Service Design in the Public Sector

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1. Abstract

The digital transformations revolutionizing so many aspects of contemporary culture are also dramatically changing government services. Designers have an important role to play in these shifts. A wide range of government services–from applying for birth certifications to voting and paying taxes; from immigration applications to citizenship and permitting processes–are becoming available in digital formats. This extension of government services from traditional countertop services to digital access means that governments are hiring designers to build these online applications and platforms. This redesign of services, when including human-centric research methods, enables citizens to have a say in the government decision-making process (Stewart, Dubow, Hofman & Stolk, 2016), and has resulted in exciting design opportunities as well as significant challenges. In this thesis, I elaborate on the practice of service design in a government context, from micro and macro perspectives, using three case studies.

IIn the first case study, I will give an example of how governments are transitioning to redesign specific public services using Agile principles. Agile describes how prototyping and development teams experiment with different possibilities in short “agile” periods of time, allowing real end users to contribute their insights. Using rapid prototyping methods such as Agile helps provide simple and useful ways for citizens to find, use, and contribute to the design of government services. This first case study

will describe agile practice in the rapid prototyping lab at Ontario Digital Service (ODS), an organization under a provincial government ministry.

In the second case study, I will describe how governments practice service design from a broader perspective. This example comes from my work with Public Digital Innovation Space (PDIS), an organization under Taiwan Open Government. PDIS contributes to facilitating public collaboration with citizens and the government under a mandate from the Taiwanese ministry called Open Government[1]. In this case study, the service design organization is tasked with encouraging citizens and other stakeholders to participate in the government decision-making process and social discussions.

In the context of my Master's research, it was important to investigate ethical issues in bringing neo-liberal rapid prototyping methods to government service design (Kimbell & Bailey, 2017). The final case study outlines a workshop I held with fellow design students to investigate one ethical issue in design; power dynamics within multidisciplinary teams. I had realized that there was a lack of discussion around design ethics in the public sector.

1 *Open Government*: Every country might have different definitions for Open Government. In Canada, Open Government is about making government more accessible to everyone by offering open data and digital records ("Open Government", 2019). Taiwan Open Government is more about creating public engagement to improve services, manage public resources, drive innovation and build safer communities ("Participation Officer", 2018).

2. Introduction

2. 1 Thesis Statement

"Designers can bring about positive changes in how governments provide services. Properly practiced service design and rapid prototyping methods can bring about positive social change."

2. 2 Problem Space

Significant design opportunities and challenges are created when extending government services to online offerings and enabling citizens to have a say in the government decision making process. The governments of UK, US, Australia, and most recently Canada and Taiwan, among others, are leading the way in designing public services. These shifts to online public services can provide opportunities for the citizens to co-produce and engage with public services to a deeper degree.

Quick iterations of prototyping possible solutions in the government provides opportunities for communicating with a wider range of stakeholders, as well as providing fast proofs of concept and increasing the public engagement (Kimbell & Bailey, 2017, p.220). The Show and Tell[2] activity in the rapid prototyping process provides an opportunity for research participants to observe progress during each iteration. These Agile activities help governments implement transparency without a communications team filtering the message. In the first case study I will discuss micro-level

2 During Show and Tell, teams share outcome and progress of development with a wide range of participants. A Show and Tell example: Service Week: open Show & Tell, 8 teams from the Government Digital Service sharing their latest work.

service design solutions (working from a single touchpoint) and the second case study will address macro-level service design opportunities (across many open government touchpoints.)

The article “Prototyping and the new spirit of policy-making” indicates that it is unclear how small-scale prototyping truly benefits the large scale implementation of policies and intersects with formal democratic structure (Kimbell & Bailey, 2017, p.222). This study mentions that by applying design thinking to public problems, prototyping may engender more inequalities and uneven power relations (Dombrowski, Harmon & Fox, 2016). In order to highlight the consideration of ethics in design practice and to balance power relationships in the government context, I explored design ethics in my workshop by using language as a medium to explore power dynamics.

2.3 Research process and methodologies

While working on this thesis, I used a variety of design research methodologies. Most prominently, the Agile implementation of Rapid Prototyping in both my design work for two governments, as well as in my studio projects. Agile methodologies describe an approach which involves “individual and interaction over processes and tools; working software over comprehensive documentation; customer collaboration over contract negotiation; responding to

change over following a plan" ("Manifesto for Agile Software Development", 2001).

The methodologies of my primary research are case studies within the governments of Ontario and Taiwan. Co-design workshops with Emily Carr cohorts from the Master of Design graduating classes of 2019 and 2020.

Another important methodology which heavily informed this thesis are the expert interviews with professionals in private and public sectors

Audrey Tang is the first digital minister in Taiwan Open Government and Public Digital Innovation Space. She is devoted to make government work more transparent.

Dana Patton is the service designer at Ontario Digital Service, who helps ministries to create design strategies and solutions.

Elynn Lorimer is the Chief Executive Officer at Spatial, a research and design consultancy specializing in digital innovation in Vancouver BC.

Fang-Jui Chang was a service designer at Public Digital Innovation Space in Taiwan. She helped to establish Participation Network and design collaboration toolkits for Taiwanese civil servants.

Gord Tulloch is the director of innovation at PosAbilities, a non-profit organization that provides social services.

Gordon Ross is the co-founder and vice president at OpenRoad, a design consultancy that helps organizations create and deliver digital services in Vancouver BC.

Jacqui Klugman was senior User Experience designer at Ontario Digital Service and is the current design leader at TWG, a software company based in Toronto.

Katherine Benjamin is the current vice president at Ayogo, a health service company, and former labs leader at ODS.

Ko-Hsun Huang is a senior service designer at Telia Company, a telco company in Sweden.

Lucia Hsieh is senior user researcher and the leader of the user research lab at Ontario Digital Service.

Rob Hickling is the Vice President of Aavri, a digital services design and build company working with clients within the financial services industry.

Paul Cubbon is a senior branding manager and now an instructor in the marketing and entrepreneurship accelerator program at UBC.

Shannah Segal is the manager of the User Experience Chapter at Ontario Digital Service.

Xiaopu Fang is the leader of the rapid prototyping lab at Ontario Digital Service.

2. 4 Research Prompts

I came up with seven research prompts which are formed by my practices at the governments of Ontario and Taiwan.

2.4.1 What are the differences between service design as practiced in private and public sectors?

2.4.2 How can service designer bring different thinking and valuable knowledge from private sector to public service design?

2.4.3 What are some of the best public service design processes in governments?

2.4.4 What are some of the informative differences between Ontario Digital Service and Public Digital Innovation Space in Taiwan?

2.4.5 How can service designer build the service design culture properly in the government where the design culture is not mature and obvious?

2.4.6 What can a service designer learn from design in the public sector?

2.4.7 What has to change when methods from private sector are brought into government?

3. Secondary Research

3. 1 Service design

Service design is the art of coordinating services (Ruiz, 2014). There are three features of service design. The first is user centric. We need to stand in users' shoes to fully understand their needs, behaviors and preferences. Secondly, service design is co-creative. All levels of stakeholders need to participate in the design process, in order to understand end users, uncover opportunities and provide solutions. Thirdly, it is holistic; we sew all touchpoints together not only focusing on the user experience of the front stage but also the workability of the back stage (Fonteijn, 2017). Combining these three features together in private sector design, we can create a service that users love, with repeat business and positive word-of-mouth (Morales, 2017).

In the public sector user centric, co-creative, and holistic design practices also can build services that users love, or at least are less frustrated by. Digital governments services can be designed to be more widely accessible, more responsive, less bureaucratic, more elegantly and appropriately designed, as well as replacing high-cost and time-intensive services. Digital transformation only works well if it is thoroughly well designed and tested across the front and back stages. That is, governments must consider an entire chain of activities to streamline; the public facing end and the back-end process with labor-intensive activity (K. Benjamin, Personal Communication, Feb. 18, 2019; McKinsey Center for Government, 2016).

3.1.1 Private sector service design

One exemplar for private sector design is TELUS's redesign of the service for renewing mobile contracts ("Service Design Network, Bridgeable: Redefining the TELUS Renewals Experience", 2018). TELUS's Service Design team cooperated with Bridgeable, a service design consultancy, and began user research with the customers to identify current user journeys and real problems. They found out that customers typically access contract renewal services across different channels, starting from web searches and often finishing the renewal in person in a store, or starting from the call center and ending up on the web. The other key insight is that if customers didn't get the same deals across channels then they would feel that they were not getting the best possible price and would call in to bargain, which increased the cost of service on the back stage.

TELUS then brought in a cross-section of managers to identify the problem, and with the same background knowledge these managers guided the implementation of new solutions together. TELUS and Bridgeable kept holding series of research from the perspectives of the front and back stages, including customers and TELUS frontline staff, to have a better understanding of

all behavioral elements. In order to consolidate stakeholder research, they built the journey map and categorized two types of users based on their behaviors: the “Proactive Warrior” who researches by multiple channels and negotiates the price, and the “ Passive Optimist” who tends to use single channels and hope for the best offer (Fig. 1).

After comprehensive user research, the TELUS partnership moved on to co-create and iterate possible solutions with customers and a wide variety of staff from multiple channels. This project ended up focusing on designing solutions for five touchpoints: in-store, phone call, website, email offer, and unboxing the new phone. The first day of

Fig. 1 TELUS user journey map -- Shows two types of target audiences' journey (Illustatrion credit Bridgeable, 2018).

co-creation, participant built the initial concepts and features that would address the problems. The second day, they used the low-fidelity prototype, which Bridgeable staff built based on the first day co-creation, to gather user feedback and then made iterations. At the end of the co-creation, participants presented their prototypes to TELUS's top executives.

The key finding is that people did not trust that they were getting the best offer on the website; in contract, they felt they could negotiate a better deal with a real person on the phone or in store. In the solutions, using AI generates personalized deals with high, medium and low cost options based on customers' previous bills so that all channels' offer stay in consistency. There are different new features for each channel: for phone calls channel, they incorporated a SMS service which sends out a message to arrange a specific time to talk with the customer; for the website, they added a personalized chat assistant with the option for an online call; and the last touchpoint of finishing renewing a contract was a special unboxing experience to guide users through the process of activating a new phone.

From this case study, TELUS not only experienced

well-defined user research but also rapidly prototyped the solutions with stakeholders before officially publishing the solutions. The most crucial thing is that the solutions present across different channels by creating physical and digital touchpoints. This project has been implemented in the market and the outcomes are measured by customer satisfaction scores. Measurability is a difficult characteristic which I have not encountered in the governments of Ontario and Taiwan, but which inspires me as to what other possible procedures of practicing service design can be brought into the government.

3.1.2 Civic service design

In the book Service Design: From Insight to Inspiration (2013), Polaine, Løvlie, and Reason discuss some differences between public and private sector service design. Instead of having customers, users, or consumers like commercial services have, in the public sector we simply have users. As a result, in the public sector, innovation and success cannot be measured by profit but rather by the value it brings to society. These values are difficult to quantify. Moreover, policy goals cannot be easily aligned with the specific users and this becomes the major challenge for service design in the public service. Therefore, service designers

not only need to understand the public but also the relationships within different ministries to uncover the disconnects between government policies and citizens' and residents' needs.

This book emphasizes that "Service designers are not public service natives compared with the policy makers, social scientists, and economists who dominate public debate" (p.177). In other words, designers in government must spend a lot of time understanding government culture. At the same time, service design is being used in rethinking and redesigning public services to improve society, and changing government culture to understand iterative design methods. The role service designers play in the public context is to offer a set of methods and approaches to encourage a wider range stakeholders to bridge the gap between disparate parts of systems. For example, the service blueprint (illustration coming) is the artifact that helps to coordinate service components across different parts of systems, including multiple ministries at the back stage and diverse users at the front stage. Finally, service designers can be positive disruptors; breaking historical government work in silos. While practicing within the governments of Ontario and Taiwan, I noticed these concepts cannot be fully and seamlessly implemented if the

service design cognition is not mature enough in the government. It takes time and patience to grow a flourishing service design culture in government context. My practice at ODS inspires me that rapid prototyping is an crucial approach to show the value of service design because user research and testing are important parts of service design to uncover users' needs and receive feedbacks.

3. 2 Agile development and prototyping in the government

My experience at ODS lets me realize that quick iterations of primary user research and rapid prototyping are crucial approaches to demonstrate the value of service design, and in this section I outline several key texts describing issues with quick iterative work in government. In general, the secondary research agrees that user research and testing uncover users' needs and generates rich feedback. Governments often outsource digital service delivery. While outsourcing can manage risk, it also reduces the digital skills and capacities of civil servants. According to "Agile innovation management in government" most contract managers working with outsourcing agencies follow the traditional waterfall development[3] process. Waterfall is highly opaque and lacks flexibility and communication with end-users during the development process (Mergel, 2016).

3 *Waterfall development process involves five phases*: requirement, design, implementation, verification and maintenance, which need to be completed sequentially in order to develop a software solution. Waterfall was developed for materially intensive design development such as automotive design, where iterative cycles are materially expensive. These waterfall processes are often contrasted with software development models such as Agile, as waterfall tends to be linear.

These older product development processes provide an outcome which merely fulfills the contract requirements. These norms lead to increased delays or even failed delivery of digital service (Anthopoulos, Reddick, Giannakidou & Mavridis, 2016). To address these issues, Agile development methods, including Scrum, Lean Development, Extreme Programming (XP) and rapid prototyping[4] , have been introduced into the public sector to enable shorter development phases and radical collaboration with end users. In the Ontario Digital Service, rapid prototyping, inspired by the Lean Startup, is recognized as a valuable working process for the government because although government teams may know something is not working in their existing service, they might not know what to do about it, and specifically, how digital tools can be used to address the problem. In situations like this, rapid prototyping can experiment with different possibilities in a short period of time and help ministries get unstuck (Ontario Digital Service, 2018).

Solutions are ever-changing in an agile system. This changeability means the outcomes are less predictable, which brings about several challenges for implementing agile development process in governments. In the public sector, the governance and spend controls are waterfall-like in nature: the condition for getting funding to pay for a program is to say upfront exactly how you are going to spend money, so with this limitation, only small projects can adopt agile ways of working[5] . Kimbell and Bailey (2017) highlight

4 *Agile development methods*: These are the development processes which follow "iterative and incremental object-oriented development cycles" (Schwaber, 1995). Unlike waterfall development process, products or services developed with these processes will experience user testing and development iteration several times before launching for mass production or market.

that prototyping might not be the best way to balance transparency because government cannot give out money for things that are not clearly defined up front. They also outline that it is unclear how small-scale prototyping truly benefits the production of mass policies and intersects with formal democratic structure. Furthermore, Mergel (2016) states that because agile methods bring potential behavioral changes in the civil servant employees delivering the services. Because these deep systemic changes can require long-term training, agile development faces challenges to be fully implemented in government. Mergel notes that a multi-layered approach is needed. The varied issues brought up by the secondary research on Agile and other Rapid Prototyping processes outline both the importance and the complexity of Rapid Prototyping in Government Service.

5 In order to overcome the waterfall financial gatekeeping process, Ontario Digital Service is responsible for assessing potential service providers in the government before they move to next development stage. In this way governments can ensure that service delivery follows Digital Service Standards and providers work in an agile way. For the government vender, ODS is piloting projects to release funding based on development iterations (K. Benjamin, Personal Communication, February 18, 2019; H. Dacanay, Personal Communication, March 18, 2019).

3. 3 Embed service design in organizations

Outstanding service design projects need to not only create profit or reduce costs but also to inspire culture and behavior changes in the organization, whether in private sector or government contexts. The “Baby” project, designed by the agency Hellon for the Musgrave supermarket chain, improves the shopping experience for parents with babies at the biggest grocery store in Ireland. This project won the award for best international service design work at the Service Design Global Conference 2018, and shows three crucial achievements of practicing service design: reducing

parents' stress in 50 stores, creating approximately EUR 5 million incremental effect on annual revenue and shifting Musgrave towards a customer-centric and cross-functional team organization ("Service Design Network, Hellon: "Baby"- Reducing Stress and Increasing Parent Spend Through Design", 2018).

Through researching case studies like "Baby" and others, I identified the similar challenge of embedding service design into both government and large commercial organizations--that is, senior management remains unconvinced of the benefits and results of service design and has a lack of tools and approaches to manage service design projects (Sheppard, Sarrazin, Kouyoumjian & Dore, 2018). In order to overcome the barrier, Siobhan Hennessy (2019), the Head of Customer Experience at Musgrave, mentions that building service design culture takes time and consistent hard work. She provides the seven golden tips of embedding service design in the organization ("Committing your organization to a strategic use of service design", 2019).

The first is to find the key ambassadors for your internal support team championing service design methods. The second is to start on small scale. The third is to build a multidisciplinary team including the senior managers. The fourth is to share measurable and tangible results. The other tips are using storytelling from users' perspectives to establish the emotional connection; building strong relationships within the internal staff and outside of the

service design partner; and finally, seeking international recognition for the accomplishments to convince senior managers that service design is a worthwhile investment for the organization (2019).

These tips are similar to the approaches I will describe in my case studies at ODS and Taiwan below. Combining Hennessy's seven tips with my findings will propose a better approach for embedding service design in government.

In the chapter 4 and 5, I will use two case studies at Ontario Digital Service and Public Digital Innovation Space to elaborate my practices and findings.

4. Case study: Differences between the private and public service design

In this first case study, my main research inquiry has been to unearth differences between private and public sectors service design. I had the privilege of working as an interaction design co-op during the summer of 2018 doing research at the rapid prototyping lab within Ontario Digital Service (ODS). My assignment was redesigning the interface of digital services and conducting user testing. I came up with multiple design possibilities in a short period of time and was able to react to users' feedback and make quick iterative changes. This experience allowed me to gain deep practical understanding of agile interaction design in service design process.

4. 1 Case study- Ontario Digital Service

4.1.1 Background

Ontario government, a provincial government in Canada, established an independent organizational unit, Ontario Digital Service (ODS), to address the trend of digital transformation. ODS built two labs: first, a user research lab which helps civil servants to understand citizens' needs by conducting user research; the other is the rapid prototyping lab which practices agile methodologies to improve digital service in a short period of time in order to

keep the government moving forward efficiently.

In order to illustrate the prototyping team's iterative schedule; I made the following diagram (Fig. 2). Every week is a sprint. Monday we do sprint planning and co-creation. Tuesday and Wednesday designers build or revise prototypes and developers work on programmed prototype. Thursday is our big day, we do user testing and consolidate findings. Friday we have a celebration ceremony called "Show and Tell". In the Show and Tell, every ODSer can join in with feedback for the week and give the prototyping team critiques and helps.

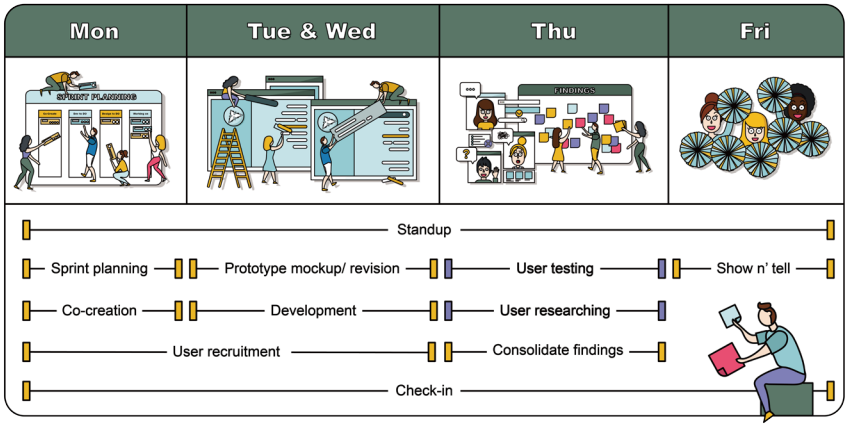


Fig. 2
Rapid prototyping schedule at ODS

4. 2 Research outcomes with design practices

While at ODS, I worked on four projects with the rapid prototyping team: the first is digitalizing digital service standard self-assessment guide; the second is filming prototyping lab introduction video; the third is redesigning the public service which makes finding second career in Ontario more efficiently; the fourth is designing sub-navigation system for Ontario.ca. In this section I will use these projects to revisit and illuminate my research questions.

4.2.1 First Research Question: What are the differences between service design as practiced in private and public sectors?

- **Answer: The "writ drop" period**

  My first month at ODS was during the “writ drop” period. The writ drop period is the time immediately before and after a province-wide election. During this period government employees are not allowed to do public facing engagement, including user research. This is to make sure government employees do not inadvertently sway public opinion in ways that may influence voting behaviour. For this reason, during summer 2018, we were limited to focusing on the internal services which are used by the public servants in Ontario Public Service and Ontario Digital Service. By focusing on internal

to government projects, we could carry on doing some user research as long as we focused exclusively on people who worked within the government.

Our team was assigned the project of digitizing the Digital Service Standard (DSS[6]) self-assessment form and our primary users are public servants. The purpose of having these standard is to ensure that ministries and venders deliver or build a proper service for the public, and more specifically, follow a methodical step-wise process with clear gatekeeping milestones in which quality can be audited as a condition of signoff to proceed into future stages of project development. In order to implement these digital service standards, the ODS set up an assessment team to evaluate new services in each design phase such as discovery, alpha, beta and live. The problem statement was that "*Project leads don't have an intuitive way to carry out their own assessment of their compliance with the digital service standard*". This project experienced four one-week sprints (Fig. 3).

6 *DSS*: Ontario Digital Service set up 14 points of Digital Service Standards (DSS) to help anyone build and deliver good online information and transactional services. All leading digital governments have their own digital service standards, the UK, US, Australia, New Zealand, and Canada.

Project Problem Statement

"Project leads don't have an intuitive way to carry out their own assessment of their compliance with the digital service standard."

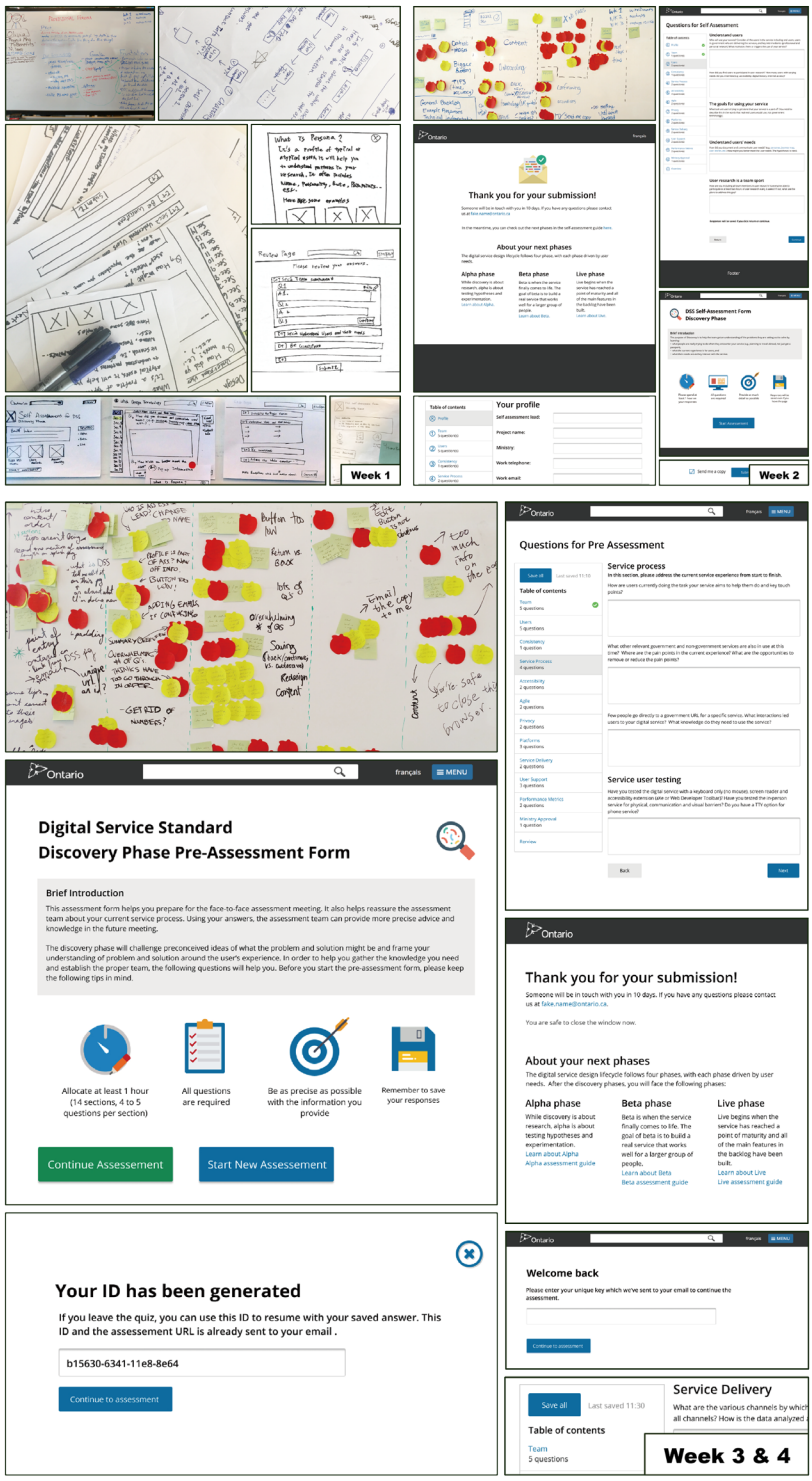


Fig. 3

Digital DSS self-assessment iteration overview --

This project involved paper, digital and programmed prototypes. The key takeaways we found are giving users options such as saving answers which allows the user to log back in and edit answers again, and requesting a personal copy of the form for their record.

Most current prototype video

One of our major findings was that no matter how easy the interface is to navigate, if the content is overwhelming, users won't want to use. We realized that creating a digital self-assessment guide might not be the best solution[7]. Our two recommendations were as follows (Fig. 4): 1. Only provide a self-assessment guide for particular phases; and 2. Create an assessment appointment booking service.

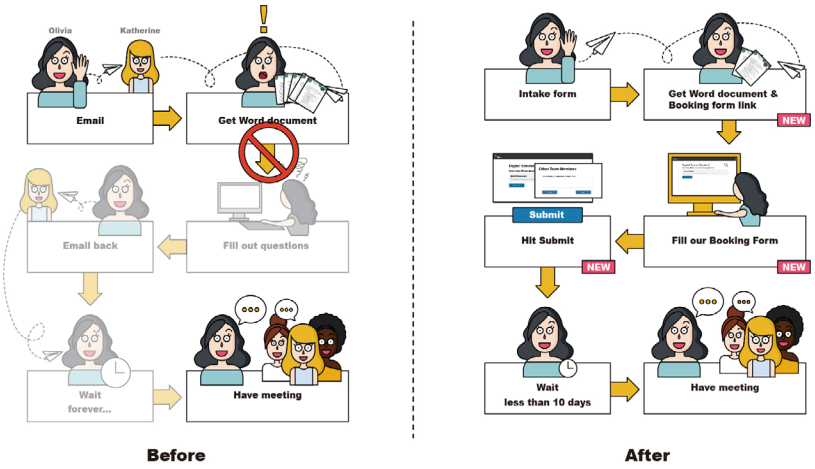


Fig. 4
New DSS self-assessment process
The heavy content prevents people from finishing the assessment, so we offer an alternative with less than ten questions to help potential service providers communicate the scope of their projects with the assessment team at ODS. The DSS self-assessment form becomes the guideline to help people understand the questions they should keep asking when project moves on.(Illustration credit: author, 2018).

- **Answer: The bureaucratically political hierarchy**

My second practice was an introduction video for the prototyping lab to celebrate and promote the work the lab was doing for new internal audiences. The election was over and the Progressive Conservative Party of Ontario, led by Doug Ford, had won. Due to the Liberal Party

7 According to Katherine Benjamin, the labs leader at ODS, leadership is facing an ongoing challenge to show the value of rapid prototyping. Therefore, even though the artifact has limited value, she still asked the prototyping team to prototype everything as an artifact to prove the benefits of rapid prototyping (K. Benjamin, Personal Communication, February 18, 2019).

having been in power in Ontario from 2003 to 2018, the new party in power would have their own focus of problem areas and trigger a range of small and large changes across the public sector. The lack of clarity on the strategic direction of the new government meant ODS kept staying tuned to know the future direction of their key decisions, while in the meantime not doing any public-facing service design.

On the other hand, ODS needed to demonstrate our value proposition and how differently we work, compared with other ministries, to the upcoming government. Thus, aside from creating a presentation to convey information, we chose to use a dynamic method, filming a video[8], to show how we practice rapid prototyping in Kitchener. (Fig.5)

Project Problem Statement

"Lab leader needs tools to show the value of rapid prototyping team to the upcoming government"

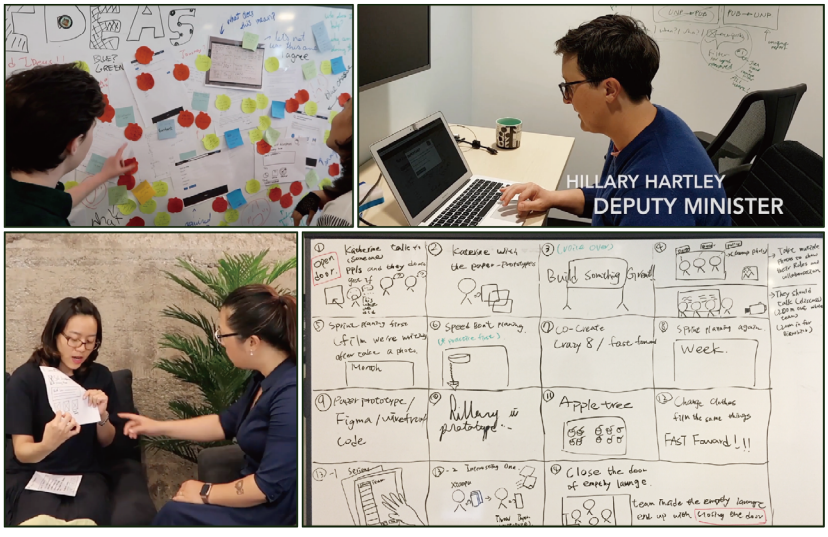


Fig. 5 Introduction video clips --
We did crazy 8 practice to select the theme of the video and then mapped out the storyboard together. One of the important clip is to show we test with different stakeholder including the Digital Chief Officer, Hillary Hartley.

8 *Katherine Benjamin mentions that there were two strategic values in filming video. As well as helping to showcase to the new government that the rapid prototyping lab is able to perform work quickly and at no cost, video prototyping is a helpful tool for rapid prototyping , and this project allowed the members at the rapid prototyping team to learn about this new method (K. Benjamin, Personal Communication, February 18, 2019).*

First Research Question:

What are the differences between service design as practiced in private and public sectors?

Project Problem Statement

"No simple wayfinding around Ontario.ca."

- **More about efficiency and cost saving (but also trust)**

In the private sector, service improvement helps a brand to be more competitive, increase market share, brand awareness and grow the market. In the government, trust, efficiency and cost saving for both the public and government workers are the main current goals. The final project I worked on at ODS was designing the sub navigation for Ontario.ca, which is an official website for the Ontario government. The main site provides government information and access to services such as healthcare and drivers licenses. In the public sector, consistency is key for building the public's trust and for efficiency, as the example of "911" demonstrates. In Canada, nobody needs to train people to call 911 for an emergency because it is a consistent public service. Currently wayfinding and navigation is an issue on the Ontario.ca website. Different ministries spend time creating their own versions of navigation tools so the public needs to learn new ways of navigating when they browse different pages.

After spending 4 weeks experimenting with various types of sub-navigation, we realized there were three types of subsites or pages on Ontario.ca (Fig. 6). First were content-heavy pages, second

were application pages and last were transaction pages. Based on these different types of pages, we provided the most suitable navigation for them(Fig. 7) and created a consistent navigation system.

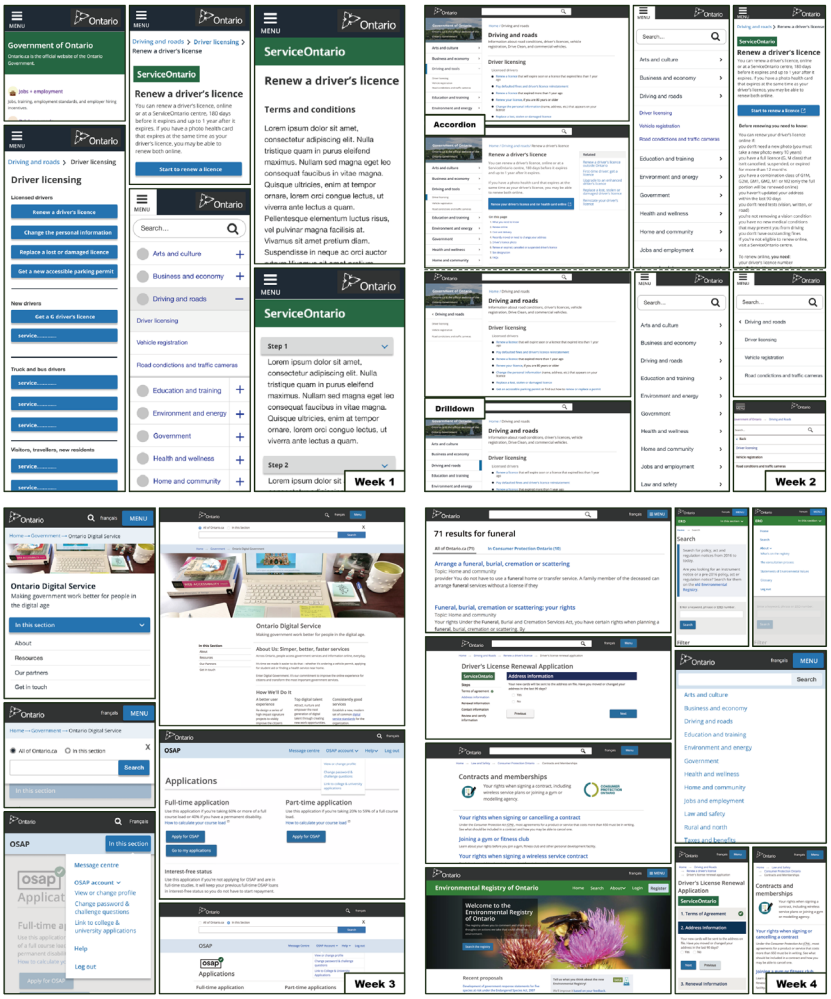


Fig. 6
Sub-navigation system design iteration overview
The first two weeks, we focused on the main navigation menu. After user testing, we found that users google what they want and generally do not use the main navigation menu, so we axed both ideas and went with a more streamlined menu approach with "in this section" components. In week 3 we tested on the ideal of "in this section" components which is also not ideal for navigation because it confused users about the table of contents.

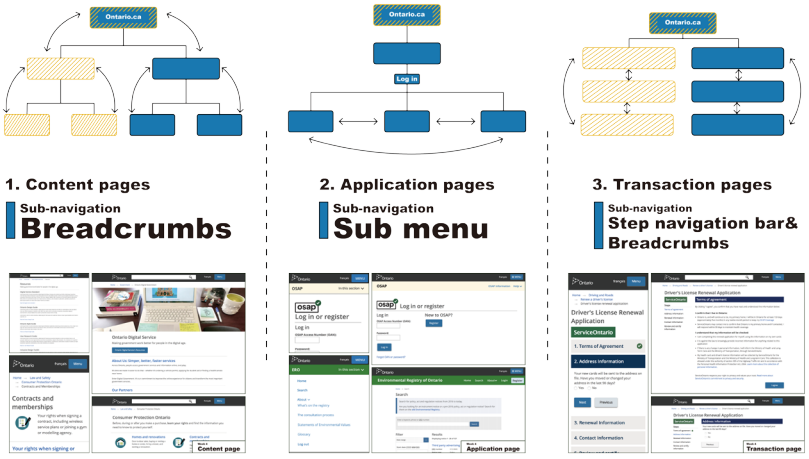


Fig. 7
Sub-navigation final design outcome --
We proposed to offer different sub-navigations based on the types of subsites or pages on Ontario.ca.

4.2.2 Second Research Question: How can service designer bring different thinking and valuable knowledge from private sector to public service design?

- **Answer: use pictures as well as words (as well as other experiential media)**

Project Problem Statement

"Employment Ontario Client Support Officers need a better tool to help Ontarians find the second career."

In July of 2018, the writ drop period ended and we were able to conduct user testing with the public, so we moved on to project, Finding Employment and Training Services (FEATS). FEATS is the search tool that the call center agents at Employment Ontario use to help unemployed or underemployed Ontarians find happier career options and training (Fig. 8 & 9). We prototyped iterations of the FEATS search tool in six sprints

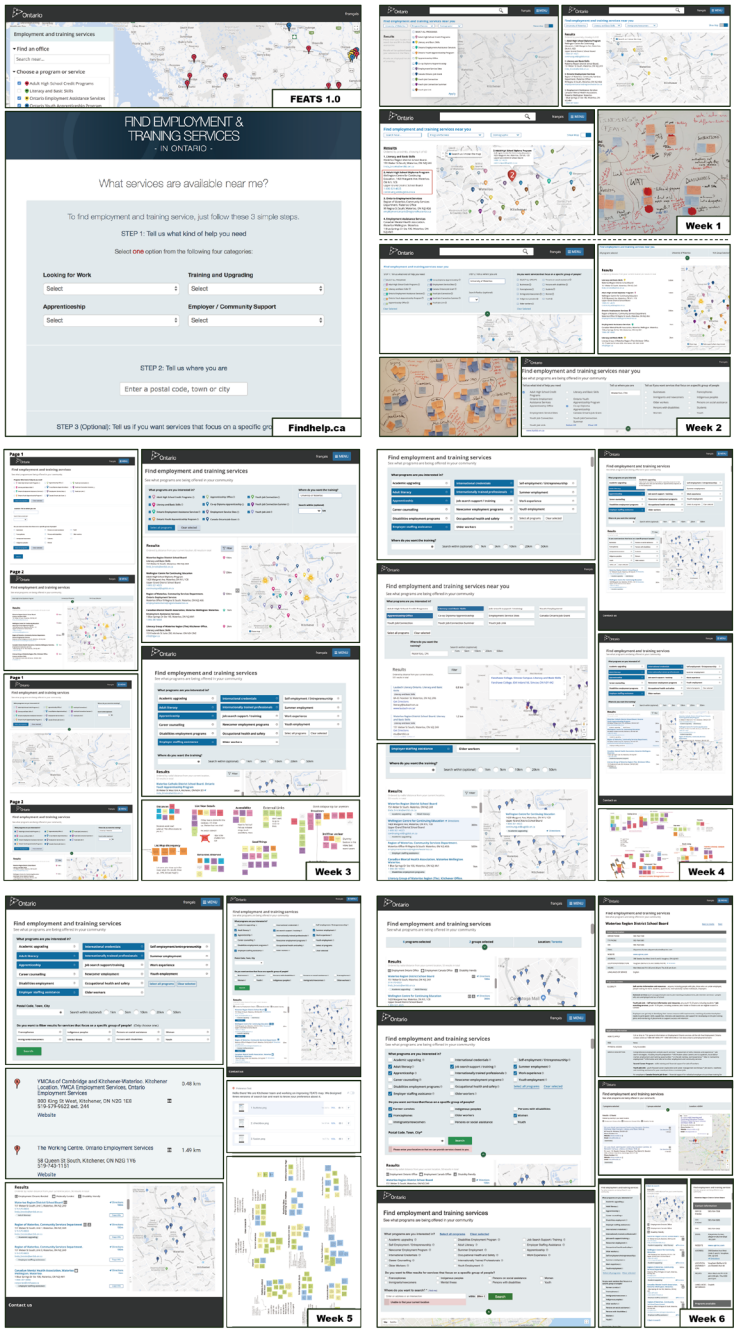


Fig. 8
FEATS design iteration overview
We mainly focused on redesigning the filter layout and presentation of information to help agents and public users to browse through program information more efficiently.

Most current prototype video

The need for a better search tool was uncovered through user research and testing with client support officers. Additionally, management at Employment Ontario requested that the new version of FEATS be available to the public users for self-support as well as the client support officers. In order to extend the audience of the FEATS too, we included test and prototype iterations with Ontarians from the general public.

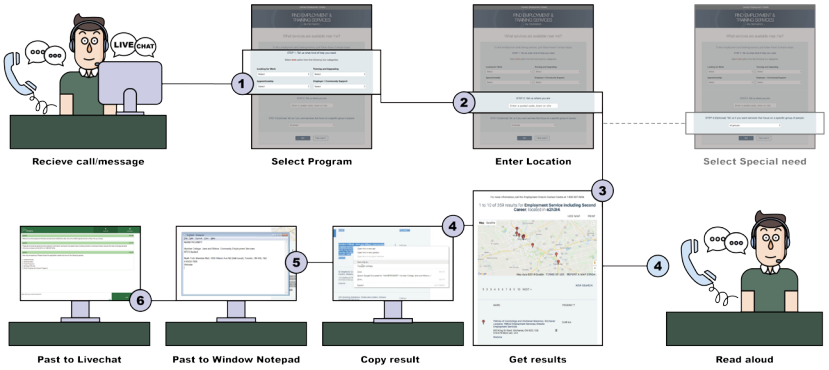


Fig. 9
FEATS agents' current user journey -- The current presentation of information prevents agents from copying and pasting information into Livechat immediately. Agents mentioned the demographic filters do not work well and they would like to have filters to make their screening process more efficient (Illustration credit: author, 2018).

In the last week of the project, I used service design methods and handed off a visual presentation in order to give the future development team a clear picture about components and future considerations of design opportunities for FEATS (Fig. 10).

The final insight regarding bringing private sector service design methods to public work that

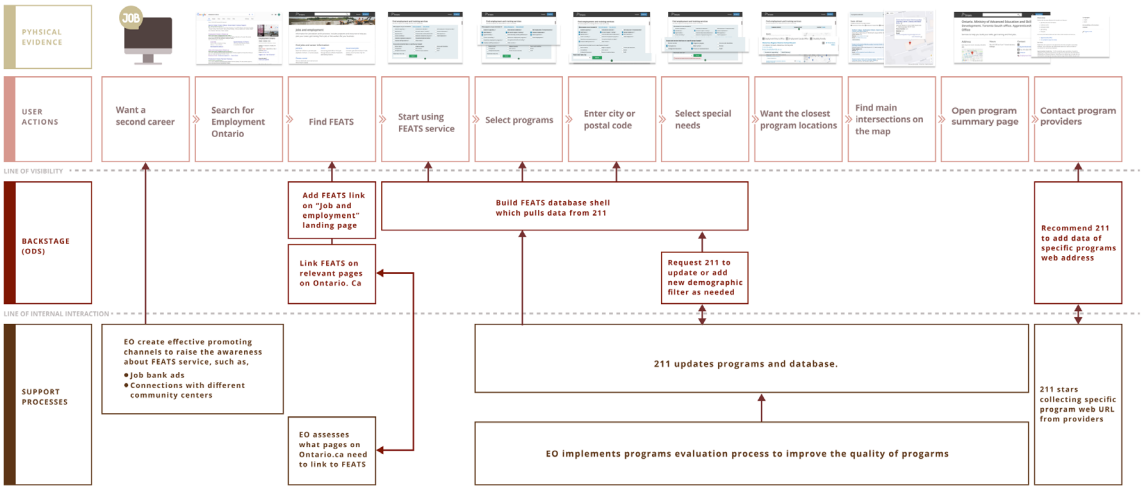


Fig. 10
FEATS service blueprint --
This is created based on the most current prototype and shows future service providers how to manage or implement FEATS. In order to make FEATS more accessible for citizens, EO needs to create different channels to raise the awareness of FEATS. From the ODS end, we have to build a better database shell for FEATS to pull data from. Due to inclusivity and convenience, ODS needs to request 211 to add new demographic filters as needed, such as a former convict tag and to start collecting website information specifically linked to each service.

the FEATS project provided was using Journey Mapping. By making journey maps for the FEATS search tool, (Fig. 11 & 12) , I identified the potential opportunities beyond our project scope for making FEATS more useful and to truly reduce the unemployment rate. For example, we observed that after being given a program's information, there are a lot of unknowns around the improvement of skill sets, the quality of programs, and the outcome of having a second career. One suggestion was that Employment Ontario client support officers could act as caseworkers, making them be able to help unemployed people find training programs and regularly track the outcome. When people finish the training program, they can contact their officers to help them find a job. This provides continuity in the service experience. The other suggestion was to provide a set of questions to officers to ensure

the same level of quality is provided to all clients and to gather as much relevant information about clients' needs as possible.

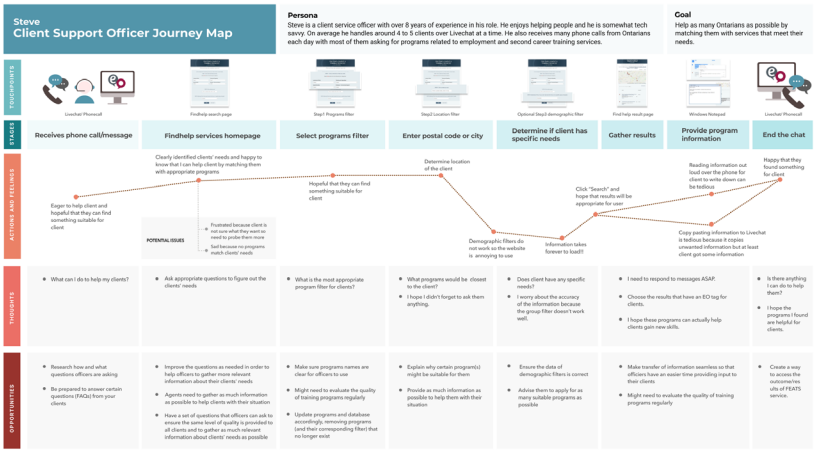


Fig. 11

FEATS agents journey map-- Through 8 user research interviews with agents, our team mapped out their two main frustrations in the journey map and redesigned the the filter layout and presentation of information to help agents copy and paste information immediately. Developers tried to fix the data retrieved by the filters.

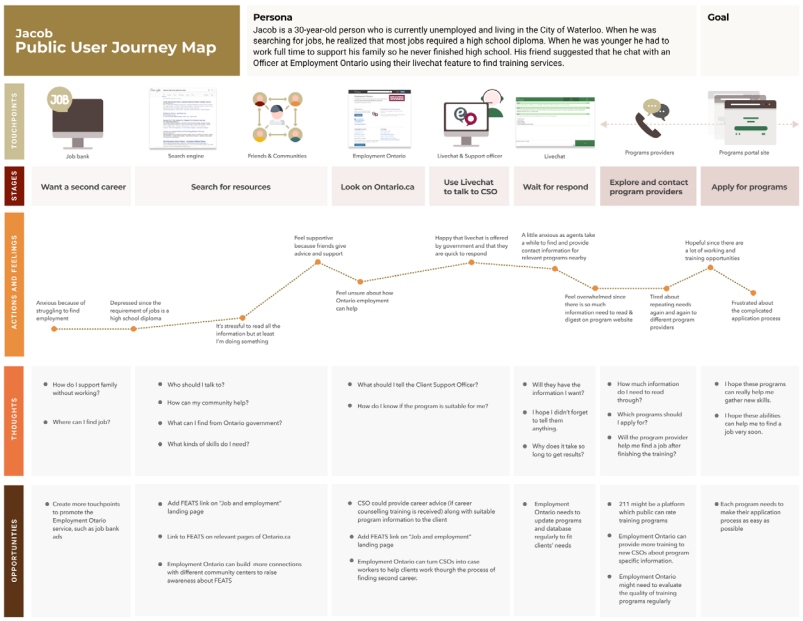


Fig. 12

FEATS hypothetical of the public's journey map -- We didn't interview with real end-users who have the experience of using FEATS so this journey map is mapped out by agents' feedback. By practicing this, we identified the part of the users' journey that FEATS didn't cover and used this as a material to tell future service providers that they need to do further research with the public.

Second Research Question:

How can service designer bring different thinking and valuable knowledge from private sector to public service design?

- **Answer: Intermesh your rapid prototyping process with service design tools.**

Rapid prototyping helps designers to move from abstract concepts toward creating tangible prototypes to gather profound feedback from end-users. However, practicing rapid prototyping without fully understanding service components will cause confusion among team members. Service design can help to improve the both the quality and the efficiency of the ways we work. Therefore, I wondered what is the possibility and potential process of adding service design into the rapid prototyping process. My proposal is to conduct service blueprints with team members at the beginning of the project to clarify the current process and flaws of service (Fig. 13).

Typically, generative user research and evaluative user testing are carried out in separate activities. In our iterative prototyping cycles, we embedded user research into the user testing activity to create organic co-design opportunities. We didn't have a user journey map before creating prototypes, and made user journey maps in the middle sprints. Iterating user journey maps as needed helped to identify potential opportunities during iteration sections. Making service blueprints were also helpful because future

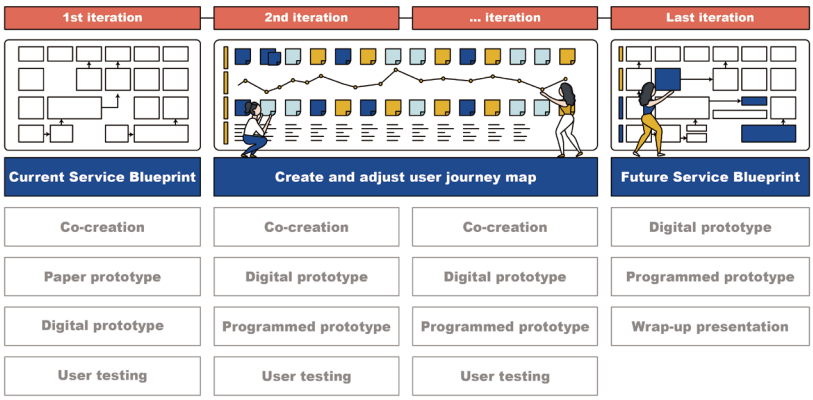


Fig. 13
Service design in the rapid prototyping process

By practicing back and forth between tangible solutions and abstract service design methodologies, we can keep project progressing with tangible outcome and have the chance to take a step back to consider service components simultaneously (Illustration credit: author, 2018).

service providers can have a clear picture of how to manage or implement a service. Practicing service design methods and rapid prototyping back and forth not only allows designers to keep moving forward with tangible designs but also offers the opportunity to slow down the process of rapid prototyping and think about other possibilities in a broader picture.

4.2.3 Third Research Question: What are some of the best public service design processes in governments?

I identified two ways of doing public service design, depending on the goal of the organization. One is from micro perspective to macro which is fixing and fitting small pieces of services into a broader picture to create a better user experience in the government, such as ODS. The other one is from macro to micro. That is, governments start with

practicing service design from the overall picture so that participating teams can identify which ministries need to involve to solve social problems, for example PDIS.

- **Answer: From micro to macro perspective (Fig. 14)**

  Implementing service design in an agile development process from micro perspective may limit and create potential challenges. When focused on the micro (single touchpoint), the design team might fail to consider the broader picture of the service.

  The team may jump into creating solutions so fast they don't have time to evaluate and understand the assumptions behind the request for a specific digital service. In response, my proposal for ODS is to rapidly prototype a digital service as a starting point and then consider other touchpoints at the same level during each iteration. For instance, while redesigning FEATS, prototyping teams also can consider how to connect FEATS with job profile services, job banks and physical service centres.

  By moving from the micro to the macro, ODS designers can sew other services from the same ministry together, as well as consider touchpoints

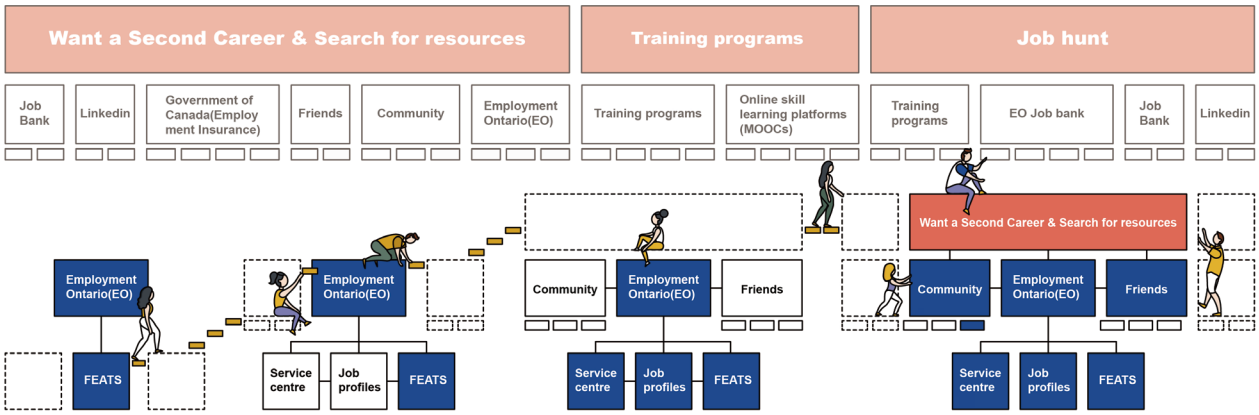
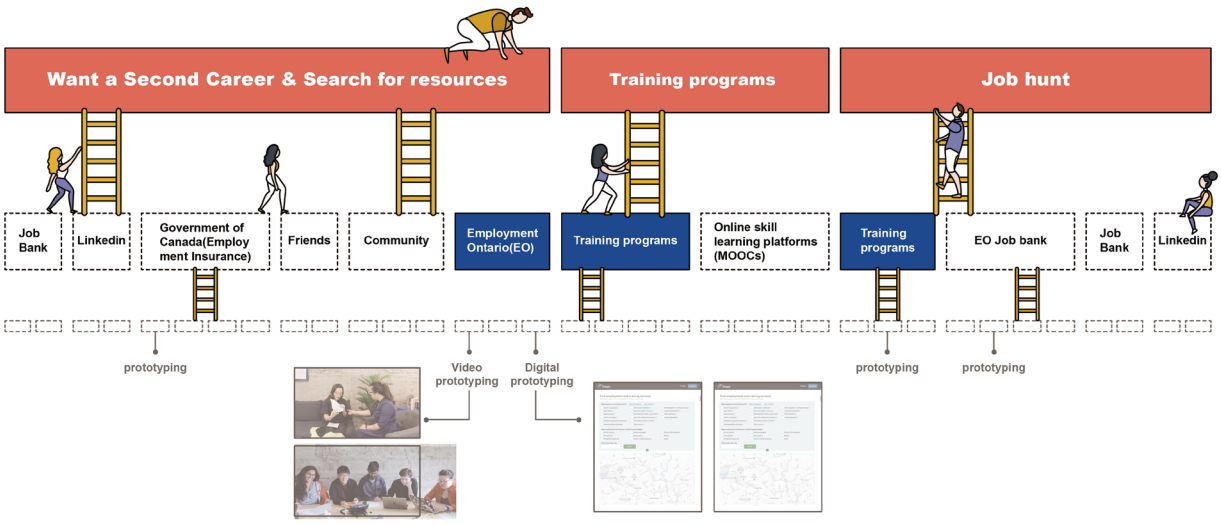


Fig. 14
From micro to macro perspective

From micro to macro perspective -- Practicing service design from single digital service to cross-ministries services. That is, rapidly prototype a digital service as a starting point and then consider other touchpoints at the same level during each iteration (Illustration credit: author, 2018).

at the upper level or different stages. When rapid prototyping becomes embedded with service design thinking to improving public services, the entire community will benefit.



- **From macro to micro perspective (Fig. 15)**

The second best process of public service design starts from the macro picture. The design team are invited to take a step back to think about what the real social problems that FEATS needs to solve. One answer is reducing the unemployment rate. Dealing with the unemployment rate, we need to follow through different services, ministries and stages. By implementing user journey maps and service blueprints in the early design process, we can consider more possibilities and have a comprehensive understanding of service components at the beginning but also divide our effort and time to prototype different touchpoints to ensure that the government is moving forward.

Fig. 15
From macro to micro perspective --

The practice starts from considering all the touchpoints at first. Then, start designing each touchpoint by using different types of prototyping methods, such as video, paper or digital prototype. This way, as designers, we can divide our effort and time to prototype different touchpoints to ensure that the government is moving forward (Illustration credit: author, 2018).

4. 3 Conclusion of Chapter 4

According to expert interviews with senior ODSers[9], service design doesn't play a significant role in the ODS, since it is too new to be understood by ministries and tenured public servants, and too broad to fit under one program's portfolio. Therefore, in ODS we seldom mention that we are practicing "service design" but just say we are doing user research and user testing. Doing user research and testing openly in multi-disciplinary teams with colleagues and upper management brings rich user insights to the design team, as discussed above. Furthermore, research and test sessions are also performative demonstrations which allow non-designers to participate and experience outcomes and changes in a short period of time[10] . User research and testing are important parts of service design practice which uncover users' needs and insights, so they can be the means to show the value of service design and be the foundation of bringing service design into governments.

At the ODS rapid prototyping team, we started from creating rough solutions and then conducted user research and testing simultaneously. In comparison, the TELUS project mentioned in the previous chapter involved comprehensive user research before prototyping solutions, and the solutions included physical and digital touchpoints. Moreover, our team mainly focused on creating a specific digital service and didn't consider other touchpoints. Due to the tendency of governments to move slowly, and because

9 Personal interviews with Shannah Segal, Xiaopu Fang and Dana Patton at ODS (July to August, 2018).

10 User research didn't exist in the Government of Ontario until user research and prototyping labs started practicing it. Now, user research has become a thing that everyone wants in the Government of Ontario. Therefore, we found that people need performativity and visibility to understand new things (K. Benjamin, Personal Communication, February 21, 2019).

it is hard to measure the outcome, rapid prototyping can inspire a different way of working in the government and bring obvious outcomes from a wider range of stakeholders in the process of making public service.

5. Case study: Building service design culture in the government

My second case study is from projects in the Public Digital Innovation Space (PDIS) within Taiwan Open Government. I worked remotely from Canada as a service and interaction designer from October 2018 to Febuary 2019. My primary responsibilities were designing toolkits for civil servants to enable them to use service design thinking and methodologies to facilitate social discussions.

5. 1 Case study- Public Digital Innovation Space (PDIS)

5.1.1 Background

Taiwan didn't always have an open government and PDIS. A major event caused the Taiwan government to move toward a more open government system. The Sunflower Movement happened in 2014, when a member of the Legislative Yuan (legislative body) took only 30 seconds to announce the passage of an agreement allowing for freer trade in services with China. Taiwanese citizens realized that the pact was negotiated in secret and would allow China to gain greater political control over the island. The day after, a million people participated in a demonstration. Four-hundred student protesters occupied the debating chamber of the Legislative Yuan for twenty-three days to ask for a law allowing

for greater public oversight. During the occupation, every corner of the parliament was filmed and projected immediately in the street as if the walls of parliament were transparent. The occupation was peaceful but students caused a lot of damage at parliament. The repair cost was $2985,000 New Taiwanese Dollars ($130,000 CAD) and was covered by citizen donations.

In response to the Sunflower Movement, the public initiated grassroots campaigns and more and more people contributed to the “g0v” (gov-zero), a decentralized civic tech community devoted to holding hackathons around social issues and using technology to empower citizens to shape the civil society and make the government more transparent (“g0v.asia”). As a result of those social movements, Taiwanese government executives realized the opportunity to provide citizens official spaces and online channels to let their voices be heard in government decision-making processes. This platform would also ideally prevent citizens from taking the costly and aggressive approach to fighting with the government. Therefore, Taiwan Open Government, Public Digital Innovation Space (PDIS), and the digital platforms, vTaiwan and JOIN, were created. PDIS helps people to express bottom-up demands and to ask the government to respond with top-down support.

The responsibilities of the PDIS are:

- Create a space for the public and the government to communicate with each other
- Incubate and facilitate public digital innovation and service.
- Embed design thinking and culture in the government of Taiwan.

As a starting point, PDIS built the Participation Officers network in the government, each ministry having at least one Participation Officers (POs). POs are deeply involved in the conversation of civic society and governmental divisions in order to drive cultural change in the government. POs' primary responsibilities are proposing discussions of cross-ministerial issues with wider stakeholders, and creating the space for government and citizens to communicate with and collaborate about solutions (Fig. 16).

Figure 16 has been removed due to copyright restrictions. The information removed is a diagram adapted from Public Digital Innovation Space, 2018

Fig. 16
PO network --
There are 32 ministries in the Taiwanese government and each ministry has at least one Participation Officer (PO). Through the monthly meeting, POs propose social issues and select a main issue which is the most crucial or tough one; they then start collecting issue information and preparing for collaboration with the public
(Illustration credit: PDIS, 2018).

5. 2 Research outcomes with design practices

Tackling complex social issues requires a profound understanding of design thinking, but POs don't have the necessary knowledge of design mindset and methodologies. In order to enable POs to practice design thinking and methodologies in the government, I did three projects at PDIS: collaboration guide, collaboration framework and collaboration toolkits, Issue Mapper.

5.2.1 Fourth Research Question: What are some of the informative differences between Ontario Digital Service (ODS) and Public Digital Innovation Space (PDIS)?

- **Answer: Design team components**

  The user experience chapter at ODS includes a lot of designers with UX, inclusive and service design backgrounds so that the design culture is mature and everyone shares the same language. Conversely, in the PDIS team, we only have three designers and we spend time educating people on the basic knowledge of design thinking and service design in order to bring people on the journey of public collaboration. This type of capacity building is time consuming and makes the progress of design change slowly.

Fourth Research Question:

What are some of the informative differences between Ontario Digital Service (ODS) and Public Digital Innovation Space (PDIS)?

- **Answer: Different ambassadors of service design and rapid prototyping**

ODSers are the ambassadors of rapid prototyping and service design in the Ontario government. In Taiwan, PDIS is facing a challenge in hiring designers with practical experience. As an alternative to having service designers co-designing iterative prototypes, PDIS has built the Participation Officer (POs) network described in the illustration above (Fig.16). In the POs network the POs, who are civil servants, facilitate conversations between government authorities and civilians. POs are the medium and ambassadors of service design in the government of Taiwan. However, this POs network is only part of the optimal solution. That is, even though civil servants know how to conduct user research, the solutions often times end up in the ideation stage and seldom are prototyped or built using visual and interaction design methods. Recruiting professionals from the private sector is a big shift in Taiwan and the HR policy is slowly being changed. In addition to having the top-down support from senior management and recruitment policy changes, service designers in Taiwan will need to become the ambassadors of service design and rapid prototyping in government.

Fourth Research Question:

What are some of the informative differences between Ontario Digital Service (ODS) and Public Digital Innovation Space (PDIS)?

- **Answer: The language of design**

I encountered a challenge when I was writing the user research guide for PDIS. That is, I was not allowed to advocate service design and needed to avoid using design-driven terminology in the guide because the political environment is not ready to embrace service design.

The leading digital governments, such as the UK, US, Australia and Canada, provide user research guides as a foundation to help government authorities and civil servants to have a deeper understanding of the purposes, components and procedures of conducting user research. PDIS focuses on facilitating collaboration workshops to help the public to express their needs and thoughts in the policy making process. These workshops are one kind of user research. However, there are different formats and methodologies of user research and civil servants need to understand that and have the ability to choose the best type of user research based on social issues. When I started at PDIS we identified a need for a user research guide. My first project was building the Collaboration Research Guide for PDIS.

Project Problem Statement

"Participation Officers need a simple way to gain comprehensive knowledge about user research in the government."

In order to avoid using overly design-driven terminology for PDIS's user research guide, I lead

an “undesign” workshop with my classmates at Emily Carr University of Art and Design (ECUAD) (Fig. 17). There were two activities in the workshop: a fairy tale challenge and a practice of replacing words. For the fairy tale challenge, I divided the user research guide into five sections: purpose of collaboration, planning for collaboration, recruitment, prototyping and testing, and sharing findings. I proposed a personality for each section and added a representative food. My design peers were separated into five groups. Each group was challenged to write and illustrate a fairy tale to interpret key points of their section. The second activity was to invite peers to rework the overly design-driven terminology.

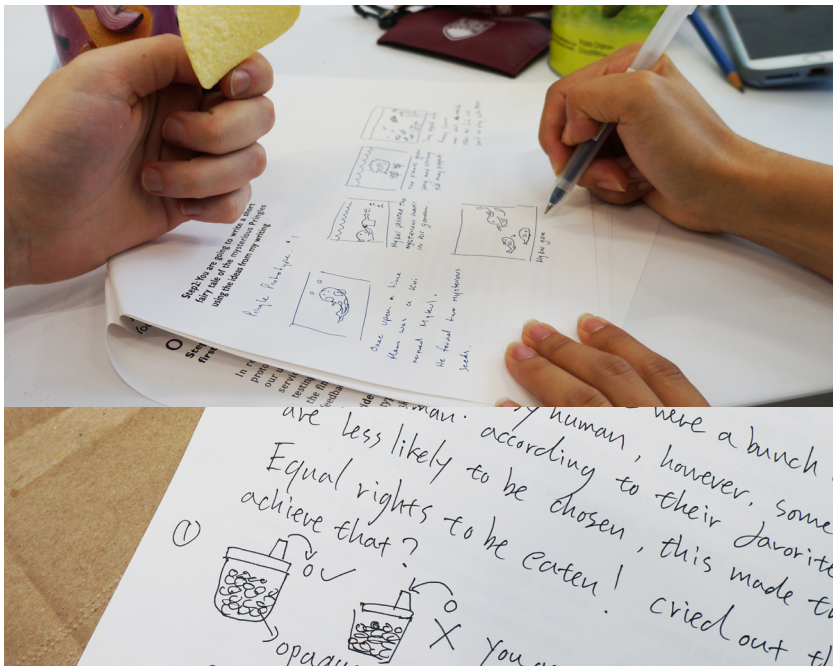


Fig. 17
Photos of outcomes for undesign workshop --

Pringles for the paragraph of prototyping ; M&M for the paragraph of recruitment

Through the workshop activity, we identified criteria for a "Collaboration Guide" at PDIS (Fig. 18). PDIS names their design toolkits "collaboration tools". Therefore, I named the user research guide "collaboration research guide" rather than a user research guide to fit into the existing naming conventions at PDIS. This Collaboration Research Guide is an overarching set of guidelines to articulate a research process and the recommend methodologies. One key insight from my expert interview with Katherine Benjamin, who pioneered the first empathy lab at ODS, was the suggestion that the collaboration guide should address power dynamics in collaboration, and how to ensure less powerful groups or people have a say in the collaboration. This provocation led to my final workshop and case study described in Chapter Six.

Fig. 18
Collaboration guide physical prototype --

In order to make the collaboration guide more tangible and as the teaching material for PDIS, I designed the physical handout and deck of cards.

Collaboration guide digital prototype --

I designed the digital version on the PO website which PDIS uses to show general public or government authorities the background and knowledge about PO networks. Therefore, this website can be one of the touchpoint for people to learn more about collaboration guide.

Fourth Research Question:

What are some of the informative differences between Ontario Digital Service (ODS) and Public Digital Innovation Space (PDIS)?

- **Answer: The different roles in the governments**

At ODS, researchers, designers, and developers are solution-makers. They focus on delivering fast and useful services; they use agile methodologies to offer services which fit real end-users' needs and behaviors. On the other hand, PDIS is a consultant who guides POs to facilitate workshops between users and government authorities, and recommend next steps. Recommendations and possible solutions often end at the ideation stage without moving to prototyping and testing stages, and don't become working user services.

In my expert interview with Audrey Tang, the first digital minister in Taiwan, Open Government and PDIS, and one of the top 20 most influential people in global digital governments ("Apolitical Announces World's 100 Most Influential People in Digital Government for 2018", 2019), the Taiwan Open Government is experiencing a stage of what philosopher Corcuff (2012) calls "liminality". The government of Taiwan is becoming more aware of the need for better methods of communication with the public and the needs of digital government transition, and anticipating these transitions without yet having expertise is a liminal condition. PDIS is the organization

Fourth Research Question:

What are some of the informative differences between Ontario Digital Service (ODS) and Public Digital Innovation Space (PDIS)?

Project Problem Statement

"Participation Officers get confused about when and how to use the collaboration toolkits in the problem-solving and policy-making process."

accompanying the overall government in overcoming the liminal stage by creating a space for the public to have a say in the government decision making process.

In order to give the incipient Taiwanese service design sector some structure to grow upon, I was tasked with building a Collaboration Framework as my second design project at PDIS. The Collaboration Framework is a tool that sits alongside the above-described Collaboration Research Guide, and will provide POs a clear picture of how to practice design within government decision making processes. One of the main inspirations for our Collaboration Framework was Nessler's ideal of mashing-up project management and the design thinking process (Nessler, 2016). We created a framework with four layers (Fig. 19): the first layer is a double diamond problem solving process, the second is a collaboration process, the third is the policy making process and the last layer is the design toolkit overview. The purpose is to let POs overlay the processes and learn the relationship between policy making, problem-solving and collaboration processes in a tangible way. Moreover, POs can know that each decision making process has corresponding design activities and toolkits. the same horizontal level to become a linear process.

Fourth Research Question:

What are some of the informative differences between Ontario Digital Service (ODS) and Public Digital Innovation Space (PDIS)?

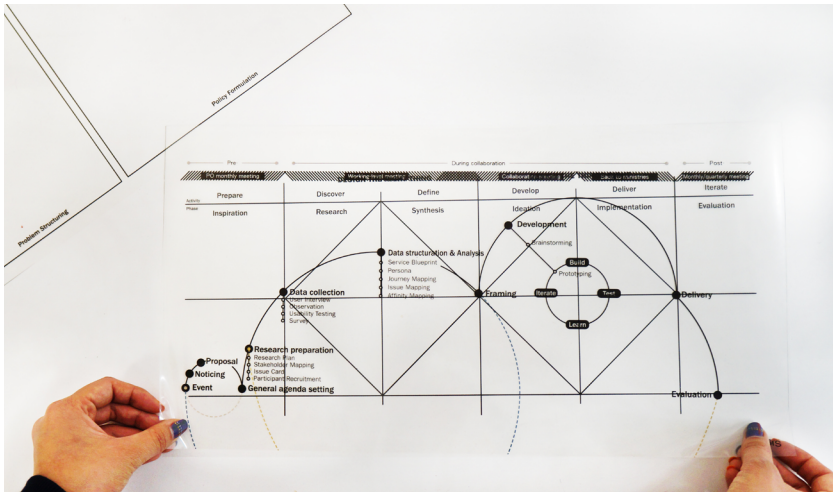


Fig. 19
The tangible collaboration framework --

Four layers are printed on the transparent film separately. In this way, POs can overlay the processes and learn the relationship between policy making and design processes in a tangible way. Moreover, POs can know that each decision making process has corresponding design activities and toolkits.

I lead a second studio workshop with my design peers at ECUAD (Fig. 20) to explore alternatives of visual framework design and ways of learning design methods. I divided my fellow designers into 2 groups, designer and PO groups, to role-play. The designer group proposed to move all activities to the same horizontal level to become a linear process. I made a linear version and then received advice from faculties in open studio day to discussed the pros and cons between the linear and circle presentation of the framework. Because the essence of an agile design and collaboration process is iterative and not linear, and to avoid misdirecting the concept, I decided to keep my initial design, the circle version (Fig. 21). In designing a layered sequence for the Collaboration Framework, keeping a more linear

Fig. 20
Photos of iteration workshop --
The designer group worked on the possible layout of framework and they proposed to put all activities on the same horizontal level.

The PO group wanted celebrities in Taiwan to film videos to teach how to use collaboration toolkits and provided learning trip to visit other digital governments to know the trends and importance of design methods.

double diamond process and overlaying a more agile and iterative circular process, my framework will help PDIS shift design practices slowly from linear to iterative models. These layers introduce my first steps for embedding design thinking within PDIS.

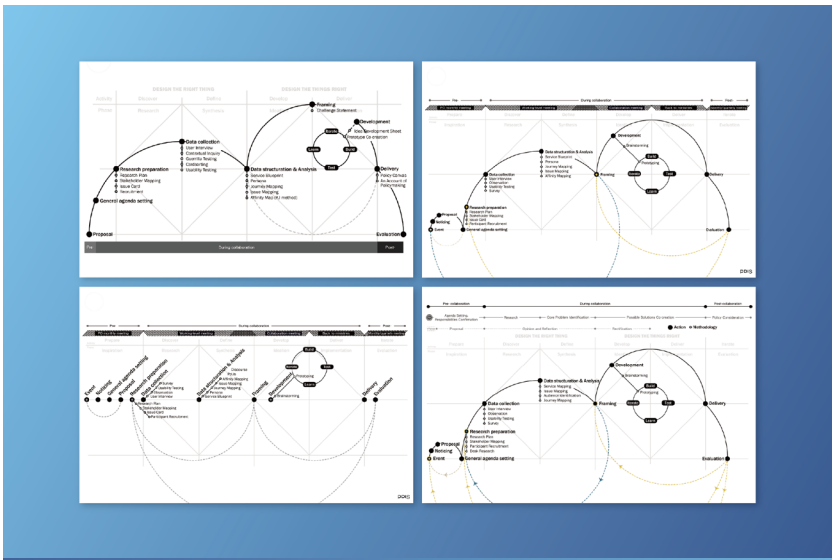


Fig. 21
Framework iterations overview --

At the bottom left corner is the version I came up with after the workshop. Based on the advice received from professionals in open studio day and the design and collaboration process is not linear, and to avoid misleading the concept, so PDIS team and I decided to keep the circle version.

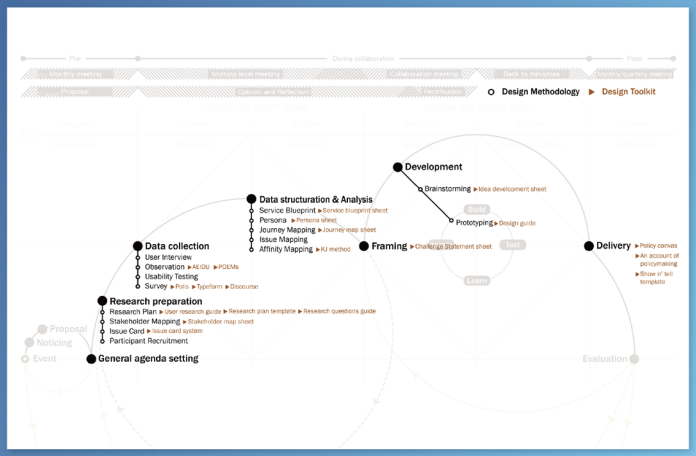


Fig. 22
Toolkits overview layer--
Due to how PDIS keeps designing and improving toolkits, the last layer, the collaboration toolkits overview, needs to be changed as new tools come up.

5.2.2 Fifth Research Question: How can service designer build the service design culture properly in the government where the design culture is not mature and obvious?

- **Answer: Use rapid prototyping as a practical approach**

The main accomplishment during my five months working for Taiwan government service design was to bring rapid prototyping ideas into PDIS. This effort still needs development, and my Issue Mapper project is the first iteration of embedding rapid prototyping methods into PDIS.

Issue Mapper is a digital tool to help Taiwan's Participation Officers (POs) document their findings on urgent citizen-generated social issues and to keep their work on track (Fig. 23). My team comprised of an engineer, a project manager, and myself, the interaction and service designer. We were given seven categories in an information taxonomy by which POs might sort their content: problem categories, problem details, current solutions, government responses, roadblocks, stakeholders, and references. Under each category, POs can upload the content which they gather from the public or ministries. The POs will use the Issue Mapper through their whole workflow, by documenting and connecting

Project Problem Statement

"Participation Officers need a better tool to keep themselves on track and share their findings with a wider range of stakeholders."

Fifth Research Question:

How can service designer build the service design culture properly in the government where the design culture is not mature and obvious?

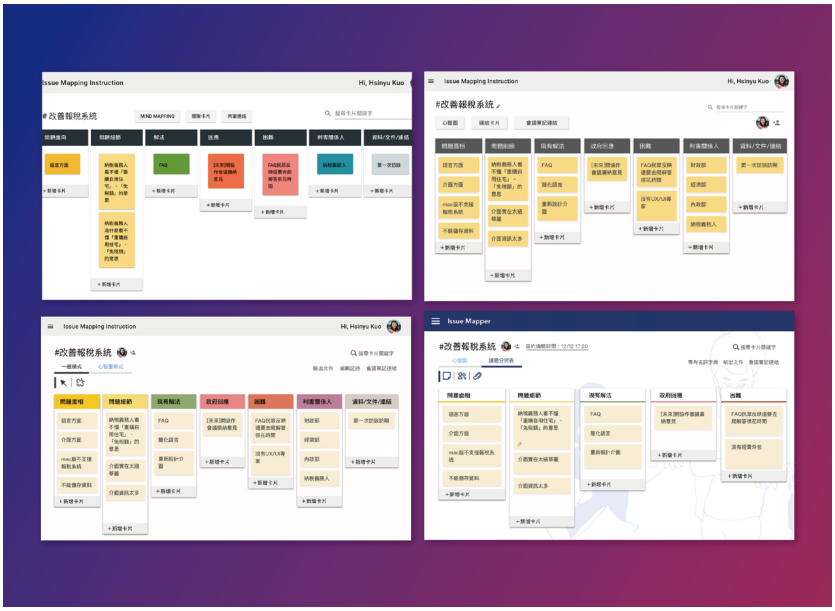


Fig. 23
Issue Mapper iteration overview --
Issue Mapper experienced 4 iterations. We added the functions based on the users' feedback and needs, such as a terminology dictionary, version history, and document sharing. The project owner insisted on keeping the colour coding in order to indicate different topics; as a designer, I tried different layout presentations to ensure the accessibility of colour contrast.

problems, from preparing for monthly meetings until the end of the collaboration where the POs export and submit their findings to ministers for approval and resolution.

My PDIS team put the best problem-finding practices into researching for this tool so that POs will learn how to categorize information and identify real problems. The current design of the Issue Mapper supports the stage before design collaboration but the final goal is to let the Issue Mapper be support proper service design from collecting data to writing proposals for policy and regulation changes. After seven iterations of co-design and user testing with POs, we were

able to simplify the taxonomy to five categories by eliminating stakeholders and references as unused content. (Fig. 24).

Fig. 24

Issue Mapper most current design --

Provide only five topics of information: problem categories, problem details, current solutions, government responses, roadblocks.

Provide the default connection between 5 topics in the mode of mind mapping.

Fifth Research Question:

How can service designer build the service design culture properly in the government where the design culture is not mature and obvious?

- **Answer: Make design work accountable and visible**

When practicing service design in an organization with deep experience in design and research methods, visibility of the work and accountability for results already exist as best practices. In less mature organizations, visibility and accountability can help collaborators to understand service design and take them on the journey toward practicing these approaches. While I was working on projects for Taiwan's PDIS I was working remotely. Remote work made it difficult to show people the value of service design. In order to make my work more visible and accountable, I compiled all my projects and findings into a presentation given at the end of my contract.

In my presentation for Issue Mapper, aside from service blueprint (Fig. 25), I used personas (Fig. 26) to show future designers at PDIS the types of end users they might work with. As Bertulis (2019) describes, there are several distinct types of personas designers might use in an extended design process. There might be the personas that help map out potential users in a designers mind as generative brainstorming activity, in contrast to personas which document and consolidate user research findings. Personas might be built

or revised as a team-building activity to ensure everyone is on the same page, might be used to test for accessibility. Lastly, teams might build an aspiration design target at nearing the build phase of a design process to help with narrative design. (E. Bertulis, Personal Communication, February 27, 2019). By distinguishing between different rigorous implementations of personas, designers not only learn about end-users from different perspectives, but also learn to distinguish between marketing user models such as quantitatively derived user segmentation brand types. My personas are used for consolidating user research findings and I hope to revise these personas with other team members in the future.

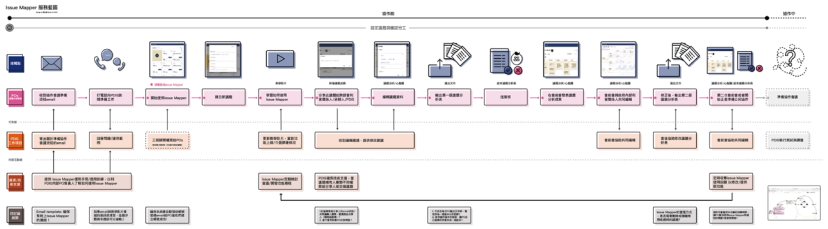


Fig. 25

Issue Mapper service blueprint (Illustration credit: author, 2019).

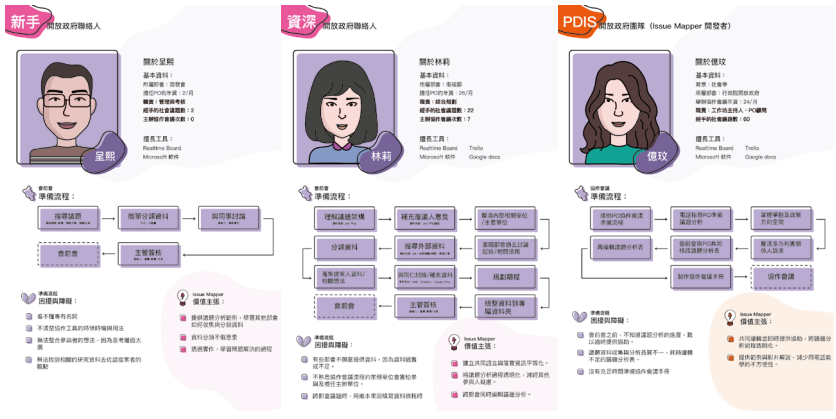


Fig. 26

Issue Mapper personas--

Novice PO, Professional PO, and PDIS PO lead (Illustration credit: author, 2019).

Fifth Research Question:

How can service designer build the service design culture properly in the government where the design culture is not mature and obvious?

- **Answer: Be a passionate farmer**

  Gardening could be a metaphor for PDIS practices because building design culture takes time and patience. Service designers are farmers, POs are the seeds, design toolkits are equipment, water, soil and sunlight. That is, the service designer plants the POs into each ministry and then gradually cultivates them using design toolkits. Looking back to my first month with PDIS, I tried to implement the practice of rapid prototyping without fully understanding the capacity and goals of PDIS. After these five months of practice and the feedback from peers and instructors, I realized that as service designers in the public sector, we need to be conscious about not being too rushed and pushing the pace of growth immediately.

- **Answer: Consistent hard work from different levels of stakeholders**

  Mergel (2016) uses the US federal government to illustrate the building blocks of an agile innovation management approach and she mentions that the base layer is the policies. Governments need to create the HR policies to recruit professionals who are skilled in the design and innovative practices of the private sector to work in the government.

The strategy of building design culture needs to be changed based on country development, design culture in general and the organization. With a country like Taiwan, cultivating design culture is a process of mediating between generations and needs two-way strategies: first, the upper level managers need to make the recruitment process more flexible to create more opportunities for designers and innovators in the government; second, the organization (such as PDIS) needs to slowly establish design thinking and methodologies into general civil servants' day-to-day practices.

5.2.3 Sixth Research Questions: What can a service designer learn from design in the public sector?

- **There are no perfect and apolitical decisions**

According to the interview with Ms. Tang, she mentions that there are three things that need to be considered as part of design ethics in the government: certainty of social good, social justice and democratic purpose. As a member of making effort to social innovation, it's difficult to include these three components perfectly. On the contrary, they usually conflict with each other and as public workers we only can find the balance to

make the best decision.

5.2.4 Seventh Research Question: What has to change when methods from the private sector are brought into government?

- **Answer: The ways of using service design and rapid prototyping**

  My two practice areas, ODS and PDIS, just have started practicing rapid prototyping and service design. I was working on small scale projects. Because my projects were mostly internal services, we had low chance for things to go wrong in ways that could be catastrophic for vulnerable users. If we practice service design on large-scale government projects for vulnerable users in the same way as we practice design in the private sector, we run the risk of exacerbating inequalities and uneven power relations (Kimbell & Bailey, 2017, p.222; Dombrowski, Harmon & Fox, 2016). The main challenge in adapting existing service design methodologies for government use is the success measure of profit. That is, traditional business measures of success such as profitability, as well as user-centered objectives, need to be redefined in the government context because the stakeholders' needs are not the same as customers' needs (Polaine, Løvlie, and Reason, 2013).

With the above concerns in mind, service design methods in government context can continue to be improved. Improvements includes possible new procedures, limitations of the method, when the method can be used, benefits of the method, and case studies. The article “Social Justice-Oriented Interaction Design” elaborates six strategies, including designing for transformation, recognition, reciprocity, enablement, distribution, and accountability. These strategies are possible further stepping stones to ensure social justice priorities for policy making and public service design projects.

5. 3 Conclusion of Chapter 5

By working on four projects for Taiwan's PDIS, conducting user testing and research for each project, I helped bring a new way of practicing design to Taiwanese government service design. The iterative design work we did on the Issue Mapper project manifested feedback and service revisions that let my team members become the ambassadors of rapid prototyping methods. Embedding integrated rapid prototyping and service design methods will take time and will still take consistent hard work in the future. We were not yet able to establish a show n' tell culture for people to share their efforts with stakeholders, which is a crucial part of storytelling and promoting rapid prototyping and service design. Nonetheless, our work provided significant alternate ways of helping PDIS implement service design in the government, from guidelines to frameworks.

6. Case study: Design ethics in the public sector

Consideration of ethics in design practice is particularly important in the government context, as the repercussions of bad design (loss of civil liberties, loss of trust) are profound. One aspect of ethics in design, which was researched as part of this thesis work, is to explore the power imbalances in design collaborations. There are many causes that can affect power dynamics, such as languages, social hierarchy, gendered conventions, and perceived privileging of different professions. In this chapter, describe the insights gleaned from a workshop we developed to explore power dynamics in collaborations.

6. 1 Power Dynamic workshop

6.1.1 Workshop introduction

There were two main purposes of this workshop: to test whether the use of service design methods helps the future team to work more efficiently, and to explore power dynamics by using language as the element to affect the power relationships in the collaboration.

In the government, projects might take three to seven years to finish and the political volatility might not allow designers to work until the end of the project. Practicing rapid prototyping faces the same challenge; after the rapid prototyping team develops the proof of concepts, the project might

be taken over by a new team. This team might develop the project based on the most current prototype and a presentation of previous iterations. In order to carry over the original design intent, it is important to create documentation of discovery and consultation activities that richly inform a given design strategy. To this end, I created personas, service blueprints, and user journey maps to onboard future designers. The documentation included the components of service and insights about end-users, information to help revise the service blueprint.

The second issue; addressing potential power dynamics on a collaborative team, I using Mandarin material in my workshop. I was interested in seeing how Mandarin speakers and non-Mandarin speakers might change when not using English as the dominant language.

There were 20 participants and 3 Mandarin facilitators, all from Master of Design 2019 and 2020 cohorts. This workshop took around 40 minutes and involved three activities: a warm-up touchpoints activity, a service blueprint brainstorm activity, and a feedback activity. The purpose of this activity was to use the medium of language as a provocation or trigger to help participants actively reconsider feelings of power and influence. By

disrupting the participants' (often unrecognised) privilege of being a native language speaker, my objective was to examine whether the challenges associated with negotiating a language barrier would alter how users negotiated a service design activity. Specifically, if this artificially created power dynamic could bring awareness and empathy to participants with regard to their perspective on power dynamics in teams and institutions.

6.1.2 Warm-up touchpoints activity (2 minutes)

After briefly introducing service design, participants divided into pairs and had 2 minutes to write down the touchpoints of CAR2GO. This activity helped participants to engage with service design in English.

Fig. 27

Photos of the warm-up touchpoints activity -- Participants were asked to identity some touchpoints of CAR2GO service. After 2 minutes, most of the paper was blank; Fig 24. CAR2GO service blueprint -- I taught participants basic service design by using the CAR2GO service blueprint which I created.

6.1.3 Service blueprint brainstorm activity (20 minutes)

The scenario I gave to participants was they were the new team to take over the project of designing Issue Mapper. The team was composed of a team lead, service designer, UX designer, user researcher, diplomat, content editor, policy expert, and engineer. The task was to understand the service components of Issue Mapper and then write down the problems of the service blueprint.

Fig. 28

Photos of teams trying the Issue Mapper -- During this section, English speakers engaged and lead the talk.

Fig. 29

Photos of teams understanding service blueprint -- Mandarin speakers lead the talk and translated the content. The first and third group mainly relied on the Mandarin facilitator to translate and explain the content. Aside from having Mandarin speakers to translate, the English speakers at the second group downloaded google translate app to help themselves in the beginning and made notes in English.

6.1.4 Feedback activity (10 minutes)

Participants could use whichever language they were comfortable with to answer the three questions on the spreadsheet:

- **What are your takeaways from the service blueprint activity?**
- **Aside from the materials given to you, what other material or resources would have helped you to understand the activity?**
- **How do you feel about the power relationship between Mandarin speakers and non-Mandarin speakers in the workshop? (You can use either drawing or words to elaborate.)**

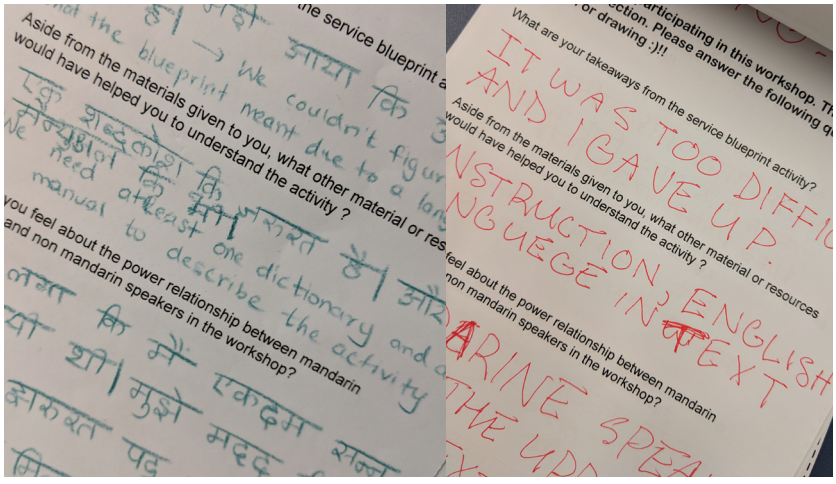


Fig. 30

Photos of feedback sheet --
An English speaker gave up because of the language barrier. Some participants wrote down the feedback in their first language.

6. 2 Workshop outcome

I used the above three questions to describe outcomes which include both my and the participants' takeaways from the workshop.

6.2.1 What are your takeaways from the service blueprint activity?

- **Answer: Be patient (give extra time as the facilitator)**

  In the twenty-minute brainstorm activity, Mandarin facilitators spent two-thirds of the time translating and onboarding team members and had much less time to work on revising the service blueprint. Facilitators mentioned that they needed to be very patient to help people out. This is similar to my practice in the Taiwanese government in that I spent so much time teaching people service design and had less energy to spend on actual design work. On the other hand, teaching people is actually a important part of the service design practice in the government and establish the foundation of government transformation.

- **Answer: Building empathy and trust**

  The main takeaway for the participants was building empathy for people with different

languages. Participant B mentioned that the people who always talk confidently in the class were suddenly frustrated and quiet because of the language barrier. Conversely, people all turned their attention on the Mandarin speakers, who had talked quietly before, and relied on them. Participant J mentions that as an English speaker, they started relying on others and trying to trust them because they had zero knowledge about the text. While at ODS, I did user testing at empathy lounge and through this activity we built empathy together around language, design fields and genders.

6.2.2 Aside from the materials given to you, what other material or resources would have helped you to understand the activity?

- **Answer: Tools help to empower people**

Most people wanted translators to bring their voice and power back. During the workshop, I observed that the majority of non-Mandarin speakers relied on the Mandarin facilitators; some of them decided to download a translation app immediately to help themselves out; some of them gave up before even trying to tackle the language problem. Proper tools can empower people and via this team activity of revising

the service blueprint, I found that people were unfamiliar with service design terminologies. In order to make service design more accessible for non-service designers, I will include a service design terminology handbook and slide for future workshops and the hand-off presentations.

- **Answer: Accountability on the service blueprint**

  There are four standards for Taiwan Open Government: transparency, participation, accountability and inclusion ("Participation Officer", 2018). In this workshop, participants were given their job title and looked for the part of the service blueprint related to their responsibilities. I plan to do a revision to point out these roles on the service blueprint and this can help team members to work more accountability and implement the accountability as well.

- **Answer: More background introduction**

  Without the comprehensive introduction of the collaboration process in the Taiwanese government, workshop participants had a hard time understanding the task. This is an issue when new designers work within the government, and they often need more time and support to understand how governments work. I hope my

research can make governments work more transparently and help future designers to work within the government more efficiently.

6.2.3 How do you feel about the power relationship between Mandarin speakers and non-Mandarin speakers in the workshop?

- **Answer: Multilingual designers had the most input into the design**

  Service designers often struggle in government because they generally don't have a comprehensive understanding of the language and machinery of government. Similarly, public servants rarely have a sophisticated design vocabulary, and therefore struggle to communicate effectively with expert designers. Not sharing same languages, whether English to Mandarin or design to government, makes communication more difficult.

- **Service design provided a level playing field**

  In the public sector, we need to avoid seeing the problem across only one dimension and balance evolutionary dynamic between the public and public managers (Gil-Garcia & Martinez-Moyano, 2007). In this workshop, service design

methodologies were used as the medium of collaboration, empowering service designers to talk and encouraging participants to give attention to the design prototypes. This workshop has inspired the possibility of using service design as a means to reduce conflict and power relationships in collaborations. That is, given that most people are not familiar with service design, it can therefore be used as a starting point for people to learn about the issue and build the same knowledge together in the collaboration.

6. 3 Conclusion of Chapter 6

Currently, service design is still in its infancy in government; service designers can build on this enthusiasm to open conversations and build bridges between silos in ways that were previously unavailable. For example, Observing non-Mandarin speakers using translation apps to empower themselves inspired me to offer a translation tool to explain service design terminologies. This workshop shows another method of using service design in the government decision making processes, as a tool to reduce conflict and build awareness of power relationships in collaborations.

7. Conclusion

Through design work with the governments of Ontario and Taiwan, as well as studio practices and workshops at ECUAD, I have outlined and given examples of the importance of intertwined service design and agile development processes, as well as issues of social justice in government service design. I encountered similar limitations when practicing service design in both governments. As service designers in the public sector, we have less authority to manipulate other touchpoints because we are newcomers and people do not recognize the usage and value of service design in the bureaucratic, political hierarchy.

The slow rate of change, undervaluing accomplishment and political volatility can frustrate designers to leave the government, especially for junior designers, who are seeking to build a portfolio and career with diverse and highly innovative projects. Outcomes of impact take time to be measured, as do the consequences of practicing service design and agile methodology including positive and negative influences. Through my research questions and case-study based answers, I have identified the many important issues and lessons service designers might practice when working in the public sector: We need to be patient, to not expect to achieve the outcomes and inclusivity[11] immediately and to slow ourselves down in order to help team members and stakeholders get on the same page. This research demonstrates that rapid prototyping can be an inspirational jumping off point for service design in governments.

11 User research didn't exist in the Government of Ontario until user research and prototyping labs started practicing it. Now, user research has become a thing that everyone wants in the Government of Ontario. Therefore, we found that people need performativity and visibility to understand new things (K. Benjamin, Personal Communication, February 21, 2019).

As digital service design becomes accepted practice in the public sector, the three principles of service design; user-centric design, co-creative methods, and holistic touchpoints, become tools for redesigning government services in general, as well as digital government services. Moreover, through the power dynamic workshop, I explored issues of design ethics in public collaborations found opportunities to revise my service design practice.

Now is the golden moment to let service design complement Digital and Open Government initiatives, co-creating solutions with a wider range of stakeholders and touchpoints, and letting design practices help give citizens a voice in designing government services.

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