

UX TOOLBOX

Building Better Web for Citizens



Dr
Design Research

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Foreword

The UX Toolbox contains a series of modules to help you build a better web presence for your organization, and to align your web presence with overall government direction.

Each module helps set the stage for the next. For a thorough understanding of the entire process we recommend reading the modules in order. That said, if you are reading to get a general understanding or are looking for some particular information or tool that might help, you can jump right into any particular module.

We recommend starting with the **Overview of the Toolbox** before continuing. By reading the **Overview of the Toolbox**, you'll understand how the toolbox works, how it can help you create better user experiences, and where you can go if you need help.

The **Introduction to Online Service Delivery** module helps to paint a picture of online service delivery in the public service, our new corporate approach to web, and how we need to rethink our positioning so that citizens can access more of our services online more easily.

Introduction

Design research is about discovering the things that users need and want for an enjoyable and easy experience on the web. It sets the foundation for web strategy, design, content, and information architecture (IA).

Websites are often developed in a bubble. There is little to no consultation with users to understand their needs, context, goals, limits, or motivations and then build a website around those findings. Simple website projects often fail because decisions are driven by technology rather than by user needs. Consequently, users get confused, can't find what they need and leave for alternate, easier solutions. This leaves them with a negative opinion about government and the services we provide.

Design research can be used throughout the project lifecycle – at the very beginning, it will uncover the things that users need and will help build your research plan; throughout the project and after website launch, it will validate your work, assess performance and identify areas for improvement.

Understanding, using, analyzing and communicating these methods will help you to create a research plan that focuses your efforts and makes the most effective use of your time, budget and team. It can also inform broader service strategies and help ministries make strategic decisions about their resource alignment.

This module introduces a set of methods and activities that can be used to discover what your users need from your websites and online services. It is intended as an introduction into the world of design research. These methods go beyond focus groups and surveys, and can be used both internally and externally. While a wide array of staff can participate in design research, it is recommended that ministries seek guidance and support from an experienced specialist in order to get the most out of this activity. Working with an expert will help develop capacity in your ministry for ongoing design research. We recommend engaging with the User Experience Design Team (UXBC)¹ within the Strategic Initiatives Division of the Ministry of Citizens' Services and Open Government (CITZ).

1. User Experience Design Team (UXBC):
uxbc@gov.bc.ca

Strategic Alignment

*Citizens @ the Centre*² articulates our commitment to an evidence-based, citizen-centred and service-focused approach to government's web presence. It states that citizens expect and deserve a range of services and supports from their government, that our organization will save citizens' time in their interactions with government and that we will make it easier to access better quality services.

Our corporate Internet Strategy outlines this new approach to web, which will better serve the needs of both citizens and government. It makes the citizen the driving force behind the design of our business, our services, and how we deliver them.

To support this new approach, CITZ has been given strategic responsibility for government's web presence, and is responsible for creating policy, governance and tools to support sectors and ministries through this change. As part of sector Transformation Plans, each ministry created a strategy to rationalize their web presence and make it more citizen-centred by aligning with the overall government approach.

We need to work differently in order to put services closer to citizens in a consistent manner based on their needs. Instead of managing a website, we now manage a set of services that may be delivered online. To be successful and truly put citizens at the centre, this approach requires service delivery innovation and adaptation.

Service delivery innovation comes from gaining empathy and insight into what people really need, while taking into consideration what organizations are capable of and mandated to create. This includes a deep understanding of users' context, goals, motivations, options, constraints and needs and an understanding of how we need to organize teams and efforts within our organizations. Governance and strategy express details about our organizations and their direction; design research is the underlying work that leads to good governance and strategy.

2. www.gov.bc.ca/citz/citizens_engagement/gov20.pdf

Research Drives Strategy

Research is the foundation for a strategy that meets real citizen and stakeholder needs. Without learning what users need, strategy and vision can be flawed and work is often misguided. Your strategy will connect the discoveries from your research into vision and action. Because your strategy will be based on design research, it will meet the needs of citizens, and reflect the mission and capability of the organization, and thus set a vision that is both innovative and attainable.

Research can inform strategy at the ministry level by helping to set the vision and the action plan for the organization, or it may focus on informing a specific project strategy. In both cases, research helps align the needs of people with the mandate of the organization.

While research helps drive strategy, it's important to note that most people don't know how to articulate what they actually need. To quote Henry Ford: "If I asked people what they wanted, they would have said a faster horse". This is why we need to dig deeper into user suggestions to find the underlying needs and motivations that prompt participants to propose certain features, functions or approaches.

Design Research Principles

Adopting design research is as much about attitude as it is about the specific methods you use. Before jumping into doing design research, review these principles and then frame your research around them.

Set priorities around your research

- 1. People first** – design research is about understanding people. When we see citizens, stakeholders, staff and partners as people first we unlock vital perspectives. Knowing the viewpoints, abilities, values, motivations, goals, tasks, and limits of people lays the groundwork for designing services that work for them.
- 2. Organization next** – while people are at the centre of our work, organizations should be the next focus. We need to understand constraints, mandates, capabilities, resources and priorities. We must know our internal stakeholders, the efforts that are underway and how our own work fits into the bigger picture. Since organizations are just structures of people, many of the same methods used to understand people in the outside world apply to understanding organizations.
- 3. Capture activity** – service is built on activities. What do people do? What does the organization do? How do the organization's activities fit with people's activities? Understanding activities, tasks, processes and scenarios is the start of translating insights into innovations.
- 4. Respect context** – people, organizations and activity all exist in a larger context. Success rests on knowing the relationships of culture, community and competitive or alternative options from other institutions. Considering context will help you understand the expectations and needs of the people you serve. Monitoring trends in the social, technical, environmental, economic and political arenas will help align your work in the bigger ecosystem to find the best solutions.

Change the way you think about research and problem solving

- 1. Be an apprentice** – it's easy for expertise to get in the way. While your team's experience is invaluable, it's only part of the story. Try to see things the same way you did when you were first learning. If you were an apprentice to the people who participate in your research, what would you learn? Having a beginner's perspective lets you see things that you wouldn't otherwise. Listening without judgement, asking open-ended questions and enjoying the exploration of a topic set the stage for the empathy you need to design great solutions.
- 2. Balance quantitative and qualitative** – we tend to rely on quantitative measures and while they are an important part of understanding, they don't provide the full picture. Balance quantitative work with qualitative efforts. This is especially true when you need to understand why something happens, know where there are unmet needs, establish new services, or optimize existing ones. Quantitative measures are good for telling us what happens. Qualitative methods build on that to explore the why and the how.
- 3. Get out in the real world** – go where the action happens: in people's workplaces, homes, playgrounds, schools or communities. Being where the action is and observing gives you the kind of insight and empathy that you won't get from a bar graph or survey results.
- 4. Immersion fuels innovation** – go deep into the lives and needs of people. It's often better to spend more time with fewer people and have a richer understanding of a core group than a shallow understanding of many.
- 5. Co-design taps into new insights you wouldn't discover on your own** – co-design is when you work with participants or partners on the design process. Give them the tools to make things – a collage, sketch or prototype - and use that as a springboard for a deeper conversation about what matters. When people create concrete artifacts, they tap into new ways of expressing their needs and wants.
- 6. Look for patterns, sequences, systems and meaning** – as you collect new observations and data, analyze them for patterns, sequences, systems (including interactions and environments) and the underlying meaning for people in their daily actions.

7. **Value the common and embrace the edges** – many experiences are common experiences but even the ordinary, everyday life events can provide valuable insights and powerful examples. Often innovation occurs at the edges, where domains overlap and mandates or strategies intersect. Valuing common experiences is as important as seeking the edge.
8. **Use what works** – this module introduces a set of design research methods and activities but use what works for you and your team, whether from this module, other sources or your own experiences. There is no one method or activity that will give you all the answers. The goal is to understand people so that we can confidently deliver the services citizens need while meeting organizational mandates and stakeholders' expectations.

When to do Research

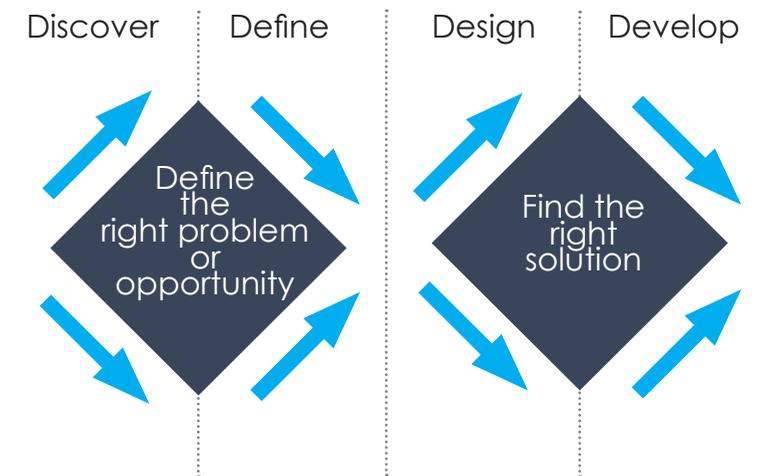
Design research can help teams across the entire service lifecycle from initial discovery through to implementation and maintenance. As design research is used across the project lifecycle, it has four main impacts:

1. The most important role for design research is at the beginning of a project. It helps ensure that the right problems are being solved and will **provide a strong foundation for the project strategy and vision**.
2. Design research **provides clarity for better solutions**. It allows you to explore solutions based on the real-world context of citizens and other stakeholders.
3. Design research leads to **making design decisions based on evidence** instead of on opinion, personal agendas or current management trends. It helps during the scoping of features and functions for a service and in the iterative refinement of prototyping and testing to create a polished service.
4. Design research **helps measure your progress on an ongoing basis**. Design research tools can contribute to meaningful metrics and key performance indicators that are based on success for both stakeholders and the organization, rather than arbitrary targets.

In the **Introduction to Online Service Delivery** module, the Double Diamond model³ was introduced. The key to this model is the power of diverging (exploring and expanding) and then converging (narrowing and focussing).

Some design research methods are more useful during the divergent phases (discover and design) as you discover and explore the problem, and later brainstorm and create solutions. Other methods are useful during the convergent phases (define and develop) where you narrow down on the specific problem or opportunity (define) and start developing a solution (develop).

Read more about which design research methods to use and when in the **Choosing Your Methods** section of this module.



3. www.designcouncil.org.uk/documents/documents/publications/eleven%20lessons/elevenlessons_design_council.pdf

Design Research Methods

There are several different kinds of design research methods, tools and activities.

The most common methods are:

- Fieldwork*
- Co-Design and Gamestorming*
- Ecosystem Research
- Focus Groups
- Self-Reporting*
- Inspection and Critique
- Usability Evaluation*
- Analytics*
- Inventories and Audits

The research methods with an asterisk are described in more detail in **Appendix A**.

Fieldwork

Fieldwork is about getting out into the real world and interacting with people - watching and talking to people where they work, live and play. Fieldwork is a key method for design research and should be considered first above all others. The understanding that you gain from being out in the real world is profoundly different from traditional surveys and focus groups.

Fieldwork is done in small teams, where one or two people visit with an individual or a small group like parents or a family.

Fieldwork focuses on observation and interviews. Because interviews are conducted closer to or where the

activity happens, it's easier to ask the right questions and participants feel comfortable in the setting and can answer more accurately.

Fieldwork includes activities like:

- Behavioural interviews*
- Paired interviews*
- Remote interviews*
- Observation and shadowing*
- Call centre shadowing*
- Photos*
- Audio and video recording*
- Digital fieldwork*

Co-Design and Gamestorming

Co-design is when you work with participants or partners on the design process instead of doing the work for them. This is a significant shift in how we do things but giving up some control and embracing co-design and co-creation is worth the benefits that it offers. Participatory design methods involve a facilitated group of stakeholders making things to express their values, needs and ideas.

Design games - or *gamestorming* - help build common ground and better express needs. Some games involve making concrete things and some revolve around activities or words.

Participants may make metaphorical artifacts like collages to explore certain topics and values (like safety or family), or they may make literal artifacts like prototypes to explore different ideas for how to build something.

A literal artifact should be used to facilitate a deeper conversation about why someone suggests a certain feature or function instead of just a suggestion or feature request.

Co-design and gamestorming includes activities like:

- Values collage*
- Co-sketching*
- Design the box*
- Business origami*

- Directed design*
- Participator prototyping*

Ecosystem Research

Ecosystem research examines the greater context in which your design research is situated in an effort to better understand the overall ecosystem of a service. It focuses on relevant trends, relationships and inter-connectivity within the system, possible alternatives, the consequences of not providing the service and assessing the best fit for the service within the greater ecosystem.

Ecosystem research includes activities like:

- Environmental scans
- Competitive analysis
- Concept modeling
- Scenario planning

Focus Groups

Focus groups bring people together to discuss a specific topic guided by a skilled moderator. Topics can range from large-scale policy direction to specific service offerings. Focus groups are useful for identifying public sentiment and preferences, but they're based on what people say and not what people actually do. Studies show that what people say they like or dislike can be quite different what they demonstrate during observation.

Case in Point: Electronics giant Philips conducted a focus group to determine whether the new sport yellow boom box should be offered for sale to the public. During the focus group, everyone preferred the sport yellow boom box over the black boom box because it was youthful, vibrant and exciting. On their way out, participants were offered a choice of the yellow or the black boom box. They all chose the black one.

Focus group research can take many shapes including:

- Traditional focus groups
- Town halls or open houses
- Virtual focus groups using social media

Self-Reporting

Self-reporting occurs when you ask people to tell you something specific about a product or service without researcher involvement. It can be done in person, through online forms, email, texting or other channels. Self-reporting tools include online feedback forms, structured surveys, questionnaires, card sorting, and diary studies.

Self-reporting allows you to reach a large number of people easily and to work with remote participants. However, because it is difficult to expand on participants' responses as the researcher is not present, it works best when paired with other tools that allow for further understanding of what is being examined.

Self-reporting includes activities like:

- Diary studies*
- Net promoter score*
- Focred ranking surveys*
- Surveys
- Online card sorting

Inspection and Critique

Inspection uses a set of guidelines, heuristics⁴ or a structured approach to review a design. These design reviews may be done by an expert or by a mixed group. The guidelines may be extensive like the usability.gov evidence-based guidelines⁵ or may be heuristics based on industry best practices like Nielsen and Molich's Ten Heuristics for Web Usability⁶. A set of web pages, mobile screens, or service journeys are evaluated methodically against the set of guidelines. The areas that perform well or poorly are highlighted. Inspection is often used as an evaluation tool to improve usability, especially to catch more obvious interface errors before committing to a larger investment in usability testing.

Critique plays a similar role during the design process but is less tied to specific guidelines. A designer asks team members to review concepts, sketches or screens and each member shares what they like, what they would improve, what they would omit and if there is anything else they would like to see.

4. Heuristics are experience-based techniques for problem solving, learning or discovery. They are used when time is limited and you need to find solutions relatively quickly. Heuristic methods include rules of thumb, educated guesses, or just common sense.

5. www.usability.gov/guidelines/

6. www.useit.com/papers/heuristic/heuristic_list.html

Inspection and critique include activities like:

- Heuristic evaluation
- Guideline review
- Group walkthrough
- Team critique
- Individual critique

Usability Evaluation

Usability evaluation is having real users do real tasks with either a prototype or an existing, live interface. Typically, a test moderator introduces specific goals like “try to renew your driver’s licence” and prompts the participant to describe out loud what they’re expecting to see, what path they expect to take and why they choose certain actions.

This approach helps identify areas where the labeling, flow or functionality doesn’t fit with people’s mental models and expectations. It can also help evaluate performance on certain tasks (like time saved completing a task) and the overall usability of a system.

Testing sessions can be done one-on-one with a participant and an observer, in pairs or in groups of participants. It can also be done remotely with a screen-sharing tool.

Usability evaluation includes activities like:

- Usability inspection*
- Think-aloud usability testing*
- Pair testing
- Remote usability testing*
- Hallway testing
- Five-second testing

For ministries needing support, CITZ offers a robust usability testing service that includes research design, testing and analysis using leading methods and technologies. Contact the User Experience Design Team (UXBC)⁷ within the Strategic Initiatives Division for more information.

7. User Experience Design Team (UXBC):
uxbc@gov.bc.ca

Analytics

Analytics examines the log files and other behavioural traces that real users leave when surfing the web. Web analytics can show traffic trends, search terms and the paths people take through a site. But it doesn't provide the full picture; it doesn't tell you why people are going where they're going and why they're searching for certain terms. It also doesn't capture an entire cross-channel service experience as people move between web, phone and in-person interactions, so analytic methods are more meaningful when partnered with other research tools.

Analytics methods include:

- Web conversion analytics*
- Search analytics*
- Sentiment analysis
- A/B Testing*

For ministries needing support, CITZ offers a corporate service featuring an industry leading enterprise tool-set, analytics expertise, analysis and custom reporting. Contact the Online Technical Services Team⁸ within the Strategic Initiatives Division for more information.

Inventories and Audits

Two common inventories are content inventories and service inventories. A content inventory captures all the web pages for a given site and a service inventory itemizes services.

A content inventory is a record of every single web page your organization is responsible for and is often created in a spreadsheet. Once this is done, the business owners or subject matter experts audit the content and look for redundant, outdated or trivial (ROT) content, identify what needs to be written or rewritten and ensure that owners are identified and a regular review schedule is established. See the **Content** module for more information about content inventories and audits.

Service inventories are similar but with metadata about service details, channels, availability, audience, prerequisites, outcomes and ownership captured.

8. Online Technical Services Team (OTS):
OCOServiceRequest@gov.bc.ca

Inventory and audit methods include:

- Content inventory and audit
- Service inventory and audit

A Note on Bias

Many factors can sway the results of your research. It's easy to form biases when the research involves your work and participants can knowingly or unknowingly bias results in a number of ways. Each research method is susceptible to bias from both the researcher and participant.

Common researcher biases include:

- Researchers are sometimes limited in who they can recruit to participate in studies and may not have a sample group that is representative of the entire population.
- Researchers may select or design research tools that include inherent biases and fail to mitigate the biases.
- Researchers may ask leading questions or their body language or tone of voice may suggest a preference to the participant (this is particularly common in focus groups).
- Researchers can interpret outcomes within their view of the world and may fail to take other views into account.

Common participant biases include:

- Participants can only tell you what they know.
- Participants face social pressure to give the 'right' answer and so they may answer in a way just to be socially acceptable or to please the researcher or another member of the group.
- Participants are wrong sometimes – they may recall something different than what actually happened.
- Participants may suffer from survey burnout or response fatigue, where they rush through responses because they're tired of yet another survey (this is an especially common challenge for internal systems).

Avoid bias by being aware of bias and by using a cross-section of methods followed by careful analysis and the understanding that research is not infallible.

Choosing Your Methods

Using a combination of methods and activities for your research will allow for better findings.

Choosing the right tools depends on four factors:

Desired Outcomes

When creating something new, choose tools that are especially suited for exploring opportunities. Innovation is fuelled by seeing the world in a different light and making connections between the things you discover. Consider exploratory methods like fieldwork, diary studies and co-design.

When optimizing existing services, choose tools that will help explain interaction breakdowns. Optimization is fuelled by understanding how people interact with a system and where problems exist in those interactions. Consider tools like analytics, inspection and usability testing to gain a better understanding of where the user interactions breakdown. Co-design focused on a specific scenario or set of tasks is also helpful.

Existing Data and Information

Think about what you already know - the data and pieces of information that you've already captured. How confident are you that this information is accurate? Are there any gaps in your understanding? If there are and if you've already done the relevant fieldwork, consider a co-design session. If you have good survey data, complement it with analytics and fieldwork, or vice versa. Start from what your organization already knows and then build on that with complementary methods and activities.



Capability and Capacity

Research takes time, budget and expertise. Some methods take more time, cost more money or require more people or specific skills. See a rough estimate of time, cost and resources for the research methods highlighted in **Appendix A**.

Where you are in the Process

Research has more impact earlier in the design process but even if you're well underway with service re-design, research can still help reduce risk and optimize the experience.

Early research is about understanding the big picture to inform your vision and strategy. Later research is about exploring solutions and making the right design decisions. Finally, once a project is deployed and delivering services to citizens and other stakeholders, research can monitor the health of a service and keep a rolling inventory of services or content.



Use this table as a guide for selecting research methods at different stages of the design process. Selecting your methods is the foundation for your research plan.

Research Methods									
Process	Fieldwork	Co-design	Ecosystem	Focus Groups	Self Report	Inspection	Usability Tests	Analytics	Inventory
Discovery	Recommended	Recommended	Recommended	Useful	Useful	Possible	Possible	Possible	Recommended
Strategy	Possible	Useful	Possible	Useful	Useful	Possible	Possible	Possible	Useful
Design	Possible	Recommended	Possible	Possible	Possible	Recommended	Recommended	Useful	Recommended
Content	Possible	Useful	Possible	Possible	Useful	Useful	Possible	Useful	Recommended
Development	Possible	Useful	Possible	Possible	Possible	Recommended	Recommended	Possible	Possible
Deployment	Possible	Possible	Possible	Possible	Useful	Possible	Possible	Recommended	Recommended
Ongoing Delivery	Possible	Possible	Useful	Possible	Recommended	Useful	Possible	Recommended	Recommended

LEGEND

- Recommended
- Useful
- Possible
- Less Effective



Analyzing Your Research

Discovery work is exciting – you see new things, try new ways of working and get in close contact with the people that rely on your services. In the end, you'll have dozens if not hundreds or thousands of data-like observations, notes, photos, recordings, videos, logs and other great findings. Next, you have to make sense of it all. That's where analysis comes in.

Doing your Analysis

Don't wait until the end of your research to analyze your findings; instead, analyze as you go. It will help focus your research and will keep things from getting too repetitive. It's also a good idea to look at your data while it's still fresh. Patterns, sequences, systems and meanings are easier to see when you don't have to look back over weeks or months. This incremental approach also avoids a backlog of analysis work waiting at the end of the discovery phase.

The questions that you ask will depend on the goals for the research, your timelines, budgets, team and research methods. Different kinds of research will give different kinds of answers and some research methods are better than others at answering particular kinds of questions.

The following four methods are useful for analyzing qualitative data. Our focus is on qualitative understanding because many ministries are already familiar with quantitative methods. Detailed quantitative analysis support is available through BC Stats⁹.

Storytelling

Divide your data among the team members and have the members review the research notes and recordings. Look for the most interesting and important stories and if there were recurring stories that you heard from people. What are the unique stories that highlight some success or failure, or show unmet needs or opportunity?

9. www.bcstats.gov.bc.ca

Tell those stories in a simple format, with a beginning, middle and end.

Beginning

- Who is involved?
- What was the trigger that started everything?
- What did they want to achieve and why?

Middle

- What were the steps they took?

End

- How did they feel?
- What were the high and low points?
- What was the outcome?

You may want to write the answers to these questions but the stories will be more powerful if they take a narrative form.

Storytelling can produce personas and storyboards. Personas are representations of users in terms of goals and personal characteristics. They're like 'stand-ins' for real users and help guide decisions about functionality and design. Storyboards are a tool for turning your story into a visual and use the same techniques as comics or movie storyboards. Personas and storyboards are discussed further in **Appendix B**.

TIP: Consider using photos from your research or sketches to illustrate the stories. You may also want to create more structured storyboards to capture the stories.

TIP: Find your favourite quotes from the research. Quotes often make great starting points for stories or help reinforce an important finding.

Draw a Picture

Visualize the people, touch points, connections and other elements of a service experience by drawing it out. This might be a sketch to describe a story or a service with its parts and interactions, or it may be a picture of the overall system. Your picture doesn't have to be polished or professional; a quick sketch on a whiteboard or in a notebook is much better for early analysis. The visual and tactile feedback of drawing will help you express new kinds of insights and see the relationships that make up a system. Use pictures to understand and answer the 5W's – who, what, when, where, why (and how).

You may end up refining your pictures into one or more infographics that will communicate your research findings. See **Appendix B** to learn more about infographics.

Clustering

Clustering, also known as KJ Analysis¹⁰ or Affinity Diagramming¹¹, is great for spotting patterns in your research. When there are lots of pieces of information to make sense of, clustering can help organize and group things in a logical way.

First, have team members review the research notes and recordings and have them write one idea or observations per sticky note. You can expect a one hour interview to provide 25-50 sticky notes. Feel free to use different colours for different topics.

Then, work as a team to place the sticky notes on a large whiteboard, wall, window or large sheet of paper. Work together to sort the individual sticky notes into related clusters. Anyone can move the sticky notes from one group to another. The discussion around which ideas or observations belong together is one of the most valuable parts of clustering.

As clusters emerge, use a larger sticky note to label the cluster with a descriptive name, theme or trend. You can move entire clusters to reflect a larger relationship. Whiteboards and windows are useful for this because you can use dry erase markers to circle related clusters, add comments and/or use arrows to show relationships or flow between different concepts. After each session, record the board with a digital camera so it's accessible to anyone for reference.

TIP: Your clusters can be made up of any number of sticky notes, but if you have more than five sticky notes per cluster, see if you can divide it. Ask yourself if there are two thoughts going on in this cluster? If you can, split the group and give them new names.

TIP: If you're working on an ongoing analysis that starts after you have some initial research consider using a large sheet of paper so that you can roll it up and store it between analysis sessions.

TIP: Use a Sharpie or similar marker that is easy to read from a distance.

10. www.uie.com/articles/kj_technique/
11. www.mindtools.com/pages/article/newTMC_86.htm

Task Analysis

Task analysis is a more structured form of analysis that combines elements of storytelling and clustering. It's a significant investment but incredibly useful for building a consistent model of user activity to plan for service features, functions and content.

As a team, review the research notes, recordings or transcripts to identify specific tasks or activities. Label sticky notes with a verb and a noun to describe tasks in an activity. For example: "creates new document," "packs lunch," or "marks exams." Then arrange the notes into related columns to create a specific step, with related steps all together. Label the individual steps and then the overall activity. These overall activities and steps will be similar to the things you might identify in storytelling.

Five Common Kinds of Questions for Analysis

The following are examples of questions to ask to better understand your research projects and analysis.

1. People – Places – Things

- Who is involved?
 - What are they like?
 - What are their goals?
- Where are they when they use a service?
 - At home? The office? On the go?
 - What is it like there? Noisy? Busy? Dangerous?
- What kinds of things do they use when they use the service?
 - Pad and pencil?
 - Smartphone?
 - Sticky notes?
- What other things are around this person?
- Within the organization, what are the people, places and things we need to deliver a service?
 - What are those services?
 - What is the content we have?

2. Activity – Tasks – Flow

- What do people do?
- What are their activities?
- Where are the interactions in the system?
- What specific tasks make up those activities and interactions?
- What is the flow or sequence of activities?
- What happens behind the scenes? What is the workflow of the organization?
- Where are the stumbling blocks or barriers in the flow?
- Which flows are most successful?

3. Context

- What is the environment?
- What are the background and context for a specific service or for a particular audience?
- What are the influences from the STEEP factors (social, technical, environmental, economic and political)?
- What about culture?
- What are the available resources?

4. Meaning – Emotion

- As people go through a specific scenario or activity, what is the meaning for them?
- How do they feel as they progress?
- Where are the high points? Low points?
- What are the defining moments or moments of truth that make or break the experience?
- What will a person tell their neighbour about a service?
- What will they tell themselves in another three months when they look back? What will they remember?

5. Measurement

- What are the numbers?
- Can we quantify results?
- Can we measure what matters?
- How do we measure success?
- How do we reflect shared value?
- How do we meet citizen and stakeholder needs while accomplishing our mandate within the constraints and direction of the organization?

As you ask these and other questions you'll start to develop new insights into the problems, opportunities and possibilities that will create value for your stakeholders, your organization, and the broader public service.



Deliverables & Communicating Your Research

Now that you've done your research and analysis, you'll need to communicate your findings to your team, partners, stakeholders and executive.

The following are common kinds of deliverables or design research outputs:

Personas are user profiles that paint a picture of the kinds of people that use your services based on research that captures the goals, motivations, context and scenarios. See **Appendix B** for more on personas.

Storyboards are a visual storytelling tool often used when making movies. Storyboards help people tell stories briefly and visually. See **Appendix B** for more on storyboards.

Journey Maps are visualizations of the steps or stages of a significant experience for a person with additional details for each step. Examples of experiences might be going to college, travelling for business, or having a child. Journey maps may include more discrete activities, locations, channels and emotions for each of the stages. See **Appendix B** for more on journey maps.

Mental Models are visualizations of task analysis. They allow teams to align existing features, functions and content with user activity. See **Appendix B** for more on mental models.

Infographics are detailed visual pictures that describe your findings. They may be idea- or data-driven. Idea-driven infographics use pictures to describe ideas like concepts, stories, processes and relationships. Data-driven infographics visualize quantitative information. Ideas and data can be combined in the same infographic. See **Appendix B** for more on infographics.

Content Models are specialized infographics that capture the big picture of your research. They help in visualizing the relationships, context and background surrounding a set of services or experiences. See **Appendix B** for more on concept models.

Usability Reports are summaries of findings from usability testing and inspection. They identify issues, including the severity of the issues, and suggest priorities for fixes. Usability reports may make recommendations for consideration in redesigning a specific feature or function based on testing observation or expert review experience. See **Appendix B** for more on usability reports.

Content Inventories and Audits are spreadsheets that itemize content and services. They may also have corresponding summary documents. See **Appendix B** for more on content inventories and audits.



Research Plan

A research plan outlines goals and approach so that everyone on the team is on the same page.

- Research plans should include:
- An overall research plan summary
- Research goals with specific questions to answer
- References to existing relevant research findings and identification of necessary additional research efforts
- What questions are not answered well enough by existing research
- What groups of citizens, stakeholders or internal staff you are doing research with, along with privacy considerations and how you will recruit participants
- Your research approach, including planned methods, analysis, and deliverables
- Resources required for this approach
- Research reporting, including how you will share your findings and with whom
- What you need to get started with your research efforts
- Next steps

See **Appendix C** for a Research Plan template.

Recruiting

Finding the right participants for your research is crucial for good results. Doing research with the wrong people wastes time and money and results in findings that aren't usable. The quality of the research findings depends on the quality of the recruitment process.

When recruiting people for research, consider the following:

1. Does the person fit within the citizen, stakeholder, or staff populations that you serve? This is a question of demographics, government services used and other behaviours.
2. For someone who qualifies as part of the overall target audience, would anything dramatically bias their participation? This includes things like technical knowledge, repeated participation in user research or inside knowledge of government workings.

Depending on the services you offer, you may have broader or tighter recruitment requirements like disqualifying people if their spouse works for government or in a technical field.

For ministries needing support, the User Experience Design Team (UXBC)¹² within the Strategic Initiatives Division of CITZ has experience in recruiting for government and existing relationships with established recruitment agencies. Contact them for more information.

Recruitment happens in three stages:

1. **General invitation** – this can be in the form of placing notices on your website and ads or announcements online. You'll want to describe the research at a high level like "be interviewed at your own home" or "participate in an online test drive of a new website." This often directs people to an online survey where they fill in basic criteria.
2. **Screening and scheduling people who respond** – you'll want to call the people to make sure they meet your criteria and describe the research study. If they agree to the research format, work through the questionnaire to confirm their answers. For those that meet the criteria, invite them to participate.

12. User Experience Design Team (UXBC):
uxbc@gov.bc.ca

Tell them about any payment or participant incentive. Disclose any photography, audio or video recording or other data recording and usage policy and let them know they will be signing a release. Schedule their participation for a specific time and place and collect contact information for a reminder.

- 3. Remind participants** – a day in advance, call and remind participants of the time and provide them with any needed direction.

Don't Underestimate Recruitment Efforts

Finding the right participants may take significant time. The more focused your recruiting requirements are, the more effort it will take to find participants.

For the public, you can expect to pay \$50 and upwards as a participant incentive (again, more if you're recruiting specialists). This may be in the form of a gift certificate or other reward rather than cash or cheques.

Recruiting may be done by your own team, with support from BC Stats¹³, or through a specialized contractor. If you contract for recruiting, expect to pay \$100 or more per participant. The advantage to contracting this service is that these firms have databases of participants and so they can get participants much faster than having to place ads.

13. www.bcstats.gov.bc.ca

Reporting Research

Research will fuel your main outputs like a ministry strategy, project strategy, ongoing metrics or specific research reports. Sometimes your research will contribute to all four but it usually informs one in particular.

Strategy documents for ministries and projects are similar and connect research to vision and action. Ministry strategy is broad and covers the range of topics as part of its mandate. A project strategy is narrower and more focused on the needs of a specific project. To learn more about strategies, see the **Web Strategy** module.

Ongoing metrics measure performance for a set of services. They often draw on analytics and self-reporting surveys like the Net Promoter Score though they may also include regular usability evaluation.

A specific research report may be for a particular kind of research like validation research. Usability testing and inspection are often reported independently and content inventories are often used as part of the ongoing content development and management process.

Communicating Research

Research informs strategy, design, content, IA and more, but it won't be very useful if no one knows about it. The better your organization and stakeholders understand your research and the opportunities your research uncovers, the better investment the research will be. This is especially true for strategy research. Research findings help build buy-in and provide clear rationale for vision, direction and action that make up the strategy. When everyone understands your research they can act independently to better serve citizens and other stakeholders.

Share research using a variety of ways like formal presentations, brown bag lunches, postings on the Intranet, and printing poster-sized deliverables and placing them around the office. These all help raise awareness of your findings.

Beyond ongoing communication, focus on integrating research findings to the daily work of your organization. Think about how your research can help make better decisions. You may find there are surprising and effective uses for the findings that comes from design research, from cross-channel service improvements to informing policy decisions.

As people in your organization become more aware of the real lives of citizens and other stakeholders, they begin to build empathy. That contributes to the shift in culture described by *Citizens @ the Centre*¹⁴.

The point is, don't let your research sit on a shelf where no one will look at it or use it in their work. Make research a living, breathing part of your efforts to improve services and you'll realize a great return on your investments.

14. www.gov.bc.ca/citz/citizens_engagement/gov20.pdf



Managing Research

Research provides the most benefit to the organization when it's managed well. That means that research should be coordinated across the organization - the online service delivery team will typically have the lead on research, but they should also collaborate with other branches and lines of business to determine research needs.

Managing research is similar to answering the questions that make up a research plan, but for the entire organization on an ongoing basis:

1. What are our business challenges?
2. Who do we serve? What are their real needs?
3. What questions do we need answered?
4. What research and insights do we already have? Are there other organizations in government who have done similar research already?
5. How should we prioritize outstanding questions?
6. How should we do our research?
7. What methods should we use?
8. Who should do the research?
9. Do we need help from elsewhere in government or from an outside firm?
10. How do we recruit participants?
11. How do we report our research?
12. How do we integrate research findings and insights into the daily work of our team or ministry?

A Note on Staffing for Research

This may be something that you find you need additional support with or need to engage with a partner on. We recommend that you contact the User Experience Design Team (UXBC)¹⁵ within the Strategic Initiatives Division. They can provide more information and additional support on how to build capacity within your organization.

15: User Experience Design Team (UXBC):
uxbc@gov.bc.ca

However, you probably don't need to recruit a dedicated researcher with a social science or design research background. Instead, assign team members that show humility, curiosity, the ability to listen authentically and effectively, and most of all empathy. Those character traits are more important than degrees or training—you can always work on someone's skills, but changing character is much harder.



Conclusion

Design research is a critical part of the transformation underway in the Government of B.C. It provides the evidence to make citizen-centric decisions. In turn, that helps ministries align effectively to the Internet Strategy and meet the real needs of citizens and other stakeholders who are demanding better online services.

Even more importantly, the empathy that the organization will gain from doing thorough design research will change how the organization sees the world and itself. That new culture fuels vision, strategy, innovation and a better experience for everyone.

Recommended Reading

1. *Observing the User Experience: A Practitioner's Guide to User Research* - Mike Kuniavsky
2. *Gamestorming: A Playbook for Innovators, Rulebreakers, and Changemakers* - Dave Gray, Sunni Brown and James Macanufo
3. *Storytelling for User Experience: Crafting Stories for Better Design* - Whitney Quesenbery and Kevin Brooks
4. *Prototyping: A Practitioner's Guide* - Todd Zaki Warfel
5. *Mental Models: Aligning Design Strategy with Human Behavior* - Indi Young

For More Help

Depending on the resources available in your organization, you may need more than just the guidance and advice provided in this toolbox. The team responsible for this toolbox is available for consultation and guidance and has a number of resources and contracts that are available to ministries on a cost recovery basis.

If you have questions about the corporate approach, this or any of the other modules in the toolbox, or how to move forward on your ministry approach please contact the User Experience Design Team (UXBC) within the Strategic Initiatives Division of the Ministry of Citizens' Services and Open Government.

uxbc@gov.bc.ca

Appendix A - Design Research Methods & Activities

Fieldwork

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Behavioural Interviews

What

Behavioural interviews are open-ended, non-directed interviews that focus on participants' behaviour. These interviews explore stories and explanations of how and why things happen and work best if held in context at home or work.

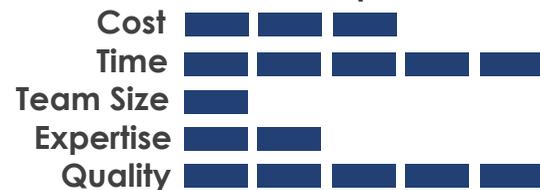
Why

Behavioural interviews help uncover values, motivations, priorities, activities, and relationships between elements of the larger system. They connect the research team with real people and they allow the team to investigate the underlying issues behind trends that may not have been revealed through analytics or surveys.

How

1. Create an interview guide that covers questions for all the topics you're interested in for this research. This isn't intended to be a script; instead use it as a guide to help keep you on track of all the topics you want to explore. Make sure you can fit your questions into the allotted time.
2. Interview at least eight individual participants by exploring each topic with them using open-ended questions. Pause and invite further explanation of interesting topics, anecdotes or other elements. Use your guide to direct conversation rather than as a script that you read from verbatim.
3. Record notes during the interview (you may want to work in a team, with one person taking notes and one interviewing).

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Recommended Reading

- See the **Recommended Reading** section for more information about these and other references.
- Chapter 6 of *Observing the User Experience: A Practitioner's Guide to User Research*
 - Chapters 6-8 in *Mental Models: Aligning Design Strategy with Human Behavior*
 - Nondirected Interviews: How to Get More out of Your Research Questions (adaptivepath.com/ideas/3000041)

Paired Interviews

What

Paired interviews are behavioural interviews with a pair of participants rather than individual participants.

Why

Paired participants will talk with each other as well as with the interviewer, offering alternative perspectives, additional detail, or a reality check on how things happen. While paired interviewing lets you include more participants in the same time slot, some participants will only talk about more personal things during an individual interview. There are also fewer opportunities to investigate underlying issues or to understand specific activities because there is less time to devote to each individual.

How

1. Recruit pairs of participants for interviews. Participants may have an existing relationship, such as co-workers, neighbours, a domestic couple, or a parent and child. Pairs may also be created ad hoc by scheduling separately recruited people. If you create ad hoc pairs, match participants accordingly.
2. Carry out the interviews in the same way as behavioural interviews.

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Remote Interviews

What

Remote interviews are behavioural interviews carried out over the telephone or through videoconferencing software.

Why

Holding remote interviews allows you to include people from across the province and to recruit participants from a larger population instead of just your local users. Phone interviews are also often easier to schedule for participants and research teams.

However, phone interviews lack context from the environment and cues from body language, and it's often harder to build rapport with remote participants than with those in person.

How

1. Recruit participants in the same way as you would an in-person interview, but schedule a telephone call instead of a face-to-face interview.
2. Consider using a conference bridge that allows you to record the call.

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Interview Tips

Build Trust

Building rapport and trust with your participants will make them feel comfortable answering your questions. Be friendly and interested in their work or home life. Introduce yourself and look for common ground that you share for initial conversation starters.

Let them know that the interview is anonymous, and that you're looking to understand how things really work for the participant. Reassure them that it's ok if they do things differently from the 'official way of doing things,' and that it's actually a great source for how we can do things better.

Use Open-Ended Questions to Explore

Open-ended questions can't be answered by a single word or two. Instead, they require the participant to give an explanation as part of their answer. Here's an example of an open-ended question and a closed-ended question.

Open-ended: Can you tell me about your experience getting a business licence?

Closed-ended: Did you have a good experience getting your business licence?

The open-ended question forces the participant to explain their experience while the closed-ended question can be answered with a yes or a no.

Pause and Elaborate

As participants share their stories you'll find particular elements that are closely related to your mandate. Ask the participant to pause their story and expand on the point or topic that you're specifically interested in.

For example, ask the participant "Can you tell me more about your call to the service number?" You may continue to explore this area of interest or go back to the original thread of conversation.

Use Closed-Ended Questions to Confirm and Advance

Use closed-ended (yes or no) questions to confirm your understanding of what participants have told you. Summarize your understanding and ask as a yes-or-no question.

For example, "So, from what you've told me, your first experience with getting a business licence was confusing because the first person you talked with thought that you were applying for a business selling fish for food, and you were really working on opening your aquarium store?"



Use closed-ended questions to confirm your understanding of each topic in your interview guide. Closed-ended questions are also useful for wrapping up a topic and moving on to another area of interest.

Explore the Story of Stuff

Use the artifacts around a participant to explore aspects of their work or home life. Ask them to tell you the stories around why they have certain things - e.g. sticky notes on their monitors, large stacks of paper on their desks, or toys scattered in the living room.

Participants may overlook the significance of everyday artifacts. Talking about the things in their life also helps them tap into and explain the stories of their behaviour and activities better.

Laddering & the 5 Whys

Laddering¹⁶ was first introduced in cognitive therapy as a method to understand peoples' core values and beliefs. The premise is that you ask questions following a participant's answer that would force them to think about the reasons for their response.

The 5 Whys¹⁷ were originally developed by Toyota. The idea behind the 5 Whys is that if you ask why five times, the problem and solution become clear. Both approaches work well to get at the underlying values and root causes of a given answer.

When a participant gives you an explanation or suggestion, try to dig deeper into their explanation by asking why five times (this is a rule of thumb, so it may be more or less).

This is an example of a possible stakeholder interview for a ministry site redesign:

Participant: It would be great if the homepage had more press releases.

Interviewer: That's interesting. Why would you like to see more press releases?

P: Because I don't think we do enough to let the public know what we're really doing in the ministry.

I: What's the result of not letting them know?

P: Well, we keep getting criticized in the polls and on social media for things that aren't even really our responsibility.

I: That sounds frustrating. Why do you think you're getting that criticism directed at you?

P: There used to be a federal-provincial partnership that actually took on those issues, but it was disbanded a few months ago and now it's really just the Feds. We aren't involved anymore.

I: So people are assuming that you're still responsible even though it's not something you do any more.

P: Right.

I: Well, why do you think they assume that?

16. www.uxmatters.com/mt/archives/2009/07/laddering-a-research-interview-technique-for-uncovering-core-values.php

17. www.mapwright.com.au/newsletter/fivewhys.pdf

P: Well, they just don't know we don't do that anymore.

I: OK, so it's important to communicate that new split of responsibilities to the public, whether it's through press releases or some other way.



Observation and Shadowing

What

Observation and shadowing is about spending time observing a participant during their daily activity, noting context, activities, floor plans, interactions and technology. When it's appropriate and when you have consent, take photos and video. Observation and shadowing is often combined with behavioural interviewing.

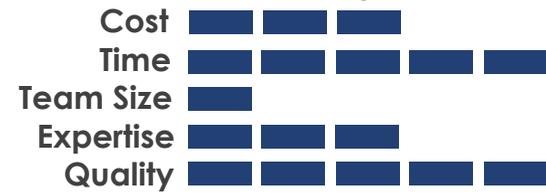
Why

Watching someone in context can surface new insights, show research teams particular angles to explore, and give a better behavioural balance to interviews. Observation and shadowing can be followed up with a dedicated interview, or teams may only ask about situations as they come up.

How

1. Recruit participants for observation and shadowing.
2. Arrive at their work or home promptly and introduce yourself and the project. Confirm that they understand that you're going to spend some time shadowing their work, just like an intern or someone new on the job.
3. Answer any questions and have them sign the research consent form and provide any incentives at this time.
4. Ask them to show you what they do. You may ask someone to focus on specific kinds of activities if you're supporting those specific tasks with your project, or have them carry on a "typical day" if you have a broader focus.
5. Let the person explain their activity over the time that you spend together. Ask follow-up questions to clarify, especially points most relevant to your areas of interest.
6. Give your participant some language in advance to explain to others why you're with them, e.g., "Oh, Jim is from the Intranet project and is tagging along with me today to learn more about my work."
7. Wrap up by clarifying any outstanding points and thanking them for their time.

Resources & Results Snapshot



Recommended Reading

See the **Recommended Reading** section for more information about these and other references.

- Chapter 8 of *Observing the User Experience: A Practitioner's Guide to User Research*
- **Advanced resource:** *Essential Ethnographic Methods: Observations, Interviews, and Questionnaires* - Stephen L. Schensul (provides a dedicated exploration of contextual observation and interviews)

Call Centre Shadowing

What

Call centre shadowing is when you listen in on call centre calls related to your particular area(s) of interest.

Why

Call centres aggregate real user challenges so you can quickly and easily get a sense of the concerns that people deal with without going into the field.

How

1. Contact a relevant call centre. Finding an appropriate call centre may be a challenge, particularly if call support has been outsourced.
2. Arrange to visit and listen in on agent calls. Most call centres have equipment for new hires to listen in on calls as part of their training.
3. Follow the call centre's policies and procedures on disclosure of another listener on the call.
4. Take notes about the calls that you listen to.
5. If possible, discuss your observations with several agents while you are onsite at the call centre.
6. You may also be able to look at call centre logs for certain kinds of calls, depending on the call centre.

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Tip

Words of caution regarding call centre shadowing:

- Call centre calls only give you a small sample of your overall users – you won't get any information about the people who don't need the call centre.
- Because you can't engage with the callers, you'll only get a fragment of their experience.

Photos

What

Taking photos of people, artifacts and the surrounding environment during your fieldwork will make for great references to your overall research efforts. You don't need a professional camera to take a few shots. A point and shoot or even the camera on your phone works fine.

Why

Photos help tell great stories. Illustrating your findings with photos makes them more real for your research audience and is an effective way to capture the context of a workplace, home, or other environment.

How

Use a pocket camera or small interchangeable-lens camera (in late 2011 some examples are Sony NEX series, Panasonic and Olympus micro four-thirds cameras, or a compact camera with a fixed lens with good low light capability like the Olympus X-1, Fuji X10, or Panasonic LX-5).

It's much easier to manage photos before or after a dedicated interview.

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Tip

Learn the basics of a good photo:

- Avoid using the flash on your pocket camera unless there is no other way to get a shot (off-camera flash or bounce is probably overkill for all you closet photographers).
- Vary your framing - take wide shots to establish context, close-up shots for detail and emotional impact. Take pictures of people, places, things, and processes.
- Use the rule of thirds¹⁸ to help with composition: divide your frame up into thirds horizontally and vertically, and use the lines and intersections to focus your images.

18. www.flickr.com/photos/davegray/2370922423

Audio and Video Recording

What

Audio and video recording is when you record audio or video of interviews, shadowing, co-design or usability testing sessions.

Why

Audio can be used to create transcripts for more detailed analysis and you can also use video reviews during your analysis. Video can be used to create a highlight reel of significant findings from fieldwork, co-design or usability testing.

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Tips

- Good audio is more important than good video. A poor quality picture with a great audio track trumps a crystal clear full HD video with poor audio. Consider using an external microphone or dedicated digital recorder to capture audio.
- Audio is often less expensive to work with - expect a 3 to 4 times premium on working with video for creating a highlight reel compared to using audio to back up your note taking.
- One option for recording audio or video is to use a tool like Evernote or Microsoft OneNote which can record audio or video as your type. When you
- review your notes you can click on the appropriate note to replay that segment of the recording. This approach works better with an external webcam than with a laptop's built-in microphone or webcam.

Digital Fieldwork

What

Digital fieldwork uses social media, photo sharing, gaming, online communities and other digital artifacts to inform your field research. You may choose to conduct online interviews, look at artifacts like vacation photos or observe online behaviour in chatrooms, forums, online games or social sites.

Why

Digital fieldwork is often easier to conduct than in-person fieldwork. It can cost less, take less time, and require less permission. However, the quality of data is often lower than with in-person or remote fieldwork. Also, the kinds of questions you can explore are restricted to the kinds of digital data you can find online, and that data only reflects people with the resources and desire to participate online.

How

There are a variety of ways to look at people's stories and behaviour online. They fall into three main approaches with increasing effort and involvement with individuals: collecting artifacts and stories, observing behaviour, and interacting online.

1. Search photo sites such as Facebook or Flickr for relevant images posted by individuals.
2. Search blogs, social sites, and Tumblr for stories that people have shared that involve your topic of interest. You can use Google's "site:" modifier to restrict searches to specific sites like Facebook, Blogspot, or WordPress.
3. Find discussion forums, chatrooms or other online communities dedicated to relevant topics and simply observe and record people's interactions and the discussions they have. Twitter hashtags may also provide a source of ongoing conversation to observe.
4. After collecting and observing, you may engage with participants in discussion to ask questions, explore topics and otherwise gain more information. The guidelines for interviews are useful in these interactions. Remember to be respectful of individual community norms - you may want to use private messaging or otherwise keep a low profile as you engage online with individuals.

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Recommended Reading

- [Online Ethnography \(en.wikipedia.org/wiki/Online_ethnography\)](https://en.wikipedia.org/wiki/Online_ethnography)



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Values Collage

What

Values collages are about asking participants to make and explain a collage that explores a particular aspect of their life. These collages can explore how things are today, or how the participant hopes they will work tomorrow. Collages typically explore broad themes and associated values such as “family” or “career” as well as specific concepts like “success” or “clean.”

Why

Collages help people tell stories about their present situation and their hopes and dreams. They also help focus conversation on a specific topic, rather than opening the floor to generic criticism of “government.” By using laddering techniques¹⁹, researchers can explore the underlying values around a particular topic. Seeing trends in values can help prioritize and define problems that ministries are trying to solve.

How

1. Select an appropriate topic. Topics may be broad, such as “safety,” “wellness,” or “comfort” or they may be more specific such as “the role of the Intranet” or “the future of cross-Ministry collaboration.”
2. Recruit participants from your target audiences, book space, and arrange incentives.
3. Create an image bank of photos for the collaging exercise. You may choose images specific to your topic, such as “safety” or “the environment,” or you may use a general image bank with all kinds of photos. Expect to have at least 50 photos if they are specific, and around 100-200 if the topic is more general. You may also include visual thinking shapes such as arrows, circles, clouds or stick figures which can be combined with the photos.

For example: If the topic was “water,” ensure that images include pictures of water in a natural setting (streams, lakes, rain, ocean, etc.) as well as industrial, agricultural, and domestic use (irrigation, drinking water tap, glass of water, bottled water, kids at a spray park, waterslides, watering a garden, washing a car, etc.). Consider the lifecycle of water, and the different facets of water (as a habitat, as a resource, as part of the environment, as something that needs treatment (for waste water), etc.) Think about things that depend or rely upon water, and about things that can be damaged or harmed, such as in the case of flooding. You may also look at outcomes of having water (healthy people, gardens, farms, industrial products, etc.) and show the consequences of not having water (dead plants, dry reservoirs, etc.).

19. www.uxmatters.com/mt/archives/2009/07/laddering-a-research-interview-technique-for-uncovering-core-values.php

4. Print one set of images per participant or pair of participants. Get poster board, markers, and gluesticks or tape for each participant as well.
5. The day before the session, consider sending reminders to your participants.
6. On the day of the session, post signage and directions on the building so that participants can find their way to the appropriate room. If you are in a secured building ensure that participant names are shared with security in advance.
7. Welcome participants and take care of consent and incentives.
8. Brief participants. Introduce the collaging exercise along the lines of “Today we’re going to be discussing *topic*. To help focus our conversation, I want you to take the next 30-40 minutes to create a picture of what *topic* means to you. We have provided you with a set of pictures and other visual elements for you to help describe the meaning of *topic*. Use whatever pictures stand out for you to describe different aspects of *topic* in your life. After we create our collages, you’ll have the opportunity to share your ideas, thoughts and feelings about *topic*.”

Consider showing collages from other sessions, though preferably not on the same topic so that people don’t get the sense of there being a “right” answer.

NOTE: You may consider having pairs of individuals create a collage together – this is a very different dynamic as participants try to explain their interests and values and can be challenging for some pairings and beneficial for others.

9. Check the time and begin the collaging exercise. Circulate through the room to answer questions and encourage people. Consider playing background music during this heads-down working time. Provide time counts at 10 minute intervals, and when five minutes and one minute remain.
10. After the collages are completed, have a discussion to explain the significance that participants see about the topic, using their collages to help articulate. This may include either rotating through individually, explaining in small groups to separate moderators, or an overall moderated group discussion as a traditional focus group (this is the least effective option). Record the discussion and take photos of collages.

11. Thank participants and wrap up the discussion.

12. Debrief with the team to identify and capture themes and trends emerging from the discussion.
13. You may conduct deeper analysis of the collages by looking at image frequency, sequencing, or other elements expressed in the session. You may also transcribe the collage explanations and look for patterns, word frequency using Wordle.net, or other analysis.

Resources & Results Snapshot



Co-Sketching

What

Co-sketching occurs when you have participants draw or sketch their ideas. These may be literal sketches of features, screens or functions, or they may be representative ideas like diagrams or storyboards. The sketches may be done by individual participants or participants working in groups.

Why

Having participants sketch their ideas helps them to articulate their needs and provides researchers with a great starting point to get to underlying values and root causes using laddering techniques²⁰. Co-sketching also provides an outlet for participants who want to tell you exactly what to build, although if this is the case, the research team needs to manage expectations around what participants suggest to be built and what will actually be built.

Co-sketching is a great addition to traditional focus groups since it makes preferences concrete.

How

1. Describe your problem statement. For example, “Create a Ministry Intranet” or “Provide online driver’s license renewal.”
2. Book space, arrange incentives, and recruit appropriate participants. Describe your session as a “workshop with hands-on activities” to help people prepare to participate meaningfully.
3. The day before the session, consider sending reminders to your participants.
4. Print sketching sheets for your participants (2-3 sheets per screen per person per iteration), and get pencils and erasers for each participant.
5. On the day of the session, post signage and directions on the building so that participants can find their way to the appropriate room. If you are in a secured building ensure that participant names are shared with security in advance.
6. Welcome participants and take care of consent and incentives.

20. www.uxmatters.com/mt/archives/2009/07/laddering-a-research-interview-technique-for-uncovering-core-values.php

7. Brief participants. Introduce the co-sketching exercise: "Today we're going to draw your ideas about how to solve a specific challenge - *describe problem statement*. We're going to give you some sheets that look like a web browser, and we'd like you to draw the homepage, and other pages (or screens) that show us how you'd like to see that work - *provide guidance on which kinds of screens*. Of course, we're not going to build it exactly like we'll draw it together today, but we'll use those ideas in our own work. We'll also discuss your sketches and suggestions and talk together about why you think a particular idea is important."
8. Depending on complexity, let participants sketch for 5-10 minutes per screen. Generally keep total sketching time under 30 minutes.
9. Have participants explain their sketches, both the actual elements on the screen and why they think those elements are important. Capture the explanations.

Consider having the group sketch again now that they have heard other ideas, solutions, and reasons. You may iterate two or three times to drive to major themes or consensus.

10. Thank participants, and capture screens in photos.
11. Debrief with the team on themes, insights, and directions as a team. Identify promising design directions and key needs uncovered in the session.

Resources & Results Snapshot



Design the Box

What

Design the Box is an exercise where participants actually create a product box to represent the vision. Participants are asked to imagine that their service is sold in a box on a retail shelf. They can help clarify the vision by creating that box and filling out common product packaging information.

Why

Design the Box creates a structured set of constraints that helps a group focus on the essential elements of a project or strategy. Design the Box also provides a concrete, tangible representation of what a project or strategy is about.

How

1. Have internal or external stakeholders work in small groups to Design the Box using the supplied template on 11x17 or larger paper or cardstock (see specific instructions below).

Front

- Give it a name.
- Give it a tagline – what is the service about in one sentence?
- What are the top three benefits someone gets from using this service?

Back

- What are other benefits, features or functions?
- What would be the testimonial or quote from a delighted future user?
- Can you show a sketch, photo or screenshot of the service in action?

Sides

- What are the requirements to access the service? Think about requirements for users, such as specific qualifications. Think about requirements for your own team, like office hours or mobile network connections.

2. Share the boxes with the whole group. Consider iterating and consolidating so that there is agreement on one final box.
3. *Optional:* Create a high-fidelity version of the box using Photoshop or other graphics software, or use an actual physical box.

Resources & Results Snapshot



Recommended Reading

- *Gamestorming: A Playbook for Innovators, Rulebreakers, and Changemakers* – Dave Gray, Sunni Brown and James Macanuso
- Using Design Games (www.boxesandarrows.com/view/using-design-games)



Business Origami

What

Business origami uses paper cut-outs of people, buildings, vehicles, computers and other technology on a horizontal whiteboard to create a miniature model of a system and interactions in question. A variation on desktop walkthrough methods from service design, business origami was created by the design group at Hitachi. It can represent the current system as well as new possibilities.

Why

Business origami allows participants to create a tangible, shared representation of the system in question. Participants do not need technical abilities to contribute and the simple components of the model allow for rapid exploration and experimentation. Discussion of the model creates a shared understanding of the system and assumptions about that system.

How

1. Download a set of business origami components.
2. Cut out the components, one set for each group of participants.
3. Get a whiteboard that you can lay horizontally for each group or another erasable surface (e.g., laminated plotter paper, or static-cling dry erase sheets).
4. Have the group create a model of the system in question (e.g., how to obtain a new business licence).
5. Use the components to show different elements of the system, and the whiteboard to show different areas, interactions and flows.
6. Model the current system first and then explore options.
7. Document throughout using a digital camera.

Resources & Results Snapshot



Recommended Reading

- Business Origami: Paper Prototyping for Services & Systems Design (www.slideshare.net/jessmc-mullin/business-origami-ux-week-2011-workshop)

Directed Design

What

Directed design is when participants direct specialists like interaction or visual designers or artists to draw or create a particular picture or sketch to express what the participants would like to see.

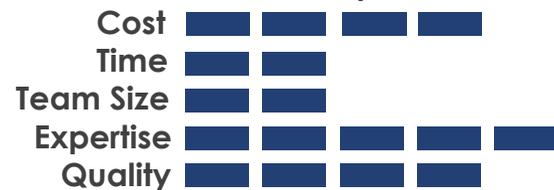
Why

Directed design removes the discomfort many people feel sketching their own versions of something. The final output is often more polished; however, because it is interpreted by the artist or designer, the final output may miss nuances or elements of the participant's intent.

How

1. Identify and recruit designers who are able to rapidly sketch ideas that are described to them. Finding this talent is the most challenging aspect of this approach.
2. Select the topic that you want to explore.
3. Recruit participants as for other sessions, or consider an intercept approach. For an intercept approach, book space in a public setting where you can set up a display to attract interest (and get permission for working with the public). Invite people to come and participate as they pass by. You may need a tradeshow type exhibit with signage to identify your organization and potentially the topic at hand.
4. Have individuals describe their current or ideal states for how your topic would be reflected in the world. As individuals describe their ideas, a designer reflects their words and then sketches the idea.
5. The session generates visuals of a desired future state that can be used to craft and inform a vision for the organization.

Resources & Results Snapshot



Recommended Reading

- *Co-Design: A Process of Design Participation* - Stanley King, et al. (out of print)
- *Design Charettes for Sustainable Communities* - Patrick Congdon



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Diary Study

What

A diary study is when participants keep a diary over a period of one or more weeks and record different aspects of their experience of interest to the research team. Participants are prompted by email or text messages on a regular basis as a reminder to record their experiences. Diary studies may include written responses, photos, videos, or social media. The diary is then reviewed with the participants at the end of the study, usually following a behavioural interview format. Diary studies are often used to complement field research.

Why

Diary studies record a longer period of time than is practical for fieldwork and allows teams to get a better sense of day-to-day events, activities and environments. Diary studies take less effort than onsite observation because participants can contribute in parallel without the immediate involvement of the research team.

How

1. Determine the study length (2-3 weeks is recommended).
2. Recruit participants. Expect 20-30% attrition, so recruit more than you need for your final participants. We recommend a weighted sliding incentive - if a participant drops out, they will get a partial honorarium instead of the full amount. We also recommend that about half of the incentive should be reserved for completion of the final interview with the balance distributed evenly over the previous responses.
3. Carry out a brief study orientation by phone to confirm participation and answer any questions.
4. Every two or three days, prompt participants for the kind of things to record in their diary responses. Use email or text messages to share prompts. For example, "Tell us about the conversations you have today or tomorrow with your neighbours."
5. Have participants share diary responses through email, by leaving voicemail, by sharing social media or by blogging and have them update their diary every prompting period (two or three days is typical).
6. Debrief each participant by reviewing the diary and having them explain it in more detail in an interview.

Resources & Results Snapshot



Recommended Reading

- Chapter 12 of *Observing the User Experience: A Practitioner's Guide to User Research* - Mike Kuniavsky



Net Promoter Score

What

The Net Promoter Score (NPS) is a specific measure based on a simple survey question: “On a scale of one to ten, how likely are you to recommend this service to a friend or colleague?” To score the responses, total the percentage of “Promoters” who respond with a 9 or 10, “Passives” who score 7 or 8, and of “Detractors” who score 6 or lower. The percentage of Promoters minus the percentage of Detractors is the NPS. You may also follow up with an open-ended “Why or why not?” to let respondents explain their reasons.

Why

NPS provides a better framing of satisfaction than simply asking “How satisfied are you?” It offers a simple and clear measure for customer satisfaction that strongly correlates to actual satisfaction and service performance. Because of this simplicity, it is easier for ministries to measure and track than with more complicated measures.

How

1. Determine which programs or services you want to establish an NPS for.
2. Conduct a survey of service users that includes the Net Promoter question with a ten-point scale: “On a scale of one to ten, how likely are you to recommend this service to a friend or colleague?” You may specify which specific service, such as “On a scale of one to ten, how likely are you to recommend this user experience training to a colleague?”
3. You may follow up with an open-ended “Why or why not?” question to allow for explanation of the rating.
4. As important as these questions are to ask, it's important to not ask many other questions - NPS surveys should be short and concise to get the best response rates and focus on these key questions.
5. Release the NPS survey to your program or service users.
6. Calculate the NPS as described above. Some survey tools include built in NPS calculation, including the paid version of FluidSurveys.
7. Measure the NPS over time to track ongoing loyalty and satisfaction (annually, or several months after large changes to a program or service).



8. Use caution in interpreting results - like all surveys and self-reported measures, you may want to follow up on specific areas identified in the NPS survey using field research, co-design, or analytics methods.

Resources & Results Snapshot



Recommended Reading

- Net Promoter (www.netpromoter.com)
- Net Promoter - Wikipedia (en.wikipedia.org/wiki/Net_Promoter)
- *The Ultimate Question 2.0: How Net Promoter Companies Thrive in a Customer-Driven World (Revised and expanded ed.)* – Fred Reichheld and Rob Markey

Forced Ranking Survey

What

The Forced Ranking Survey is a survey that asks respondents to prioritize items (such as features or preferred contact methods) by ranking them in order rather than simply giving each item a score on a scale.

Why

Forced ranking avoids the problem of every feature being scored highly. For example, for a respondent, having Twitter integration sounds fine in a survey. So does having Facebook integration. If the survey asks the respondent to rate each option on a scale of one to seven, both of those features may be scored a six. Forced ranking helps people decide which is more important by choosing one over the other, providing clearer preferences to the research team.

How

1. Determine the features or priorities that you would like feedback about. Try to keep this list under a couple dozen (and smaller is often better).
2. Pilot the description of features or priorities with people who are representative of your survey audience to ensure that the descriptions are self-explanatory.
3. Create a survey that asks people to score the items on a rating scale that allows each score to be selected only once. Ask respondents for their “Top 10” from the presented items with a question similar to the following: “Please vote on the top ten features from the list below, where 10 is your highest choice, and 1 is your lowest. You are only able to select one item for each choice of one to ten, so you will leave some choices blank.” SurveyMonkey and FluidSurveys both have ranking-type questions available.
4. Send the survey to representative respondents.
5. Consider graphing the responses for each item to show the distribution of votes (be cautious of averages, which may hide very polarized opinion on a given option).
6. Keep in mind that what people say they want may not be what they actually need. Follow up on preferences with open-ended survey questions and direct interviews.

Resources & Results Snapshot



Recommended Reading

- Types of Survey Questions (www.canadabusiness.ca/eng/page/2685)



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Usability Inspection

What

In a usability inspection, individuals or a team review a website or service based on an established set of guidelines and criteria. This review may follow a short list of heuristics (rules of thumb) or may follow a longer list of guidelines, such as the guidelines provided by Usability.gov. This inspection may be part of ongoing iterative design where feedback is verbal, may include informal reporting such as email, or may have a formal report including screen shots and rationale for each issue identified.

Why

Design reviews using consistent guidelines are a low-cost and efficient way to find issues with a prototype or production site without the expense of usability testing. Using regular guidelines helps design teams to consider these criteria during early sketching and prototyping. Regular team reviews also help to develop a healthy culture of iteration and continuous improvement.

How

1. Select a set of guidelines. We recommend the evidence-based guidelines from Usability.gov, though teams may also want to start with a smaller list of heuristics such as Jakob Nielsen's.
2. Familiarize yourself with the guidelines and ensure that others on your team are also familiar.
3. Ideally, have individuals who did not design or develop the site conduct the evaluation. You may have anywhere from one to several evaluators, depending on time and range of the evaluation.
4. Identify the scope of the evaluation - what are the specific areas of the site that you want to understand better? Are there specific tasks or scenarios that you need to optimize?
5. Move through the site according to the selected tasks or sections. For each page, identify guidelines or heuristics that may be improved and that are working well.
6. Take screenshots and make notes of specific features that are working well or could be improved. Include the context in your notes; something that makes sense in one context may be unusable in a different context or scenario, so it's important to be clear what assumptions you are making about the use of the site or application during the evaluation.
7. Collect the entire set of evaluation comments together.



8. Debrief on the evaluation if using a group by working through the comments and tasks.
9. If there are more than two evaluators, consider posting issues on sticky notes and clustering them to identify themes.
10. Document your findings with screenshots and notes along with any recommendations.
11. Consider mapping the significance and priorities of different issues.

Resources & Results Snapshot



Recommended Reading

- Evidence-Based Guidelines (usability.gov/guidelines/index.html)
- Ten Usability Heuristics – Jakob Nielsen (www.useit.com/papers/heuristic/heuristic_list.html)
- How to Conduct a Heuristic Evaluation – Jakob Nielsen (www.useit.com/papers/heuristic/heuristic_evaluation.html)



Usability Testing

What

Usability testing involves observing real people use a production system or prototype to do representative tasks and is typically facilitated by a moderator who prompts the participant with a hypothetical scenario to set the context for each task, e.g., "Imagine you have friends from out East who want to come to Vancouver Island for a vacation this year. Please use the website to help you make recommendations for things to do or places to visit." Participants are generally asked to "think aloud" to explain their expectations, decisions, areas of confusion, etc. as they work through specific activities. Facilitators generally recruit four to eight participants per significant user segment, with each one-on-one session lasting about 45 minutes to an hour. Sessions may be videotaped or recorded.

Why

Watching real people use an interface provides a reality check for design teams. It results in a specific list of issues to consider for design improvements and helps refine the experience. Usability testing results, especially footage of failure, can also serve to help build the business case for investment in online services.

How

BEFORE TESTING

1. Decide who will moderate the test (sometimes you may have more than one moderator). The moderator will be able to do their best if they are involved in the preparation for testing, but are not part of the design or development team. If they are part of the team, they will need to be confident of their ability to remain neutral and avoid leading questions or suggestions or biased body language during moderation where their project may not perform well.
2. Decide if you will have observers for the test and, if so, ensure that they are briefed on usability testing etiquette (which largely means that they need to be quiet during sessions until debriefing - if an observer talks during a session it is often disruptive and disturbs the participant). Consider using text messages or IM to share observer questions with the moderator.
3. Determine the relevant user groups with whom you want to test the site or application.
4. Decide what questions you are interested in answering - are there specific labels, tasks, or other areas that you want to explore specifically? Are there indications in your analytics that a particular page or area is problematic, or have users indicated that a given area is hard to use?

5. Create a testing script that outlines the tasks or situations that you'd like people to explore during a test session. Do a dry run with a colleague to make sure you have a sense of the timing and complexity of the tasks (but don't be surprised if people take longer or, less often, shorter to complete the testing).
6. Have the moderator become familiar with the script and the site or application.
7. Based on the testing scenarios, determine the timing of the testing - short tests are often not worth the logistics overhead of arranging for users, while longer tests suffer from participant fatigue towards the end of the session. We typically arrange test sessions that last between 45 minutes and 90 minutes; a 90-minute session would often include a separate interview portion as well as the testing.
8. Schedule sessions based on the breadth and depth of testing.
9. Recruit and schedule representative participants for testing. We typically test between four and eight individuals per significant segment (urban/rural, older/younger, working/unemployed, etc.).
10. Arrange the testing facility, including a test machine, printed consent forms, signage directing participants to the right area, security or access arrangements, and any special software such as Morae or Silverback for video recording of test sessions.
11. Call or email to confirm participant availability the day prior to their test session. Remind them to bring reading glasses if they need them.

DURING TESTING

1. Arrange for reception or a member of your team to welcome participants and have them settle in a waiting area if they arrive early. This is a great time to fill out paperwork and provide honorariums.
2. Sit down with the participant in the testing area and visit briefly to build rapport and confirm their understanding of the time commitment and consent forms. If you have observers in the room, introduce them as well. Confirm any demographic data or screening data that you may need.
3. Explain that you are working on improving the particular site or application, and that they can help you understand where it needs improvement by taking it for a test drive and seeing what works and what doesn't. You'll be presenting them with different situations, such as "You have relatives visiting and you'd like to plan a vacation in the Kootenays. Please use the website to help you make your plans." They should work through the activity just like they would at home or at the office. If they get stuck, they

should keep trying until they would normally give up. You won't be giving them hints or clues, since there aren't really right answers, and of course you're not around to help other people if they get stuck at the same place at home!

4. Ask the participant to think out loud as they work through each situation, and tell you what they are looking for, what they are expecting, if something doesn't work they way it is or if they are surprised by something.
5. Start the test session with easier tasks to get the participant comfortable and work into more complex tasks. However, don't leave key tasks to the very end: ensure your most important research priorities occur earlier, so that they don't get left out if other tasks go long. Encourage them to think aloud with prompts such "Tell me what you have there." or "What are you wondering about right now?"
6. Consider moving to the homepage between tasks rather than starting from where the previous task left off.
7. Wrap the testing session as you reach your time limit or finish your tasks.
8. Debrief with the participant by asking about specific areas that stand out for them, their thoughts on the product as a whole, and any other questions you may want to ask. You may combine this debriefing with other interview questions if you have time. Observers are able to ask questions constructively at this point.
9. You may consider using a standardized usability questionnaire such as the System Usability Scale (SUS) for participants to rate their experience with the product.
10. Thank the participant and escort them out of the testing area.
11. Reset the testing environment (clearing browser cache, setting a new session in Morae, setting the browser to a blank page, etc.)

AFTER TESTING

1. Continue testing sessions as scheduled. During breaks between sessions and after a day of testing, consider debriefing with the entire team about trends, significant observations, etc. Collect notes and observations from the group, or as a moderator.

2. Consider using sticky notes to cluster related observations and themes.
3. Depending on the formality of the testing, you may refer back to video footage of the testing in Morae or Silverback and create a highlight reel of particular issues.
4. You may also create a formal usability report identifying your findings and recommendations.

Resources & Results Snapshot



Recommended Reading

See the **Recommended Reading** section for more information about these and other references.

- *Observing the User Experience: A Practitioner's Guide to User Research* – Mike Kuniavsky
- *Don't Make Me Think: A Common Sense Approach to Web Usability* - Steve Krug



Remote Usability

What

Remote usability involves carrying out moderated usability testing remotely using screen-sharing software and a phone or built-in voice call. Similar to in-person usability testing, remote testing replaces the face-to-face sessions with screen and video sharing apps.

Why

By using software to remotely moderate usability testing, teams can reach a wider audience, recruit more easily and gain a more representative group of participants from across the province.

How

1. Arrange to use a screen-sharing application such as GoToMeeting or WebEx. Participants may have to install software in advance on their own computer.
2. Call the participant at the scheduled time, and set up a screen sharing session.
3. Conduct the test over the phone as if you were moderating in person (see the **Usability Testing** section). We typically use a good-quality speakerphone. You'll be able to see their screen, but not their face or body language, so this is a more challenging moderation situation.
4. Take notes as you would during a normal session.
5. Debrief over the phone with the participant.
6. Debrief as a team, and arrange for incentives to be mailed (we like Amazon gift certificates since they can be emailed).
7. Review recorded footage and audio from the session as needed.

Resources & Results Snapshot



Recommended Reading

- *Remote Research: Real Users, Real Time, Real Research* – Nate Bolt and Tony Tulathimutte

Analytics

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Web Analytics

What

Web analytics measures the traces that people create as they use your site or service and allows you to analyze and report on that behaviour. This reporting happens through web analytics software such as WebTrends or Google Analytics and shows number of visitors to your site, which pages they visited, how they moved through those pages, the pages where people leave the site and many other measures.

Why

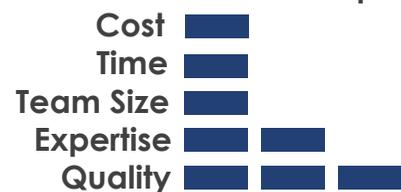
Among other things, analytics can tell your team what areas are most popular, which ones are neglected or missed, and how many people move from visiting to taking specific actions on your site, such as downloading a guide or registering for a newsletter.

How

You can work with the UXBC team to get your site on the central WebTrends analytics system.

1. Establish regular reporting intervals, often monthly.
2. Create a set of metrics to measure over time, including visitors, bounce rate and conversion rates (the number of people who take a specific action compared to the total number of people visiting, after bounces - people who leave as soon as they come onto the site), referring sites, and referring search terms.
3. Work to customize a dashboard or report that can summarize these numbers.
4. Report on them regularly.
5. Remember that analytics can tell you “what” happens on the site, but not “why”. Use other research tools such as interviews or usability testing or inspection to follow up areas of the site that seem to be performing poorly or unexpectedly.

Resources & Results Snapshot



Recommended Reading

- *Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity* – Avinash Kaushik

Search Analytics

What

Search analytics provides details about the search terms used by visitors to your site, including referrers from external search engines and the search terms used on your site's internal search engine. Typically search analytics looks at the top 20 to 50 terms that people search for to find the site (from search engines) and the top terms that people search for using internal search.

Why

Search terms show user intent more than other analytics. They show both popular topics and areas of the site that may be difficult to find through browsing (since people turn to search). Search analytics shows you where you need to improve the findability of content or functions that people frequently search. This optimization can be achieved through better navigation and adjustments to your internal search engine.

How

Search analytics is an extension of other analytics work. Most web analytics products offer reports on search terms that people use on search engines to find your site. Getting internal search queries can sometimes be technically challenging to integrate and may require separate reporting.

Resources & Results Snapshot

Cost	■
Time	■
Team Size	■
Expertise	■
Quality	■

Recommended Reading

- *Search Analytics for Your Site: Conversations with Your Customers* - Louis Rosenfeld

A/B Testing

What

A/B testing shows two or more versions of a live page or pages to actual website visitors. Some visitors are shown version A, while others are shown version B. Specialized analytics software then tracks how well those visitors convert to specific activities such as subscribing or purchasing. More than two versions of a page may be shown as part of a more complex multivariate test.

Why

A/B testing shows clear evidence of page performance by relating different designs to specific outcomes or goals for user action on the site. However, it only works when there are specific clear actions such as newsletter subscriptions or other activities to measure page performance against.

How

You'll need to have clear conversion goals that are measured by analytics for A/B testing to work, such as getting a newsletter signup, contributing content in a citizen engagement forum, or a similar action.

Setting up A/B testing also requires some cooperation from your IT folks - they'll need to work with you to configure alternative versions of the site using a tool like Google Site Optimizer.

1. Create two website versions, the original and an alternative (often just one part of the site, like the homepage or a signup page).
2. Use A/B testing software to provide the alternative version to some portion of your site traffic.
3. Track the analytics performance based on which version someone used and compare the performance of the different versions.
4. Adopt the design changes from better performing alternatives.

Resources & Results Snapshot

Cost	■	■	■	
Time	■	■		
Team Size	■	■	■	
Expertise	■	■	■	
Quality	■	■	■	■

Recommended Reading

- *Always Be Testing: The Complete Guide to Google Website Optimizer* – Bryan Eisenberg, et al.

Appendix B - Deliverables

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Personas

What

A persona is a behaviour-based profile of a fictitious individual that characterizes an archetypal user for a service. This profile is a composite, based on behavioural research with actual users.

Personas include information such as a photo, name, background and demographics, a telling quote, triggers that motivate behaviour, motivations and goals for using a service, and some brief scenarios that describe how and why the person interacts with the service.

Personas are not demographic segments (like 'Soccer Moms'). Instead, they are segments based on goals, motivations and behaviour (so an actual soccer mom and a senior citizen with the same goals and motivations would be represented by the same persona). Teams will likely find several segments, and so may create a set of different personas to express different behavioural profiles.

Why

A persona condenses user research into an accessible form that promotes empathy with actual users. Thinking about a pie chart of goals is very different than thinking about "Jill, the small business owner who needs to apply for an innovation grant." This increase in empathy helps teams make better design decisions. It also avoids the problem of the elastic user, where each team member talks about "I think users need [insert function here]" where team members are often referencing different users. Finally, personas help to prioritize design and development. By choosing primary and secondary personas, teams can show which kinds of people and what kinds of behaviour are the most important for the service. A primary persona needs their own interface to the service, while a secondary persona can meet their goals by using that primary interface with relatively small adjustments or additions.

How

1. Carry out behavioural interviews, diary studies, or other field research to gain a deep understanding of motivations, goals, and activities.
2. Print a copy of a persona template.
3. Look at your interview notes or transcripts for common elements and identify patterns about motivations, aspirations, goals, activities, outcomes, and background for individuals.



4. Focus on answering the key questions
 - a. What does this person want to do?
 - b. Why do they want to do it?
5. Work through the persona template:
 - a. What is their role (mom, banker, resident)?
 - b. What are their demographics (age, income, occupation, family status, location)?
 - c. What are their three most important short term goals? Why are they coming to use your service?
 - d. What are key long term goals? What is the bigger picture motivation that drives them in this area of their life?
 - e. What are two scenarios or situations in which they are involved with your organization?
 - f. How comfortable are they with specific channels? How comfortable are they with domain knowledge? What other factors determine success? How are they with those? Grade them (low on the left).
6. Now start to color in the persona as a real person.
 - a. What's their name?
 - b. What's their background?
 - c. If you could capture the essence of this person and their needs in a quote, what would that quote say?
7. Find a stock photo to represent this persona.

Resources & Results Snapshot



Recommended Reading

- *Storytelling for User Experience* – Whitney Queenberry and Kevin Brooks
- *The User is Always Right* – Steve Mulder and Ziv Yaar
- *Communicating Design: Developing Web Site Documentation for Design and Planning (2nd ed.)* – Dan Brown
- Develop Personas (www.usability.gov/methods/analyze_current/personas.html)



Storyboards

What

A storyboard is a visual sequence like a comic strip that shows a specific situation or scenario. Originally used in making movies, storyboards can quickly illustrate the sequence, process, and context of using a service. Storyboards may be quickly sketched using stick figures, drawn by artistically inclined team members, illustrated by taking photos of Lego® or Playmobil® toys, or even photos of actual people posing for each of the main steps in a process. These images are then annotated with brief descriptions and may include dialogue or thoughts from the users in the storyboard.

Why

Storyboards are great storytelling tools. A storyboard can quickly convey interaction over time. Because of its visual nature and its concise text a storyboard is accessible to non-technical audiences. It is also more likely to be read than a multi-page narrative. Storyboards can work at different scales, from overall experience (e.g., applying for a farming subsidy) to specific interactions (e.g., setting up an account). They can also map to specific use cases that describe more detailed interactions.

How

1. Identify the main steps in a specific scenario or set of tasks.
2. Write out the steps individually on sticky notes or a whiteboard.
3. Visualize each step through a sketch, photo, stock image, or toy setup (e.g. Lego®).
4. Add captions or dialogue to make the story self-explanatory.
5. Transfer from paper to electronic format (you may also work directly in a diagramming or illustration tool like Visio or Illustrator, but this makes it much harder to collaborate). You may also consider using PowerPoint, a specific storyboard tool such as Celtx, or a comic layout program such as Comic Life.

Resource & Results Snapshot



Recommended Reading

- *Storytelling for User Experience* – Whitney Queenberry and Kevin Brooks
- *Gamestorming: A Playbook for Innovators, Rule-breakers, and Changemakers* - Dave Gray, Sunni Brown and James Macanufa

Journey Maps

What

A journey map shows the overall experience that includes a person engaging a service. It illustrates the sequence of events, and shows specific interactions in specific channels such as the web, phone, or in-person. It may also have other details such as emotional reaction at that stage or specific staff and business process details at each stage. Journey maps may also show high-level storyboards.

Why

By showing the sequence and details of the overall experience, teams can look for specific areas that need improvement. Journey maps are also useful for introducing executives, new team members or other collaborators to the scale and scope of a project.

How

1. Outline the key journeys or situations that your users engage in with your organization (and often beyond your organization). For example, journeys for post-secondary education could include the prospective student journey of finding and choosing a school, the current student journey of attending school, and then the graduate journey of finding work and starting a career.
2. Break each journey down into key steps, similar to a storyboard.
3. For each step, use dedicated rows to add detail such as:
 - a. A brief one or two sentence description of the step.
 - b. What channels does the person use (mobile, web, face to face, phone)?
 - c. What are their immediate goals / outcomes?
 - d. What is their emotional state or level of confidence vs. frustration?
 - e. Are there specific areas that cause breakdowns?
4. You may also illustrate the stages in a journey as with a storyboard.
5. You may also extend journey map rows to reflect business processes, technical details, or cross-reference more detailed use cases or requirements as your understanding of the solution increases through the project.



Resources & Results Snapshot



Recommended Reading

- Customer Journey Mapping Resources on the Web (www.experiencinginformation.wordpress.com/2010/05/10/customer-journey-mapping-resources-on-the-web/)
- *This is Service Design Thinking: Basics, Tools, Cases* - Mark Stickdorn and Jakob Schneider

Mental Models

What

A mental model diagram shows user activities broken down into related tasks. These tasks are then aligned with the features, functions and content offered by a specific service that supports that specific task.

Why

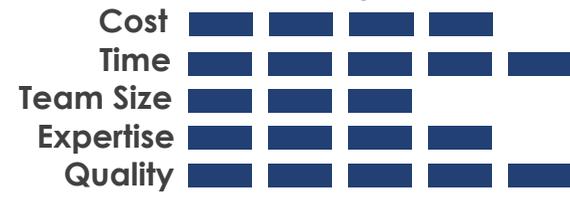
By matching tasks to features and functions, mental models provide a great start for a task-based architecture. They also help ground feature discussions in actual users needs, and help create a roadmap and prioritization by showing what user tasks are well supported and which tasks have little or no support. While mental models involve significant effort, they are a powerful strategic tool.

How

The book *Mental Models: Aligning Design Strategy with Human Behavior* by Indi Young goes into great detail into creating this deliverable. The following is a brief summary. Because of the depth and detail of analysis, carefully consider the commitment required to successfully create a full mental model. It can be very powerful, but often comes at a high cost in effort and expertise.

1. Conduct detailed behavioural interviews that focus on a specific domain with defined tasks. Record and transcribe the interviews.
2. Analyze transcripts by combing for specific activities, tasks, and actions and record the task and the source document and quote in Excel.
3. Print the actions, and cluster the actions into similar groups using sticky notes. (We recommend printing onto Avery labels and then attaching to regular sticky notes).
4. Determine related groups of tasks.
5. Arrange the tasks into groups in columns, and then group the columns into similar activities.
6. Align features, function, or content from your site or service with the relevant tasks (how does your site or service support the set of tasks that people need to do in this domain?).
7. Use the resulting gap analysis to discuss what opportunities exist to improve.
8. Continue to expand and detail the model to help align user activities and organizational offerings.

Resources & Results Snapshot



Recommended Reading

- *Mental Models: Aligning Design Strategy with Human Behavior* - Indi Young



Infographics

What

An infographic diagram is a visual explanation of a concept or data. Infographics generally take two forms - a visual story, or a visualization of data. Some infographics use both elements.

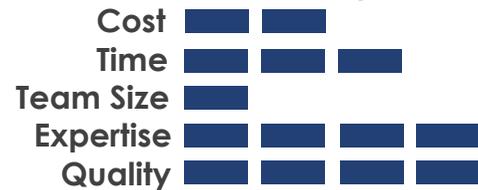
Why

Infographics allow concepts to be explained better by adding a visual component. Tapping into people's visual understanding complements verbal and written explanations. By using a diagram to explain research findings or service concepts and relationships, the conversation can reference a common model. Finally, the discipline of distilling information into an infographic can help with communication and analysis.

How

1. Identify the story or data that you would like to highlight.
2. Diagram the sequence using visual thinking or sketching if appropriate. See *The Back of the Napkin: Solving Problems and Selling Ideas with Pictures* and *Gamestorming: A Playbook for Innovators, Rule-breakers, and Changemakers* for detailed visual thinking tutorials.
3. You may also visualize relevant data using a tool (ranging from Excel to specific visualization tools such as Tableau or D3.js).
4. Add captions and descriptions and a legend to make the diagram self-explanatory.
5. Lay the diagram out in a poster or other “at a glance” large format visual.

Resources & Results Snapshot



Recommended Reading

- *The Back of the Napkin: Solving Problems and Selling Ideas with Pictures* – Dan Roam
- *Gamestorming: A Playbook for Innovators, Rule-breakers, and Changemakers* – Dave Gray, Sunni Brown and James Macanuso
- The Work of Edward Tufte and Graphics Press (<http://edwardtufte.com>)
- VizThink (<http://Vizthink.com>)



Concept Models

What

A concept model is a diagram that shows the relationships between the different elements in a system. The elements are things, like “registration form,” “user,” “user account,” and “case record,” and are shown as nodes in the diagram. These nodes are connected by lines that are labelled by relationships – usually actions, but sometimes also descriptions. This arrangement lets you determine the relationship between different elements in the system. – “a user has one user account,” or “a user has zero or more case records.”

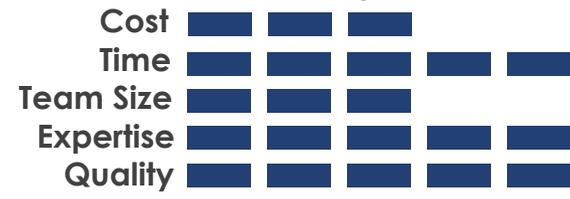
Why

Concept models present an overall picture of the system without having to detail the technical implementation. This overall picture can help manage the requirements for the system in one visual presentation, show the big picture and associated complexity in a way that is accessible, and provide a high-level document that determines what the team is going to build.

How

1. Use sticky notes to itemize elements of the system (often as a team).
2. Place the sticky notes on a large whiteboard and arrange them so that closely related terms are next to each other.
3. Use whiteboard markers to connect related concepts and use a different colour of sticky note to label the relationship.
4. Work to simplify the connections by shifting the arrangement of sticky notes.
5. Capture with a digital camera.
6. Create a version using diagramming software.
7. You may illustrate the diagram with line weights, icons, or other visual details once you have the fundamental structure down.

Resources & Results Snapshot



Recommended Reading

- *Communicating Design: Developing Web Site Documentation for Design and Planning* - Dan Brown



Usability Reports

What

A usability report documents the findings and recommendations from a usability evaluation. The report will list evaluation methods, issues identified, and any recommendations and priorities. The report may be a written document, a presentation deck, or a highlight video (or all three). No matter what format the deliverable, in-person presentation of the findings is recommended in order to answer any follow-up questions, add details, or clarify uncertainties.

For every hour of usability testing with users, plan for between two and four hours of analysis and reporting (higher effort for greater detail or for video highlights).

Why

Usability reports serve three important purposes:

- Collect the findings and highlight issues and successes in the current interface;
- Support a business case for a bigger investment by showing executives or other stakeholders that there are in fact issues and opportunities to improve; and
- Prioritize the issues identified

Reporting can vary in its depth and detail based on the purpose of the usability evaluation – if a team is doing rapid, regular iterations, then evaluation should help make those rapid design decisions and be delivered in a more agile, lightweight way to fit with the needs of the team. On the other hand, if the evaluation is to help determine a business case and priorities for significant investment or in improving high volume, high value transactions (such as optimizing call centre interactions) then more formal and detailed reporting may be appropriate.

How

1. Introduce the project and the methods used for the evaluation (number of participants for testing, guidelines used for expert review, etc.). Include testing scripts and guidelines as appendices.
2. Collect the issues identified in the testing. Illustrate with screenshots. You may group issues by area of the project (the homepage), by activity (registering), or by type of error (users not understanding jargon).
3. For more formal testing, consider creating a highlight reel of key issues.

4. Consider prioritizing issues based on impact (severity x frequency) and how feasible those issues are to address (a label change may be trivial, while a policy change or a significant technical issues will take more effort). Graph the issues and then discuss recommendations.
5. Explain any recommendations for addressing the issues.
6. Address next steps.

Resources & Results Snapshot



Recommended Reading

- *Observing the User Experience: A Practitioner's Guide to User Research* - Mike Kuniavsky
- *Communicating Design: Developing Web Site Documentation for Design and Planning* - Dan Brown
- *Don't Make Me Think: A Common Sense Approach to Web Usability* - Steve Krug



Content Inventories and Audits

What

A content inventory is a spreadsheet listing of all the individual pages on a website along with information about the structure and relationships of those pages as well as information such as update frequency, topical keywords, content owner and contact information. For pages that are all functionally identical, such as press releases, only the content area needs to be captured.

An audit builds on an inventory where each page is evaluated by the business and the team to determine if it should be updated, replaced, archived, merged with other content or kept as-is. An audit may also identify when and where new content must be written.

Why

A content inventory helps a team know what they are working with for the site. It also helps a team get up to speed with the content and structure for any changes to navigation or information architecture. Content inventories are also useful for filling in the lower half of a mental model diagram. A content inventory is an essential tool to manage websites both for major redesigns and for day-to-day content management.

How

1. Open a content inventory template in Excel, available from UXBC.
2. Work through the levels of your website or the area of the site that you need to inventory and audit.
3. For each page, assign an ID number (often reflecting the position in the site hierarchy, such as 1.2.34), and record the URL, title, last updated date, content owner, keywords, taxonomy terms, audience, and other metadata.
4. Work through the site to record all pages.
5. For an audit, review the pages to determine if they are redundant, out of date, or trivial (and so should be archived), or in need of rewriting or updating, and to determine if new content is required.
6. After an initial inventory and audit it is much less effort to keep an ongoing *rolling inventory* that tracks pages as they are added to the site.

Resources & Results Snapshot



Recommended Reading

- *Information Architecture for the World Wide Web: Designing Large-Scale Web Sites* - Peter Morville and Louis Rosenfeld
- *Content Strategy for the Web* - Kristina Halvorson
- Content Inventories, Audits, and Analyses: All Part of Benchmarking (www.intentionaldesign.ca/2012/08/09/content-inventories-audits-and-analyses-all-part-of-benchmarking)

Appendix C - Research Plan Template

Research Plan Summary

- An overall research plan summary. Write this section after you have completed the rest of the document. Summarize your approach as concisely as possible so that busy readers can quickly understand the fundamentals of your plan.

Research Goals

- Your research goals, with specific questions you are trying to answer. What are the challenges you are looking to address? Why should we do this research?

Research Review

- Reference to existing relevant research findings and why you need additional research efforts. What questions are not answered well enough by existing research? Sources of research include existing Ministry findings, BC Stats statistics and reports and third-party research.

Participants and Recruiting

- What groups of citizens, stakeholders or internal staff you are doing research with, along with privacy considerations and how you will recruit participants. Recruiting is often overlooked during initial research conversations, but it is a crucial effort that can delay a project significantly if it is not considered early in the overall process.

Research Approach

- Your research approach, including your planned methods, analysis, and deliverables. This is the core of your research plan. Depending on your audience you may want to include more or less detail in this section. If the plan will be read as a standalone document without a supporting conversation, you may need to add more details.
- **NOTE:** You may actually make different choices about analysis and deliverables because of changing project conditions or new insights and opportunities from your research.

Resources

- Resources that are required for this approach. What is the general need for talent, time and budget for this project? At a high level, who is involved and how? Is travel involved? Who will support recruiting, scheduling and travel logistics? Are there partners contributing to the research effort? Identify roles and individual contacts.

Research Reporting

- Research reporting, including how you will share your findings and with whom. Reference your deliverables and establish expectations for format (written report, highlight video, presentation, etc.). This is a prime opportunity to establish research reporting to other parties beyond your team that should be aware of your findings. Policymakers are an especially important group to share research with (often, service improvements will be possible only by working at a policy level as well).

Next Steps

- What you need to get started with your research efforts. Identify actions and any possible issues or questions (e.g., privacy impact assessments or other legal opinion, etc.).

Appendix: Logistics

- Recruiting Screener – the qualifications or filters to choose participants (e.g., no government employees, 35-50 years old, has visited Service BC office in past year).
- Research Guides – interview outlines or scripts. List the questions you will be asking in the interview.
- Consent forms and procedures, including incentive receipt procedures if relevant.
- Recording and transcription procedures.

