

# Data platforms, portals and civic engagement

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## Authors

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*Data portals are platforms that have enabled rapid growth of open data practice over the last decade. But they have become a barrier and a bottleneck, requiring a radical rethink. During this project we developed a set of insights, roles and proto-patterns that re-imagine portals as connected services, rather than technology products; proposing new approaches to bridge gaps in data discovery, quality and engagement, if data is to provide value for a wider audience.*

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## Introduction

The idea of open data is simple but powerful: the [economic and social value of data](#) is maximised when it is made as open as possible. In particular, public data can be seen as a civic resource feeding into many forms of [citizen participation](#). However, more than a decade since open data first began attracting policy attention, there is now a sense that much of the potential value of both public and private data is going unrealised.

One of the most common methods for making data available – particularly [open data](#) – is through a '[data portal](#)': a single online destination that hosts and curates datasets, and where users can search for, and discover, data to use for some purpose or goal.

*This project looked at data portals as a tangible object and lens to focus on the interaction between data publishers and data users, particularly in relation to activities that aim to achieve outcomes for the public good. In doing so, we have developed ideas that will be of relevance not only to portal developers and stewards, but to anyone seeking to generate value from data resources.*

**There are many ways of [collecting, sharing and accessing data](#) to realise its value, but data catalogues and portals have been one of the most [consistent features of the data access landscape](#).** The earliest open data portals were launched as part of government efforts to be '[transparent, participatory and collaborative](#)', framing open data as a way of enabling greater shared problem solving between citizens, the private sector and the state. Hundreds of organisations, initiatives, and national and local governments have [launched data portals](#) since 2010, often as the flagship component of an open data project. Today the landscape covered by portals is vast, encompassing the full [data spectrum](#) from open to restricted access; public, community-run and commercial operators;

[Data portals](#), as single-destination technical products, remain an instinctive, intuitive, tangible solution for data publishers whose needs they meet well. Whether focused on a topic or a region, it is an approach taken by [organisational data publishers](#), [regional data authorities](#), academics, campaign groups, organisers and [advocates](#); or is used to focus efforts on challenges such as [climate change](#) and other [complex problems](#).

Many [data assessment frameworks and maturity models](#) cite 'civic engagement' as the reason for developing a data portal. However, they are often centred on encouraging citizens to engage more with data, rather than on how data can support existing or potential topic-focused public participation.

Regardless of their intended use, data portals are attracting growing criticism from both novice and expert users. Most of the criticism stems not from rejection of the concept of open data sharing or even portals completely, but because the promise of portals – enabling effective data discovery and use – is difficult to realise with the current generation of portal platforms.

As the volume of data continues to grow, without substantial maintenance and refreshing of existing portals, data users can find it increasingly difficult to find relevant data: either because it's not available on the portal, or because datasets are not documented in ways that make it easy to find the right datasets at the right time.

Despite widespread acknowledgment that there are problems with data portals, there isn't a consensus on the way forward. This project looked at the future of data portals and uncovered some new ideas and directions for further work.

## Our approach

In October 2021, the Open Data Institute (ODI) set out to explore the future of data portals and platforms for citizen engagement through a three-stage process:

- **We commissioned a landscape review** looking at the academic literature, history of portal development, and examples of emerging practice, and shared our [working drafts](#) for public feedback.
- **We talked to a cross section of portal stakeholders** including data portal managers and users, citizen advocate groups and intermediaries. Researchers at the ODI carried out 16 informal interviews to understand the particular frustrations, pain points and personal perspectives arising in their work with data portals. We shared early findings from this work, and sought feedback during a fringe workshop of the ODI Summit.
- **We carried out a service design sprint** online over two weeks, resulting in the creation of initial user journey maps, suggestions for new roles for people, and a collection of proto-patterns to explore in future data portal design.

This report describes this approach and shares the findings as of March 2022.

## The portal problem

Data portals have a range of features and functions, and so it is important to be careful in the language used to describe them and the [ideas we invoke](#) to avoid talking at cross purposes: a portal may be employed as a catalogue, a data sandbox, a host for documentation and communication around data, a tool for data and quality management, or a provider of tools for sense-making or collaboration.

As a minimum, the public face of a data portal provides data users with a list of datasets to access, and behind the scenes will provide features to data publishers for entering or harvesting and managing metadata. Depending on the intended users, a portal may also

include features such as faceted search, category browsing, discussion spaces, tools for data visualisation, and provision for data hosting and access control.

There is a [relatively small number of portal platforms](#) available, including the open source CKAN tools, and the commercial vendors such as Socrata, Open Data Soft and ArcGIS (alongside a few other platforms, including alternative open source platforms developed in France and Australia). Despite similar user interfaces, each of these platforms has different histories, strengths and target markets.

## Portals as civic participation platforms

Many of [the assessment frameworks and maturity models put forward over the years](#) have cited ‘civic engagement’ as the logical endpoint for portal development, often framing this in terms of engagement *on* the portal. However, if we look at how data is used by potential portal users’ throughout their journey to achieving specific goals, this offers a different way to think about how data is made available and its relationship to engagement and participation with broader systems. In particular, if users are defined as ‘citizens and citizen groups seeking to realise social value by addressing topics that matter to them’, we can look at the range of touchpoints they might have when searching for, accessing and using data. And we can gain new perspectives on [the role of data platforms, including portals, in supporting a vibrant public realm](#).

Civic engagement around data is not just about citizens finding and using datasets: it also involves conversations about the construction and sharing of data itself. For example, while early open government data portals operated on the principle that only government data matters for engagement and accountability, today that is rarely the case. The data driving public decisions may also come from private sector data sources, analytics models, citizen science and many other sources with different practices, relationships, norms and even power. Data that helps people solve problems has to cross [organisational or spatial boundaries](#). However, discussions around data platforms and civic participation have often centred on how to get users to engage more with the data, rather than emphasising how platforms can support existing or potential processes of problem solving, value creation or topic-focused public participation.

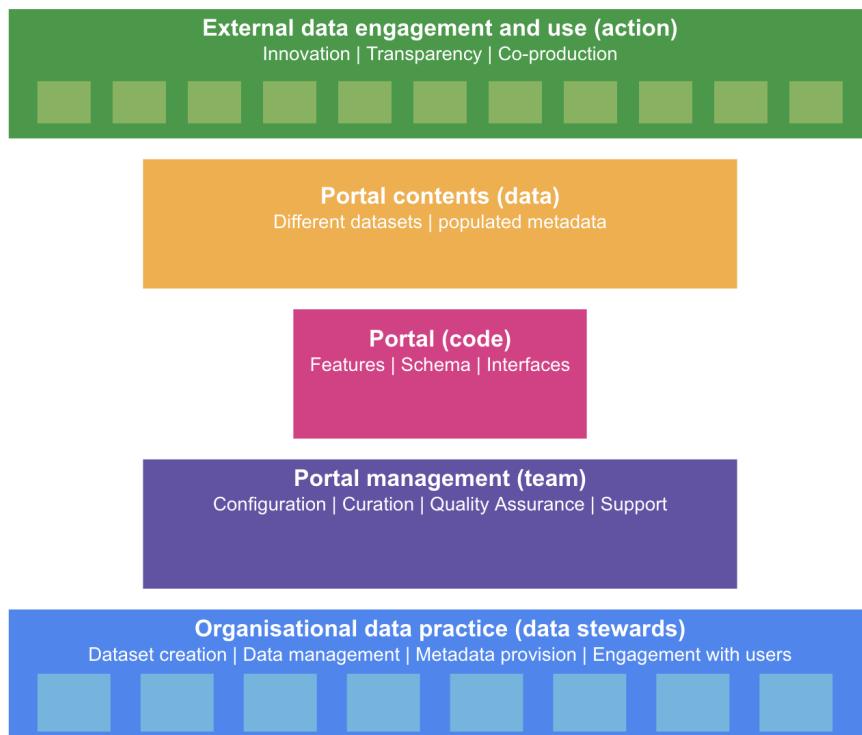
## Gateway or pinch point?

Much as a kiosk or ‘one-stop shop’ at a council office functions as the focus of interaction between a citizen and providers of local services, data portals generally sit at the boundary between data practice inside an organisation, and data practice in the wider field, be that within academia, local community or society as a whole.

Data from many different teams and departments is often placed onto a single hosting platform, supported by a dedicated team with technical and procedural oversight. A single user interface then hosts diverse datasets, sometimes with little in common other than that they originated in

the same organisation. The theory is that many different users can then draw on the available data to generate value in a wide variety of ways, including supporting transparency, driving efficiency, catalysing participation, engagement and co-production, or sparking and supporting innovation.

While early portals opened a channel for data to flow, portals and single-destination data platforms are today more often experienced as a pinch point.



*Portals as a pinch-point (Author's)*

## Criticism of data portals

Although open data strategies have matured over the last decade, data portals have not evolved much, particularly from a data user perspective. The substantial and growing [academic literature](#) on open data portals is almost universally critical of their failure to meet user needs for discoverable, usable data. Yet few studies propose how portals could be re-designed; focusing instead on setting benchmarks that portals consistently fail to reach.

There is a tension between the ongoing need for platforms to surface data, yet the root causes of problems with how that is done effectively go unaddressed. Portal product development has been driven by internally, and sometimes politically, determined value rather than outcomes or user need, which has resulted in features that are publisher and data centric. Despite the

development of features along a path to ‘product maturity’, few stakeholders appear to be satisfied with the service that portals provide.

The underlying frustrations are as varied as the user needs and expectations. Computer scientists are frustrated with the lack of machine-readable data available; political scientists with the lack of tangible impacts on transparency; and human-computer interaction researchers with usability challenges of portals failing to make data more accessible to non-technical users.

Enterprise approaches to data infrastructure and metadata management are leapfrogging the current capability of public data portals, and although best practice models of data stewardship have been transformed over the last decade, many open data initiatives remain centred on struggling portal projects. Although agile and user-focused methods for digital service development have become embedded across organisations including governments, they have yet to be applied at scale to the data portal concept.

## Identifying the gaps: discovery, quality and engagement

Our interviews and desk research surfaced several common complaints about data portals, revealing a complex picture of unmet user needs and goals. Some criticism stems from a gap in expectation, others are dissatisfied with the data itself having been produced by opaque internal processes, and others with their ability to make sense of the data they do find and turn it to their own uses.

The criticism covers a range of technical, social, organisational and political aspects of how portals work, and reflects failures around data **discovery, quality** and **engagement**. Although not exhaustive, there are challenge areas that future work needs to address:

### **The discovery gap:** relevant data is hard to find

- **Missing or mismatched results for a specific search term.** This could be caused by unpublished data, uncollected data, inadequate metadata or a lack of domain knowledge when the user is choosing search terms.
- **Users can't tell if search results are suitable or relevant.** This may be because of inadequate or unsuitable documentation, or because the user lacks specialist domain knowledge. Civic users often come with broad questions and yet are presented only with specific, discrete and disconnected datasets.
- **‘Just give me the data’.** Technical users especially are asking for frictionless access without requiring wizards or query builders. They may want access to APIs or automated data download.
- **‘Just give me the answer’.** Non-technical users especially are looking for an answer to a general question which the data may yield only after significant analysis, or may only become apparent when combined with other datasets
- **Insufficient curation leads to discovery failures.** Users may be unaware that

complementary datasets are available that would enhance value. For example, collections can be more useful than individual datasets, or certain datasets are more valuable when linked to key reference data.

- **Portals are not ‘of the web’** making it hard to navigate connections and onward journeys from within the data because it is unstandardised, unconnected or doesn’t use the technologies of the web.
- **High value is hard to find.** Crucial datasets such as about companies or geographical boundaries can be recombined to add value, but each new user must start searching afresh.

**The quality gap:** the data available is not structured, timely, documented or otherwise fit for use

- **Unsatisfactory quality** such as being incomplete, out of date, inconsistent granularity or provided in file formats that are difficult to work with. This often appears to be the result of an inadequate data pipeline or a lack of feedback loops.
- **Duplication and superseded information.** Some portals are created to collate data for a topic, yet the same datasets can be useful in many domains, leading to copies. Users need specialist knowledge to find the original data source.
- **Data cleaning and analysis processes require reinventing the wheel** because data publishing is centrally controlled and feedback loops are lacking user input.
- **Data is not available in real-time in a format for automated access or integration** is a common complaint for businesses, or those monitoring a situation over time such as fact checkers.
- **Difficulty interpreting, comparing or combining datasets.** In some cases, it is inappropriate to do so because of incompatible collection methodologies; in other cases, the challenge relates to specialist knowledge that would help dataset use.

**The engagement gap:** the pathways to make effective use of data are poor

- **Data is disconnected from sources of information.** Portals host data but often the context, analysis and meaning are described on other websites. The two are rarely linked and a user may start their search from either point
- **Publishing is ‘drop and run’ with little ongoing support.** Publishers are familiar with the nuances of the data they have collected and worked with, but the nature and features of portals as products don’t incentivise continued knowledge sharing with data re-users. For users, having access to data but not the technical skills or literacy to make use of it can be frustrating.
- **Publishers don’t know where to expend effort.** Publishers would like to know which data is the most useful and used, to help prioritise limited resources.

On a broader level, interviewees explained that the cost and effort involved in implementing data portals as technical implementations are under-estimated. If the intention is to satisfy user outcomes and needs, then, counter-intuitively perhaps, efforts might be better focused on non-technical approaches.

Few, if any, of the problems outlined above are ultimately about the portal itself, or can be solved by technical features alone. Rather, a wider range of interventions may be needed, focused in particular on people and processes, alongside platforms. Any proposed improvement to portals as a ‘product’ needs to take all these challenges into account if it is to address the underlying issues.

## Platforms re-designed as services: an exploratory process

As the ‘pinch point’ model above demonstrates, civic engagement involving data is not necessarily *about* data, but rather the interaction of agendas and people inside and outside of various institutions. Supporting engagement *through* data requires data infrastructure that is accessible in the broadest sense, and that facilitates the exchange of both data and ideas.

Data users have meaningful goals and [social practices](#) that result in complex processes of data seeking, access and use. Whereas most data portal maturity models focus mainly on technical features, we should look at how to weave together people and organisations, over time and across channels. This is the domain not of product design but of [service design](#).

### Service design techniques

Design sprints are a technique from service and product design that bring a team together for a week to focus, explore, learn and stimulate ideas. We asked an experienced service designer to facilitate a team through a [service-oriented design sprint](#) exploring the questions ‘*What could the future of engagement with data look like if it is to better support civic participation? And what can this tell us about the future of data platforms?*’

The [framing and intention of the sprint](#) was to:

- imagine a world without data portals; how might we address existing needs of people wanting to interact with underlying systems *through* data.
- identify the limits of technology and explore the roles people might play in creating a successful data ecosystem connecting products, services and people.
- produce artefacts and ideas that could advance conversations about data platforms and initiatives. User journey and service-design artefacts can be an efficient way to explain complex interactions and focus on solutions; inspiring conversation and development of the next phase of services and tools.

## Our modified service design approach

A design sprint is intended to give teams a shortcut to learning without the expense of building and launching. A service-oriented approach means that outside of products, the team also considered people, organisations, communities and data.

Research in the first phase uncovered many users of current portals, with their own goals and needs. To design services for them all would normally require a more rigorous approach: focused design sprints might focus on one shared goal across users, or take one user type. Instead, we were keen to use the sprint outputs to instigate conversations between different people working in the data portal space; to broaden and root conversations in user needs.

We decided to deviate from the traditional structure of a design sprint as pioneered by [Google Ventures](#), which ends with testing a prototype ‘product’ on the final day, and more closely followed a [Design Sprint 2.0](#) or [Minimum Viable Service](#) process.

Day 1 (½ day)	Day 2 (½ day)	Day 3	Day 4	Day 5
<a href="#">Scene setting</a>	<a href="#">Broadening perspectives</a>	User journey & design ideas: <a href="#">“Discovery”</a> (data user)	User journey & design ideas: <a href="#">“Quality”</a> (supply side)	<a href="#">Refining ideas, storyboarding and next steps</a>

For more detail about the format and structure of the week, please refer to the [concept note](#) and collaborative Miro boards linked above.

Given the complexity of the problem – not least in terms of the distributed ownership of the potential solutions – we set out to explore the topic and stimulate creative responses rather than to definitively solve the problem. The outputs were ideas, nudges and service-based journeys (sometimes represented by digital product interfaces), rather than a set of high-fidelity prototypes which are ready to build.

## Inputs: informing the design process

Any design process is shaped by the inputs that feed into it. We focused on bringing inputs from a wide range of people and perspectives with experience of citizen engagement with and through data.

### People: insights from different stakeholders

The team included representatives from a government agency maintaining a national data portal; research staff from the ODI involved in various data programmes; an outreach and networks coordinator from a civic technology non-profit; and an open data researcher with a background in civic participation. Video ‘witness statements’ were used as a substitute for community representatives who were unable to attend.

What civic participation through data can look like

### **Community organiser in Walworth**

*"When you talk to people about data they are very interested. We had a street party in Walworth, and put a stall up with data about a story, thinking nobody would come and visit it. But there was a queue of people that wanted to talk to us."*

*"They're fed up because they're ... endlessly being surveyed for all kinds of things. They give information to the organisations that support them, but nothing comes back. So they want to participate. They don't want to participate on current terms."*

*"Mostly [data portals] comprise data that's collected for a system need. And we're interested in collecting data that's for a community need."*

*"We might have what we call problem-solving booths, where you get a series of chairs in a street and people sit down and start talking about data. Where that leads to is finding small groups of engaged people in communities who really want to help us take this forward, they want to be representing the group that will own the data, they want to participate in the process. And then they get involved in either one or two groups: a design group that actually designs what data are collected, how it's going to be owned, what will happen if somebody else wants to use it, what they will pay if they are going to use it, what the feedback loops will be and so forth. And then we have an ethics committee chaired by a professor of philosophy or an ethics expert but then all of the other members are community members. If you come on Wednesday night, there will be a Zoom call with women from Glasgow and Rotterdam. And they'll be talking about ethics."*

### **Data Play**

Town planners in Plymouth host regular events bringing together residents, designers, entrepreneurs, technologists, families and local talent to “come together and play with the data. These days are set in a fun, creative environment and focus on different themes and some of the challenges the council faces”, for example [arts and culture](#), the [climate emergency](#), or [housing and social enterprise](#).

The idea behind the family-friendly events is to “close the feedback loop: appealing not just to the reporting warriors but to have a richer conversation.”

## Personas and roles: designing for diverse needs

Design sprint teams should include representation from people who will contribute to, benefit from or be impacted by the products, systems or services in scope. Open data users that we uncovered in the literature and interviews were distilled into 12 personas describing [motivating goals and associated user needs](#). The personas are summarised below, along with a representative quote paraphrased from the interviews.



The roles exemplified by these personas may be combined or interchanged depending on someone's goal. For example, increasingly data publishers may also be data users of the same platforms in different contexts, a pattern the ODI uncovered during research into future [needs of users of the London Datastore](#).

### Roles for civic intermediaries

Many of these roles, such as the 'curious citizen', are found throughout the literature. Because this project focused on the ambition of open data to support civic engagement, we spoke to experts in the field of civic participation and organising, who told us that citizens rarely interact with data directly. This isn't necessarily because of data literacy issues, but because effective civic influence requires intermediaries to advocate for citizens and interact with occasionally complex power relationships; and the data comes later.

These intermediary roles are represented by the ‘citizen activist’, who may be campaigning on a specific issue; the ‘community organiser’ who help citizens build momentum through storytelling, often replacing lost local journalism; and the ‘community facilitator’ who work in partnerships to collect and use data to understand and enable the flourishing of their neighbourhoods.

### Building diverse teams

A diverse range of perspectives makes for better design. Inspired by ideas of [design justice](#) and [inclusive practice](#), we offered a financial stipend for up to three participants who might otherwise have financial barriers to joining. These places weren’t taken up, however, whether due to scheduling constraints, failure to reach those who might have wanted to participate, inadequate effort made to reach the right people, or the way we positioned the sprint.

Our experience has implications for the future of the design of data services. Producing something genuinely useful requires effort and flexibility to foster genuine participation. Conscious and significant early effort should be made by anyone taking this work forward to develop [inclusion strategies](#), nurture relationships, and engage with a wide range of perspectives, adapting to any specific needs as they surface.

### Perspectives: lenses for problem solving

Software platforms are [collections of ideas](#) as much as they are collections of code. Any design process is informed, often implicitly, by a set of ethical, political, practical and philosophical perspectives. These shape the values that guide design choices, and in any collaborative design process it can be useful to surface and discuss driving forces, values and mental models.

Throughout this project, and particularly during our design sprint, we adopted several different lenses to examine the problem:

**Function:** Portals can function as catalogues; accountability platforms, data stewardship tools, engagement tools; metadata ‘factories’; data governance hubs; data QA pipelines, switchboards, narrative platforms or engagement funnels. Each function could be designed differently to deliver value in its specific way.

**Value:** The [value of data](#) can be measured in many ways: social, political, economic and environmental. Depending on [the sector generating the value](#), data generates transparency, efficiency, participation and innovation related value.

**Operational model:** Data infrastructure can be privately, publicly or community managed. Interactions with the data via interfaces and people will differ accordingly.

**Goal:** Users will have a goal in mind that data can help with. They may be looking for data (discovery); looking for answers in the data (quality); looking to understand or tell stories with the data (meaning); or looking for change (engagement).

**Mode of civic participation:** Data may feed into political participation by informing citizens as voters or campaigners; supporting collaborative participation to enable the co-production of services; or oriented towards more neoliberal notions of citizen power based on informed consumer choice in a marketplace of public services.

**Ethical framework:** Prioritisation of design options and approaches is shaped by implicit and explicit ethical frameworks. The team considered three perspectives: aggregate consequences of a technological artefact (Utilitarianism); how a design enables fundamental rights of users (Deontology); and the kinds of character and behaviours that a design fosters (Virtue Ethics).

**Theoretical frameworks:** In particular, we made reference to [Elinor Ostrom's principles for managing shared resources](#), [Sherry Arnstein's Ladder of Participation](#) and [Wilson's model of information-seeking behaviour](#) such as active, passive and ongoing search behaviours.

Our work was also informed by the lenses the ODI uses to **explore and explain complex data access systems**. For example, considering portals as [data infrastructure](#) embedded in an [ecosystem](#) of [data access models](#) which may be [open, closed or shared](#), including [collaborative and community owned models](#); managed in [trustworthy](#) and [sustainable](#) ways.

Finally, the team paid particular attention to **roles for people** in providing solutions, asking about the skills or services that could be encapsulated by roles and jobs rather than by technical platforms.

We couldn't address all these perspectives at once, and we were not able to apply them all consistently. However, by identifying different ways of thinking about future portal design, this work forms a set of resources for future work to build on, supporting a more rounded conversation.

## Insights: deeper understanding through design

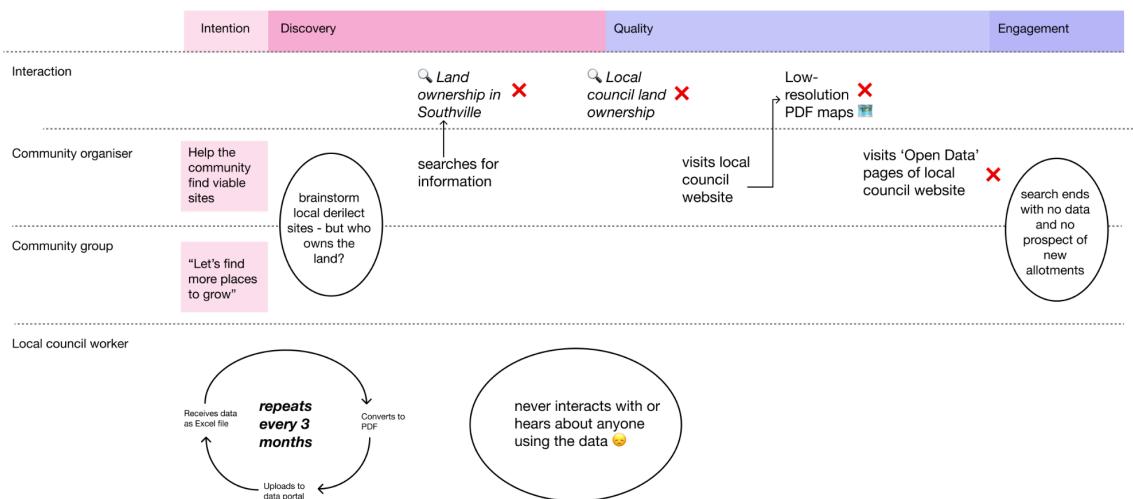
The early stages of our design sprint uncovered key insights that helped to focus work on potential solutions. Below are some of these.

### Broken journeys

Putting ourselves in the shoes of data users searching for relevant data to address some civic goals - "I want to help lonely people in my community", "I am campaigning for a new local allotment with water supply" and "I am writing to my MP with evidence fuel poverty is worsening" - resulted in the following user journey map depicting the routes when we were unable to achieve our goal:

## GOAL: FIND SOME SPACE FOR COMMUNITY ALLOTMENTS 🌱

An example of a broken data journey we identified during the sprint



User journey map for broken journey

Our experiences corroborated complaints expressed by interviewees, including:

**The false promise of a single storefront.** Portals at first appear to offer 'all the data in one place', but from the perspective of users seeking data to solve a particular problem, they rarely deliver this. Portals are often built around organisations or particular domains, whereas individuals seeking data to solve problems often need data that crosses these boundaries. This is a driver behind suggestions to create new topic-focused portals.

**Dead ends and 404s.** Datasets usually need some degree of maintenance. Several of our hypothetical searches either surfaced the metadata for outdated datasets ('I can find a dataset from 2017; is there anything more recent?'), or 404 pages ('Hmm, it seems the portal has linked me off to a dead dataset').

**Interpreting data takes specialist knowledge.** Much of the data on portals is 'data exhaust': collected for one purpose, but now available for others. To work out whether it can be repurposed requires a degree of knowledge about the background of the data, or knowledge of alternative data sources that might be available. This is a tricky problem to solve with technology and tools alone.

**Search sets up particular expectations.** Most searches begin with a search box – whether on the portal itself or a search engine – but finding appropriate datasets often involves a more exploratory process. Our team struggled to use faceted 'drill-downs' to refine searches since they are designed around the organisational structures of the portal creators, rather than the problems, positions and capabilities that users arrive with.

**Portals only surface the data that is collected.** However, in some cases, the team sought data that wasn't yet collected (or published). Portals offer few pathways to support users reaching data dead ends to either adapt their information-seeking strategies, or to consider ways of creating the missing data through community action.

**There are limited incentives for publishers to improve their data** and few ways for users to flag their interest in using unpublished data, or to report problems with discovery or data in ways that feed back into improvements.

Each encountered problem represents a ‘broken journey’, ie, a moment where someone may give up. While this is by no means an exhaustive list, these challenges shaped the solution space the team went on to explore.

## Design principles

Recognising that values and ethical ‘tensions’ can unconsciously shape system design, the team created design principles to use as ‘ethical touchstones’ throughout the design process<sup>1</sup>.

Principles are useful for prioritising effort and design choices, for example see Lou Downe’s [principles for a ‘good service’](#), including:

- Enable each user to complete the outcome they set out to do
- Require no prior knowledge to use
- Have no dead ends
- Be usable by everyone, equally
- Make it easy to get human assistance

## Making of maps

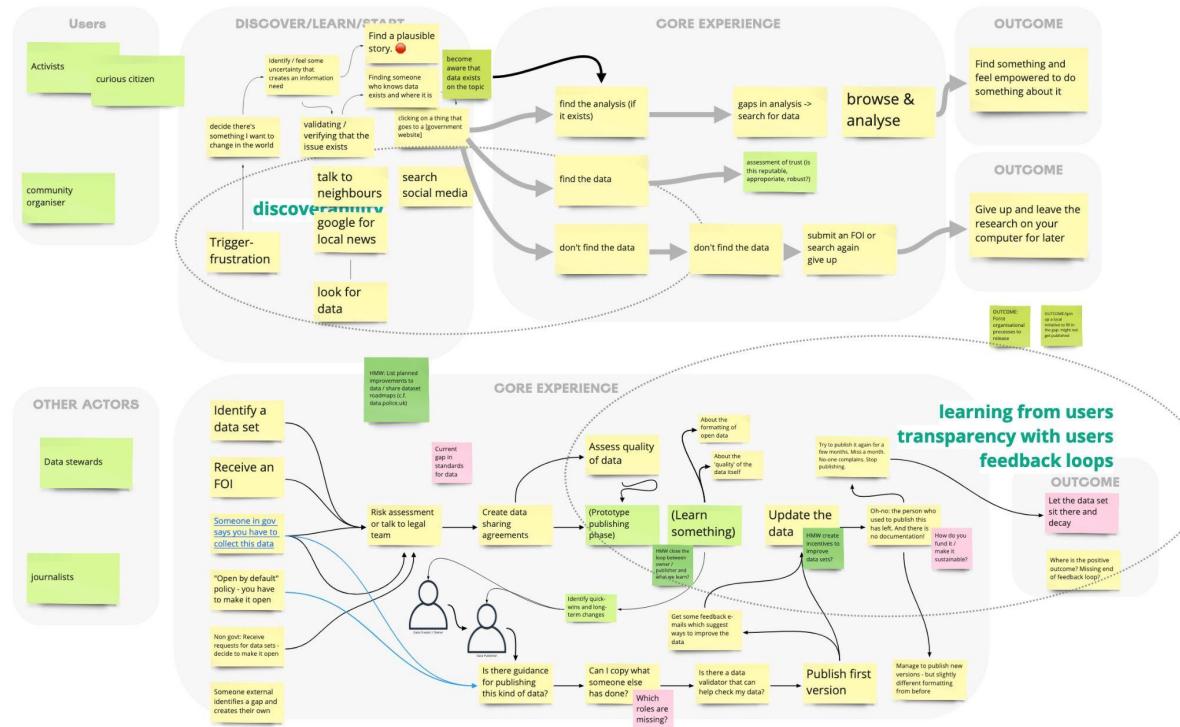
Mapping exercises clarify and combine the experiences of the representatives in the room. The team collaboratively produced two maps of activities and interactions, looking for key moments to focus on: one for someone trying to find and use data; and another from the perspective of an organisation identifying, collating, publishing and updating data, acknowledging that open data is part of a wider landscape of data governance.

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<sup>1</sup> See Appendix C for more details.

## Map

Build a simplified diagram showing how users and other actors interact with data. No solutions yet!



Our two maps collated

Maps like these can be codified into user journey *blueprints*. We created blueprints for an example broken journey, above, and for an alternative model later in this document.

## Bridging three gaps

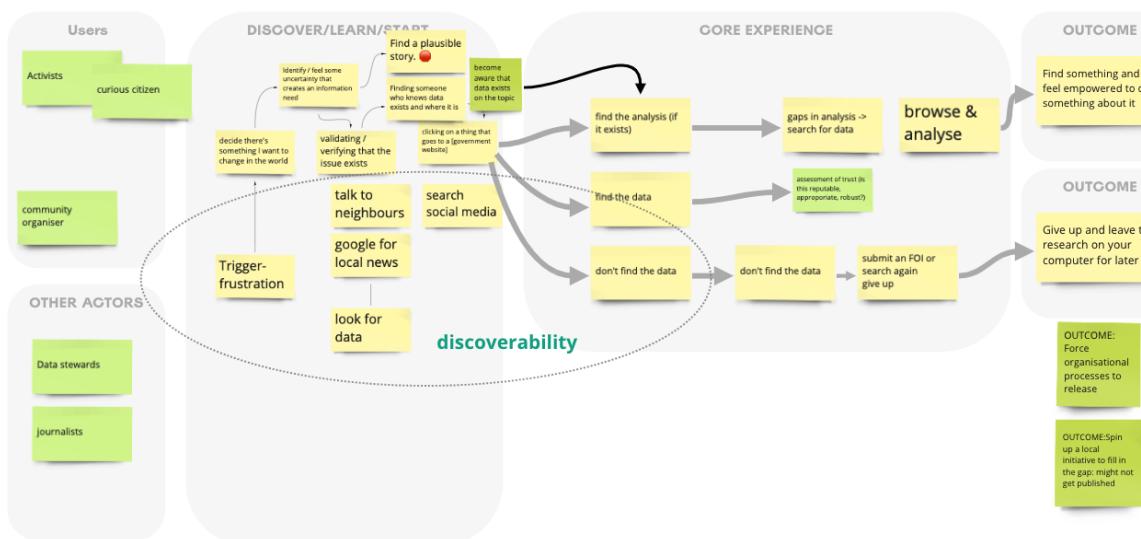
Three main service gaps emerged from opportunity grouping and mapping activities, and became our framing throughout the sprint:

- **The data discovery gap.** If it exists, people should be able to find and understand the data or information that meets their needs.
- **The data quality gap.** Data that people do discover should be of the highest possible quality and fitness for purpose.
- **The engagement gap.** People should leave their engagement with data services and products with greater confidence to use or contribute data effectively to influence or interact with systems of change.

The next two sections further develop some of the ideas that emerged in the sprint and describe how they might address some of these gaps.

# The data discovery gap

The most common complaints around data portals were 'missing/mismatched results' and 'unable to tell if results are suitable', so we focused on the general issue of discovery first.



User journey map focused on looking for and finding data

During the mapping exercise, we made the following observations:

- The motivating trigger for someone starting their search is emotional, whether rooted in concern, anger or passion. Someone is motivated to find out more, or to use data to bring about an action in the real world.
- The search for data might start with a quick internet search, which is often unsuccessful.
- At this point, people either reduce their ambitions, or look for help. Without data-savvy friends or connections, the journey often ends here.
- The three main outcomes from the process are:
  - **Success:** leave feeling empowered by knowing or being able to do something - even if the original assumptions about data have evolved.
  - **Give up** and file away any progress for another day - assuming the original motivation has not diminished.
  - **Shift focus** to filling the gap: either by engaging with the organisation via FOIs or other means, or start planning alternative data collection, perhaps locally.

This generated opportunity questions such as:

- How might we move from a search paradigm to a discovery paradigm?
- How might we signpost engagement links and pathways?
- How might we help people find their unknown unknowns?

Keeping these questions in mind, the sprint team carried out iteration and recombination of ideas into some suggestions.

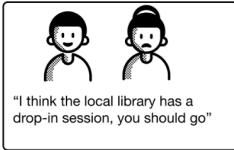
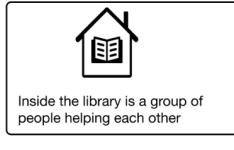
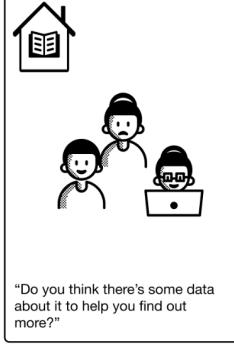
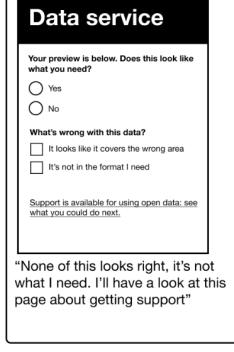
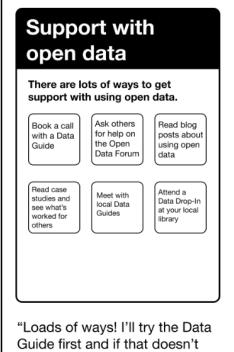
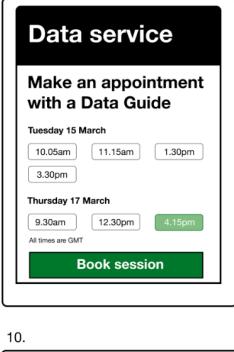
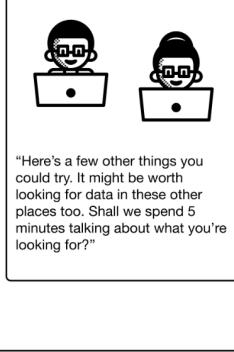
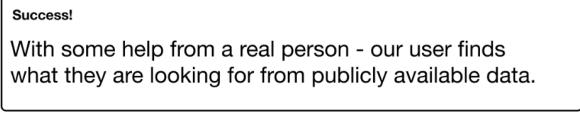
## Connecting services to recover from broken journeys

Through introducing services, we can help our data seeker recover from broken journeys, for example:

- Provide community-based starting points in social spaces, eg a library or citizens advice bureau.
- If a user starts their journey online, provide several opportunities at different points to connect with experienced guides.

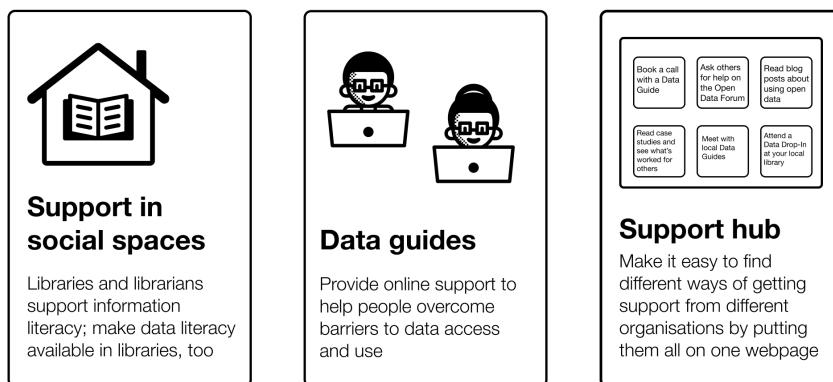
**DISCOVERING & USING DATA FOR CIVIC PURPOSES**

*A storyboard pieced together from various sketches made by sprint participants. A digital route with signposts to different methods of support.*

1.  "I've noticed something and I think I want to do something about it"
2.  "I think the local library has a drop-in session, you should go"
3.  Inside the library is a group of people helping each other
4.  "Do you think there's some data about it to help you find out more?"
5.  Data service  
Do you know what you're looking for?  
 Data visualisations  
 Data highlights  
 User guide for this information  
 No - show me everything  
**Search data**  
"No idea what I'm looking for. I'm going to press no."
6.  Data service  
Your preview is below. Does this look like what you need?  
 Yes  
 No  
What's wrong with this data?  
 It looks like it covers the wrong area  
 It's not in the format I need  
Support is available for using open data: see what you could do next.  
"None of this looks right, it's not what I need. I'll have a look at this page about getting support"
7.  Support with open data  
There are lots of ways to get support with using open data.  
  - Book a call with a Data Guide
  - Ask others for help on the Open Data Forum
  - Read blog posts about using open data
  - Read case studies and see what's worked for others
  - Meet with local Data Guides
  - Attend a Data Drop-in at your local library  
"Loads of ways! I'll try the Data Guide first and if that doesn't work I'll ask others for help"
8.  Data service  
Make an appointment with a Data Guide  
Tuesday 15 March  
10.05am 11.15am 1.30pm  
3.30pm  
Thursday 17 March  
9.30am 12.30pm 4.15pm  
All times are GMT  
**Book session**
9.  "Here's a few other things you could try. It might be worth looking for data in these other places too. Shall we spend 5 minutes talking about what you're looking for?"
10.  Success!  
With some help from a real person - our user finds what they are looking for from publicly available data.

*Storyboard showing a composite journey based on sketches and ideas contributed by participants*

The storyboard above introduces a new role for a '[data guide](#)', a person who acts as a data expert and problem solver. They may not have all the answers at their fingertips, but they have a support network of connections that can help the data-seeker move closer to their goal.



### A broken discovery journey

*Shanti is a community organiser supporting a local community wishing to create new growing spaces with access to water. Community members suggest local derelict sites but need to find out who owns the land.*

Shanti starts with a web search: for 'Land ownership Southville', but doesn't find any useful resources **X**. She searches on the local council website, finding only low-resolution PDF maps when she needs granular data **X**. She tries the 'Open Data' pages of her district council but finds nothing **X**.

*Portia works for Southville Council and is tasked with publishing details of council owned land. She converts lists of technical spreadsheets into user-friendly PDF maps to upload to the council's data portal. She never hears if anyone is using the data or not.*

### Services to bridge the discovery gap

Portia uses a **Publishers Toolkit** and **Data Service Standard** to prepare a collection of data that will meet a variety of user needs, and **Signposts Data in Context** by creating links to the collection on land-related pages and news articles on the council website.

When Shanti searches on the local council website she finds the map images and links to the open data portal with a full collection of technical data.

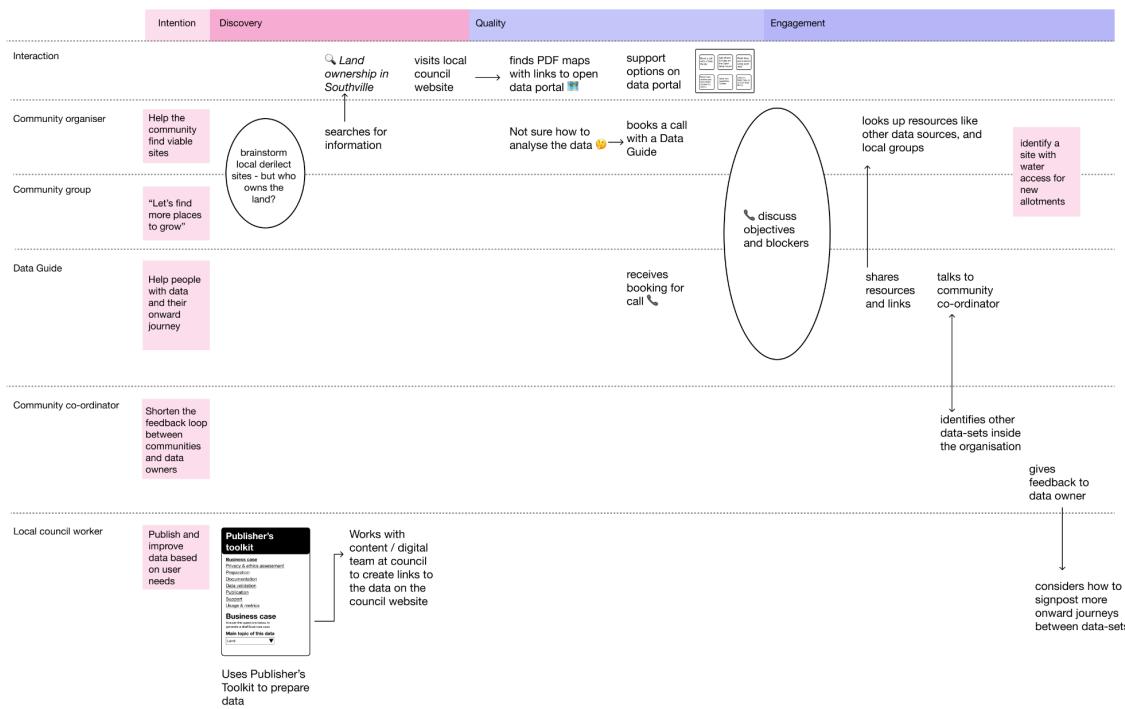
Not knowing how to analyse the data, Shanti finds a suggested **Onward Journey** to make an appointment with a **Data Guide**. Shanti remembers having seen an advert for the Data Guide in her local library and books an initial 15-minute chat.

The Data Guide discusses Shanti's problem and forwards links to a journalistic project mapping land ownership and helps her pay a private water company for data about water supply; finally the guide connects Shanti with a 'local mapping data' meetup group to help her make sense of the data.

### User journey map for journey with new services

#### GOAL: FIND SOME SPACE FOR COMMUNITY ALLOTMENTS 🌱

*How the additional service ideas from the sprint might help a community group to reach their goals*



## The organisational context: bridging the quality gap

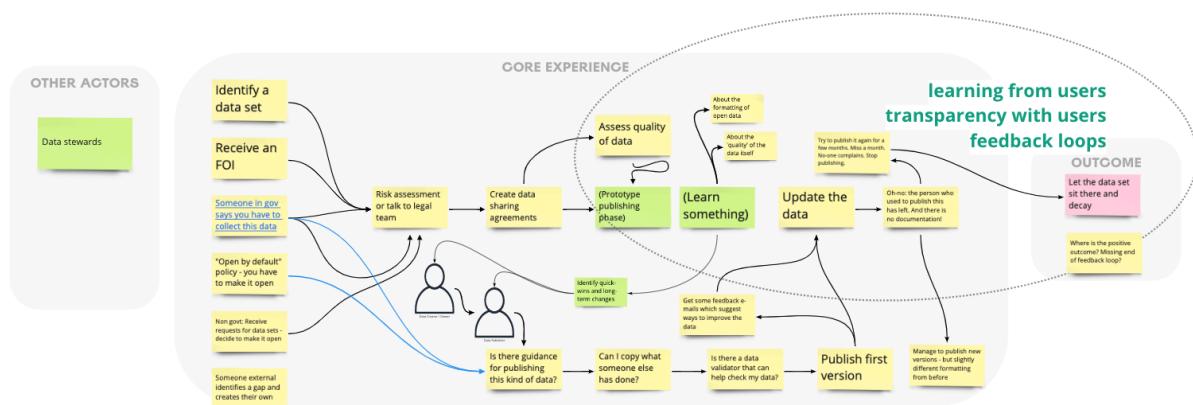
Our second day's focus was on the theme of 'looking for answers in the data', touching on issues of quality, feedback loops and organisational context.

The portal shop window hides the complex organisational processes involved in creating, collating, curating and sharing data. Work to make data more widely available is often competing with other organisational priorities, and data publishing practices can often rely on a small number of people, creating points of failure when these people are unavailable or change jobs. This raises the question of how the toolbox of technology and services available to increase engagement with data could be designed for a better fit into real-world organisational practice, and bring the [hidden labour](#) of data creators, stewards and managers into view.

For data to be useful it needs to be of sufficient quality. Indeed, data quality issues feature strongly in literature and in our interviews, but it can [mean many different things](#), such as timeliness, completeness, accuracy or continuity. For the purpose of the design sprint, we defined quality in the broadest sense as being fit for the original purpose for our civically motivated user.

Data may be missing because it is not collected; ‘official’ data may not represent the concerns of people on the ground; quantitative statistics might not adequately capture [people’s rich qualitative experiences](#); and declining data collection and maintenance may have taken its toll on its usefulness.

The exploration resulted in the following journey map:



User journey map focused on organisational process and feedback loops for data quality

Key observations from the journey mapping activity were:

- The trigger for publishing is often some kind of policy mandate, either FOI, transparency or open by default; rarely is it to proactively support an active civic concern.
- Two main routes exist to improve quality: establishing pipeline processes to include documentation and validation, and user feedback loops of various kinds.
- Some quality issues do have technical solutions such as developing or enforcing standards or improving processes for data collection and defining metadata. Some are political in nature, and it is important to recognise the organisational reality into which any solution needs to integrate.
- If all feedback mechanisms are mediated through the portal, they become primarily technical issues and additional pinch points.
- Meaningful participation is one data improvement ‘engine’ by which people can influence, improve or enhance institutions, organisations and systems.
- Without maintenance and feedback loops, the most likely outcome is that data sits unused and its usefulness declines.

This prompted the following questions:

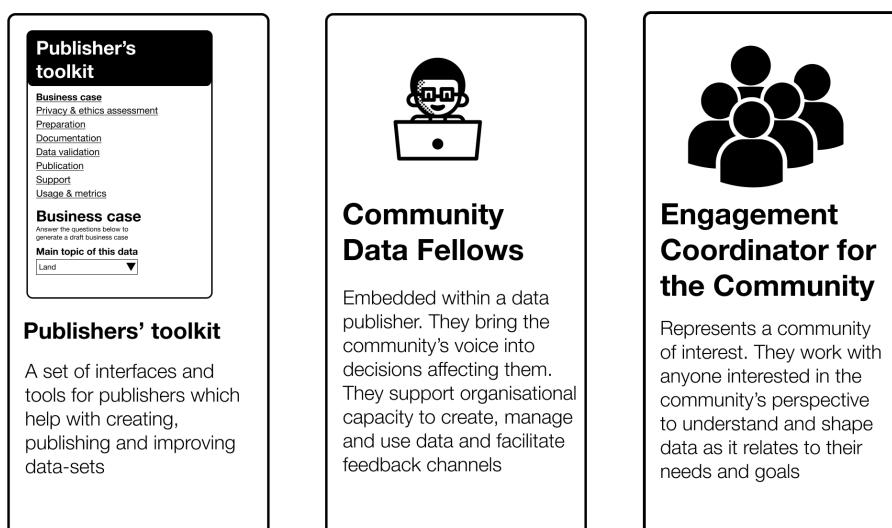
- How might we close the loop between owner, publisher and possibilities for learning?
- How might we redesign the portal as a data collection generated for and used by providers of services, not the other way round?
- How might we engage communities in decisions around collecting, using and sharing data?
- How might we guide people who are disappointed by what they find towards ways of creating and improving what they were looking for?

## Routes to improve feedback loops and improve data quality

Using a publisher's toolkit - a suite of tools used throughout the data publishing pipeline - could help data stewards to:

- produce richer context, history, purpose, features and limitations of published data
- manage user expectations through change-logs and roadmaps
- consider the external re-use of the data and build the business case to invest in data publication and maintenance
- make internal processes more visible.

Opening data creates a window into organisations, but to create instead a doorway that supports two-way dialogue requires an emphasis on people and process. By creating in-person roles and increasing accessible feedback loops, data stewards can broaden their understanding of data quality. For example, community coordinators or embedded community data fellows can seek out data 'use cases' and be empowered to bring about changes or [support new initiatives](#) to enable community goals.



### A broken quality journey

Shanti is a community organiser working in partnership with local doctors and housing authorities interested in addressing issues of loneliness. The local community centre records footfall in local community spaces, and carries out regular surveys about the wellbeing of local residents, which is not shared with mental health service providers **X**. The partnership would like to understand how to use their local community assets such as benches, cafes and green spaces to support local walking groups. Data they find online is organised at the borough level, when they need it at the neighbourhood level **X**.

Portia works for Southville Council and is tasked with publishing details about mental health to support policy. The council uses proxy measures about income and density of health services to estimate wellbeing in order to target services. Portia suspects the data doesn't capture local lived experience **X**.

### Services to bridge the quality gap

Portia wants to validate her assumptions, so she contacts Southville's **Engagement Coordinator for the Community**, who convenes a workshop with the neighbourhood partnership including Shanti.

Shanti tells the council that data needs to be filterable by 'neighbourhood' for it to be useful to the partnership. Collections of data are also too focused on financial concerns; Shanti suggests adding a register of community assets as defined by residents.

Portia reviews the data collection in light of the new information. She uses the **Publishers Toolkit** process to improve the dataset and documentation, and the **Data Service Standard** to redesign interaction touchpoints with the council data team.

Shanti applies for a one-year **Data Fellowship** to work with the data publishers and share community insights to improve data practices. Shanti works with local **Engagement Coordinators**, **Data Guides** and community organisers to collectively design a new data initiative to record and share data about local assets and resident's surveys. The team uses the **Publishers Toolkit** to design a microsite using web standards such as schema.org and DCAT metadata so the community group's data is more discoverable through Google Dataset Search and other tools.

## Progressing to prototypes

The modified design sprint process did not lead us to a single design, but instead to several provocations, proposals, patterns and sketches of potential roles that might exist around future portals. These fragments are intended to be the starting point of a conversation, rather than as implementation-ready designs.

## Roles

Several of the ideas proposed in the design sprint imagine the creation of new roles around the portal: from data guides, to community managers and data fellows. To provoke further conversations around these ideas, we've sketched outline role descriptions in prototype job specifications, summarised below:

### Data Guide

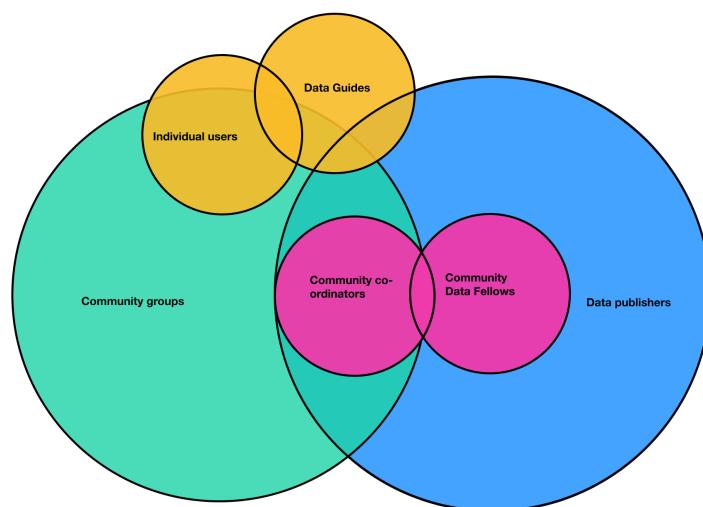
A local point of contact for people seeking to make use of data. Helping them progress onto the next stages of their data journeys. Answering questions, recommending next steps and making connections.

### Engagement coordinator for the community

A local data champion, working with organisations who need to better understand data as it relates to communities. Influences the way data is used for collective benefit, and identifies opportunities for community-created data to feed into policy making.

### Data Fellow

Embedded within a data publisher, authority or organisation to represent a community's voice when implementing data strategy. Supports organisational capacity to create, manage, share and use data to deliver their mission in ways that produce positive civic outcomes.



A Venn diagram showing how roles might overlap and interact with each other

## The beginnings of a set of new patterns

Anyone collaborating to take these ideas forward, for example, portal creators, vendors, service providers and intermediaries, could benefit from a shared language. One way to create shareable, adaptable ‘templates’ is to use the format of design patterns:

*a design pattern is a general repeatable solution to a commonly occurring problem... A design pattern isn't a finished design that can be transformed directly into code. It is a description or template for how to solve a problem that can be used in many different situations<sup>2</sup>.*

Full pattern development takes iterative refinement and testing, but we've [drafted some 'proto-patterns'](#) based on the ideas and sketches created during the design sprint, structured around the three key ‘gaps’ identified in our earlier research. A few examples from each category are summarised below.

### Anti-patterns

Some approaches have been the focus of considerable effort in both technical design and project implementation, but we would argue, take portals in counter-productive directions. Counter to the priorities set out in software and initiative roadmaps we argue that data platforms that aspire to support citizens:

- should not **list all the re-uses of a dataset**. This demands moderation and curation efforts that few organisations are placed to take on, leading to ‘maintenance burden’.
- should not **provide generic automated data visualisation**. Attempts to provide ‘preview’ tooling that allows users to directly access and visualise the contents of any dataset on the platform rarely provide a satisfying user experience. Effort is better placed on summarising data, and leaving visualisation to bespoke tools or analysis.

Anti patterns like these, when set against the proto-patterns below, help distinguish the different directions that result from taking a service and user-focused design approach, instead of a dataset and technology-centric one.

### Patterns for bridging the discovery gap

Ideas that surfaced in the design sprint addressed data discovery from various directions: from an improved multi-step, user-centric search experience on technology platforms, through to in-person data guides. These can be expressed as a design pattern as follows:

- **Tailor the search experience to the user.** One search interface need not serve all user types. Alternative search and discovery user experiences and interfaces can target users with different needs and goals. Take into consideration that some journeys may start elsewhere.

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<sup>2</sup> Source Making (no date), [Design Patterns](#)

- **Provide onward journeys.** Whether a user has discovered the data they need or not, offer a next step they can take on their journey.
- **Connect people to data guides.** A data guide is someone able to talk with a potential data user, to understand their goals and needs, and help them shape their strategies for data discovery. Guides may be able to signpost to particular resources or approaches to make better use of data.
- **Publish datasets in context.** Instead of starting from dataset metadata in search results and linking to uses of the data, the link should go the other way: key uses of a dataset should link to the data and allow search engine crawlers to discover data where it is being used.

### Patterns for bridging the quality gap

Some of the ideas proposed to address the data quality gap focus on providing better tools and processes for data stewards and creating a pipeline to provide data within a service-oriented framework:

- **Provide a Data Publishers Toolkit.** Data publishers use a set of resources to guide them through the process of publishing and maintaining a data resource.
- **Scaffolded dataset feedback and requests.** Help users to write good feedback or data requests, and support organisations to respond well to these requests.
- **Develop a service standard for datasets and collections.** Datasets can go through a draft, alpha, beta and live cycle, shaping them to meet identified user needs.

### Patterns for bridging the engagement gap

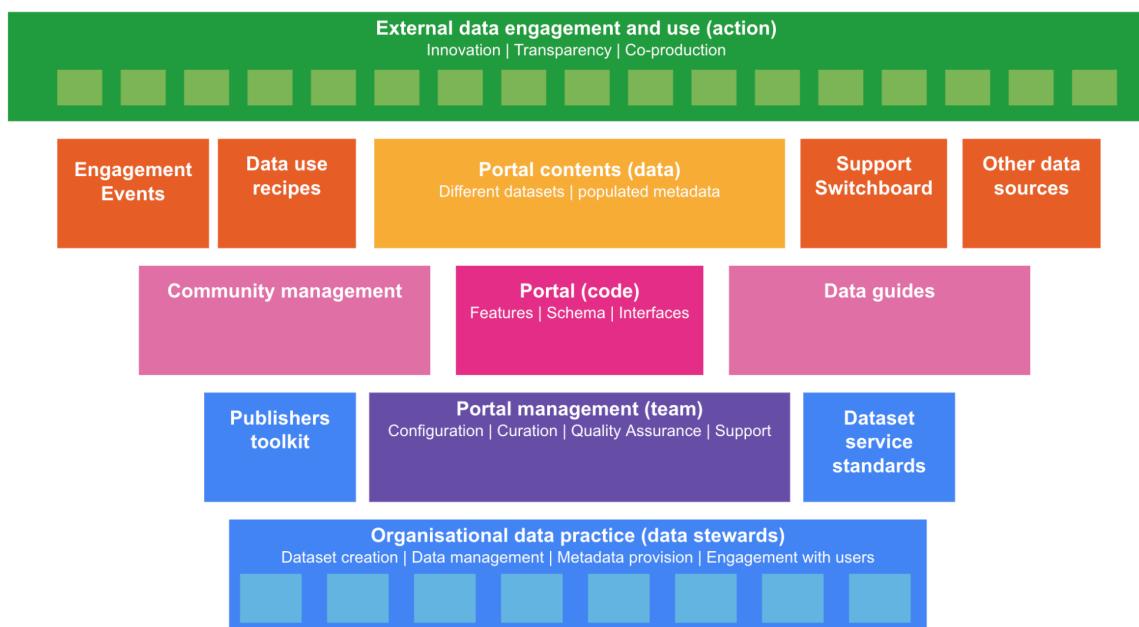
New roles and ways of working enable new forms of engagement, including in physical space. Note that these ideas emerged from the discussions around feedback loops to improve quality: suggesting a positive relationship between engagement and quality.

- **Publish a 'Data Yearbook'.** Establish a yearly 'publication' which features information on dataset updates, featured datasets, and planned activities for the year ahead.
- **Provide a switchboard service.** A [support switchboard](#) would connect people with relevant forms of support to help them use data: from a short call with a data guide, through to commissioning detailed data science support.
- **Engagement Coordinator for the Community.** This role acts as a bridge between data stewards in an organisation, and potential data users outside of the organisation: organising events and activities, brokering conversations, creating resources, and making connections that improve discovery, quality and use of data.

### From pinch point, to powering participation

Whatever the future direction, we must keep in mind that no single service or product can meet all user needs. The figure below takes a selection of the patterns and roles suggested in the

design sprint,<sup>3</sup> and imagines how they could be integrated in a broader suite of services and products. In this way, the data portal ceases to be a pinch point, but becomes the lynchpin in a pyramid of data discovery, quality improvement and engagement, and is able to power a far wider range of citizen engagement activities.



*Portals integrated with a suite of example connected services and products (Source: Authors)*

Many of the above patterns and roles can be adapted to a wide range of user groups. For example, a ‘switchboard service’ could also operate *inside* government or other organisations, to help data seekers to better connect with internal data science teams; publisher toolkits and service standards for data might improve the usability of data for entrepreneurial re-users by more clearly signposting data that is appropriate to build commercial services on top of.

## Sprint learning

In addition to the practical artefacts, the sprint team found there were other learnings that can be taken forward into future work:

**Simple portal interfaces hide significant labour.** Re-thinking data platforms for civic engagement requires us to consider different facets and dimensions of how data flows from organisations to outside re-users and how communication, conversations and change flow too.

**Effective civic engagement around data doesn't require a portal.** Portals perform [many functions](#) that could be separated and focused to meet specific needs. Product development could focus less on social features, and more on integration with services and improving

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<sup>3</sup> Not all of these are described in this document. Refer to the [proto-patterns](#) for more details.

touchpoints between the publishers and users of data.

**Data needs to work for everyone.** Data sharing needs to be multifaceted if it is to work for everyone. Without due consideration of all the perspectives and lenses described above, designers will capture an incomplete picture and therefore tend towards incomplete solutions.

**A problem of complexity rather than maturity.** The framing of product ‘maturity’ is potentially misleading since it suggests a direct path to an agreed end state. This research suggests the answer to the ‘portal problem’ is not features, but an interacting mix of joined up services and products tailored to particular user needs, each with their own path to maturity.

**Co-design methods need a new framing of co-investment.** Co-design methods work best with a diverse group. Financial compensation might enable freelancers or those who aren’t fully employed to participate, but there are others with valuable experience who work full time. We need new compensation arrangements between employers and co-design organisers.

Finally, **do we need to start talking about social infrastructure as much as data infrastructure** to get the best from both?

## Progressing prototypes to pilots

The ideas and learnings above are illustrative of what might emerge from a co-design process with a user-centred focus. This process has demonstrated there is still much to learn and improve about data engagement, so our intention is to share these ideas and iterate them. Data portals may be a step on the path to effective data engagement, but the journey does not end with them.

We’d like to work with current portal managers and existing data service providers such as DataKind or Digital Candle to pilot new service touchpoints, interfaces and roles. Focusing on a single user or common user need, we’d like to trial new services and ask new questions such as:

- How might we scale services and share lessons?
- How might we improve the pipeline of ideas between research and implementers?
- How might we assess value for investment in people-driven services to complement technical products and make a business case?

## Conclusions and recommendations

In too many cases, journeys to discover and use data end in failure. Data goes undiscovered; datasets discovered are unusable; and opportunities for connection, learning and conversation are missed. Many open data and data sharing projects have been relying on technical models, portals and practices that are creating a pinch point, rather than being enablers for social value.

Without action, there is a risk that portals will continue to decay, collapsing under the weight of maintenance effort, but crowding out other activities that could improve data accessibility and use and better realise the value of data.

Portals are still a go-to for data publishers because they seem to meet their needs fairly well. But more is needed to enable positive outcomes for data users, especially citizens and their advocates, since the solutions that meet their needs are unlikely to be technical, but rather to bridge disparities of domain knowledge and power.

While there are undoubtedly some technical fixes that can be applied to existing platforms, in this report we show that readiness for the [third wave of open data](#) needs a wider range of interventions. Reframing data engagement as engagement with policy and organisational systems through data; and employing social, political and organisational tools and practices offer new ways to respond to the complexity of user needs.

A decade of learning about what works, and what doesn't in open data practice should inform the design of future work, as should approaches from the field of service design.

This project provides an initial exploration of new ways forward. We've identified four particular calls to action, each with an invite for collaboration:

### **Focus on services for data access and participation**

Instead of investing in technology, invest in people and processes. We've shown how taking a service design approach can lead to a range of different solutions to long-standing challenges for data access, quality and use. Proto-patterns and [service standards](#) offer starting points for future design work or pilots.

We are particularly keen to investigate how simple switchboard and data guide services could work in practice. We're seeking partners who might take forward some service prototypes for validation: get in touch if that might be you.

### **Focus on tools for better data stewardship**

Data needs to live closer to where it is talked about in context, and closer to the people who created and care about it. That means less focus on metadata captured in webforms, and more focus on tools that guide data stewards through the process of planning and publishing collections of data designed around user needs.

The kind of tools need not be technically complex, expensive or monolithic. From template documents to lightweight static-site builders, we offer suggestions for how to do data description and engagement differently. Many of the tools needed already exist in some form. The challenge is bringing them together and refining them. We're on the look-out for resources to work on this later in 2022.

## Experiment with new roles

You might already employ people who act informally as ‘data guides’, or ‘engagement coordinators’, or you might be an organisation in need of a ‘data fellow’ to help improve how you collect, manage and share data for social outcomes. Consider adding new elements to existing roles, or recruiting for new posts as alternative ways in which (open) data initiatives can overcome barriers to engagement.

We’re keen to hear about existing roles that facilitate data access, and about evidence you might have of the value they generate.

## Continue the conversation

If you are also working in this space and see potential in these ideas and how they might open up the value of data currently in portals, we’d love to discuss [ways to develop these processes and patterns](#) further.

We’re keen to run future iterations of this process: testing the outcomes from this first iteration, and exploring new dimensions of generating social value from data.

[We'd love to hear from you: get in contact here](#)

# Appendix A: Links to landscape review blog posts

## [Introduction](#)

Exploring the past, present and future of data portals and citizen engagement

## [Terminology: When is a portal not a portal?](#)

Looking at the language used about, and around, data portals

## [Technology: A genealogy of data portals](#)

Exploring the history of portal platforms, the evolution of portal technology and the shifting focus of portal providers

## [Research: The pressure on portals: an hourglass approach](#)

The first of a two-part literature review on open data portals, and introducing the concept of a 'portal hourglass'

## [Academia: Evidence and insights: other findings from research](#)

The second post of a two-part literature review looking at open data portals

## [Portals in practice: Selected examples of data portals](#)

Selected data portal examples that illustrate interesting features, developments and experimentation

## [Organisational: The people and processes behind the portals](#)

What roles are required for an effective portal? And can portal design better support a diversity of stakeholders?

## [Engagement: Portals and participation](#)

A short exploration of different perspectives on citizen participation and implications for data portal design

## [Speculation: Focussed futures: the portal as...](#)

What if a portal had just one job to do? And could do it well? Speculations on portal futures...

## [Design Sprint - Part 1: Understanding the challenge](#)

Reporting back on a design sprint exploring the future of data portals and civic engagement

## [Design sprint - Part 2: Bridging the gaps](#)

Sharing proto-patterns developed through Data Portals and Civic Engagement design sprint

## Appendix B: Design sprint agenda, format and co-design activities

Two initial sessions involved presentations and activities to establish the problem space and broader context, including: the history of portals and participation, and their functioning in the data sharing ecosystem; common user complaints from literature and interviews; user goals and needs; ethical approaches; and codifying our collective intentions for the system in ‘design principles’<sup>4</sup>.

Everyone was encouraged to make notes of interesting problems and opportunities throughout the foundational sessions, and during a hands-on activity to search for data putting ourselves in the shoes of a data user. Observations were captured in the form of ‘how might we’ questions, such as ‘*how might we help people leave portals feeling more empowered, not less*’.

Opportunities related to the following themes:

- helping people discover more relevant things
- understanding the current availability and usage of data
- organisational set up
- supporting understanding of the data and what it means
- translating data into meaningful stories
- self description / porousness
- helping people feel empowered to use the data to support action.

Two of these were selected as the focus for the first ‘creative’ session: ‘helping people discover more relevant things’ encompassing ‘supporting understanding of the data and what it means’.

Two deep-dive ‘creative’ days followed this pattern:

1. A deeper dive into the context and problem, including user ‘witness statements’.
2. Create storyboards of current process, looking for pain points, broken journeys, key moments and opportunities.
3. Share examples of where the same problem has successfully been solved in another context.
4. Create sketches of creative and imaginative solutions to the problem.
5. Select and combine the best ideas and develop them into a more pragmatic proposal.
6. Vote on inspiring aspects of all proposals; recombining them into a final storyboard.

A second creative day focused on the organisational perspective: exploring feedback loops and ways to improve data quality to help users find meaningful answers in the data. And, finally, a session exploring roles, key messages and a plan to take ideas forward.

See images below of the collaborative workboards and sketches.

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<sup>4</sup> See Appendix C for more detail.

## Further reference

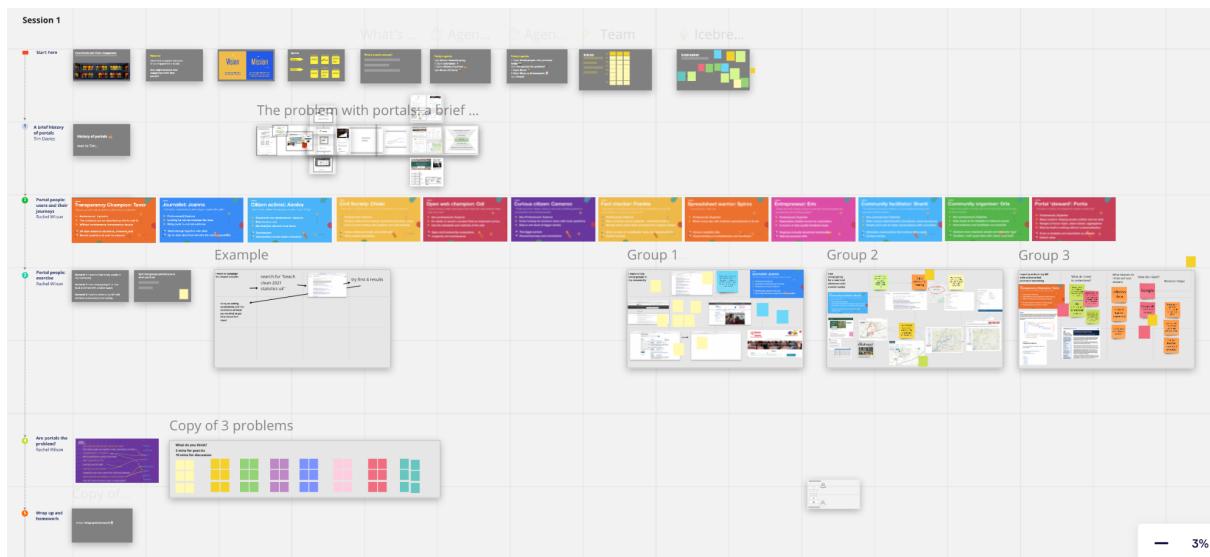
[Design Sprint concept note and planning](#)

[Tim Davies write up](#)

## Collaborative workboards

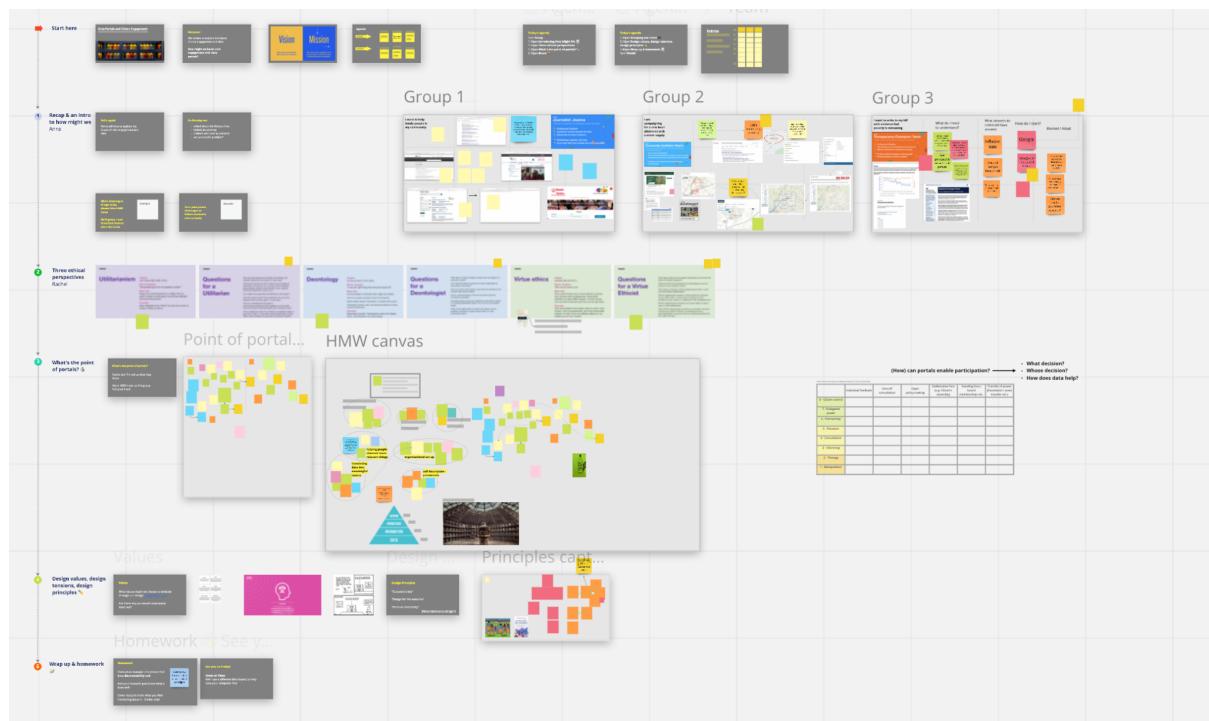
For a flavour of the design sprint, see the overviews below. (Links to the full Miro boards are below each image)

### Session 1: Defining and experiencing the problem; introducing context



<https://miro.com/app/board/uXjVOS-ehxc=/>

## Session 2: Broaden our perspectives; establish design principles



**HMW canvas**

	None	Partially	Yes	No
1. Information	●	●	●	●
2. Control	●	●	●	●
3. Privacy	●	●	●	●
4. Security	●	●	●	●
5. Fairness	●	●	●	●
6. Transparency	●	●	●	●
7. Accountability	●	●	●	●
8. Participation	●	●	●	●
9. Inclusivity	●	●	●	●
10. Sustainability	●	●	●	●

<https://miro.com/app/board/uXjVORWWghA=/>

## Session 3: Exploring problems with “Discovery”

Frame 1

2 Discoveryability  
Rachel & Tim

What is the g... A reminder o... Some inspira...

Long term goal or outcome

Map

3 Making a map

If we did this well, What change would we see in the world of art & design? A healthy ecosystem

generation / more data available

mobility and flexibility

Map

Build a classified diagram showing how you and other online friends with arts, to exchange info.

Step 1: Add Top 1000 friends Step 2: Choose a topic (interest) Step 3: Review your friends

4 Lightning demos

Virtual Reality

Sketches

Time to sketch!

Get blank paper and a pen

Your solution sketches will be very detailed, like this

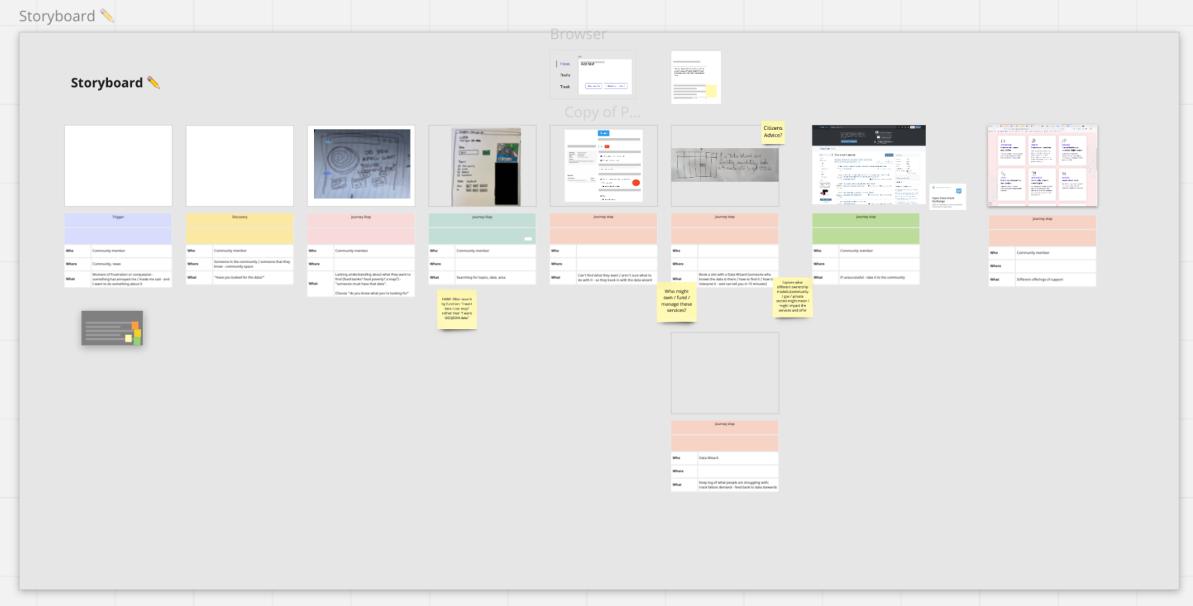
But we'll start simple and easy...

We'll do 4 steps:

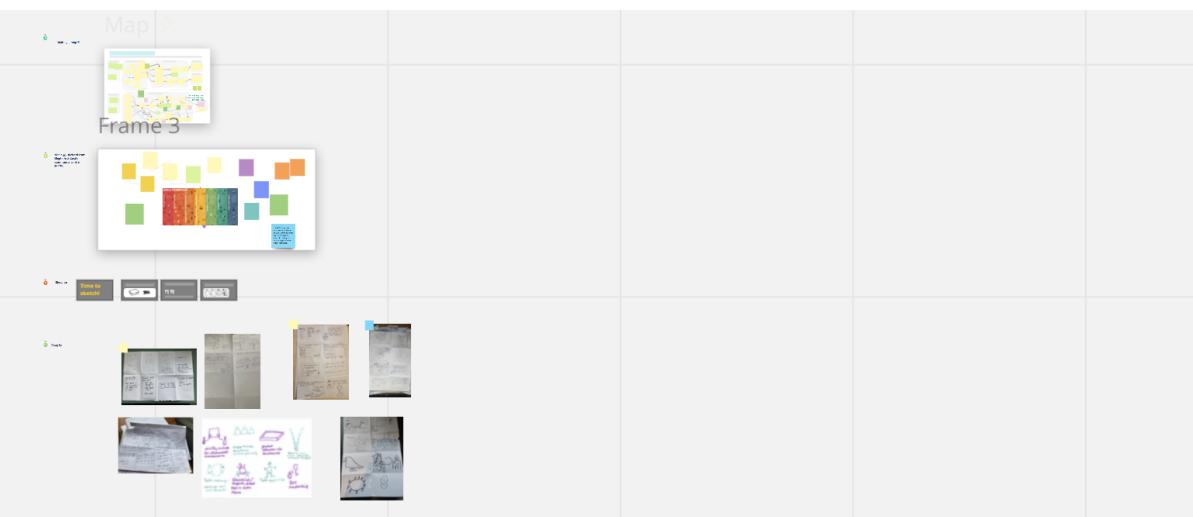
<https://miro.com/app/board/uXjVOQb16ow=/>

## Session 4: The organisational perspective: exploring feedback loops and quality

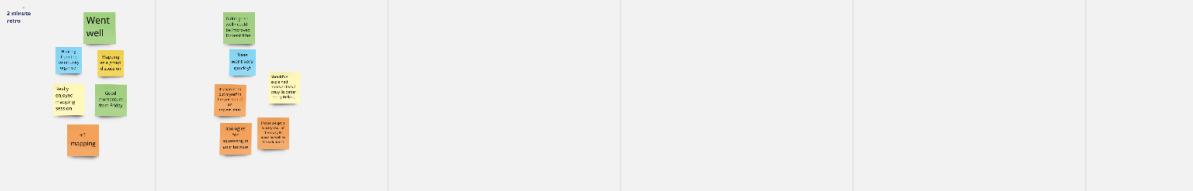
**Storyboard**



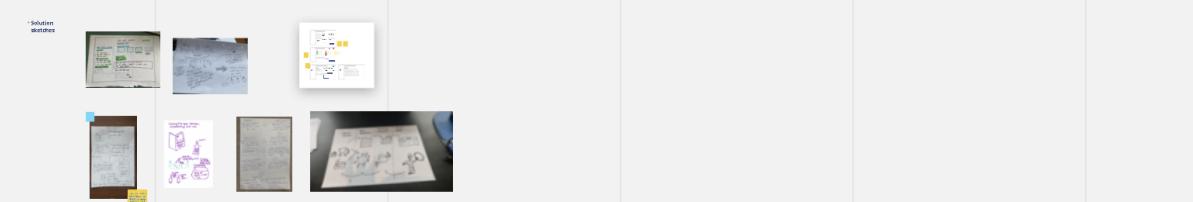
**Map**



**2 minute retro**

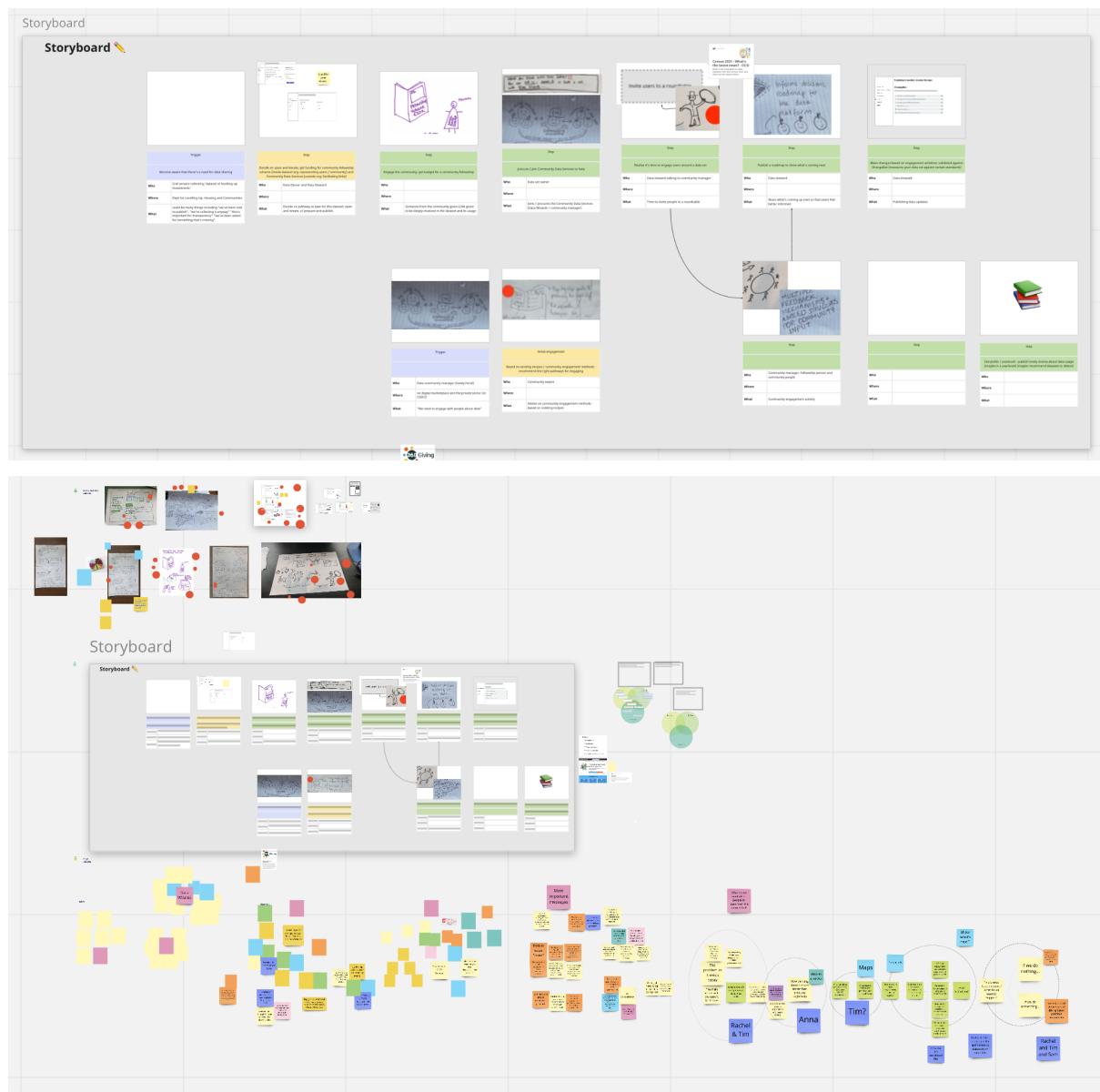


**Relative sketches**



<https://miro.com/app/board/uXjVOPGCKAc=/>

Session 5: Storyboard for feedback loops; and planning next steps



[https://miro.com/app/board/uXjVOO\\_49I8=/](https://miro.com/app/board/uXjVOO_49I8=/)

# Appendix C: Ethical frameworks leading to Design Principles

## Design principles

The team considered three ethical frameworks each motivating different kinds of design questions, from focusing on the aggregate consequences of a technological artefact (Utilitarianism), to considering how a design responds to fundamental rights of users (Deontology), or the kinds of character and behaviours that a design fosters (Virtue Ethics).

Having considered those perspectives, we drafted a set of design principles – rooted in values – as an ethical touchstone to refer to throughout the sprint:

- Serve those who need it most.
- Provide helpful onward journeys – ‘the link is as important as the node’.
- Support conversations – there is not always a fixed answer.
- Always be a welcoming host.
- One platform for all -- don’t rely on ‘back channels’ that expert users who are ‘in-the-know’, or internal organisational stakeholders, can use to get better access to data or answers.

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