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Welcome

This guide presents a series of key learnings and examples on the policy topics of notice, consent, and disclosure in digital product design.

Through these learnings, our aim is to help technology companies and regulators to start a people-centric conversation. There are plenty of important challenges to consider when designing for trust, transparency and control of people's data in digital products and services. We must go far beyond just achieving compliance. It's important that we discover solutions that truly make sense to people in a flexible, informative manner.

The examples you'll see were created during real-world experimentation sessions from May 2019 to August 2019, facilitated by TTC Labs under the guidance of the Singapore Infocomm Media Development Authority (IMDA).



Foreword

Singapore supports the development of data-related ideas and design concepts, and we are excited to be working with Facebook's Startup Accelerator programme to turn concepts into prototypes and real-world applications. What you see in this report are the fruits of the first season of the Singapore programme between Facebook and the Infocomm Media Development Authority (IMDA) that took place this year.

As you scroll through these pages, you will find prototypes and solutions that take concepts such as notice, dynamic consent and explainability – found in IMDA's Trusted Data Sharing Framework and Model AI Governance Framework – and show how they can be implemented.

For example, dynamic consent maximises existing touchpoints with consumers to obtain consent incrementally and in the context of the pending interaction. This is useful when interacting with existing customers, and is one way to fulfil notice and consent in a more user-centric and user-focused way.

In the same vein, you will also find examples that bring to life the concept of explainability, a core principle of our Model Framework. AI explainability has meaning for consumers when executed as part of the user experience; the information presented in context and in a manner which enables users to understand and choose to willingly participate. When applied well, it empowers consumers and builds trust and confidence. While a nascent area, it is by working with creative companies that we can start making constructive contributions.

These interpretations will hopefully spur thinking on how to achieve the same within your solutions, and enhance accountability in personal data protection at the same time.

This journey has been a rewarding experience for all – from startups, to mentors and everyone else who were part of this journey. Singapore's policy makers will continue to work together with industry in close collaborations to help drive tangible results for the Digital Economy. I look forward to the upcoming season of the Startup Accelerator programme.

Mr Yeong Zee Kin

Assistant Chief Executive (Data Protection and Innovation),
Infocomm Media Development Authority of Singapore

Together with our partners, we are proud to support startups with implementing more usable and meaningful ways of allowing people control of their data and privacy.

TTC Labs have led over 20 Design Jams around the world, collaborating with a wide range of experts across design, academia, industry and policy. The insights from these events have informed the work in Singapore with startups on Notice, Consent and Disclosure and to the growing store of knowledge and resources available on the TTC Labs platform.

However, this is not just the next episode in a global series of workshops, but presents a unique opportunity through the world's first Data Regulatory Sandbox created by Infocomm Media Development Authority of Singapore (IMDA). This world-leading sandbox has allowed us to go beyond conversation to really test more usable approaches to privacy and data with startups who are innovating every day with new technologies and services across a range of industries.

Startups often have limited resources and are driven by the need to create compelling and meaningful experiences for the people who use their products. Through this initiative we have gathered policymakers, lawyers, designers, and business in support of startup businesses. For the team at TTC Labs, this has been a rewarding new initiative, and we have gained enormous insight from the startup founders and our partners who have been the driving force behind this work.

Deep collaboration on this program has advanced the knowledge and empathy of what it really takes to create innovative new services that use data while being sensitive to data privacy and user experience. We look forward to continuing to build upon this together.

Elaine Montgomery

Director, Product Design, at Facebook,
co-lead of TTC labs

Introduction

The apps and services we use day-to-day are continually evolving: new platforms and devices blur the lines between real-world interactions (offline) and digital (online) transactions. Meanwhile, the regulatory environment around personal data is also evolving to more clearly define protection and legal recourse around personal data.



The designers and engineers who build today's digital tools increasingly depend on policy input and support. The mission is two-fold: how do you develop thoughtful ecosystems that comply with the growing levels of transparency and data control that regulators and regulators require while also maintaining the kind of easy-to-use patterns that people have become accustomed to seeing on their screens?

This guide is a first step. The learnings found here will be developed through future seasons of product development in the months and years to come. The examples you'll read about in this guide are based on prototypes built by the Facebook Accelerator Singapore's participating startups. You'll also see supporting examples from other TTC Labs Design Jam prototypes, created all over the world from July 2017 to August 2019.

Key Learnings



1

Transparency and simplicity are not at odds with each other.

By leveraging in-flow behaviors like progressive disclosure, we can give users the best of both worlds: simple interfaces and radical transparency.



2

Best practices for informed consent must reflect a variety of digital literacy levels.

Just because someone has internet access, it doesn't mean they are "savvy" or "digitally native." We can use relatable proxies and offline examples in order to collect informed consent from every kind of person.



3

Trust is built on proactive, contextual transparency.

It's not enough to only reveal information when people go looking for it in the settings menu or when they request to download data from the system. We can consistently check in with people while they're using a service, in order to make sure they understand their privacy options at all times.



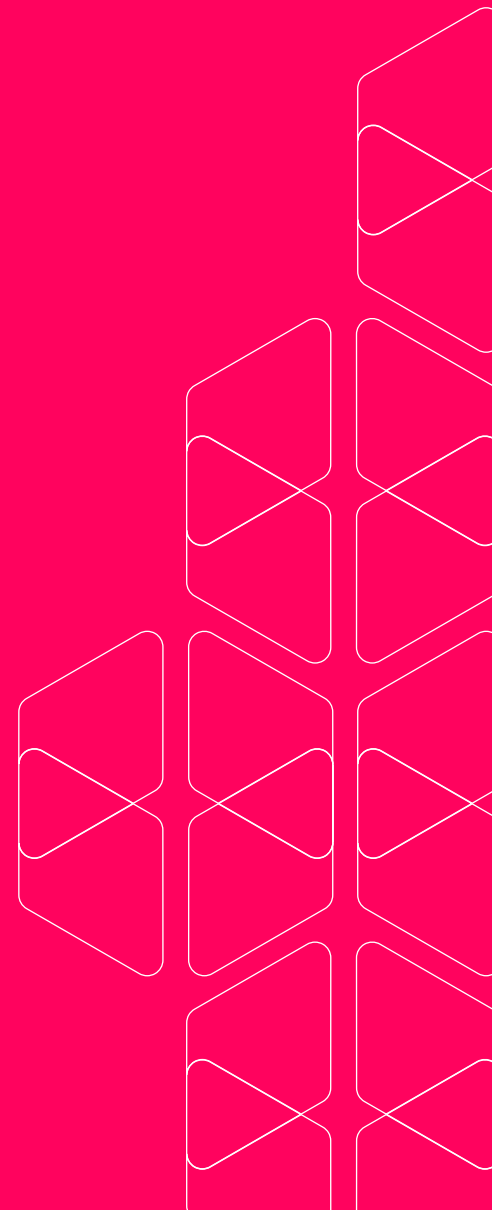
4

When people give data permission, it should be a value exchange.

Instead of relying on vague descriptions about "user benefits," we can use specific data points in order to clearly demonstrate the value exchange happening in any given interaction.

1

Deep Dive



People-centric Approaches
to Notice, Consent,
and Disclosure

Deep Dive

Learning through prototypes

Our key learnings were gleaned from conversations that happened between technologists and regulators while they worked side-by-side through the design sprint process.

This next section of the guide will go into depth on some design sprint prototypes.

The prototypes emerged from use cases for real startups based in Asia. You'll also see a few supporting examples from around the world, based on fictional technology products created by TTC Labs during previous Design Jams.

Here are the companies to know about...



Startups

Participating in Facebook Accelerator Singapore

Jumper: a conversational commerce platform that allows online merchants to sell products through messaging and social channels

Vouch: a chatbot concierge that helps hotel/venue visitors with common tasks

Waitrr: an app for ordering food at restaurants

Gigagigs: an app that instantly connects people with easy-to-do tasks and pays them upon the completion of these tasks

Newswav: a multilingual news aggregator for Malaysian readers who want to read news from multiple sources, in multiple languages

Reach52: a social enterprise that delivers healthcare services to underserved communities



Supporting Examples

Fictional services created by TTC Labs

Ditto: a fictional voice assistant app to use with a connected speaker systems; includes media/music controls and pairs with other connected devices

Tale: a fictional augmented reality storytelling game with a social component where digital roleplay characters can meet and challenge each other through video

Vidi: a fictional live video-sharing platform targeted at young people

Getting clear on terminology

Here's what we mean when we talk about...



Notice and consent

Asking for someone's permission to collect their data, explaining exactly what information will be collected, and explaining when it will be collected.



Algorithmic transparency

Providing a clear explanation of how a product or service is affected by a person's data. For example, when someone is seeing personalized search results based on machine learning.



Inline

Taking an action as you go. If someone can make an informed decision without leaving the screen, they are making an "inline" decision.



Transparency and simplicity are not at odds with each other



Many of the startups participating in Facebook Accelerator Singapore are building products that will demand new paradigms around data use. The complexity of their offerings—shopping through a messaging platform, facilitating transactions that blur the lines between online and offline, and expanding access to healthcare—are pushing boundaries.

Transparency and simplicity can be seen as contradictory design principles for complex services. A fully-transparent interface may not be simple to use, whereas a very simple interface may lack meaningful and informative transparency.

Finding the balance becomes even more important if the product relies on third-party integrations (such as social network APIs) to deliver the experience. When cross-platform complexity skyrockets, it becomes hard to draw boundaries around the ecosystem and for a person to make sure they understand where their data is being stored and used. Striking the balance depends, in large part, on a service's goals and audience.

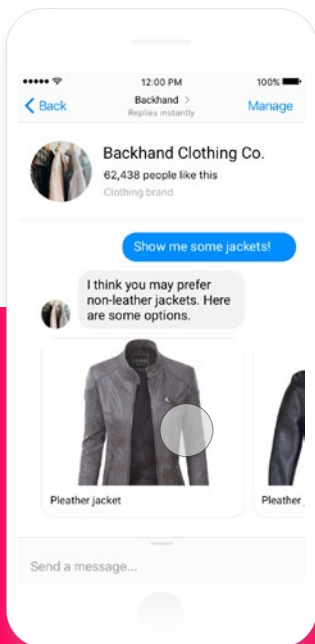
The following prototypes explore this tension between transparency and simplicity across two mechanisms: **progressive disclosure** and **simple summaries**.



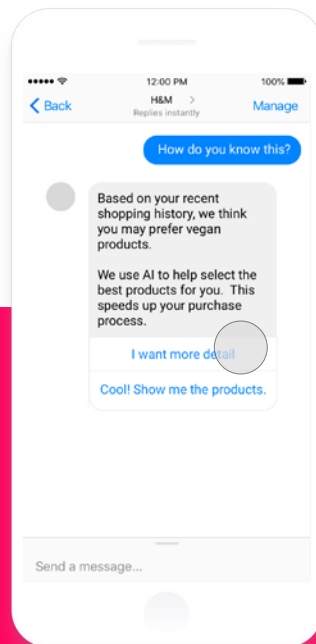
Progressive disclosure

Progressive disclosure is the intentional sequencing of information and actions across several screens or interactions, rather than explaining everything up front before someone takes any action. The goal is to aid comprehension and decision-making. People see a high-level overview first, then continue moving through additional steps, learning as they go.

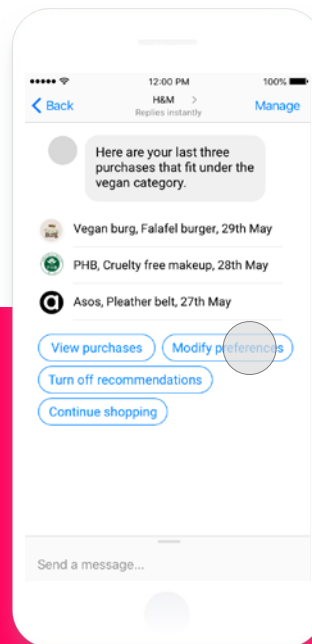
At the Singapore Facebook Accelerator Design Jam, the **Jumper** team prototyped an AI-driven recommendation engine that suggests shoppable products to customers based on transactional data they had previously shared with the platform. Their prototype explores how an AI-driven recommendation engine could be explained inline by progressively revealing information and choices without becoming overwhelming.



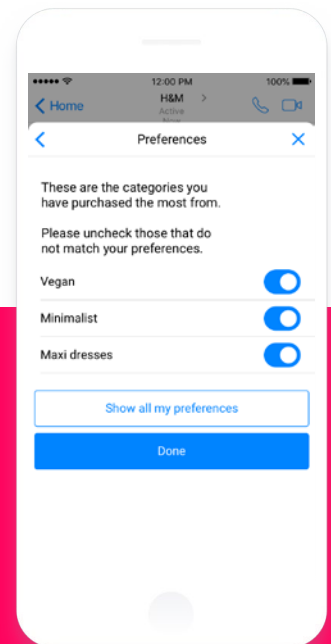
The customer requests to see jackets to purchase inside a messaging interface.



The system asks permission to show an AI-determined category. The customer selects a predicted response ("I want more detail") in order to see the reasoning.



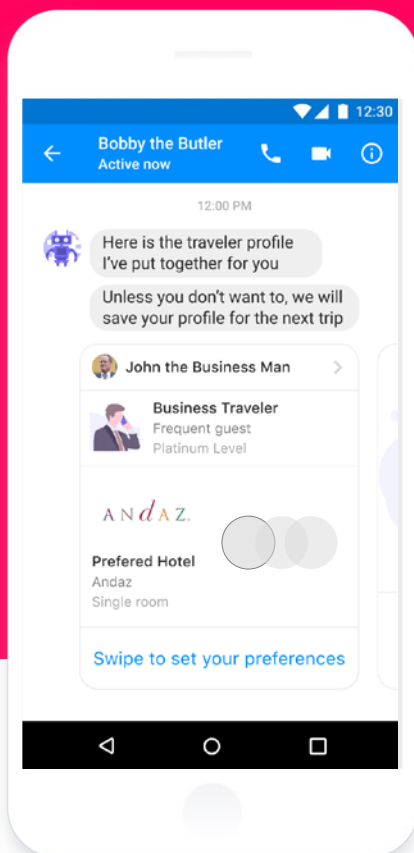
The system explains its decision, based on a specific data point. Controls for managing future recommendations, including disabling them entirely, are easily accessible.



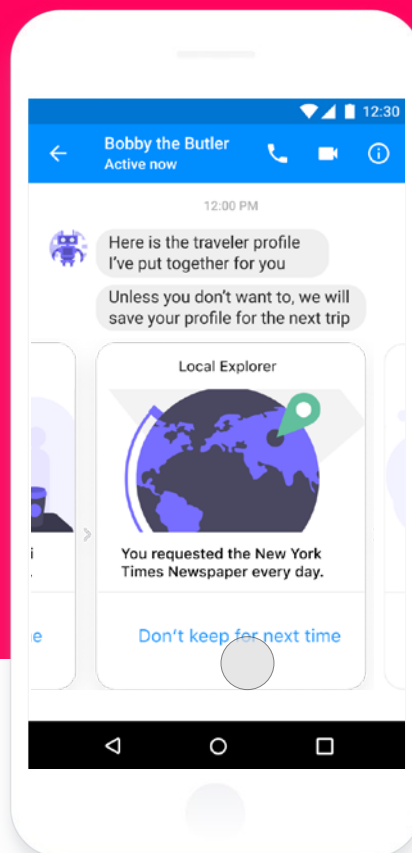
Simple controls for managing customer preferences generated from purchase history.



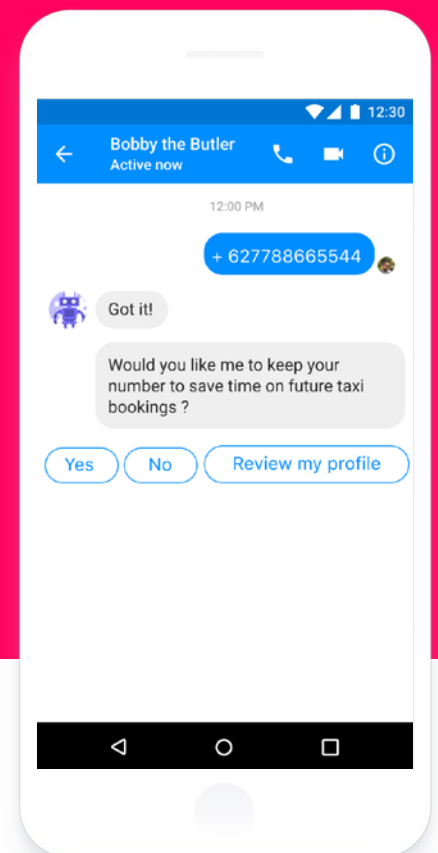
This **Vouch** prototype shows an interaction between a concierge chatbot and a business traveler. The customer is receiving an AI-generated traveler profile.



The traveler receives a generated profile, and can immediately take control in order to change preferences or adjust for mistakes.



The elements of the generated profile are displayed. The traveler can take control by removing a data point, such as newspaper preference, from their profile.



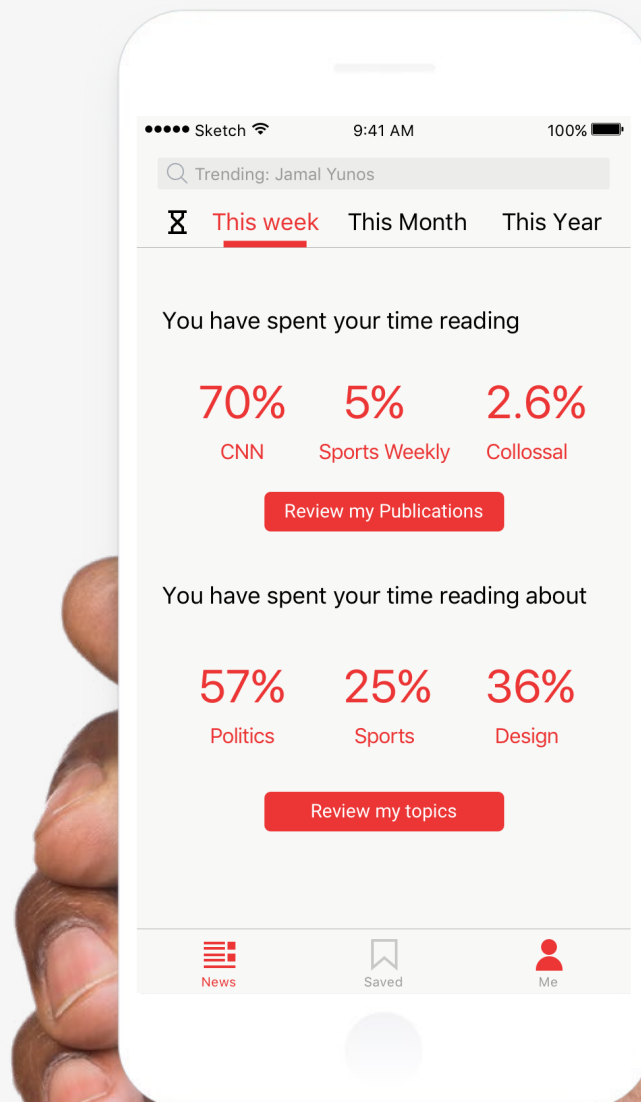
The traveler is asked to give their consent about storing this particular data point. There is an obvious mechanism for saving and managing data.



Simple summaries

If someone's past activity on a platform influences their future platform experience, they should be able to see a high-level summary. A technical log of activity is too overwhelming, and comes without any context.

Below, the **Newswav** prototype explores how a person's platform activity can be summarized and classified. This allows a reader to get a concise overview of what their recent activity looks like in a simple dashboard that increases transparency by showing how their personal data drives the content of their feed.



A Newswav prototype, presenting a simple summary of someone's activity on their platform, along with an opportunity to review this information in more detail.

This is a good example of how simplicity and transparency can be brought together to offer a good user experience.



Best practices for informed consent must reflect a variety of digital literacy levels.



As technology becomes the default communication infrastructure, both technologists and regulators must consider the people that don't yet possess a mental model for digital privacy, transparency, and control.

Terms and conditions, data collection, data storage, data use, privacy settings – all of these words assume a certain foundational understanding of technology. The underlying concepts must be explained clearly, using offline metaphors and accessible language, in order to achieve truly informed consent.

The following prototypes explore informed consent and digital literacy across two mechanisms: **reliable scenarios & proxies** and **multi-media informed consent**.

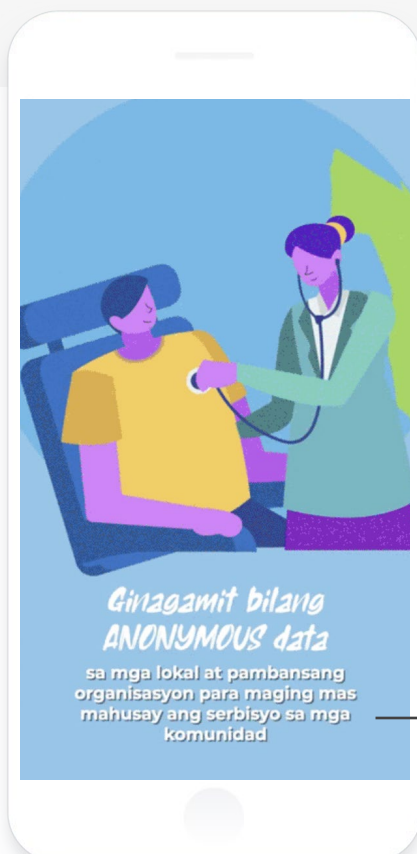
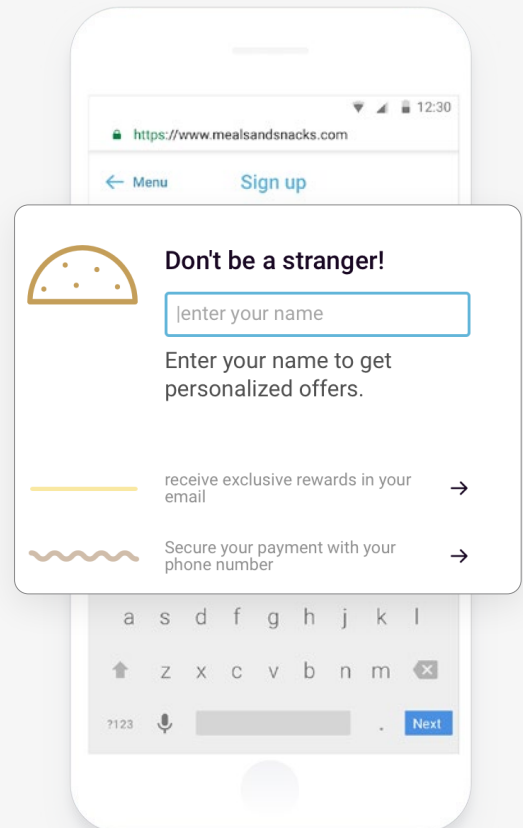


Relatable scenarios and proxies

We can create a more people-centric approach to privacy if we consider using familiar stories, proxies, or examples to illuminate how data rights relate to different parts of someone's day-to-day life.

The **Waitrr** prototype shows a post-purchase signup flow that uses a visual metaphor (the ingredients in a hamburger) to encourage account creation. The hamburger metaphor attempts to illustrate that a person can add more "flavor" to their app experience based on every additional layer of personal information they are comfortable providing. They can choose the settings that could provide them with a "richer" (more personalized) experience next time they use the app.

The system shows the option to add the phone number to the profile, but does not presume data storage.



The **Reach52** team developed a series of short illustrated animation clips to show people how their data would be collected, used, and stored.

This series of short animated videos featured illustrated scenarios and offline iconography to portray data collection to people who may be unfamiliar with the concepts. One could see how a similar approach could be applied to longer form video, a voice assistant, or a more complex in-flow interaction. We need a proactive approach to data disclosure.

→ *Translation:*

Used as anonymous data to local and national organizations to better serve communities.



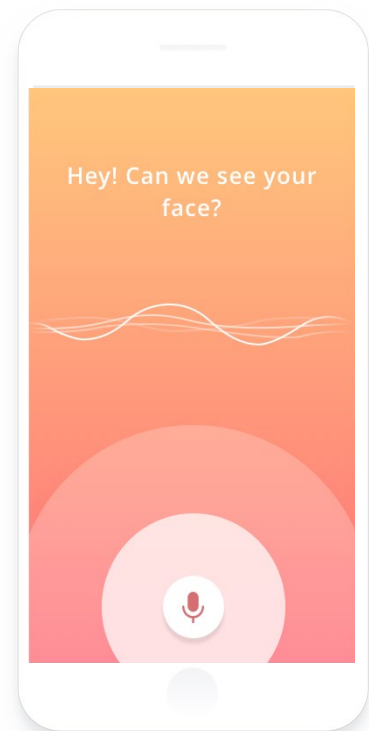
Thinking ahead:

Voice and video as alternative methods for consent

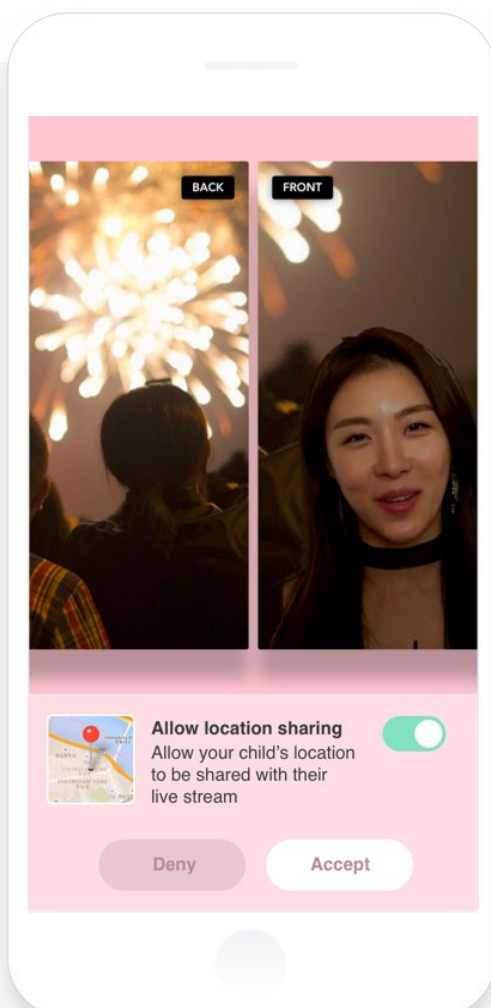
Voice is increasingly being used as an input method—whether voice assistants on phones, dedicated hardware, or the rise of voice clips in messaging apps. Voice interfaces offer a way to work around written literacy issues, and can enhance how data use is explained, and consent sought, within a service.

Here are a few examples of how multi-media communication can help us to achieve more informed consent and work around the challenges that come with digital or written literacy.

The fictional **Tale** prototype, designed during a Design Jam in Seoul, uses a voice assistant driven by natural-language processing in order to ask people for data permission.



The person hears a series of questions, interacting with the system one step at a time.



The **Vidi** prototype, based on a fictional live video-sharing platform targeted at young people, uses both front and rear-facing cameras to provide parents with a means of authorising their child to share specific data such as their location. This example deals with consent between two people who use a service — rather than between a service and its customers — but a similar approach could be taken when offering support to a potential service user.

By using video input from a device as part of a consent process, the person has visual context in order to make an important decision.



During a Design Jam in Singapore in 2018, a team of designers and policymakers created this fictional **Tale** prototype, using gesture recognition to capture a person nodding or shaking their head. Combined with a voice prompt or visual explanation, an interface like this could provide an informed consent experience for someone with low literacy levels or someone who isn't very familiar with using devices.

The use of video also allows services to recognize and respond to expressions or other gestures that may indicate partial agreement or confusion. Additionally, there is an opportunity for the system to engage with someone who is having a hard time making a decision.



A person can agree by moving their head into one area of the screen. The interface could also respond to gestures that indicate hesitation or confusion.

As more and more products are built with video or voice as the core experience, the act of asking for and collecting consent must also be imbedded within the context of the product experience itself. When explaining data use and gaining consent from people, consider an interface or interaction that makes sense for that specific service.



Trust is built on proactive, contextual transparency.



We can do better than relying on someone to find and download a spreadsheet of their data from the system. Transparency without context—for example, a 30-page list of every action someone took over a 6-month period—does not truly help someone to make more educated choices about their privacy and permissions.

Instead, technologists can create inline experiences that go above and beyond. In order to build trust over time with people, systems should be proactive. For example, check in to make sure people still know their permissions are turned on. Ask, spontaneously, for someone to review their data settings. Don't rely on people to go looking for data education. Instead, technologists and policy makers can work together to bring data education into the daily experience.

The following prototypes explore how to build trust over time across three mechanisms: **proactive check-in, providing opportunities for feedback** and **demonstrating value exchange one data point at a time.**

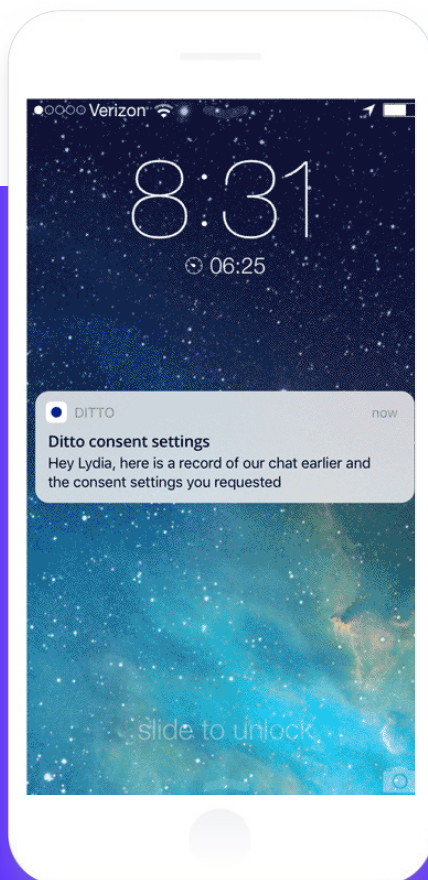
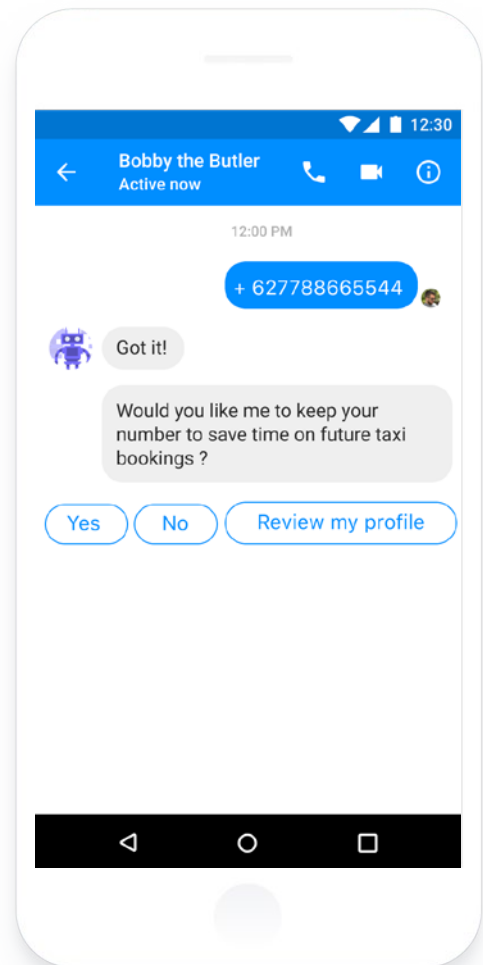


Proactive check-in

An unprompted check-in happens when the system occasionally provides information or asks for your continued consent, rather than passively waiting for a person to seek out and engage with controls. This is a helpful mechanism for keeping someone consistently informed about their data decisions. The proactive check-in mechanism also helps technology teams to build trust with users over time, by actively encouraging a dialogue about data management.

When providing a taxi booking service, the **Vouch** prototype asks if the person wishes to save their phone number to their profile. The system does not make any assumptions about data storage, and the customer can see every available option.

The system shows the option to add the phone number to the profile, but does not presume data storage.



Putting verbal consent into writing

Here's another example of how proactive check-in might work when a person is interacting with a voice assistant. Created during a TTC Labs Design Jam in Buenos Aires in 2018, this Ditto prototype checks in for consent after a verbal conversation about settings.

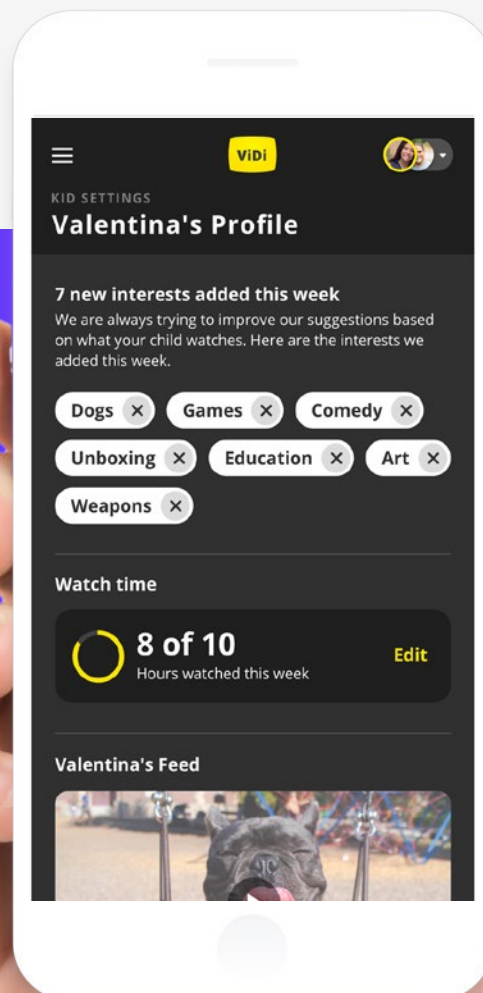
The system shows the option to add the phone number to the profile, but does not presume data storage.



Providing opportunities for feedback

Controls for reviewing and managing recommendation data can also be presented proactively in context, giving people the opportunity to provide immediate feedback.

This **Vidi** prototype, based on a fictional app used during a Design Jam in Mexico City in 2019, offers an in-context idea for managing preferences. People can make changes in-flow, without having to go to a settings screen and then return to the experience. Changes are immediately reflected in real time.



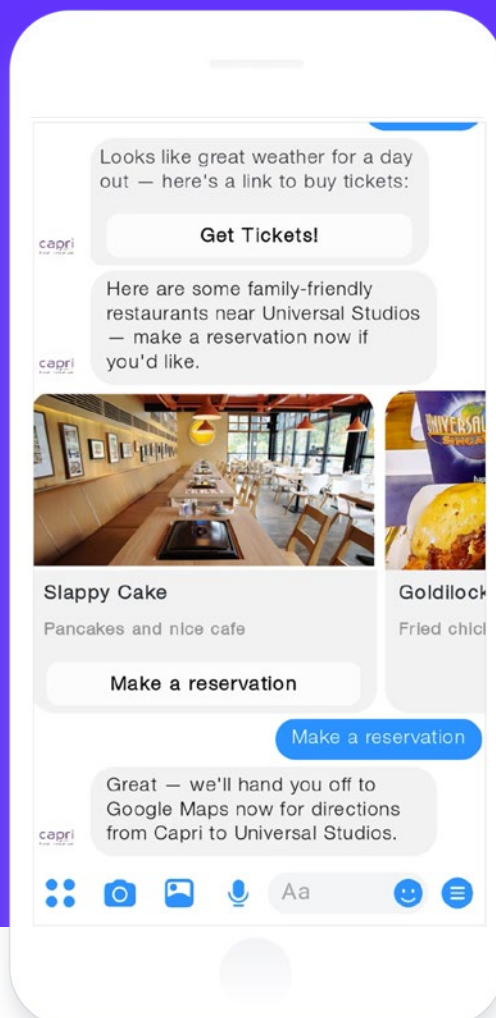
*A person can
make important
data changes
without leaving
the screen.*



Demonstrating value exchange, one data point at a time

People are asked to share personal information with a service at the point of sign-up, before that data is needed and before they've experienced the service. We need to consider how the value exchange between a person and a service can build over time—starting from a small-but-necessary kernel of information, and growing into a more significant value exchange that builds trust over time. By designing for experiences that build trust over time, we can create new opportunities to facilitate a deeper 'conversation' about data between people and platforms

This **Vouch** prototype provides an example of how we can use device context (by referencing another app) and a non-sensitive data point in order to provide a compelling experience that builds trust.



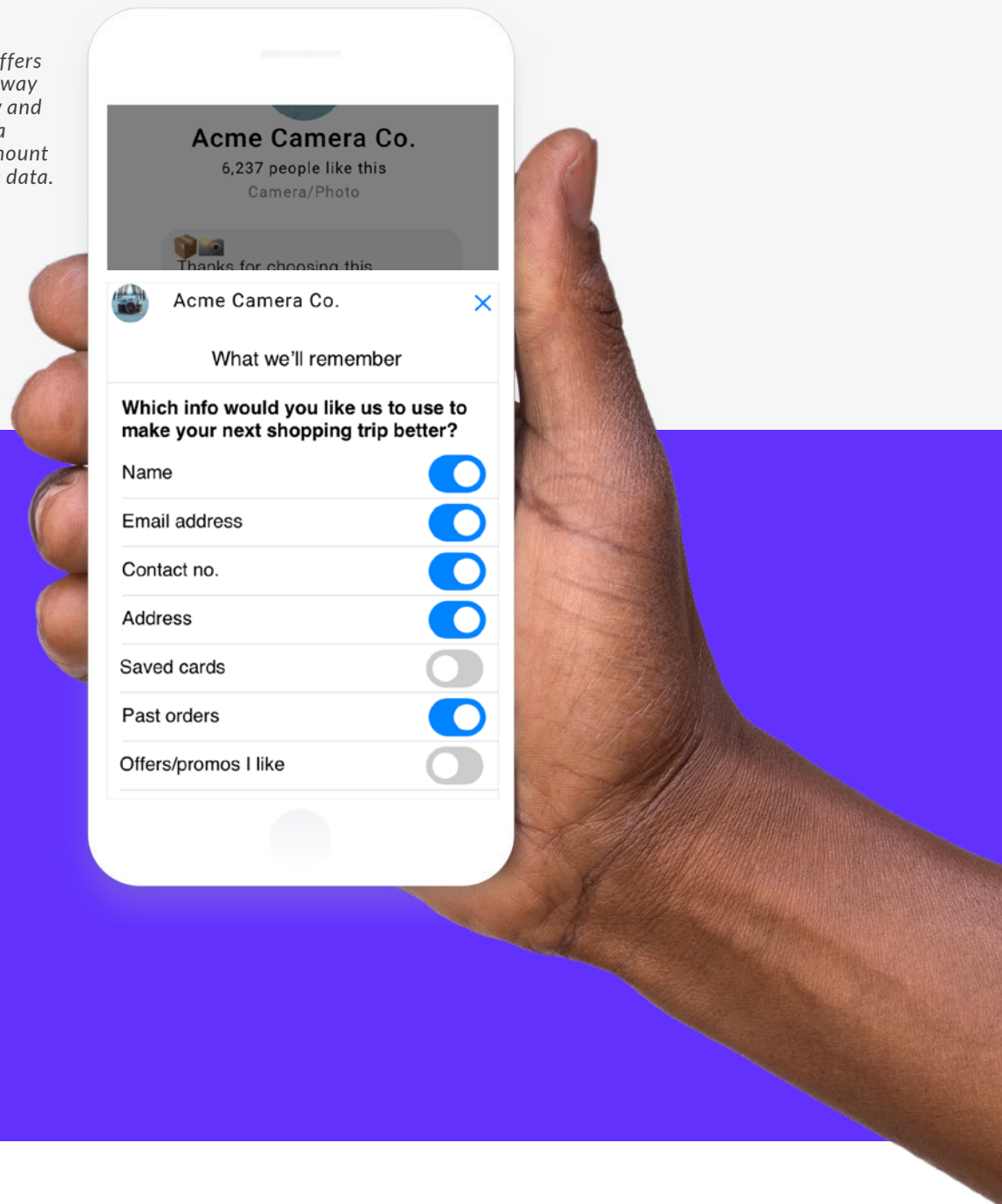
A person uses the Vouch concierge to search for a restaurant from their hotel location.

From there we can extrapolate a rich conversation around family-friendly attractions, supplementary activities (e.g. meals and ticketing), and transport options.



The **Jumper** prototype temporarily directs people to a popup screen where they can review, amend, or remove data. This is a proactive way to ask someone about the data they've provided to the platform without fully interrupting their experience.

Jumper's pop-up offers people a way to review and manage a larger amount of profile data.





When people give data permission, it should be a value exchange.



On its own, the concept of “data collection” feels clinical at best and terrifying at worst. Moreover, many people do not have a strong understanding of what they receive back from a service in exchange for the data they have shared.

How might we communicate value exchange to people in a way that makes sense? Instead of relying on vague descriptions about “user benefits,” we can draw on concrete examples and specific data points in order to clearly demonstrate the value that a service provides.

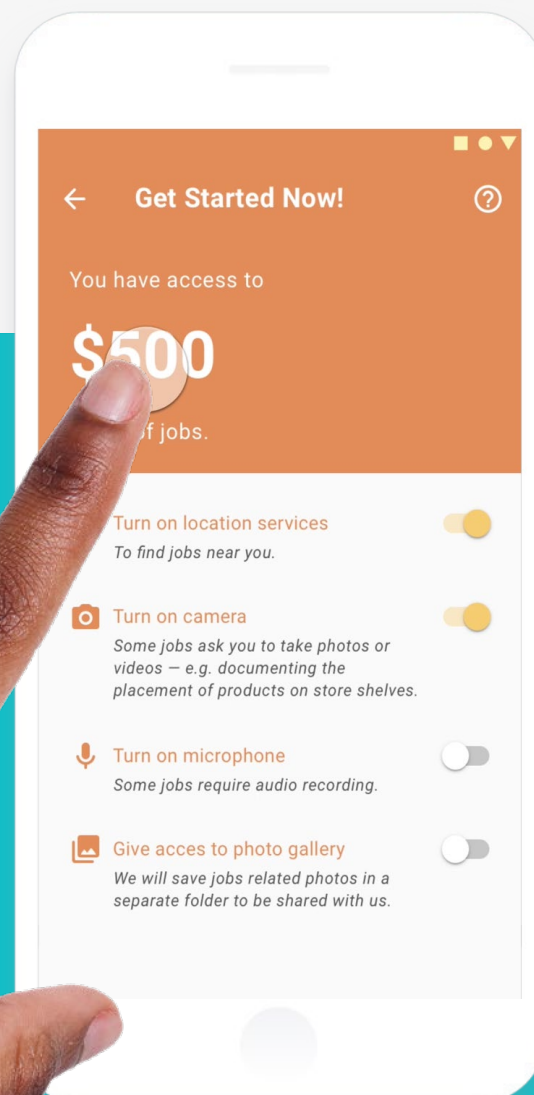
The following prototypes explore this value exchange by **surfacing service potential** and by demonstrating **cause-and-effect** based on someone’s actions.



Surfacing service potential

We often ask for data permission only at the point when someone stumbles onto the experience. Instead, what if we proactively demonstrated the connection between additional permissions and additional service benefits?

The **Gigagigs** prototype shows a permissions menu that explains the exact, specific scenario that would depend on a person giving their consent for a new layer of permission. Additionally, they quantify the gain into opportunity dollars, explaining that the current settings offer the jobseeker access to \$500 worth of jobs—a number that would grow with more permissions.



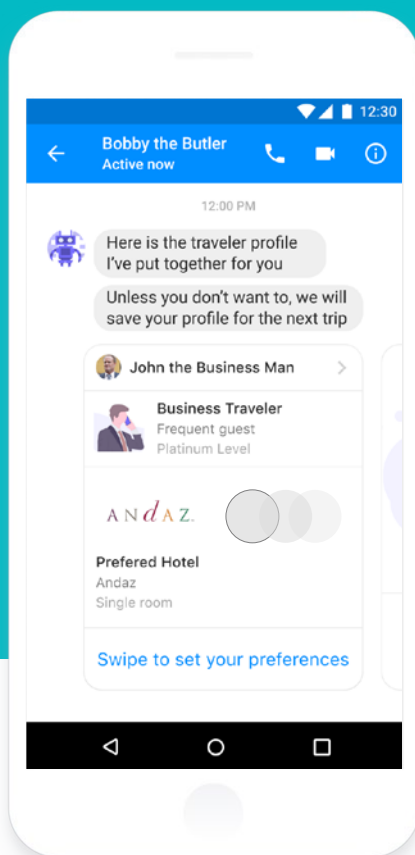
The jobseeker can turn on more permissions, and the dollar amount will demonstrate access to broader opportunities in real time.



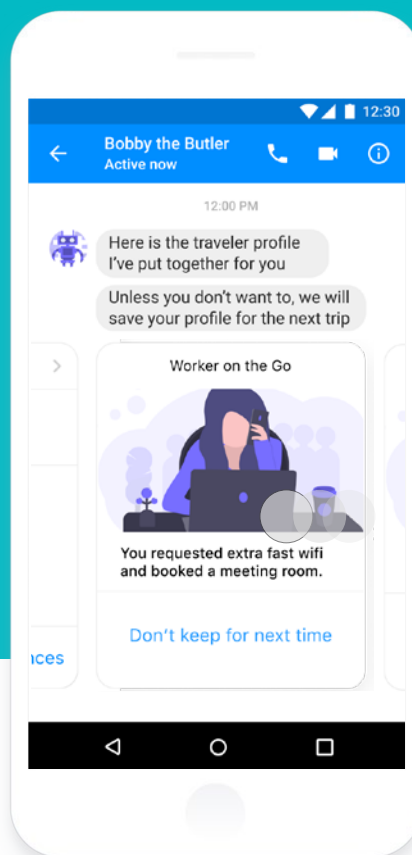
Cause-and-effect for actions

In order to inform people about how their actions affect their experience, we can leverage a “cause-and-effect” approach in order to illustrate the connections.

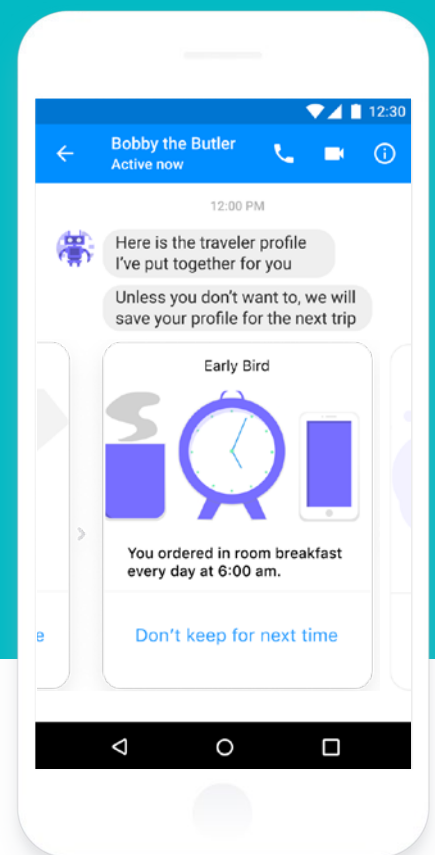
This **Vouch** prototype shows an interface that allows people to review and remove their data inline. The UI includes a link between each previous customer action and a method for removing that information from the system.



The traveler sees their profile, and can easily access their preferences and data.



The traveler can remove an individual data point based on a previous order.

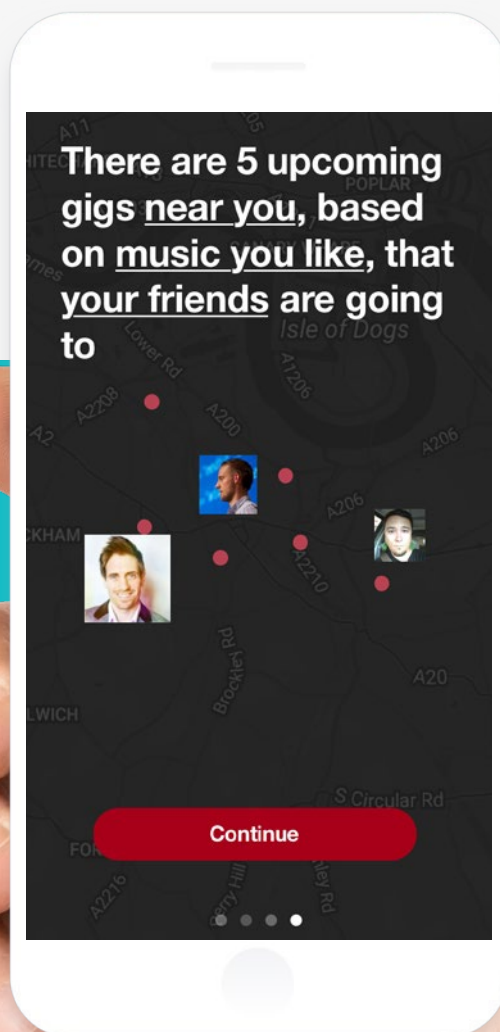


The traveler does not need to take action if they want to keep the setting in place.



Data doesn't have to look complicated

Designed during the Transparency Design Jam, Dublin, 2017, this fictional **Fanfare** prototype displays a simple UI idea: leveraging hyperlinks to create more algorithmic transparency.

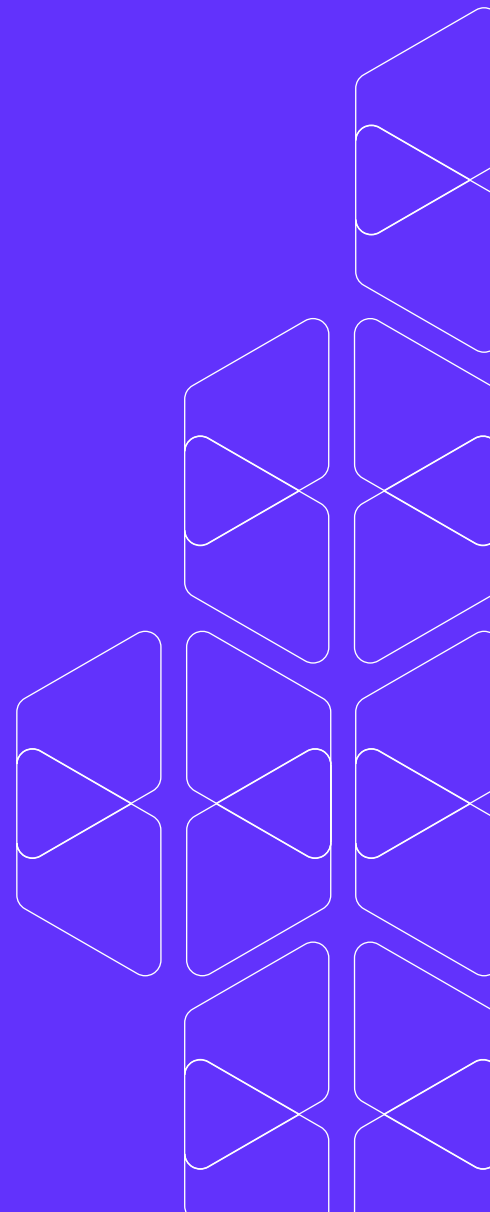


The music fan can select a data point (see: near you, music you like, your friends) in order to learn why the system is making these specific gig recommendations.

2

Legal innovation through design, prototyping, and the law

People-centric Approaches
to Notice, Consent,
and Disclosure



Our Approach

Traditionally, discussions around policy and design are worlds apart. It can sometimes feel like the two parties are barely speaking the same language. As new platforms, interactions, and business models continue to emerge, productive collaboration will critically depend on policy-makers and technologists co-creating joint decisions in a meaningful way.

What is co-creation?

The active involvement of all stakeholders in the development of new products and services, based on a framework that encourages everyone to work together.

We cannot make all decisions in theoretical vacuums. By deep-diving into startup services and real-world products — as opposed to fictional apps or hypothetical discussions — we can continuously test emerging technologies for notification and consent and data privacy, while keeping the goals of a real business in mind.

What are TTC Labs Design Jams?

The Trust, Transparency and Control (TTC) hosts Design Jams worldwide to provide startups with a policy-driven toolkit for developing their initial prototypes, testing them, and iterating to better meet peoples' needs. TTC Labs hosts in-depth programs of preparatory work and follow-up sessions.

In the context of this guide, TTC Labs facilitated Design Jams focused on the pilot class of Facebook Accelerator Singapore startups and the IMDA. The Design Jams, along with associated follow-up work with the IMDA, allowed startups the freedom to experiment with novel approaches to notification, consent and AI explainability. Moreover, local regulators were provided with a closer view of the challenges faced by startups who want to work within policy constraints. This co-creation helps inform future policymaking.

Working this way provides a space to co-design, test, and validate promising emergent models for notification and consent, and allows both startups and regulators to gain a better understanding of the challenges each are facing.

- **Regulators** get a taste of what prototyping a new feature or service looks like, and better understand the challenges startups are facing when introducing new technologies that meet permissions, consent, and notification criteria
- **Startups** can ask questions and challenges around remaining compliant with regulation while still effectively meeting user and business needs
- **All parties** help establish a model of data innovation that empowers startups to accelerate their businesses in cutting-edge ways while continuing to keep people's trust, transparency, and control as key priorities

The Process

The Challenge Convincing industry and policymakers that they'll each achieve better outcomes by working closely together to better understand each other's challenges and approaches.

The Opportunity When regulators are willing to work with industry and startups are willing to work with regulators, both parties can achieve useful outcomes around a challenge that must be solved. This is the ultimate goal of a regulatory sandbox.

Co-creating products and policy in tandem requires active engagement from all involved parties in order to succeed. Regulators in other markets may wish to adapt or borrow from this approach to suit their market, resources, and current regulatory environment.

Aside from the Design Jams, in which startup staff, policymakers, and other subject matter experts collaborate on potential prototypes, we have engaged startups and policymakers in the following ways:



A regulatory sandbox allows startups to innovate with data within well-defined boundaries; this lets startups use design, technology, and business to support and help inform the development of regulations which account for new platforms and services.



Individual conversations between IMDA and startup founders and staff to better understand their startup goals, business model, and design approach and challenges; in order to clearly communicate value proposition and opportunity within sandbox



General Q&A session with TTC Labs & IMDA subject matter experts around the PDPA and associated responsibilities; in order to understand startup challenges and offer support and guidance around compliance



Follow-up support including group masterclasses, 1-on-1 sessions, and email & phone support with startups on how they might refine, test, and roll out novel approaches to notification and consent in their products



Self-serve help and resources for organisations are made available to learn about PDPA, to help them get started in their data management and implementing policies and processes, at pdpc.gov.sg/organisations/help-for-organisations



Open-source tools hosted on toolkit.ttclabs.net to drive further iteration and refinement of designs that meet peoples' needs in a compliant and flexible way

These activities form part of a flexible framework for other policymakers who are interested in taking a people-centric, hands-on approach to ensuring regulation around data protection meets the needs of businesses, governments, and end-users. Anything from one or more of these activities could be used as the basis for a co-design process involving both industry and regulators.

The concrete output and the likely impact of the output:

- Innovative, human-centric, and legally-compliant design patterns for consent and notification (and, over time, other areas relevant to data policy)
- Design-led policy innovation
- Building frameworks and toolkits for product makers and policymakers
- Data innovation regulatory sandbox as an evolving, collaborative model / approach

Key learnings from the application of this process through Season 1 of the Facebook Accelerator Singapore include:

- Allowing regulators to see the role design can play in addressing the challenges startups face in complying with policy
- Giving startups a frontline view of what policy development could look like; allowing them to be representatives of broader shared industry issues and pain points
- Openness among parties about challenges related to complying with current and future regulation, and collaborating on co-creating viable design solutions can result in learnings and models that can be used as a guide by others who seek examples of human-centric and legally-compliant notice & consent user interfaces.



3

Opportunities for advancing practice through policy co-creation and regulatory sandboxes

People-centric Approaches
to Notice, Consent,
and Disclosure



How is co-creation between regulators and entrepreneurs changing the way we think about policy making?

Many data privacy innovations will come from large companies, but many more will come from small businesses and startups. New founders will innovate with fresh eyes. Serial founders will tie learnings across multiple industries and multiple technologies in surprising ways, affecting the overall ecosystem.

From the perspective of a startup, entrepreneur, or small business: Policy can often be seen as an immovable object—a fixed constraint to work with, offering little flexibility or consideration for emerging technologies, behaviors, or business models. When policy changes dramatically, it can feel like an extreme shift in weather. You see it on the horizon, or read about it in the news, but it arrives of its own volition. Things that felt under your control (product roadmaps, engineering decisions, design choices) are suddenly delayed, re-cut, or thrown out entirely. It can feel like your team’s situation wasn’t considered.

Meanwhile, from the perspective of policymakers: The look and feel of a product are regarded as implementation details. Much of a technologist or designer’s day-to-day happens in the nitty-gritty of interactions, animations, and micro-copy. These details are too granular to be considered individually by policymakers and regulators, despite these interfaces being the first, and often only, point of contact between a person and a service. Guidelines around design and execution, if present in policy, are often broad.

Innovations will continue to arise. They will come to market faster than ever before. By offering hands-on policy support and incentives, regulators can encourage proactive thinking. By pushing technology to do better by individuals, citizens, and consumers, we begin to solve challenges faced by industry and government alike.

A “traditional” approach to policy development can result in regulation that is dropped onto industry and customers without a complete understanding of the challenges it may create for them.



There is growing interest in policy co-creation, in which regulators and industry work more closely together to yield practical tools for 21st century policymaking. Utilising collaborative methods around co-design and prototyping through workshops and wider curricula, opening up access to subject matter experts and enabling direct, constructive engagement between startups and policymakers: all contribute to an environment that helps each party better understand and empathise with respective needs and challenges.

As more tools, practical experiments, and opportunities for policy entrepreneurship are created, this approach could be adapted by regulators in other markets, or other parts of government that impact directly on the business of startups and others bringing emergent and adaptive experiences to market.

By fostering this practice in the sector-agnostic field of data-driven innovation, the guiding assumption is this: The more iterative and collaborative the policymaking process, the more likely that the resulting regulation will work for all parties, thereby minimizing risk and increasing desirable outcomes into the long-term.

The ultimate goal is to fuel innovation and entrepreneurship in technology while building trust and control for people.

Evolving uses of a regulatory sandbox

A regulatory sandbox functions as an innovation lab: a space for ideation, for working through a set of scenarios and enabling experiments on thematic subject areas, for determining which concepts should be tested and further developed.

A sandbox allows for companies to modify their plans and form new hypotheses, resulting in the development of new innovative products.

Inside of a sandbox, the regulator gives companies the ability to help shape policy and law. The context should be one of enhancing law, operating with guidance for innovation and longer term planning for both companies and government. A long view should be adopted. The best kind of sandbox is the one that allows for iteration as the regulatory and operational model is developed over time.

If regulator and technologist are not both actively engaged in the work produced through the sandbox approach, there can be risks:

- directing policy in a way that does not match the needs of companies and other participants in the ecosystem
- creating minimal or no impact on subsequent regulation
- killing off potentially high-value and impactful projects in their infancy
- the sandbox becomes merely a vehicle for companies to be exempted from certain rules without an emphasis on innovation

However, the risk of a “business-as-usual” approach to drafting policy aimed at addressing changing technologies and behaviours is greater still: unimplementable policies created in a vacuum, without regard for how people’s use of, and attitudes to, new technologies.

Regulatory sandbox models are in their infancy.

Experimentation around the model (as well as sharing learnings across sandboxes by jurisdiction, sector, and approach) will enable technologists to research, develop, and test their product offerings with advice and temporary exemption from regulatory enforcement. The sandbox calls for new working models between public and private players, models that help to establish a framework of data innovation for businesses to accelerate in new and cutting-edge ways, while continuing to keep people’s trust, transparency, and control over their data at the core for a more human-centric and sustainable data-driven ecosystem.

Sandbox co-creation is one step on the journey towards 21st century approaches to making products and policies that work for both business and society.

Some questions & next steps

The second season of Facebook Accelerator Singapore will kick off in 2020 with a continued focus on data-driven innovation and data protection through the thematic areas of notice and consent, as well as a focus on algorithmic transparency and data portability.

TTC Labs will continue to work through a people-centered approach for navigating these challenges, sharing learnings and insights. Central to this approach is a way to account for diversity (such as varying literacy levels, technological familiarity, and cultural background) when setting policy around consent and disclosure.

There is a unique opportunity for innovation through the regulatory sandbox and, more generally, through policy prototyping. Given that policymaking needs to evolve to account for the acceleration of technological and data-driven innovation, here are some open questions from this ongoing work:

- **How might we use legal bases as already highlighted in our work through iteration, testing, and further development? How do we add new legal bases to this approach?**
- **How might we design policy to balance UX with compliance as new models of interaction evolve?**
- **How might we continue to use and develop shared tools around trust, transparency, and control, making them readily usable for multiple organizations focusing on product and policy innovation?**
- **How might we design ideas and further concepts be operationalized by other startups, companies, and organizations, and what are the uses of this co-creation approach for other regulators and policymakers?**

TTC Labs is interested in speaking to entities that are harnessing and building on the insights and learnings from this report as well as through their own work. By starting a design-led dialogue on digital policy issues, the goal is to foster increasing people-centric guardrails and services so that all boats rise with the tide of data-driven innovation.

4

Appendix & References

People-centric Approaches
to Notice, Consent,
and Disclosure



TTC Labs

The Trust, Transparency and Control Labs (TTC Labs) is a cross-industry effort to create innovative design solutions and improve user experiences around personal data.

Initiated and supported by Facebook, and built on collaboration, TTC Labs is a movement that has brought together over 200 cross-industry and design companies as well as 120 policy, academic and civil society organisations globally to focus on shared challenges.

We bring together experts to tackle shared challenges ranging from consent and permissions frameworks to trust across different audiences, transparency in context for digital services, artificial intelligence and algorithmic transparency, trustful interactions, dashboards and control types, and design for young audiences.

We are partnering with others to put people at the centre of how we design for transparency and control. We run output-oriented interactive workshops called Design Jams. FB have pioneered Design Jams to build better interfaces for trust, transparency, and control of data. These intensive workshops have brought policy-makers and regulators to work directly in collaboration with designers and privacy experts in day-long workshops to produce prototype solutions.

We're creating tools, practical guides and frameworks by synthesising the patterns and insights produced at Design Jams to allow the wider community to engage in the problem space and speculate on potential solutions.

The Labs is an innovation hub that allows anyone to explore, develop and share best practice privacy design to provide inspiration for people looking to tackle universal and complex problems in collaboration with organizations from business and civil society.

We're fostering collaboration and innovation to come up with new solutions and creating materials that anyone can use, adapt and replicate. And this is only the beginning. We need to keep working together to create a scalable approach to building trust, transparency and control into data-driven products and services.

The use, storage and collection of data is an issue that affects everyone, and it's important that we get it right. Unless we build trust around personal information online, innovation that can benefit society through data will fail to reach its potential.

Facebook Accelerator Singapore

Moving from co-design to co-regulation by working with government and startup communities, piloting and testing new policies in regulatory sandboxes.

Facebook is collaborating with the Singapore government's Infocomm Media Development Authority (IMDA) at the Facebook Accelerator Singapore, which kicked off in February 2019. Facebook Accelerator Singapore builds on the Startup Garage Paris, the world's first incubator program for data-driven startups.

Uniquely, Facebook Accelerator Singapore approaches data-driven innovation and testing regulatory models by prototyping a first-of-its-kind regulatory sandbox – a framework to allow small companies to live-test new and innovative approaches in a controlled environment, operating under the regulator's guidance to leverage regulatory tools such as exceptions and exemptions where necessary. Through the sandbox, Facebook is working with IMDA to shape and define data-driven legislation for the future.

Startups can test their business models in a live environment in a well-defined space and duration, while being supported to ensure data privacy and security. The sandbox creates and tests new and needed legal requirements, which will help operationally to provide clarity, guidance and predictability and inform future policymaking. While IMDA provides regulatory support to startups, Facebook, through TTC Labs, supports startups with their data design considerations by focussing on improving user experience (UX) and user interactions (UI) in their digital products.

At the core of this process is the facilitation of Design Jams, output-oriented workshops that bring together multidisciplinary experts with different viewpoints. With the participation of world-leading academics, policymakers, civil society and industry representatives, alongside internal experts from Facebook's product, policy and legal teams, Design Jams apply the principles of "design thinking"

towards the challenges around trust, transparency and control in the digital space.

Design thinking is a multistakeholder and people-focused methodology for solving problems in an iterative and collaborative way. Within this methodology, teams of experts share ideas across disciplines, develop new perspectives and co-design digital prototypes as potential new approaches. Design Jams enable participants to discover the benefits of co-design for user experience (UX) and user interaction (UI), deepen understanding of the policy space and equip themselves with the practical tools to continue learning and thinking through the lens of human-centric approaches for data use.

By focussing on startup services and providing a range of support before and after the Design Jams, TTC Labs focuses on agile and human-centered design approaches that benefit all parties.

For the first cohort of startups at Facebook Accelerator Singapore, the focus was on co-designing startup products in conjunction with IMDA and other multidisciplinary experts. The ultimate vision of this work is to complement the established methodology around co-designing the data considerations of digital products with data with an evolving method for co-designing data policy, promoting forward looking, well-designed regulation via sandboxes, policy iteration and adaptive regulation.

TTC Labs aims to share learnings and build up a knowledge base through each cohort of startups that enter Facebook Accelerator Singapore, to seed interest in further collaboration, informing international stakeholders who are increasingly interested in this model.

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For more information and to connect with the team visit www.ttclabs.net



About Designs Insights Events TTC:Toolkit

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Building better relationships between digital services and the people who use them.

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