didn't go for changing the flows of information, we went straight for the whole structure of information flows.

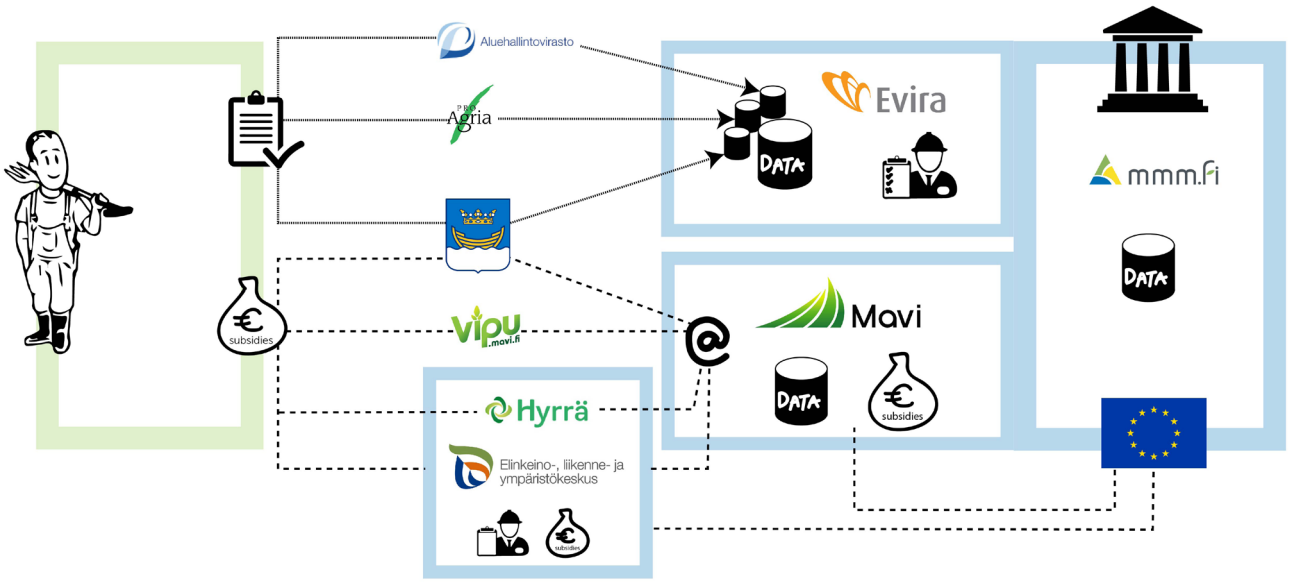
Rules, Self-Organization, Goals, Paradigms

These four were Meadows' leverage points from 5 to 2. We mention them together, because we ended up using all of them. They could even be tied in with the previous leverage point. However, while we believe that our final solution ends up potentially transforming the system, it's important to take a look back and see how these leverage points influenced our eventual solution.

Meadows says that "If you want to understand the deepest malfunctions of systems, pay attention to the rules and to who has power over them (2008, 158)." From our perspective this aligned with the message we got from the interviews – that farmers feel powerless, that they don't have agency. Instead of control over their lives, they have fear. Fear over these rules that dictate their modes of work. For the system to be user centric, it would not be enough to nudge things in the right way, the rules would have to change.

One of the obvious ways of changing the rules was to organize the system differently. Meadows talks about system self-organization, that the system evolves naturally. We saw that this would be related to MyData. We saw that we didn't fully understand the possibilities of the upcoming KaPA system or the possibilities of MyData, but we understood enough that an open source platform was the way to go. While this was not in our final presentation, the idea of a big platform where one could have individualized modules was an important one. In that way this leverage point meant to guide the system towards clear exchanges of value. The farmer would get his information back from the system and he could see what could be made of it. Developers could come up with new and interesting business opportunities on the system.

And now we're left with two relevant leverage points for us – goals and paradigms. Both ended up being vital. According to Meadows, the goals of the system are often shrouded in uncertainty and people serving the system might not even realize them (2008, 161). What



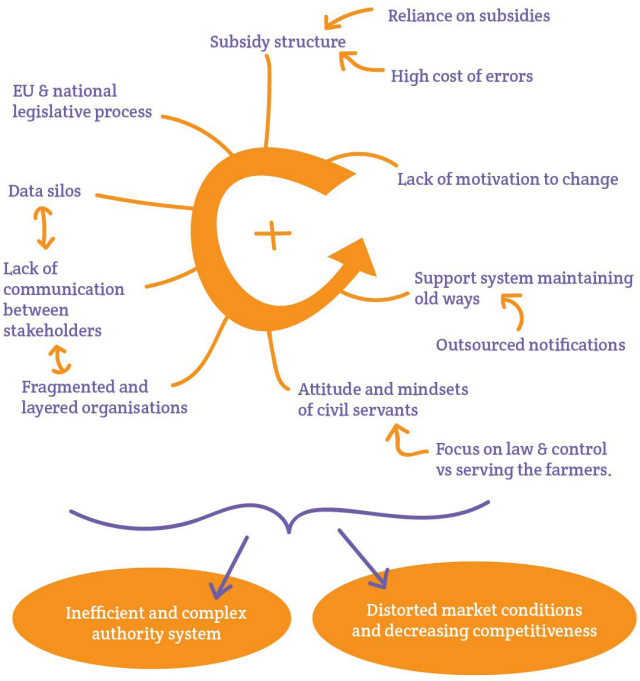
Meadows also says however, is that changing the players at the top-most level may actually have a huge impact on the goals and thus the system (2008,162). While changing of the players is not on the agenda, it's clear that in order to align the system with a new purpose, the most important leverage point is at the top. For there to be lasting change, there needs to be a strong initiative from the Ministry of Agriculture and Forestry. They need to commit to a new set of goals in regards to fixing the current state of notifications.

And related to this we're left with the last leverage point, which is the paradigm.There needs to be a huge paradigm shift in order to steer the system towards a user centric focus. The two co-design workshops and the multitude of interviews we did started to point in the direction that this kind of a shift might be upon us. There seems to be this kind of shared frustration that things are not working, that both the civil servants and the farmers are not being helped by this current system. This is great fuel for a paradigm shift to ignite. Meadows points out the duality of paradigm shifts – at one hand they're big, tectonic movements that may take ages, but in individual cases a paradigm shift can take place in a single moment. One starts to see things from a different perspective. In that sense, paradigm shifts may not be slow or expensive, the trick is more for an idea to become shared. Our research suggested that this kind of change is in the air.

Our idea tries to hitch onto this. We wanted to have an idea so revolutionary, it would directly feed into a shift in perspective. "No more forms - update, don't notify" is a concept that we hope could be a driver for this kind of a paradigm shift.

Systems map

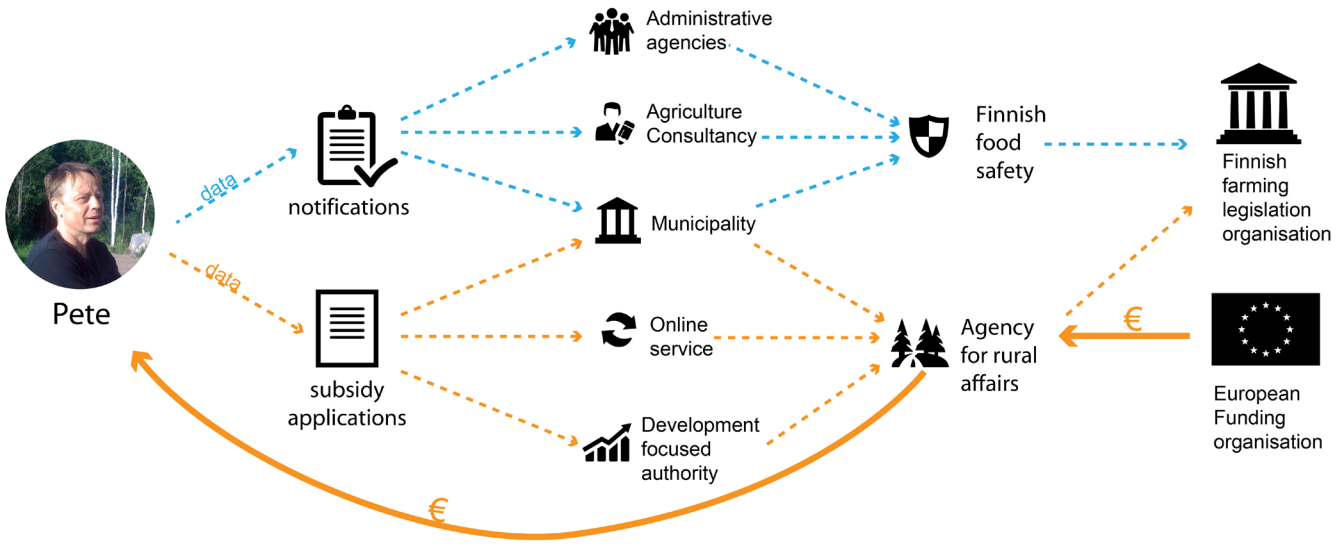
Our systems maps went thru multiple iterations, but here we'll show only the three that were most important for our process. In addition to these, we had many about the smaller subsystems in the notification system. Doing these smaller, more detailed maps helped us tremendously in not only to gain understanding on how everything worked, but especially in identifying the previously mentioned leverage points.



However, our first maps were not much help in trying to make sense of the system. We thought we had a clear idea based on the interviews, but as the idea of the systems map is more to make sense of a complex situation, this did very little in that regard. Alot of the qualitative info that this map was based on ended up in the final presentation, but it was a good choice not to pursue further trying to force it into a systems map. This one just has too many assumptions - even though the actual facts are all from interviews, the arrows involve too much of guesswork.

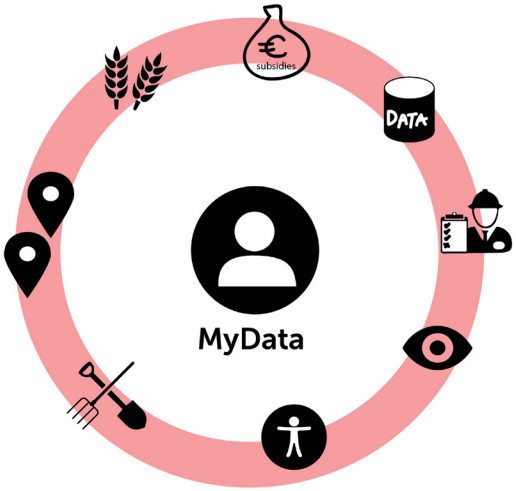
For midterm we redid the entire systems map, and Anni worked hard trying to distill alot of infromation into a simple and readable graph that showed the basic information flows in the system. We debated about going into alot of detail about where all the different notifications are stored and whether we should have a map that fully shows the complexity of the system in that regard, but we felt that trying to communicate the way the notification and the subsidy system co-exist is more important.

Our final version of the systems map is structurally pretty much the same, but Yuexin managed to simplify it a bit further and made it more legible. While the map is now lacking the logos of the authorities, it's a good tradeoff as now the map is really easy to make sense out of. You have the two main types of notifications travelling to partially different locations, accomplishing different things.



Mydata framework

A recent report published by the Ministry of Transport and Communications defines MyData as two things: It's an paradigm shift towards a human centric personal data management from an existing structure based on organizations and it aims to make data into a resource that the individual can access and control. (Poikola, Kuikkaniemi & Honko 2015, 3.)



Currently the use of personal data is underused. Data is being harvested in large quantities by corporations from what people do online, where they shop, what kind of public services they use and so on. These small data inputs are then aggregated to datasets. The data ends up with big businesses, governments or other sectors who use it for their own purposes or don't use it at all. (Richards & King 2013, 42.)

However, these datasets are usually only aggregated by single organizations or authorities. Lack of interoperability and portability between datasets makes collecting data difficult and it rarely becomes bigger than the sum of it's parts. Basically, an individual's data from one source doesn't meet data from another source, so data can't be combined. And an even bigger problem is that individuals have little or no say as to how data about them is being created, collected or used. (Poikola et al. 2015, 3.)

The MyData movement tries to put the individual back in the center of the system. In the new system, individuals are empowered by giving them practical methods to control and manage their data. This allows the creation of added value to both individuals and organizations.

The change needed is a big one. Poikola, Kuikkaniemi and Honko discuss how in the current system "individuals are lost with the big-picture view of their personal data flows between services" and that the current structureless information economy is better seen as an "incubation stage for the forthcoming data economy".

They explain the MyData system thusly:

> ***"The key concept in the proposed MyData infrastructure is the MyData account. For an individual, the MyData account is a single hub for personal data management. Via the account individual can give services the authority to access and use his or her personal data. The account stores information on how the individual's personal data is connected to different services and the legal permissions and consents for using the data."***
>
> **- Poikola et al. 2015, 5.**

So the change is a big one. However, it's not an all-or-nothing approach, as development towards an MyData based data economy can take place alongside the evoving API-based data economy (Poikola et al. 2015, 5).

Thinking outside MyData

So MyData's an fascinating subject that easily inspires new concepts for services. Indeed, MyData was important to our project almost from the beginning. It was one of those things that at times, almost seemed as it would swallow us whole – we saw MyData everywhere and everything we came up with seemed to be at least tangentially related to it. We held meetings solely focused on understanding MyData and Open data.

And so it was, until at the solutionising phase that we let go of MyData. There was no way around it, we were kind of lost with the concept. We had to put some distance between us and it. We stopped talking about MyData.

Lesson learned - Start with the value

Finding ourselves without the vocabulary of MyData forced us to come to grips with the core of our solution and put the value first. In a somewhat ironic twist, all the talk about farmers MyData had kind of taken us away from our core tenet of farmer centered design. It was not that the problem laid with MyData as a concept, it was more about how we focused on it in a very narrow way. We tried to come up with endless ways to make data useful for the farmer.

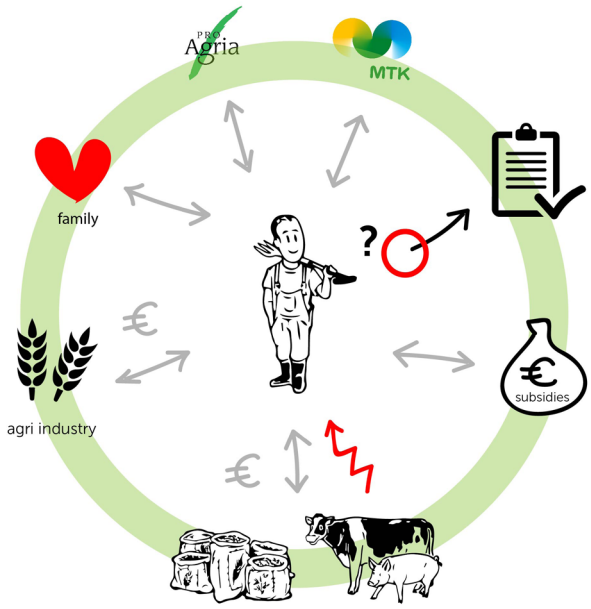
However, the core of our solution needed to be about changing the way the farmer does his notifications, not about what he can do with the data created by the process. Too much focus on added value from data had actually reduced the clarity of our core solution.

It was at this point that without using the terms of MyData we were able to explain the core value of our solution. Update, don't notify. To actually change the way the system operates.

After this we brought MyData back into the fold. The best way to put this kind of a concept together is to actually use MyData, because then it's easier to put the whole framework together. MyData gives the farmer back his information and allows the service to be seamless, for integration between the different stakeholders in the system. And there's still the added value component too, with analytics.

Key Reflection

To us, our challenges with MyData highlighted the pitfalls inherent in design. You can get too fixed on a concept to even understand where the actual potential lies. If you see that happening, the best thing to do is to force yourself to look things from a different perspective and think again about the core value you want to provide.



MyFarm concept

MyFarm is a solution which embodies; the results of our research, our exploration of leverage points and reveals a path to overcome the challenges. So now we will explain - what is our solution, why is it relevant and how would it work?

Introduction to MyFarm

MyFarm is a holistic, digital service that acts as a solution to notification related challenges in Finland. These are the challenges outlined in our research that a range of stakeholders within the agricultural sector (including civil servants and farmers) face today - fear, insecurity and frustration. MyFarm is the service that gives farmers all the support and information they need under one roof and allows civil servants a sense of agency through collaboration. This is leads the way to no more forms, by allowing farmers to update instead of notify. Our solution will remove the sense of fear and insecurity that farmers live with. It will also alleviate the frustration that both farmers and civil servants feel towards notifications, by getting rid of them altogether.

MyFarm Concept Features

We identified five key features of the MyFarm concept and started doing background research and mapping what these concept features would include. We developed a canvas to describe each feature. We've chosen to include a short description and impact analysis on each feature, as well as highlight the 'challenge cards' that each feature is addressing.

Concept features:

- Electronic identification (eID): FarmID
- MyFarm profile
- Calendar
- MyData (analytical tool)
- MyOfficer

FarmID

Description

The FarmID is a kind of electronic identification system (eID) that provides a secure access key to MyFarm service. A farm identification number used by the members of the farm as a mean of tracking the farm data across various platforms and databases.

Why? What are the challenges this is addressing?

- The farmer does not feel in control of their own farm.
- Authorities are struggling to orient towards a customer service mindset.
- Fragmentation of information structures / Lack of communication between authorities: Farm number will enable cross-database integration.

Impact

- Ability to integrate all data related to a farm with the farm ID number.
- Ability for a farm to identify as a unit online.
- Puts the farmer in control.
- Resolves any security or identity issues - enables the safe use of MyData and all the good that comes with it.
- Easy access, one ID to access different services - moves from case based to farm based: integration of documentation under the FarmID.

MyFarm profile

Description

MyFarm profile is a place where all the information and data of the farm is stored and can be viewed and edited in an easy and interactive way. By maintaining the MyFarm profile, there is no need to fill in any additional forms as the system produces reports on demand.

Electronic submission allows easier management of the applications and forms submitted. The submitted documents are added to the user profile and are available for evaluation by certain government agencies which have an access to the profile page. The agency performs an initial verification during which they may contact farmer for further information, data or correction of errors.

Why? What are the challenges this is addressing?

- There is a lack of feedback to the farmer about the data he submitted.
- Authorities are struggling to orient towards a customer service mindset.
- The farmer has a fear of making mistakes during notifications and subsidy applications.
- The farmer does not feel in control of their own farm.
- Digital vs paper argument! Delays, inconsistencies and mishaps of the paperwork.
- Information crucial to the farmer is fragmented: there are many organisations dealing with similar issues, online and offline.
- Timing of notifications/applications do not take into account the farmers' routines and authority processes.

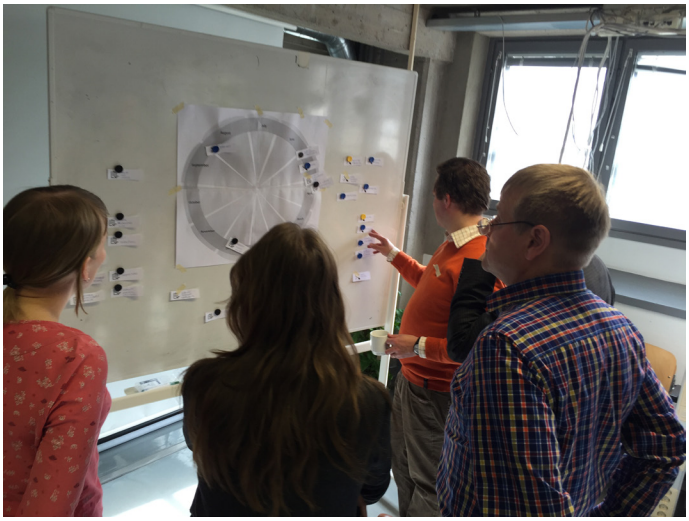
Impact:

- A major step for authorities moving towards a farmer centered service model.
- Farmer gets a clear overview of his farm information.
- Saves time and provides a simpler interface and user experience for the farmer and the authorities.
- No need for the farmer to submit the same data multiple times to different organisations.
- Combination of all public sector services related to farmers. => no more fragmentation.
- Authorities benefit from the automated management of complex notification and subsidy application processes.
- Farmers are able to store, synchronize and share files online with different government agencies.
- Helps farmers gain confidence and reduce fear of making mistakes.
- Allows farmer to flexibly edit his information as it changes, keeping authorities more up-to-date on issues of food safety and animal welfare.

Calendar

Description

A calendar for both farmers and authorities, showing the time of notifications and field work. To help authorities manage time in a farmer-centered way, and to give farmers a clear vision of what and when they should submit.



Why? What are the challenges this is addressing?

- Timing of notifications does not take into account the farmers' seasonal routines and authority processes.
- April madness: April is the busiest time of the year.
- There is a lack of communication and collaboration between organisations.

Impact:

- Authorities will get a better understanding of farmers' schedule and other authorities' movement.
- Farmers will have a clear vision of what they should be doing and when. Improvement of farm management. Ability to plan better (especially on authority related duties, such as paperwork).
- Create a schedule communication between farmers and authorities.
- Clear visualisation can make a solid argument for reducing of admin burden at the legislative level.

Analytical tool: MyData

Description

The Analytical Tool provides a visualisation and statistical service that uses data generated by the farmer on the MyFarm profile. Initially the tool will limit to data collected by the authorities, but will eventually offer an API platform for other service providers to build further services on data visualisation and statistics.

Why? What are the challenges this is addressing?

- There is a lack of feedback to the farmer about the data he submitted.
- Farmers sometimes don't understand the benefits of

an e-service (or finds it difficult to use).
- The farmer does not feel in control of their own farm.

Impact:

- Data collected by authorities becomes added value for the farmers. This in turn will strengthen the positive relationship between farmers and authorities, and enforce self-control (as farmers are more likely to use the system actively and truthfully).
- Opening the data sets will increase business opportunities in the sector.
- Comprehensive data visualisation services will enable more competitiveness, growth and sustainability of Finnish farms, as farmers are able to manage their farms better (with more information and analysis available).

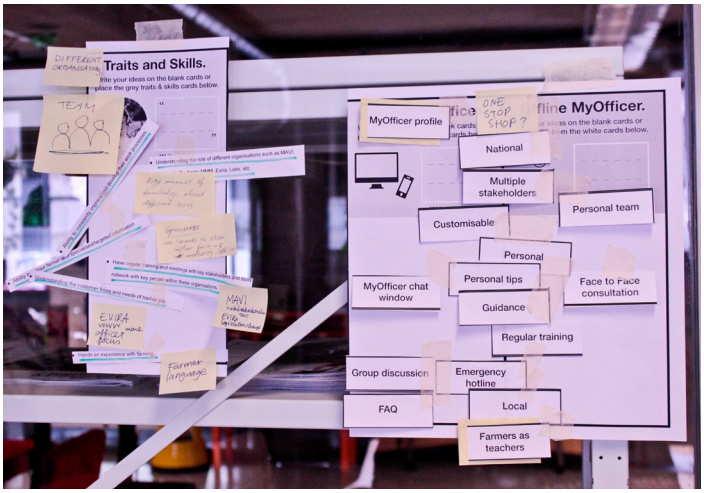
MyOfficer

Description:

MyOfficer is a service which gathers the different authorities together, and provides solutions to farmers' questions - quickly and directly. A multi-stakeholder team formed of key primary production authorities, such as Evira, Mavi, the regional authorities as well as farmer organisations will form the MyOfficer team. This customer service concept enables a one centralised and harmonised public service for farmers seeking information and advice. MyOfficer offers one umbrella to the different faces of the authorities, so that the farmer experiences a single, united service.

Why? What are the challenges this is addressing?

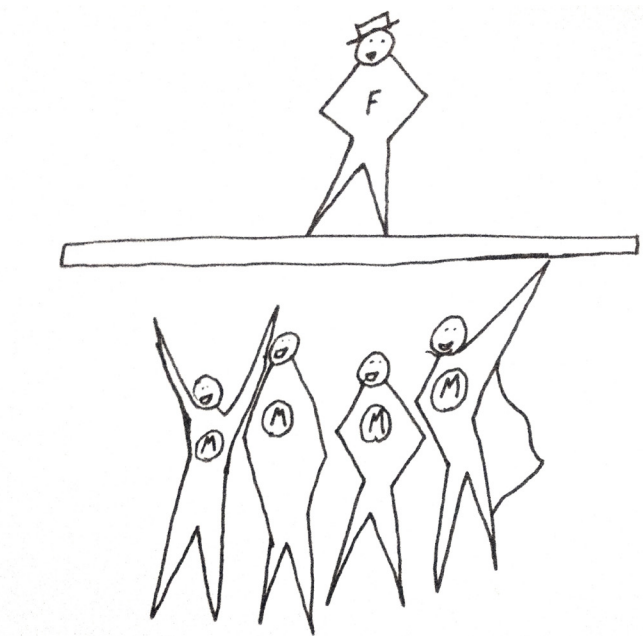
- Information (crucial to the farmer) is fragmented: there are many organisations dealing with similar issues, online and offline.
- Farmers do not understand the role of authorities.



- Authorities struggle to orient to a customer centered mindset.
- The farmer has a fear of making mistakes during notifications and subsidy applications.
- There are no feedback loops between legislative decisions and implementation.

Impact:

- Creates an umbrella that combines all the various organisations. One-stop-shop.
- Provides a single face of authorities to the farmer.
- Farmers will be able to get answers and information when needed. Also customised and specialised guidance can be implemented through such a service framework.
- Increase understanding between farmers and authorities.
- Reduce burden of answering phones for other people.
- Move towards customer oriented mindset and gain understanding of farmers.
- Creates a platform for collaboration and communication between authorities.
- Reward and recognition of authorities.



MyFarm interfaces

We used the concept feature canvases to construct the features as wireframes and ultimately as MyFarm website mock-ups. This chapter will introduce the MyFarm user interfaces.

MyFarm web interfaces:

- Home page
- Farm profile page
- Animals page
- Animal timeline page
- Calendar
- Calendar with an alert/reminder
- Chat window
- MyOfficer website - homepage
- MyOfficer website - team page

Home Page

When Pete is logged in, he sees his home page view. He sees whether his employees or other farm personnel are online, and is able to manage the different accounts that have access to his farm information. This way he can grant certain levels of access to specific individuals, for example farm advisors. On the home page, he can also see the MyOfficer icon with a speech bubble welcoming him to the site and inviting him to ask any questions. He may also use the search bar to find specific information on the site.

On the right hand side, there are two boxes for Calendar tasks and news. Pete is able to tick off tasks and view the most urgent on the home page. On the news section, he can see shared content and headlines that are most relevant to him.

In the middle of the page, there are colourful bubbles with icons and titles linking him to the website's main content areas, such as 'MyFarm Profile', 'Calendar', 'MyOfficer Chat' and 'Data visualisations.' Pete is able to add and edit these bubbles and keep on the home page the bubbles he finds most relevant.

Main navigation

The main navigation includes a link back to the 'Home page', 'MyFarm profile', 'Calendar', 'My-Data', 'MyOfficer' and 'Help'. There are several pages below each of these main headlines.

When he has chosen one page, it shows in blue that he is on that selected page.

MyFarm Profile

In the 'MyFarm Profile', Pete can see all the components of his farm: 'crops and fields', 'animals', 'produce', 'holdings', 'subsidies' and 'organic certification'. Keeping the Profile updated, he does not have to submit any separate notifications to authorities. The Profile will automatically send update notifications to relevant authorities.

Pete will benefit from updating his farm information, as he is able to use the system to monitor different aspects of his farm. He can trace back the movement and health of his cows, and even keep a family tree of them. Depending on the relative importance and production size, the bubbles of different main titles appear bigger and smaller on his profile page. He can also easily add new bubbles to his Profile page. This gives him an overview of his farm. The bubbles can have alerts to remind him to update information. If he runs into trouble, he can always click on the 'MyOfficer' icon and access help.

Viewing and editing information on animals

Viewing animal information

Pete clicks on the 'Animals' bubble to access and update information on his farm's animals. This section can replace the current notifications on animal birth, death and illness, as well as animal movement. Pete chooses

cows and enters the page for his cows and sees bubbles for each of his cows. By clicking on a cow bubble, he can view and edit information of that cow. He is also able to view the information as a timeline, which will help him to trace each event to the right animal. The most recent information is always on top of the timeline. Older information can be viewed by scrolling down. Basic information of the chosen animal can always be viewed at the top of the page when a timeline is chosen. Pete is also able to add photos of the animals to their profiles.

Editing the animal profiles

On the left hand side, there is a toolbar that can be clicked open. The toolbar has icons of 'events' that can be added to the timeline of a chosen animal. For example, Pete has already added the birth of Mansikki's calf on its timeline. When the cows are moved to another holding, Pete can easily add this event on the timeline by clicking on the 'barn' icon. More information about the holding appears on the right hand side. There is also a quick link to edit information about that specific holding.

Calendar

The calendar is a key tool on the MyFarm website as it allows Pete to manage his farm work schedule and also get reminders about important tasks, such as subsidy or notification related issues. He can also book a consultation or an inspection by checking the available times on the calendar. Responsible officers at the relevant organisations are then notified about a booking. The system will also remind him of approaching deadlines and suggest appropriate subsidies for Pete to apply for if his circumstances have changed. When applying for subsidies, the system automatically collects the relevant information from Pete's farm profile and sends the data to the subsidy officers. Pete just needs to make sure he keeps his information updated.

My-Data provides useful insights

On this page, Pete is able to view analysis and visualisations of his farm data. He also has an opportunity to compare his data with other similar farms or national averages. This way he can understand his farm better and improve it productivity. Pete can for example compare the animal health data with other farm data and find correlations. In this study case example, Pete is able to determine that the infection rate started increasing when he introduced the new feed product. The My-data service could also provide links to information and educational materials on topics such as animal health guidance or soil quality improvement.

The 'MyOfficer chat' link would be visible throughout the pages, and Pete can ask questions if he needs more help understanding the data analysis.

MyOfficer chat

Pete can chat live with his 'MyOfficer' team members during office hours. He can start the chat by choosing a category that best describes his topic of enquiry (on the left sidebar). This way the right officer receives Pete's message and can provide him with the answers. Pete can see the picture of the officer, his/her first name and organisational location. This way there is always a face to the authorities he is dealing with, making the service more personal to both parties.

On the right sidebar, Pete is able to view his past conversations with his MyOfficer team, read answers to frequently asked questions, and also take part in group discussions.

MyOfficer website on MyFarm platform

The team of civil servants working on the customer service rotation, or otherwise closely with the farmers, have their own website on 'MyFarm' platform. The 'MyOfficer' website looks very similar to the farmer website, but it is specifically built for civil servants. It works similar to an intranet, but this one is accessible by civil servants from all the different public agencies. We introduced Raija from Porvoo municipality as our 'MyOfficer' character. The following describes how Raija can use the 'MyOfficer' website.

MyOfficer's homepage

On the homepage, Raija can see if anyone from her rotation team is online. On the page, there are also a section for news and tasks, and links to main pages of the website. Raija can view the farm profiles of the farms in her region, check and process pending applications and notifications, and provide customer service to her farmers through the live chat. Through her 'Calendar', Raija can manage her workload and view the consultation bookings farmers have made in her 'Calendar'.

MyOfficer team page

On the 'MyOfficer' team page, Raija can view the photos, job descriptions and contact details of the civil servants on her 'MyOfficer' team rotation. This way the team can get to know each other and always know who to contact at the different organisations.

My Farm

Pete
(logged in)

SEARCH...

HOME | MYFARM PROFILE | CALENDAR | MY-DATA | MYOFFICER > | HELP

Matti
(online)

Sanna
(last login 10:15)

Account management

Hi Pete, welcome to MyFarm!
How may I help you?

MyOfficer

Profile

Calendar

CHAT

My-Data

CALENDAR TASKS

- [ ] Update animal holding information.
- [ ] Register for subsidies.
- [ ] Call father.

...more

NEWS!

- [ ] New regulation for organic farms.
- [ ] Meet your MyOfficer team!
- [ ] How to learn from your farm data?

...more

My Farm

Pete
(logged in)

SEARCH...

HOME | MYFARM PROFILE | CALENDAR | MY-DATA | MYOFFICER > | HELP

MyOfficer

CHAT

Animals

Subsidies

Holdings

Crops

Products

Add new

My Farm

Pete
(logged in)

SEARCH...

HOME | MYFARM PROFILE | CALENDAR | MY-DATA | MYOFFICER | HELP

TOOL BAR

MyOfficer

CHAT

Mansikki | Aukusti | Neilikka | Laventeli

PROFILE

FIELDS/CROPS

HOLDINGS

ANIMALS

COWS

CHICKENS

My Farm

Pete
(logged in)

SEARCH...

HOME | MYFARM PROFILE | CALENDAR | MY-DATA | MYOFFICER | HELP

TOOL BAR

ADD EVENT

Birth

Holding

Movement

Calving

Mansikki

JULY

Aukusti

AUKUSTI

EDIT

Code: A31-B01D-0089641128
Date of birth: 3 April 2015
Sex: Bull calf
Breed: Highland
Weight: 58 kg (5/2015)

HOLDING

Holding code: A31-B01D
Holding name: Navettala

EDIT

My Farm

Pete
(logged in)

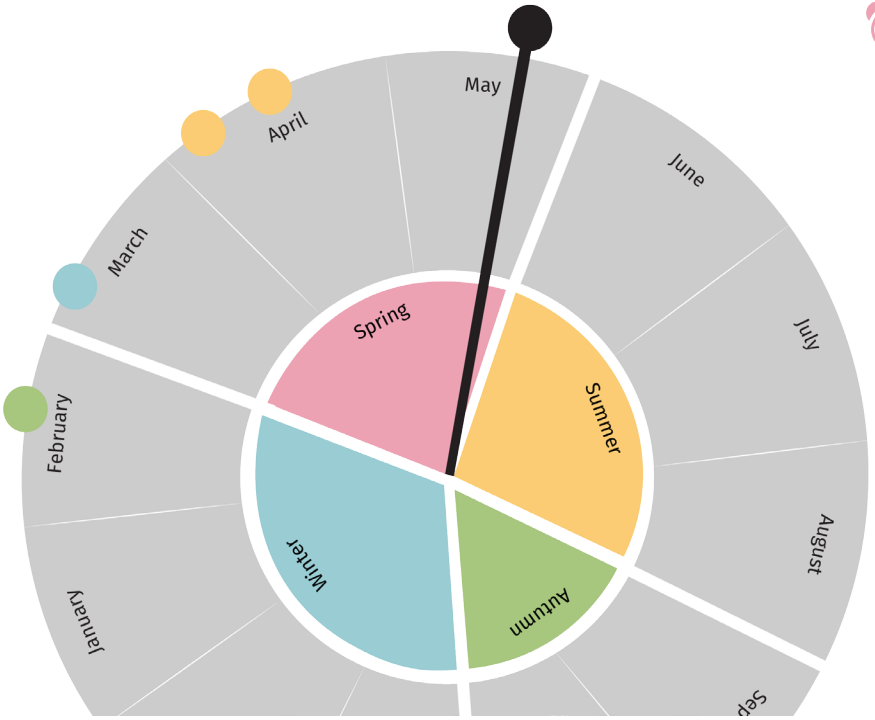
SEARCH...

HOME | MYFARM PROFILE | CALENDAR | MY-DATA | MYOFFICER > | HELP

TOOL BAR

MyOfficer

CHAT



CALENDAR

ADD EVENT

INSPECTION

CONSULTATION

My Farm

Pete
(logged in)

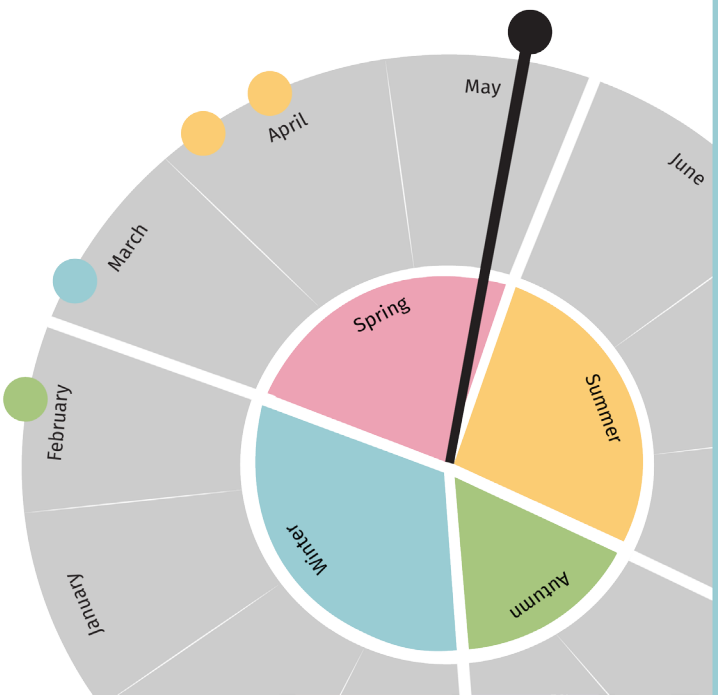
SEARCH...

HOME | MYFARM PROFILE | CALENDAR | MY-DATA | MYOFFICER | HELP

TOOL BAR

MyOfficer

CHAT



> ALERTS

There are new subsidies you could apply for.
Would you like to apply?

Apply Now

My Farm

Pete
(logged in)

SEARCH...

HOME | MYFARM PROFILE | CALENDAR | MY-DATA | MYOFFICER > | HELP

CATEGORIES:

- Products
- Crops
- Animals
- Organic
- Subsidies

National

Productivity

Health

Regional

MY-DATA

COMPARISONS

INSIGHTS

LINKS

CHAT

My Farm

Pete
(logged in)

SEARCH...

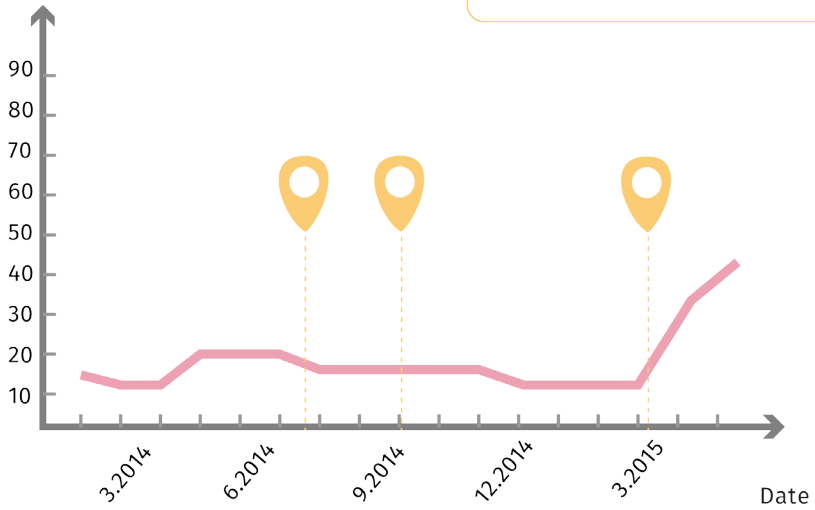
HOME | MYFARM PROFILE | CALENDAR | MY-DATA | MYOFFICER > | HELP

CATEGORIES:

- Products
- Crops
- Animals
- Organic
- Subsidies

Percentage of mastitis in cows

New type of feed introduced



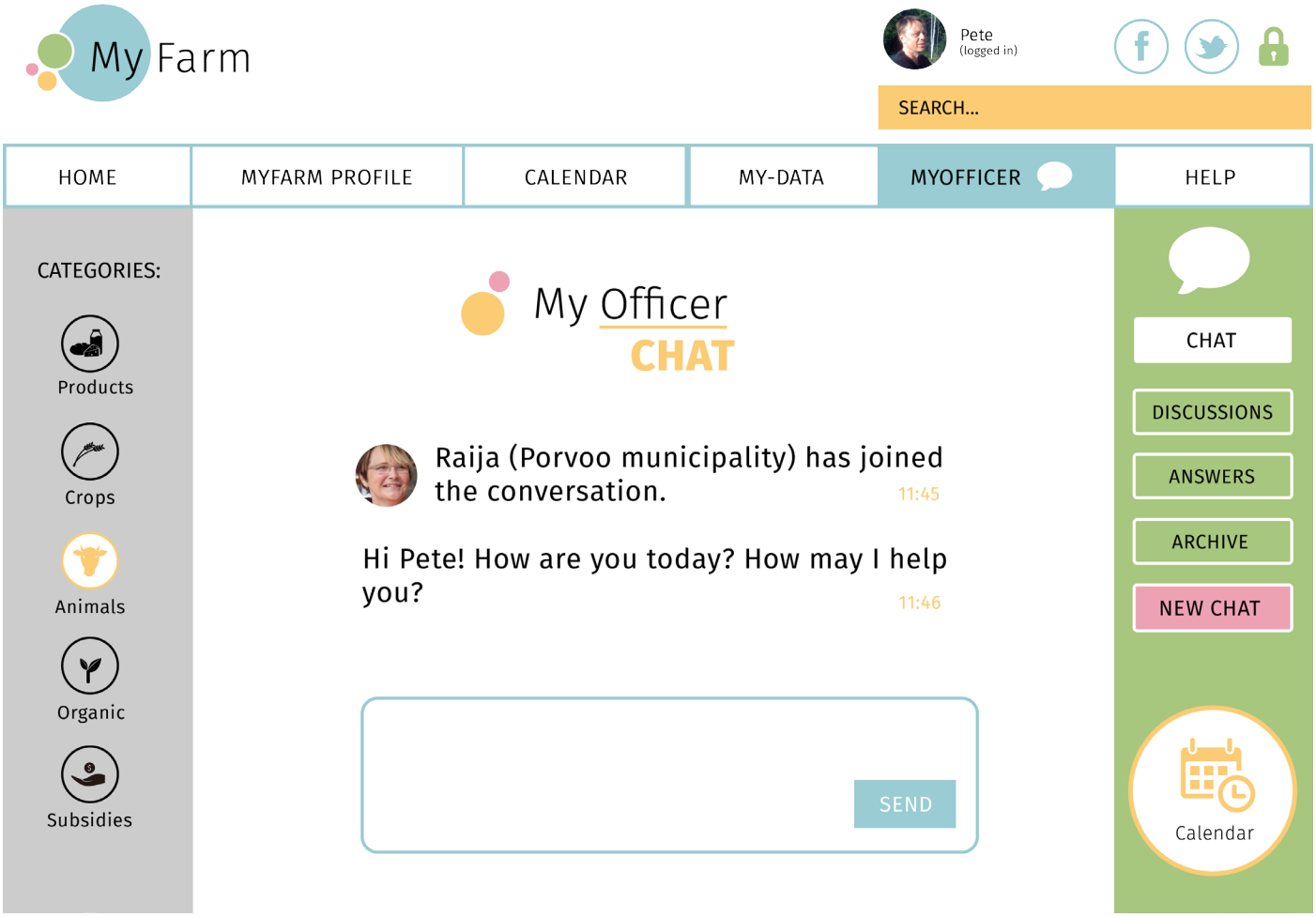
MY-DATA

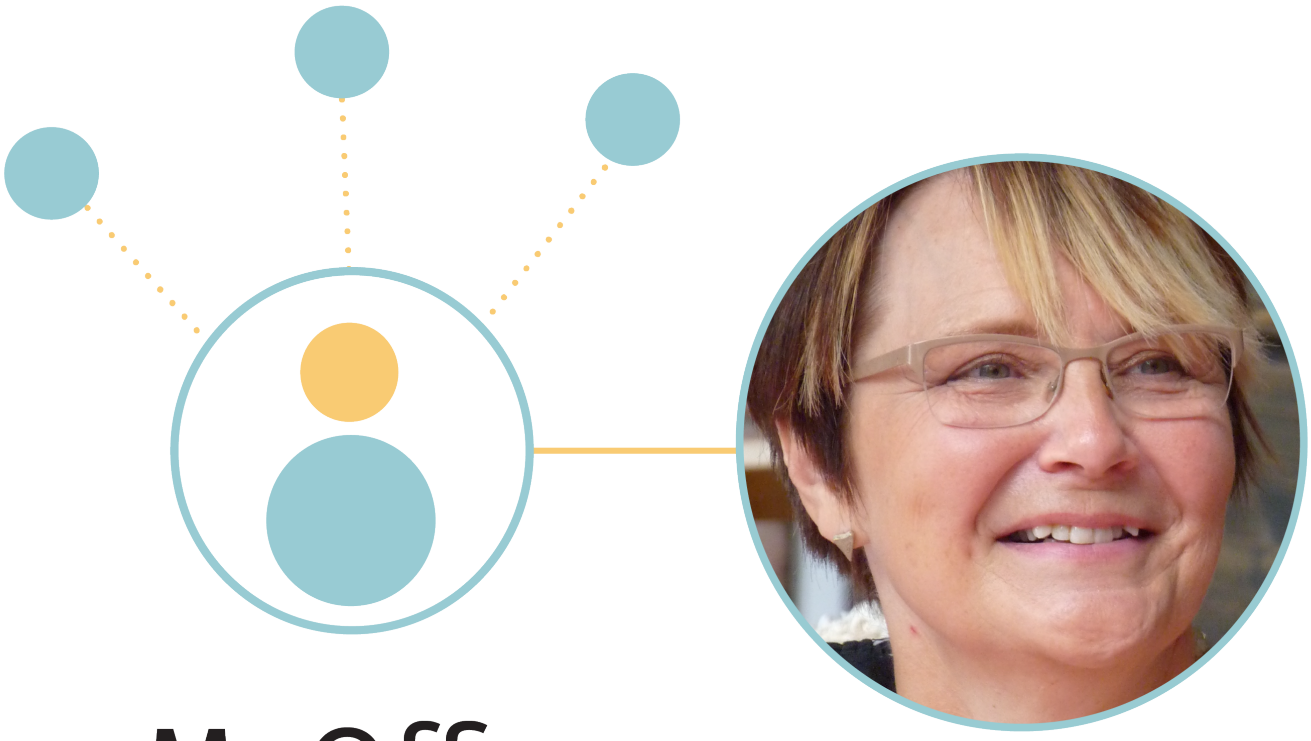
COMPARISONS

INSIGHTS

LINKS

CHAT


My Farm
Pete
(logged in)
SEARCH...
HOME
MYFARM PROFILE
CALENDAR
MY-DATA
MYOFFICER
HELP
CATEGORIES:
Products
Crops
Animals
Organic
Subsidies
My Officer
CHAT
Raija (Porvoo municipality) has joined the conversation.
11:45
Hi Pete! How are you today? How may I help you?
11:46
SEND
CHAT
DISCUSSIONS
ANSWERS
ARCHIVE
NEW CHAT
Calendar



MyOfficer

My Farm

Raija (logged in)

SEARCH...

HOME | MYOFFICER TEAM | CALENDAR | REPORTS | MY FARMS > | HELP

Teemu (online)
Mikko (online)
Katja (offline)
Open group chat

Pending | My Farms | CHAT | Calendar

CHAT
DISCUSSIONS
ANSWERS
ARCHIVE
NEW CHAT

TASKS!

- [ ] 2 new farms added in your region.
- [ ] 6 new subsidy applications submitted for review.
- [ ] 1 upcoming training event.

...more

NEWS!

- [ ] New regulation on swine health.
- [ ] MyOfficer training report out.
- [ ] Evira conference on feed production - watch online.

...more

My Farm

Raija (logged in)

SEARCH...

HOME | MYOFFICER TEAM | CALENDAR | REPORTS | MY FARMS > | HELP

Teemu (online)
Mikko (online)
Katja (offline)
Open group chat

Pending
My Farms

MYOFFICER TEAM PAGE

Rotation: B4-09

Team members:
- MMM: Teemu Nikkinen
- Evira: Mikko Kuisma
- Mavi: Katja Repo
- ELY-centre: Noora Leppä

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Katja Repo (Mavi)
Director, General subsidies unit

Your local team:

Porvoo municipality team

QUICK LINKS:

mmm.fi
Evira
Mavi
Elinkeino-, liikenne- ja ympäristökeskus

CHAT
DISCUSSIONS
ANSWERS
ARCHIVE
NEW CHAT

FARMER CHAT

Implementation steps

To capitalize on an existing movement, MyFarm could build on Finland's upcoming national service architecture, or kansallinen palveluarkkitehtuuri KaPA, which will gather all public services for citizens under one roof called suomi.fi. Below is a three-step plan for the potential implementation of MyFarm.

STEP 1

In the first step, we bring all services under the same umbrella. This means the farmer doesn't need to see the complexity of authorities - he just sees one face to the authority organisations.

Alongside this we need to combine existing services and put a farmer in control of his own data: like introducing identification number for farms with an opportunity to track all data related to the farm. This could use a code from KATSO technology to identify and track different forms. Katso is an online service for small businesses which uses an electronic identification system already, so it is easy to use a piece of code from this technology for our purpose of tracking.

Think of this new scenario as a one-stop-shop service for the farmer, with form tracking. All the different authorities and services would be accessible through one online platform - the suomi.fi. No more confusion for the farmers.

STEP 2

Step two would involve starting to test the MyFarm core functionalities with users - farmers and authorities alike. In this MyFarm beta version, the farmer and his employees will already be able to access their farm profile, update key information and manage a calendar through the digital service. There will still be forms to submit at this point but it will be done digitally. There will be some functionality available like an interactive guide for form submission and MyOfficer to provide help and support to the farmer.

STEP 3

The third step would roll out the full MyFarm service to all farmers. This would mean that all the features we have described would become available, and finally, no more forms!

Feature implementation

Profile page

1. Create My farm e-service on KaPA platform with login possibility (FarmID).
2. Develop user profile in a way so user-specific data can be stored.
3. Give access to user-specific data to relevant authorities & notify them about changes made to the data.
4. Introduce an opportunity to share user-specific data with other parties in the network.
5. Introduce an opportunity to perform statistical analysis on the shared data for more efficient operations.
6. Introduce suggestion tools that would analyze farm data and provide actionable tips.

MyOfficer

7. Ministry to decide upon setting up the scheme.
8. Communicate plans to all stakeholders, allow iteration and feedback.
9. Design technical structures for the Chat window.
10. Do a test run with pioneer team.
11. Get feedback from farmers.
12. Design training needed for MyOfficers.
13. Assign task force teams to organisations. Design a rotation schedule.
14. Evaluation after 6 months.

Conclusions

To conclude, the crux of our project is to put humans in the centre, this means making the farmer and his needs the centre of focus for authorities. Doing this would tackle the key challenges to farmers which we earlier and clustered into three groups: The first group related to the farmer's mindset and how he felt a lack of agency to change the system. The second group of challenges linked to accessibility - this means the access to information or support the farmer has, and the third group of challenges related to the current system not fitting in with the farmers lifestyle.

The second core stakeholder group we have discussed are civil servants, their needs also should be put in focus. Their set of challenges related to schedule, structure and communication between the different, relevant authorities.

We envision MyFarm as the solution to these challenges. If implemented, the features we outlined in the previous section (such as the calendar, profile page and MyOfficer) would act as tools to overcome the aforementioned challenges for both stakeholder groups. It would lead to a paradigm shift, with MyOfficer helping the civil servants to move away from silos - collaborate, gain agency to change the system and support the farmer.

Summary of methods

We began our journey towards these solutions by identifying civil servant and farmer needs through empathic methods. We also needed to apply systems thinking to get a more holistic perspective of the situation and connect the dots between different stakeholder issues.

To summarise our methods; empathising helped us to understand the farmers fear and frustration whilst systems thinking helped us identify how things could be structured in a new way. This means the farmer simply updating his information instead of notifying about it. We realised putting the farmer at the centre and getting rid of fear means getting rid of notifications altogether.

Working methods & challenges

One of the biggest challenges for the team was to design a working method that satisfied the needs and working styles of all team members. In our interdisciplinary team everyone has different competencies and perspectives. It is important to understand the value of each and make sure it is utilised to enrich learning, methodology and project outcome.

Some members preferred a working method that involved dividing tasks within the team and working remotely, efficiently and flexibly on Google Docs. Other members preferred face to face discussion and felt more comfortable tackling tasks collaboratively, sometimes with the support of analog design tools. There are strengths and weaknesses to both methods, each becoming more relevant at different project stages. It

was important for us to find a compromise between the preferences of all members to maintain harmony and allow everyone to contribute. It is key in teamwork that each member has a chance to learn a new method, but also the opportunity to utilise their strengths and use the method they work with the best. The great thing about our project is that by combining and shifting between very different working methods, each member was able to experience and teach a new tool or method to the others.

Communication was a challenge throughout the project, making sure everyone understood the information at hand, newest conclusions or tasks. The first, more individual, working method took prevalence in the initial stages of the project. At first the team often conducted research individually, coming together to discuss findings and draw conclusions. However, in the latter stages of the project when the team was brainstorming and developing ideas it became more difficult to work remotely.

In the solutionising stage of a project ideas are laid down, discussed and either discarded or developed very rapidly - perhaps in the space of one day or one meeting. The team soon realised that if one member is missing during concept development, it took a lot of time to communicate the changes made and help the individual understand the reasons and value behind new developments. Fortunately, later in the project team members had more time to work on the final solutionising stages together in person and overcome this challenge of communication somewhat.

Team competencies

There are many competencies that we found to be valuable for this project, we will outline the most important ones. There is a categorisation of skills into those which are important for internal collaboration and project progression, and skills that are important for external collaboration and communication.

Competencies important for internal project development include the ability to;

- be flexible and adaptable with working methods
- be realistic with how many projects and work you can handle
- manage workload and multiple deadlines in an organised manner
- distill large quantities of information to the most relevant facts
- apply systems thinking to varied contexts
- verbalise complex ideas through metaphors
- grasp ideas behind new technology rapidly
- understand political systems and business models
- be open minded, overcome first impressions and assumptions
- stay motivated and creative in difficult or complex situations

Competencies important for external communication include the ability to;

- empathise with very different points of view
- storytelling through metaphors and visual or tangible design forms
- engage other stakeholders personally & speak their language
- be proactive with stakeholder meetings / collaborations
- resourceful, socially engaged and aware of entrepreneurial opportunities

The point about learning to understand new business models and technologies was particularly relevant for our team to be able to develop features of MyFarm. For example, we needed to break down the system that is KaPa (National Service Architecture) to understand how MyFarm could be built onto this. Only by knowing that Kapa is an open source platform that can be built on by anyone and understanding some of its mechanics, could we begin to understand the opportunities for bringing in private business. However, where understanding is lacking in team members it may be made up for by a high level of motivation to learn and an inquisitive, creative mind. These are also traits that have been very important for our team to tackle new information, complex and unexpected challenges.

Client competencies

What competencies would the ideal client have to enable MyFarm and the changes proposed? What do we need in our clients to enable change in the future? From our experience this could include the ability to;

- clearly communicate a shared vision within their organisation
- empathise with very different points of view
- be engaged with their own organisation
- utilise and combine existing resources / opportunities
- take leadership beyond the boundary of own organisation

- be socially and politically aware / engaged
- be able to plan ahead for both the short and long term
- be adaptable and open minded
- think holistically - on macro and micro level

Client challenges

These ideal competencies have been selected after reflecting on the challenges we faced during our project. For example, we discovered change is often slow in authority organisations, occurring in small steps over a long time because civil servants work in silos on specific tasks. If civil servants could communicate a shared vision and collaborate outside of their own organisation, change might occur in a different way. However, it is also up to the designer to identify this and enable that change.

The other challenges we faced included some individuals not empathising with different stakeholders and understanding the other perspectives involved, although our empathetic presentations are one step towards overcoming this. Finally, perhaps the biggest challenge is that of ownership and leadership. Throughout and even at the end of the project it was unclear who would take the concept forward and which organisation would take ownership to implement the concepts.

These findings echo what was said in the systems block about the leverage points of goals and paradigms. For the concept to move forward after the teams' participation, there would need to be an authority, such as MMM, who is willing to take the leadership on the issue and change the goals of multiple organisations on a high level.

Other challenges in Research Phase

- Prioritising the most important and relevant challenges out of all the challenges we identified
- Communicating & ensuring everyone on the team was on the same page
- Gaining clarity and specificity in our systems map
- Communicating the complexity of the system and its challenges to an audience
- Creating coherent internal DfG presentations that told a clear story
- Understanding importance of empathy and the potential of personas
- Other Challenges in Solutionising Phase:
- Refining the focus of our solution - it began broad with many features
- Emphasising the key value of our solution and not going into too much detail
- Designing for both long term and short term
- Understanding what is technically feasible
- Creating a clear step by step implementation plan

3 key achievements

There are many challenges the team struggled with and it is important to recognise our achievements, which are especially rewarding when it took a lot of time to overcome some of them. Therefore out of our accomplishments and learnings in this project we have selected 3 key ones to reflect on:

STORYTELLING - The team used Pete as a fictional farmer (based on interviews with real farmers) to tell the challenges and the MyFarm solution in a way people could understand and empathise with. The feedback we received showed us that this device was very successful - the audience really connected with Pete and it helped them understand the farmers perspective and the solution with greater clarity.

NO MORE FORMs - It took a long time for the group to cultivate a final presentation which really communicated the value of our solution, not just the mechanism for how our solution worked. Based on feedback from the final presentation, we managed to achieve this 'value first' message to our audience. It is important that the audience understands the main great idea or 'tip of the iceberg' when it comes to the solution so that they not overwhelmed and are inspired to take it forward to implementation.

BECOMING INTERDISCIPLINARY DESIGNERS - Not everyone in the group had tackled a design brief and may not have considered themselves "a designer" before DfG. It is a great accomplishment that at the end of the course some team members felt they had earned the title "designer" and learned a lot about the world of design; new methods, tools, perspectives and ways of working. It was a "deep dive" and a challenge in different ways for everyone. The designers gained insights into other disciplines and the processes, learnings and outcome was enriched by the collaboration of diverse cultures and backgrounds.

End notes

Glossary

MYDATA creates a more secure environment for users and enables them to track their data usage and keep it under control.

OPEN DATA stands for any data or information that can be used freely by everyone without any restriction from copyright, patents or other control mechanisms.

ADDED VALUE measures the extent to which the value of the contribution of people exceeds the cost of generating it. Added value may help investors decide if a product or service is worth investing in.

ELECTRONIC IDENTIFICATION (e-ID) provides access to password protected websites and services and ensures strict security for the most sensitive data.

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Photo and picture captions

p. 4 Visiting the chickens (Eloise, how do you call it in English?)At the Majvik farm, Sipoo

p. 5 Interviewing at Farmer Trade Fair, Helsinki, 28 March 2015

p. 8 ATLAS workshop with the stakeholders, 3 March 2015

p. 9 Experiencing life in the farmer's boots, Majvik farm, Sipoo.

p. 10 Using the challenge cards, co-design workshop, 12 May 2015

p. 10 Some of the challenge cards

p. 11 Farmer challenges illustrated, midterm presentation, 21 April 2015

p. 11 Authority challenges illustrated, midterm presentation, 21 April 2015

p. 12 A persona canvas on Raija, a municipality officer

p.13 Co-design workshop with the stakeholders, 12 May 2015

p. 13 Working on the affinity diagram for the final solution concept

p. 14 A persona canvas on Pete, an organic farmer

p. 15 Cows behind a window, Majvik farm, Sipoo.

p. 17 Sketching for a system mock-up during DfG class.

p. 18 Leverage points illustrated, midterm presentation, 21 April 2015

p. 19 Midterm system map

p. 19 First try at a system map

p. 20 Final system map

p. 21 MyData illustration

p. 22 Illustration of farmer support system and missing flows

p. 24 Working on the first prototype of the Calendar, co-design workshop, 12 May 2015

p. 25 Workshop canvas on the first prototype of MyOfficer, co-design workshop, 12 May 2015

p. 25 The Farmer is at the top, supported by the team of MyOfficers! Sketch by Yuexin Du

p. 35 Team faces after midterm presentation, 21 April 2015

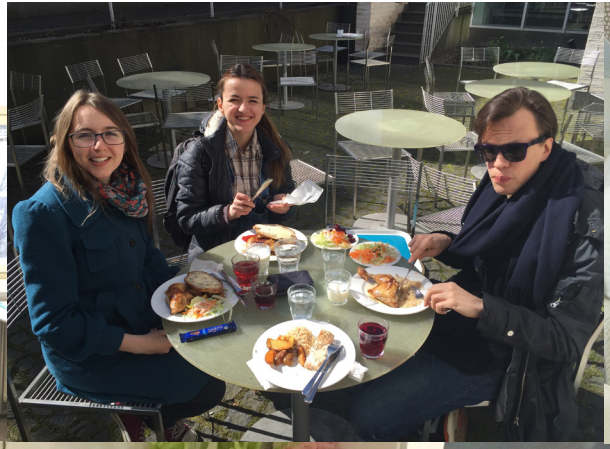
p. 36 (from left to right) Team members attending DfG class: Katja, Yuexin, Iiro and Eloise

p. 37 Iiro, Yuexin and Anni working on affinity mapping.

p. 37 Designing for the Government of Finland

p. 38 Cheers! The team at the final presentation, Säätytalo, 26 May 2015

p. 39 No more forms! Sketch by Iiro Leino




PPI FARMER point of view
PRIVACY DATA
FARMER NEEDS