

future **transport**
technology

transport digital accelerator

Collaborate. Innovate. Activate.

Transport Toolkit



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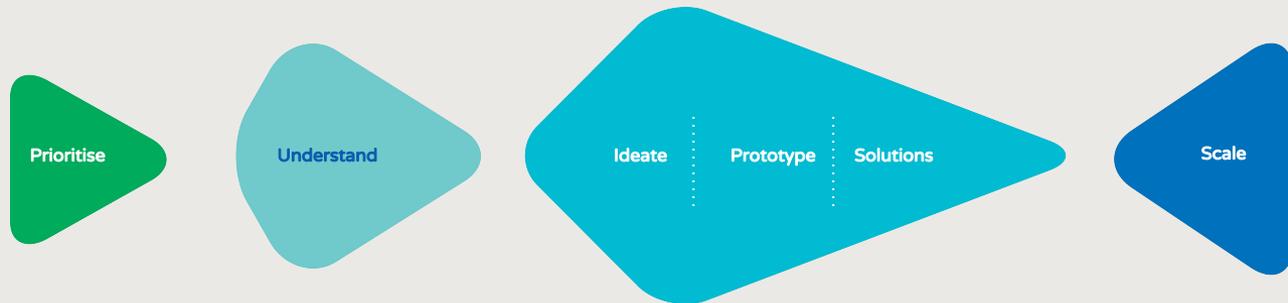
Overview

How to use the Transport Toolkit

The Transport Toolkit is designed to support the Future Transport Digital Accelerator design thinking process.

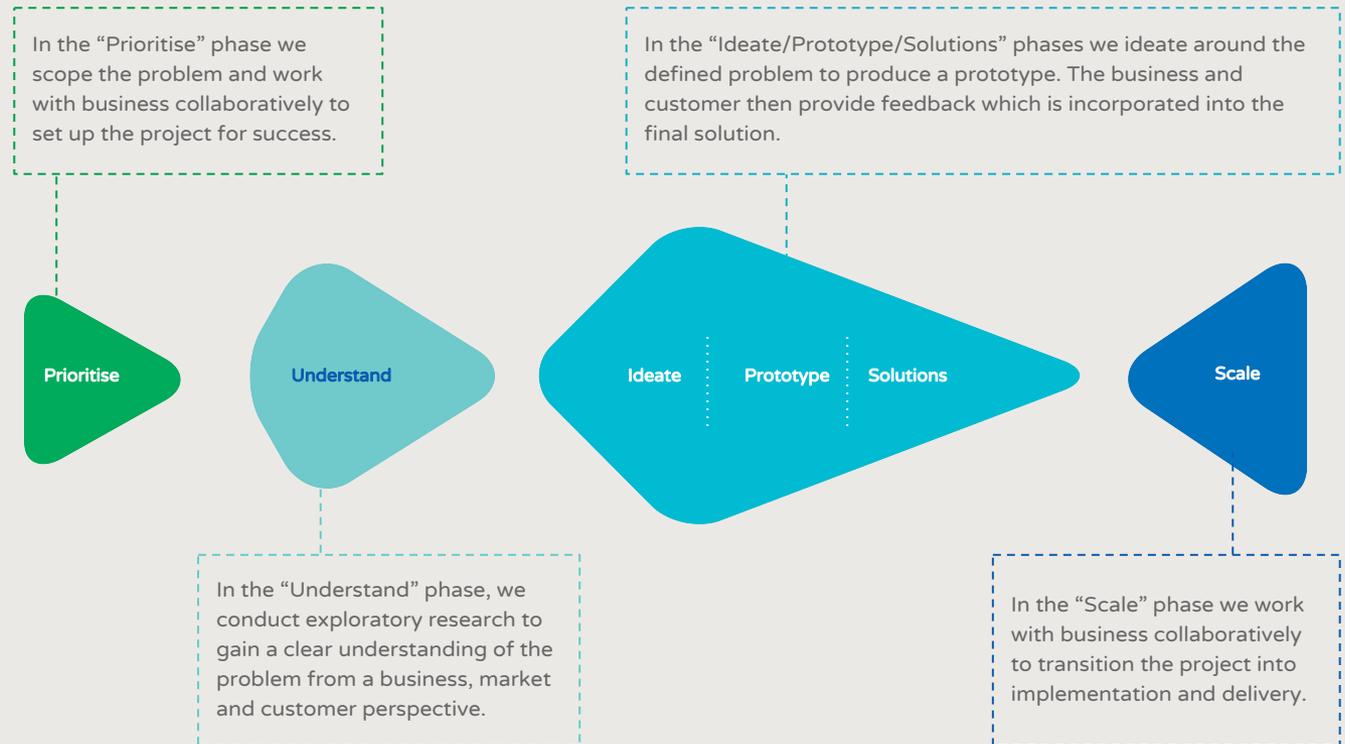
Drawing from design industry leaders, each of the activities have been selected to help you explore the problem, ideate and produce desirable solutions for both the business and customers.

These core activities can be used on their own in your day-to-day work, or supplemented with further activities to navigate the complete innovation process.



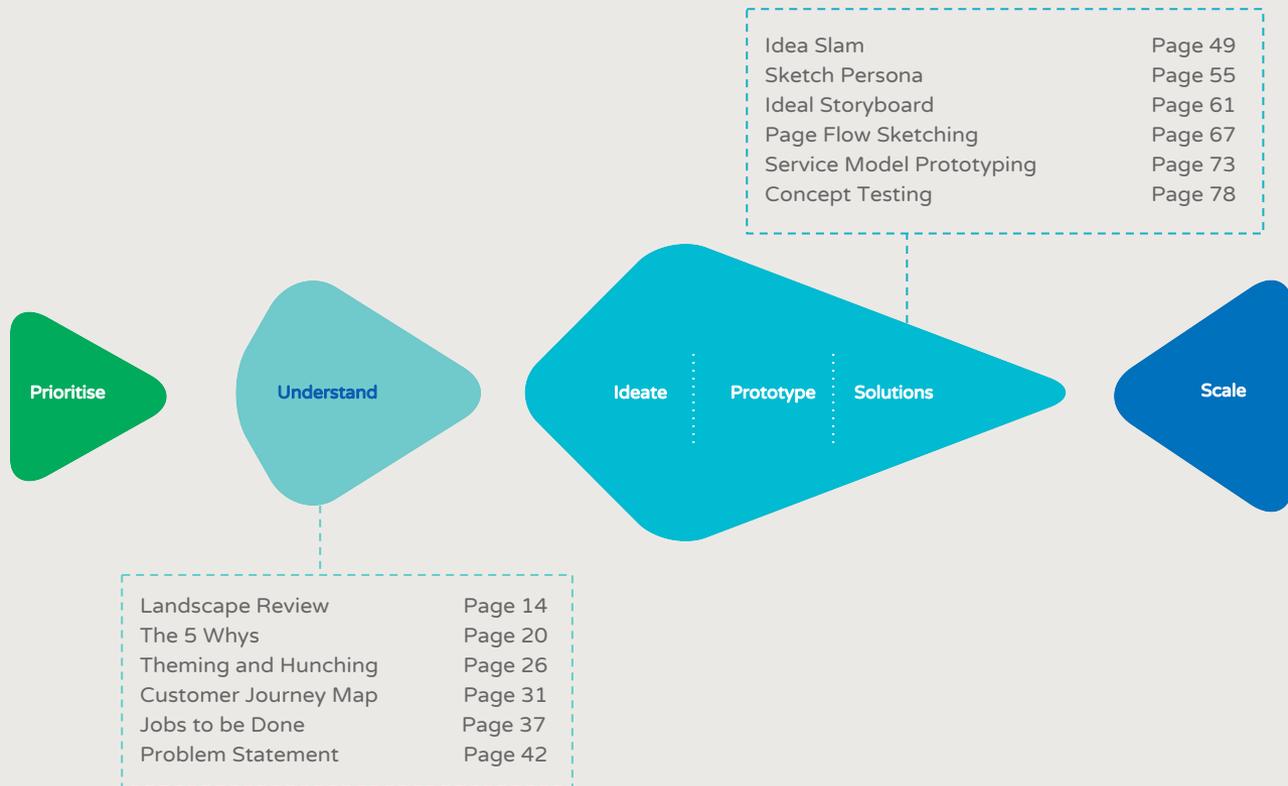
Our Process

Our innovation efforts will follow a four-phase approach:



Our Activities

The activities in this toolkit are mapped to the phases below, but are designed to be used as needed in your day-to-day work as well.



Activity Guide

Each activity includes the following:



Facilitators Guide

- ▶ This will help you prepare the activity and your team.
- ▶ Includes preparation, materials, learning outcomes and the narrative needed to get the group prepared.
- ▶ There are also tips to keep things running smoothly.



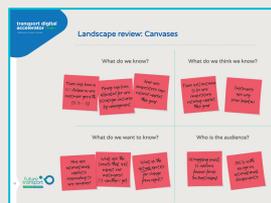
Room Set-up

- ▶ This will help you plan the session and lay out the room.
- ▶ Use this as a guide and adapt as necessary.



Activity Guide

- ▶ These instructions should be read before running the activity.
- ▶ Print out a copy for each group/table, and drop in to presentations as necessary.
- ▶ On each page, you'll find an activity overview, timings, and Pro tips for participants.



Worksheets and canvases

- ▶ These are the accompanying assets for each activity.
- ▶ You can print them out from the appendix or create your own. Also included is an example of one that's been filled out.
- ▶ These are handy for participants to have so they understand the output they're trying to achieve.

Toolkit Icon Legend



Timing

How long we suggest you spend on the activity.



Organise

Suggested group size and arrangement.



Materials

The things you'll need to run your activity.

Prioritising Problems

Prioritising Problems



Before you dive into the process, it's important to make sure you're going after the right opportunity.

Prioritising ideas in terms of customer outcomes best sets you up for success. Alignment with the Future Transport Technology Roadmap helps focus your efforts on the initiatives previously identified as important for our customers.

Use the prioritisation matrix for better visibility on the desirability, technical feasibility and viability of the problem spaces you're looking to address. This should act as a discussion guide only, including ways to improve how we chose the right problem spaces to work on.

Technology Roadmap Initiatives

- Personalise customer interaction
- Transform the mass transit network
- Foster shared, demand-responsive services
- Enable connected, automated vehicle platforms
- Create intelligent transport networks, managed with data

Customer Outcomes

- Make easy, well-informed transport choices based on their personal needs and preferences
- Have more public transport services delivered more reliably
- Get from door-to-door more easily with flexible transport connections and seamless transfers
- Enjoy the benefits of the latest automated vehicle technology reliably and safely
- Fulfil their mobility needs efficiently and sustainability
- Manage their mobility costs and pay for services simply and conveniently

Problem Space – Prioritisation Card

PRIORITISE



Problem Space	Strategic Alignment	Customer Outcomes	Stakeholders Engaged	Confidence of Outcome	Effort Required	TfNSW Capability	Estimated Reach	Potential Impact
<i>A brief outline of the problem space you're addressing</i>	<i>Does your problem align with the Future Transport Technology Roadmap?</i>	<i>Does solving the problem have the potential to deliver improved customer outcomes?</i>	<i>Is there strong stakeholder engagement (including a Sponsor)?</i>	<i>Are you confident of reaching an outcome (incl. measures of success and risk assessment)?</i>	<i>Potential effort to obtain resources or funding for project.</i>	<i>How capable is TfNSW of executing project (Readiness / technical)?</i>	<i>How much of the network or customer base does the problem affect?</i>	<i>What is the potential impact of solving this problem?</i>
	Y/N	Y/N	Y/N	S/M/L	S/M/L	S/M/L	S/M/L	S/M/L
	Y/N	Y/N	Y/N	S/M/L	S/M/L	S/M/L	S/M/L	S/M/L
	Y/N	Y/N	Y/N	S/M/L	S/M/L	S/M/L	S/M/L	S/M/L
	Y/N	Y/N	Y/N	S/M/L	S/M/L	S/M/L	S/M/L	S/M/L



T-Shirt Sizing

T-shirt sizing is a simple way to gauge and understand the size of something without being too specific. The purpose of this S/M/L approach is a simple, glanceable way to be able to compare and contrast. To t-shirt size a problem or project consider, is it: (S)mall, (M)edium, or (L)arge?

Where possible, also include data, cost analysis and risk or capability scoring if available.

Problem Space – Prioritisation Example

PRICED TO WIN

Problem Space	Strategic Alignment	Customer Outcomes	Stakeholders Engaged	Confidence of Outcome	Effort Required	TfNSW Capability	Estimated Reach	Potential Impact
<i>A brief outline of the problem space you're addressing</i>	<i>Does your problem align with the Future Transport Technology Roadmap?</i>	<i>Does solving the problem have the potential to deliver improved customer outcomes?</i>	<i>Is there strong stakeholder engagement (including a Sponsor)?</i>	<i>Are you confident of reaching an outcome (incl. measures of success and risk assessment)?</i>	<i>Potential effort to obtain resources or funding for project.</i>	<i>How capable is TfNSW of executing project (Readiness / technical)?</i>	<i>How much of the network or customer base does the problem affect?</i>	<i>What is the potential impact of solving this problem?</i>
Ticketing inefficiencies	Y/N	Y/N	Y/N	M S/M/L	L S/M/L	L S/M/L	L S/M/L	M S/M/L
Customer feedback capture	Y/N	Y/N	N/N	L S/M/L	S S/M/L	L S/M/L	S S/M/L	L S/M/L
On-site recreation facilities	N Y/N	Y/N	N/N	M S/M/L	L S/M/L	L S/M/L	S S/M/L	S S/M/L
	Y/N	Y/N	Y/N	S/M/L	S/M/L	S/M/L	S/M/L	S/M/L



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Where possible, also include data, cost analysis and risk or capability scoring if available.

Activities

Landscape Review

Landscape Review: Facilitator Guide



Whole group



Post-its + pens
Template

Prep

- Problem space presented
- Existing research collated and shared as pre-reads

Introducing the exercise

To start with, it's important to build a shared understanding as a group.

This is an opportunity to share the vast knowledge in your head. Just because you know it, don't assume others do.

It's important to work individually first and do some "deep thinking" – it will ensure richer conversation during share-back.



Learning Outcomes

- Collaboration/
Synthesis skills
- Benchmarking
group knowledge

Facilitation tips

- Run an icebreaker exercise first to get people comfortable sharing their thoughts with each other (See Icebreakers: Pg. 90).
- Use a visual timer to track individual working and individuals presenting back.
- As people share back, task others with taking notes of any relevant discussions and adding them to the board.

Landscape Review: Room Setup



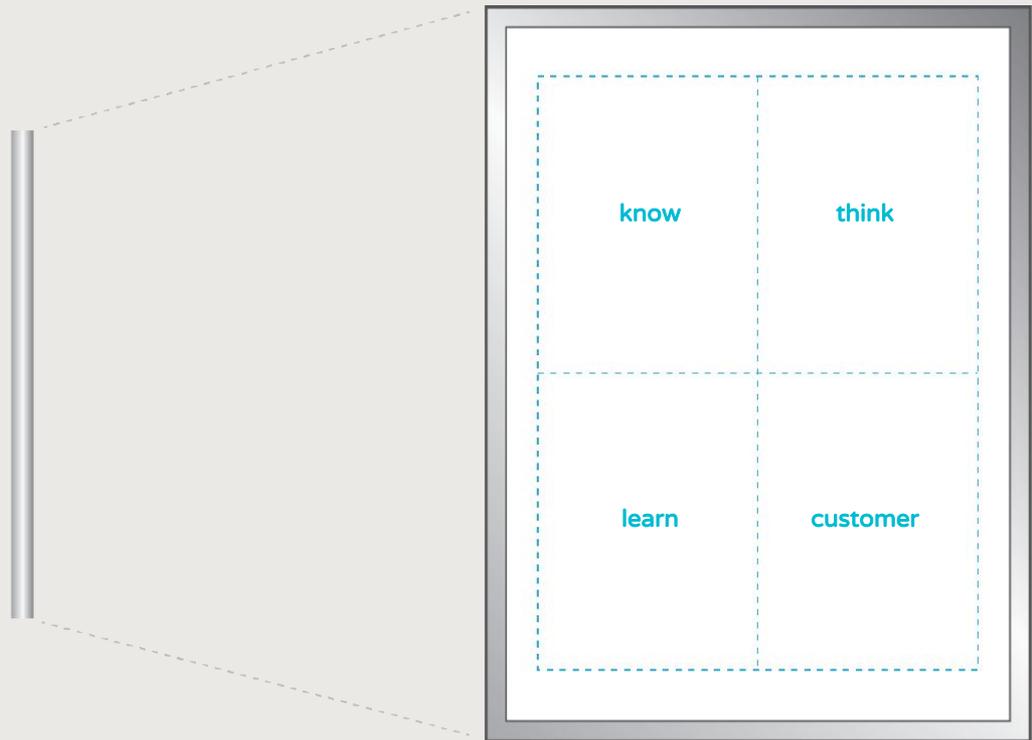
Draw this template on a whiteboard or butchers paper and mount on wall.



Whole group



Post-its + pens
Template



Landscape Review: Activity Slide



A landscape review helps you understand the current state of affairs in your problem space.

You'll tap into existing research and the information inside your heads to understand the gaps in your group knowledge.



Whole group



Post-its + pens
Template

Activity

Reflecting on your problem space, write down your answers to each of the following questions on individual Post-its. For each one, spend 10 minutes working individually, then share back with the group. Discuss and cluster into themes before moving onto the next question.

1. *What do we know?* Facts, data, unquestionable truths.
2. *What do we think we know?* These are our assumptions – things that were unconfirmed or questionable.
3. *What do we want to know?* Look back on the first two questions and identify what's missing in our understanding.
4. *Who do we think the audience is?* Who are the likely customers who are involved in the problem space you're exploring (e.g. End customers, suppliers, enablers).
5. Once you've answered all the questions, reflect as a group and prioritise the gaps you need to fill and people you need to speak to (and who will take responsibility for what!)



Pro Tips

- Keep an eye out that you don't mistake assumptions for facts. It's important to call each other out if you spot this mistake!

Landscape Review: Canvas

What do we know?

What do we think we know?

What do we want to know?

Who is the audience?

Landscape Review: Canvas (Example)

What do we know?

There has been a 10% decline in new customer growth (2015 - 18)

Money has been allocated for new strategic ventures by management

Four new competitors have entered market this year

What do we think we know?

There will continue to be new competitors entering market this year

Customers are very price sensitive

What do we want to know?

How are international markets responding to new sources?

What are the trends that will impact our customers? (12 months/1 yr)

What is the actual appetite for change from mgmt?

Who is the audience?

Struggling small to medium finance firms (in Australia)

CEO's with an eye on international developments

The 5 Whys

The 5 Whys: Facilitator's Guide



Individual +
Interviewee



Post-its + pens
Template

Prep

- A customer/stakeholder interview scenario
- Have a problem area focus to get them started

Introducing the exercise

Understanding the true nature of a problem is not about what people do, but why they do it.

By asking “why?” over and over, we can start to get to the root cause of a problem.

Use this technique when interviewing customers or stakeholders. Don't be afraid to get a little personal with the interviewee – you'll need to dig below the surface to get to the bottom of it.



Learning Outcomes

- Uncovering root causes of a customer problem
- Ability to see connections between reasons and the problem

Facilitation tips

- Have a dry-run of the exercise to get participants comfortable with the process.
- Encourage participants to not just focus on gathering details of a user's day or journey. Get them to uncover personal details around *why* they do the things that do, instead of *what* they do.
- Often there are issues with appropriate flow - show participants that it is ok to include some moments of silence while you gather your thoughts for your next questions.
- You can use this exercise with participants if they're having trouble getting to the root cause themselves!

The 5 Whys: Room Setup



Set up the interview space in a quiet, private area with a table and comfortable seating.



Individual +
Interviewee



Post-its + pens
Template



The 5 Whys: Activity Slide



Individual +
Interviewee



Post-its + pens
Template

Use The 5 Whys to get to the root cause of the problem and make sure you're solving the right thing.

Users often aren't conscious of the real cause of the problem they face. By uncovering the root cause, we ensure we're solving the right problem and maximise the impact of our solutions.

Activity

This technique is utilised during user interviews with the purpose of uncovering the perceptions and motivations behind a particular action or opinion.

1. Start by asking generic questions around the problem space.
2. The user will make a statement about why they feel or think a certain way about the problem.
3. Ask "Why" to force them to go deeper with their reasoning.
E.g. "Why do you think that was occurring?"
4. If their answer doesn't get to the root cause of the problem, ask "Why" again or continue typical questions until the right moment arises to ask "Why" again.
5. Loop back to step 3 until the team is in agreement that the problem's root cause is identified. Again, this may take fewer or more times than five Whys.



Pro Tips

- When interviewing, don't be afraid of silence - it may seem counterintuitive but often silence gives interviewees space to reveal more.
- When in doubt, ask why? You may be surprised that the user had more to say. Examples include: *Why do you think that occurred? / Why do you think that's a problem?* - Try not to ask leading questions.
- Sometimes it takes more than five 'whys' to get to the root cause, sometimes, less.
- If possible, consider sitting adjacent to the person to reduce "confronting" body language.

The 5 Whys: Worksheet

Original problem:

Why?

Why?

Why?

Why? :

Root cause:



The 5 Whys: Worksheet (Example)

Original problem: *"Buses don't run frequently enough in my street"*

Why? *I always have to wait at least 15 mins for the bus to work*

Why? *The bus always leaves just before I get there*

Why? *Getting the kids and myself ready for the day always seems to take longer than I think*

Why? *I don't factor in enough extra time for unforeseen dramas in the morning*

Root cause: *Setting unrealistic times for getting ready in the morning*



Theming & Hunching

Theming & Hunching: Facilitator's Guide

UNDERSTAND



2-6 people



Post-its + pens
Template

Prep

- A round of research (e.g. Customer interviews)

Introducing the exercise

After any research, it's important to take a step back and join the dots between the things you've learnt.

This activity is a great way to share and process findings with the wider group, or just deep-dive yourself.

You can use this activity to process almost any findings from research all the way through to concept testing, so get familiar with it!



Learning Outcomes

- Group research synthesis
- Identifying insights

Facilitation tips

- Avoid trying to create themes too early in the exercise. Group using intuition to start, and only label once a distinct theme has emerged.
- Create a shared folder where photos of the clusters can be kept and revisited (or printed to show your journey).
- Make sure you document each arrangement with a photo. This gives participants licence to rearrange and not worry about losing past iterations.

Theming & Hunching: Room Setup



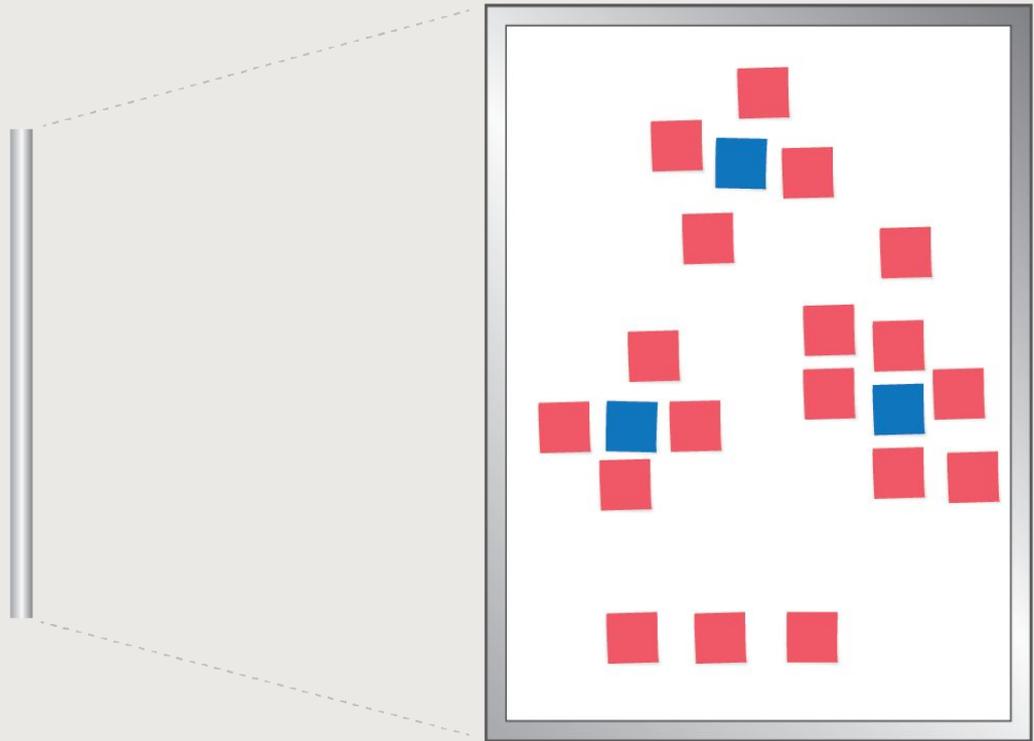
Use whiteboard or blank wall to stick up Post-its.



2-6 people



Post-its + pens
Template



Theming & Hunching: Activity Slide



2-6 people



Post-its + pens
Template

Theming and hunching are great ways to pull together findings and draw out new insights.

By collating your research and viewpoints as a group, you will illuminate new threads and opportunities from seemingly unrelated findings.

Activity

Once you've completed an exploration exercise (e.g. desk research, immersion, customer interviews), write down any insights, or key findings on individual Post-its.

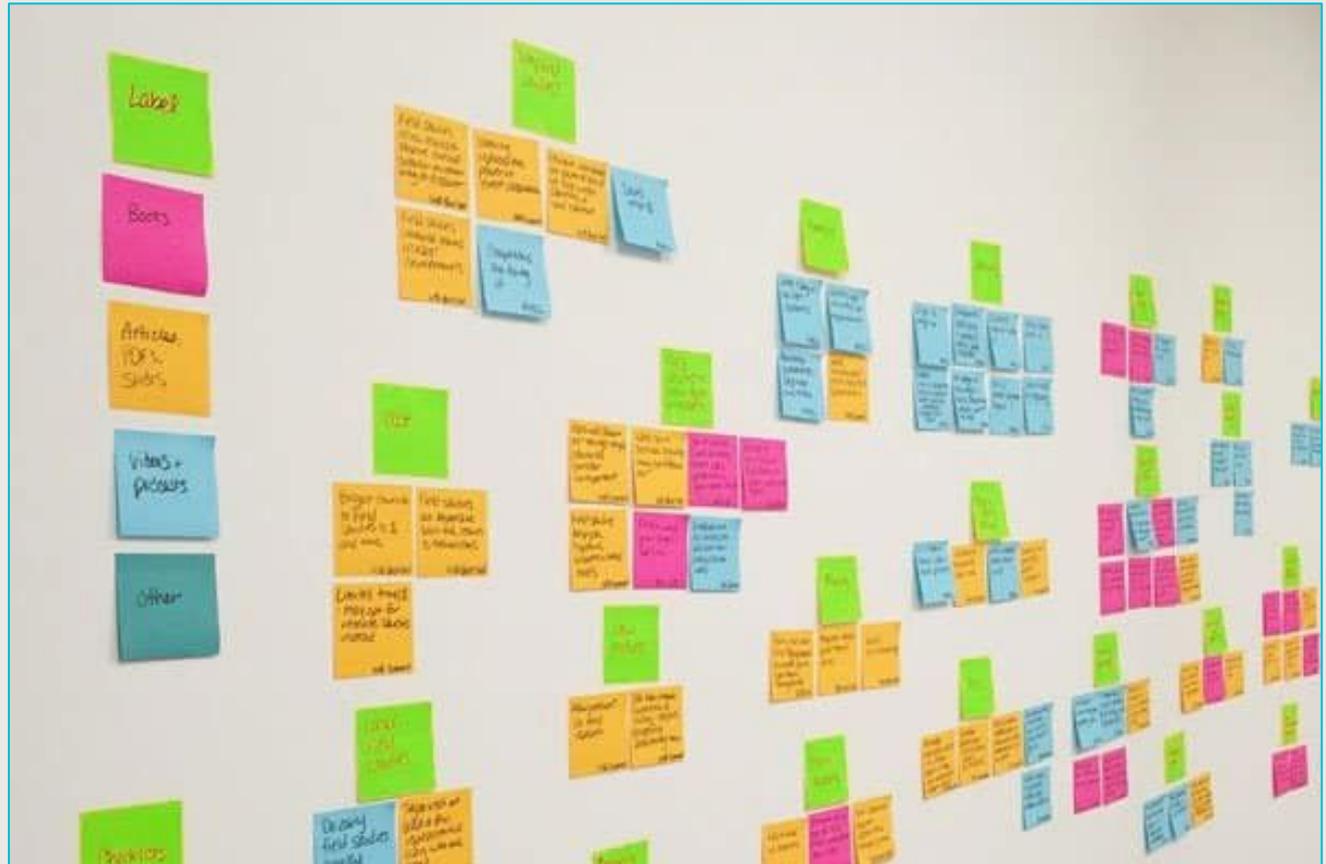
1. Share your Post-its with the group and add them to the wall as you go, grouping similar ones. If it's not immediately obvious where they go, stick it at the bottom for sorting later.
2. Once all the Post-it's are up, review as a group and cluster in themes, labeling each theme-cluster.
3. Reflect on what you've found as a group (including what might be missing). When you're done, take a photo to document.
4. For hunching, rearrange the findings and insights into more granular themes to draw out new insights. Make a note of the new insight and document with a photo in case you move Post-its.



Pro Tips

- This is a very useful exercise to revisit throughout the innovation process. You can go through this activity many times, and with any findings.
- Clusters/themes aren't sacred. After each run through, document, then start rearranging!

Theming & Hunching (Example)



Customer Journey Map

Customer Journey Map: Facilitator's Guide

UNDERSTAND



30-60
mins



2 people -
Whole group



Post-its + pens
Template

Prep

- Completed customer research (e.g. observation day / customer interviews)

Introducing the exercise

This is a real chance to build empathy with the customer and experience a “day in the life”.

As one of the key tools in a HCD practitioner's toolkit, this a major skill to learn.



Learning Outcomes

- Customer empathy skills
- Tracking customer touchpoints across a journey
- Identifying customer pain points and opportunities for innovation opportunities

Facilitation tips

- To ensure the task does not become overwhelming, have participants start by simply writing down each action the customer took along the journey. Once they have detailed each step, have them try to step into the shoes of the customer and consider how they may be thinking or feeling at each stage.
- Once the customer journey is complete, have them consider how each of the friction points highlighted on the map could be converted into an opportunity for a new product or service element.

Customer Journey Map: Room Setup



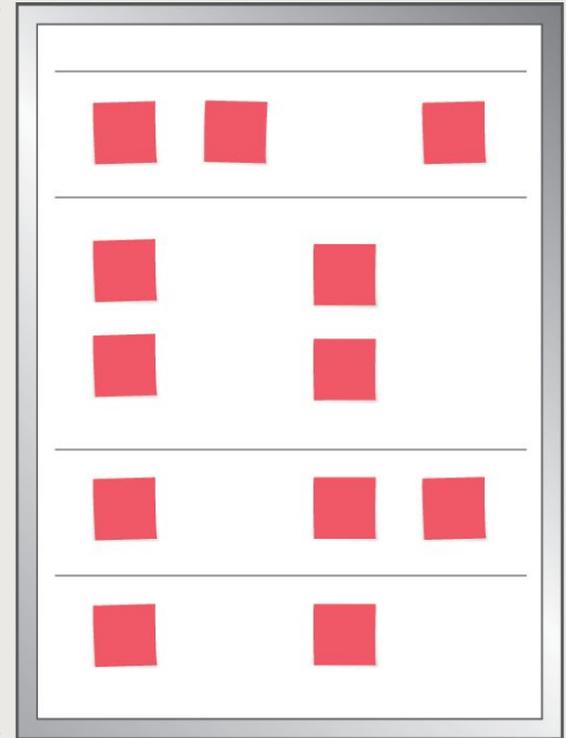
Print canvas or draw on a whiteboard or butchers paper and mount on wall.



2 people -
Whole group



Post-its + pens
Template



Customer Journey Map: Activity Slide



2 people -
Whole group



Post-its + pens
Template

Step into the customer's shoes and truly see how they interact with the business.

By visualising and tracking the touchpoints between customer and business, we can understand the how, when and why of those interactions.

Once the customer journey map is complete, we can easily identify the best opportunities for improvement.

Activity

Map the current or “as is” customer journey through a known problem space or focus area.

1. Pick a customer journey to plot from beginning to end.
2. At the top of the canvas, plot each major actionable stage of the journey i.e. Pre-planning, Walking to Train Station, On-board (commute), Wayfinding etc.
3. Create a column on one side of the canvas with the following elements; Thinking, Feeling, Doing.
4. Communicate what is happening at each actionable step against each of the elements.
5. Reflect as a group and identify the richest opportunities to improve the experience.
6. Consider and document the ‘Blockers’ (things that stop the customer making progress on their ideal journey), and the ‘Drivers’ (things that enable the customer to make progress on their ideal journey). Put these in their own swimlanes.



Pro Tips

- Think about where the pain points are in the journey. How can these be reconsidered as a space for opportunity?

Customer Journey Map: Canvas

USER NAME	STAGE 1	STAGE 2	STAGE 3	STAGE 4
THINKING				
FEELING				
DOING				

Customer Journey Map: Canvas (Example)

USER NAME	Walking to cafe	Ordering coffee	Waiting for coffee	Collecting & leaving
THINKING	"Hope queue isn't too long"		"What is my schedule for today?"	"What do I need for my meeting?"
FEELING	Tired, slow	Like a 'local'	"It's time to start switching on"	"I'm ready for the day ahead now"
DOING		getting out card to pay	Checking calendar/emails	starting to journey to work

Jobs to be Done

Jobs to be Done: Facilitator's Guide



2 people -
Whole group



Post-its + pens
Butcher's paper

Prep

- Initial research analysis (e.g. Landscape review or 5 Whys) to develop hypothetical jobs
- Concept testing / customer research findings to develop validated jobs

Introducing the exercise

To ensure we stay focused on improving customer outcomes, it's important to understand the progress they're trying to make in their lives.

Jobs to be done is a way of grouping customers according to the progress, or job, they're trying to get done.

Once we know a customer's job to be done, we can identify the hurdles they face in getting that job done and overcome them to deliver valuable outcomes.



Learning Outcomes

- Understanding of jobs-to-be-done methodology
- How to develop customer jobs from research analysis

Facilitation tips

- Start with an example exercise (e.g. "What's the Job to be done for Uber?") to get participants into the right headspace. Hint: The key job is "Help me travel seamlessly from A to B", but there are plenty more too.
- Test your jobs for legitimacy by asking the group to find competitive solutions in other categories, other times (past/future), and other mediums.

Jobs to be Done: Room Setup



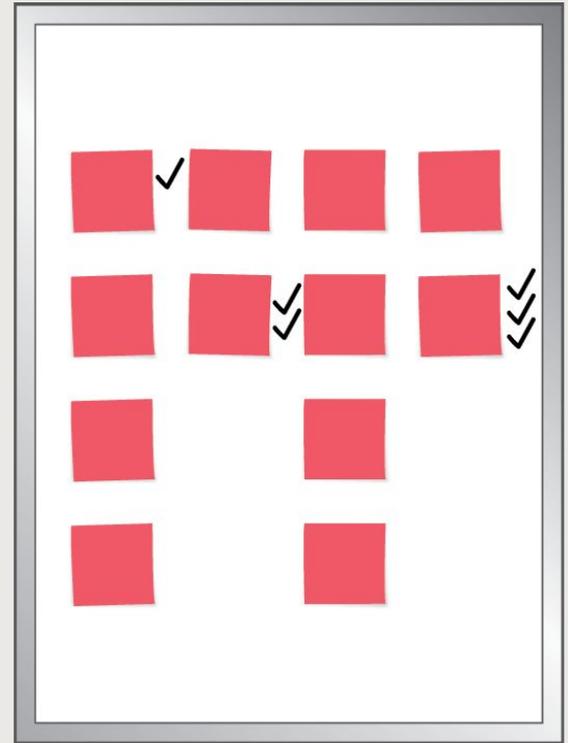
Use whiteboard or blank wall to stick up Post-its.



2 people -
Whole group



Post-its + pens
Butcher's paper



Jobs to be Done: Activity Slide



2 people -
Whole group



Post-its + pens
Butcher's paper

“People don’t want a quarter inch drill, they want a quarter inch hole” - Theodore Levitt, HBS

Jobs to be done focuses our thinking on the progress customers are trying to make. This progress is what drives them to act and make decisions. By truly understanding customer progress (the job), you can start meeting their needs in new and unexpected ways.

The purpose of this exercise is to identify the progress that the customer is trying to make. This can help unlock a wide range of opportunities for innovation.

Activity

Reflecting on the research analysis that you have undertaken so far:

1. As a group come up with a customer job that describes the progress that the customer may be wanting to make by using the current solutions (e.g. product / service).
2. Individually, write as many customer jobs that you can think of as to why a customer may use the current solution.
3. Shareback with the rest of the group and identify the jobs that ring truest with the research you’ve done. You can test these to make sure they’re right when you start concept testing!



Pro Tips

- Jobs don’t change over time.
- Jobs are solution-agnostic – they can be solved in many ways.
- Jobs transcend category – they can be solved by solutions from different categories.
- A job should not be too broad that it is no longer relevant to the solution or too specific so that it can only relate to the current solution.

Jobs to be Done: Worksheet

Action / Object / Context

Progress to be made (Functional / Emotional / Social)

Help me

EXAMPLES

Help me

feed them as fast as possible

so I can increase my peace of mind

Help me

celebrate a special occasion

so I reduce the level of guilt I feel

to improve the validity of my
relationship

to decrease the friction in my
relationship

Problem Statement

Problem Statement: Facilitator's Guide



2 - 4 people



Pens
Template

Prep

- Customer journey
- Key blockers and drivers

Introducing the exercise

Now that we understand the progress our customers are trying to make (their job), and the things that are inhibiting them (blockers), we can start working to overcome them.

We'll be using the "How might we..." structure, which makes overcoming any problem achievable.



Learning
Outcomes

- Flipping problems
into opportunities

Facilitation tips

- Get everyone to have a go at articulating a problem statement for each key blocker and gather feedback to nail the perfect statement.
- Creating a problem that provokes solutions is more important than sticking to the template.

- You can sometimes capture multiple blockers and drivers in one problem statement.

E.g. *Mistakes are hidden by project teams instead of shared as learnings (Blocker)*
+ Our development teams are hungry to iterate (Driver)
= How might we empower developers to share their learnings across the department?

Problem Statement: Room Setup



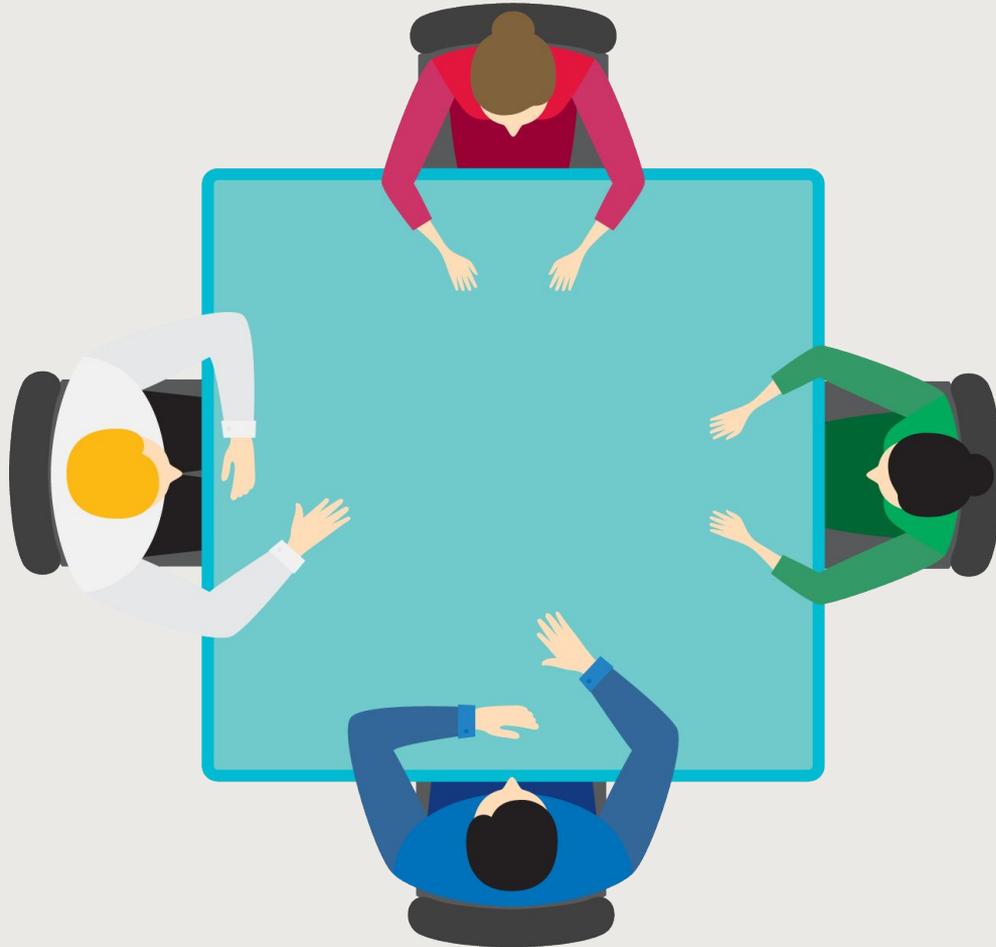
Assign teams to separate workstations.



1 - 4 people



Pens
Template



Problem Statement: Activity Slide



1 - 4 people



Pens
Template

A good problem statement creates fertile grounds for innovation.

Using the blockers and drivers uncovered in the exploration phase, articulate your problem as a “How might we...?” (HMW) statement. These should relate to specific ‘Jobs to be done’. The challenge is to get the scope right. Too broad and it’s difficult to work out where your ideas should aim, too narrow and the solution is limited.

Activity

Review your customer journey and take note of the key blockers and drivers at each stage of the journey. Using the HMW canvas...

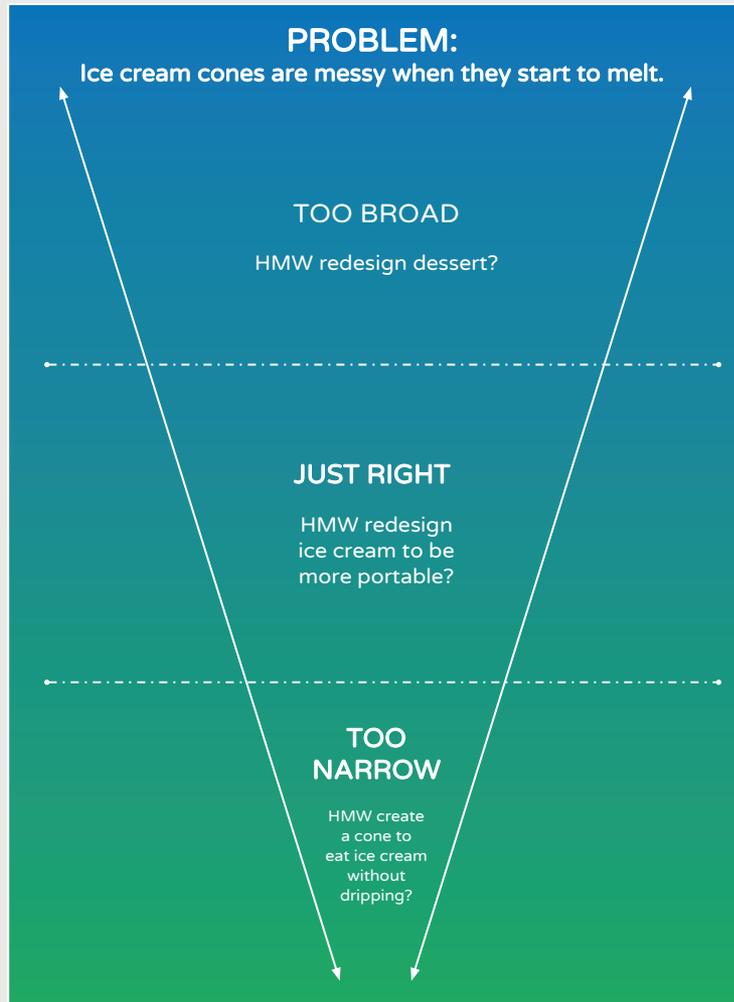
1. Identify the biggest blockers on the journey and rewrite them as opportunities, beginning with the phrase “How might we...”
2. Consider how your HMW will help the customer make progress, and add it to the question with the phrase “...in order to...”
3. Add the customer context.
4. Repeat for the other key blockers or drivers.



Pro Tips

- Don't be afraid to rewrite your question a few times to get the wording just right.
- Try asking someone for three different solutions to the problem. If they can answer, your question is working.
- Use the funnel to work out the right kind of question to ask.

Problem Statement: Guideline



Problem Statement: Worksheet

HOW MIGHT WE

IN ORDER TO

FOR

Problem Statement: Worksheet (Example)

HOW MIGHT WE redesign ice-creams to be more portable

IN ORDER TO Keep kids clean

FOR busy mums

Idea Slam

Idea Slam: Facilitator's Guide



2 - 8 people



Pens (2 x colours)
Butchers paper

Prep

- Clearly defined opportunity space
- “How might we...” questions, based on customer jobs, blockers and drivers

Introducing the exercise

You’ve landed on a juicy problem to solve, now shift gears and start exploring solutions.

We are looking to verify our problem/opportunity space, not come up with one perfect, all-encompassing idea. These ideas will go into exploratory testing.

This exercise is about collaborating and building on ideas, so have lots of them and build, borrow and steal from each other.



Learning Outcomes

- Understanding the power of iteration and collaboration
- Rapid ideation skills

Facilitation tips

- Quantity is key. Ensure participants are coming up with multiple ideas. Encourage illustrations over writing.
- Include Blockers, Drivers and “thought-starters” in addition to the HMW questions to provoke thinking.
- When teams are tying together ideas, make sure they’re not summarised to high/strategic level but remain clearly articulated as a specific solution to the problem.
- Run multiple rounds of this activity, introducing constraints to push thinking into new and interesting places (e.g. No app-based ideas).

Idea Slam: Room Setup



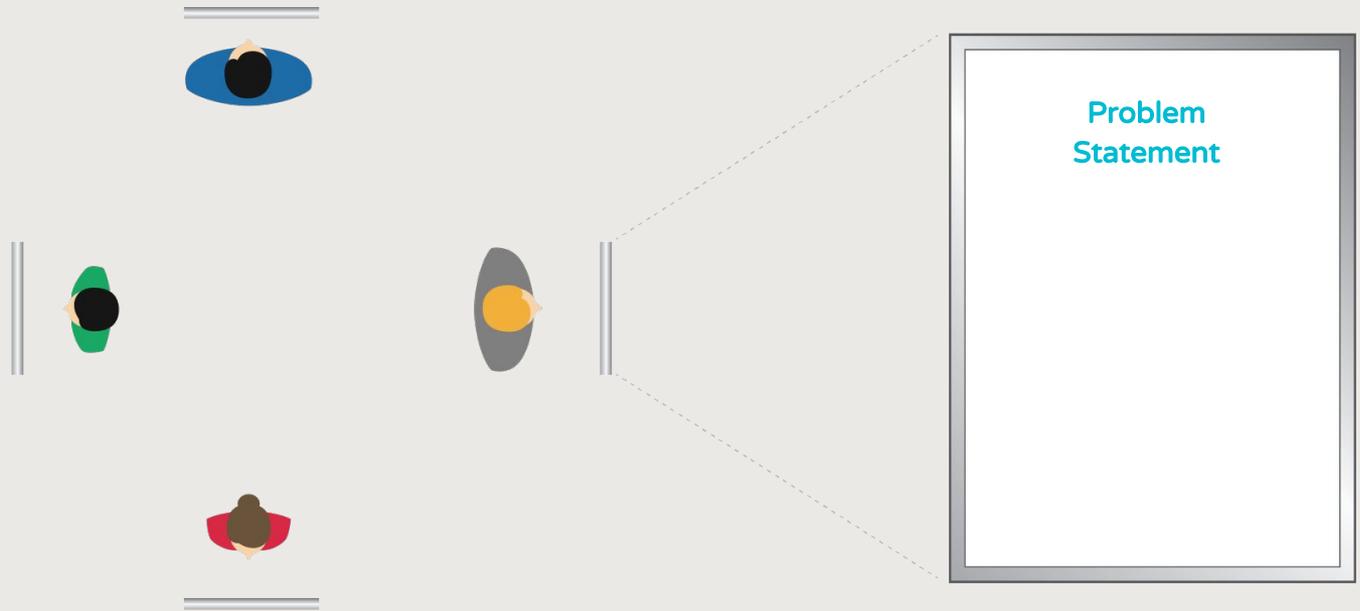
Draw up canvases on whiteboards or butchers paper and spread out around room.



2 - 8 people



Pens (2 x colours)
Butchers paper



Idea Slam!: Activity Slide



20-60
mins



2 - 8 people



Pens (2 x colours)
Butchers paper

Idea Slam is an ideation activity to generate a lot of ideas quickly and collaboratively.

This is an exercise in divergent and convergent thinking. First you'll create a huge range of ideas from which you'll identify the most promising or interesting concepts to develop and test.

Activity

Spread evenly across the 'How Might We' (HMW) statements.

1. In silence, spend 1 min reviewing the HMW statements, then 2 mins sketching potential solutions. When the alarm sounds, move to the next station and repeat. You can create new idea or build on other people's.
2. Once you've completed a lap, go around again, this time only building on ideas.
3. After the second lap, pair up and review the solutions on each page, grouping the similar ideas.
4. Share back with the group, taking note of feedback, then translate the strongest ideas into an idea canvas.



Pro Tips

- During the ideation, go for quantity over quality.
- Keep ideas visual and easy to understand - they'll attract more eyes and be easier for others to understand and build on.

Idea Slam! Canvas & Worksheet

How might we...

Key Blocker/Driver(s):

Thought starter:

Idea:	
Blockers/drivers addressed:	How it impacts customer:

Idea Slam! Canvas & Worksheet

How might we... redesign icecreams to be more portable in order to keep kids clean for busy mums.

Key Blocker/Driver(s): Icecream melts
Icecream is sticky.
Kids don't like losing any icecream.

Thought starter: cones that are bigger than the scoop?



<p>Idea: PINT'O'CREAM</p> <p>INSTEAD OF CONES, WHICH MAKE ICECREAM VISUAL, SELL WAFER 'CUPS' BASED ON QTY/VALUE + FILL TO BRIM. STOPS OVERFLOW.</p>	
<p>Blockers/drivers addressed:</p> <ul style="list-style-type: none"> → ICECREAM IS STICKY WHEN IT MELTS. → KIDS DON'T LIKE LOSING 	<p>How it impacts customer:</p> <ul style="list-style-type: none"> - ICECREAM CONTAINED AS ITS NOT ABOVE RIM, SO CLEANER & EASIER FOR MUMS. - QTY OF ICECREAM GREATER, SO MORE MEAL TO KIDS

Sketch Persona

Sketch Persona: Facilitator's Guide



1 - 3 people



Pens
Template

Prep

- Customer journeys
- Business, customer & market point of view

Introducing the exercise

Whilst there's no such thing as a "typical customer", personas help us articulate the customer needs easily by putting an identity to them.

When creating a persona, focus on the customers you've encountered whilst conducting field research.

Great personas are created when you get into the head of the customer, articulating who they are, how they're affected by the problem and what their needs are.



Learning Outcomes

- A deeper understanding of user needs and goals
- Ability to focus on particular user groups or segments

Facilitation tips

- This persona will be utilised later on in the process, as it will create a view of who the team needs to focus on when solving the problem and conceptualising solutions.
- Each persona can be used to build a customer journey map.

Sketch Persona: Room Setup



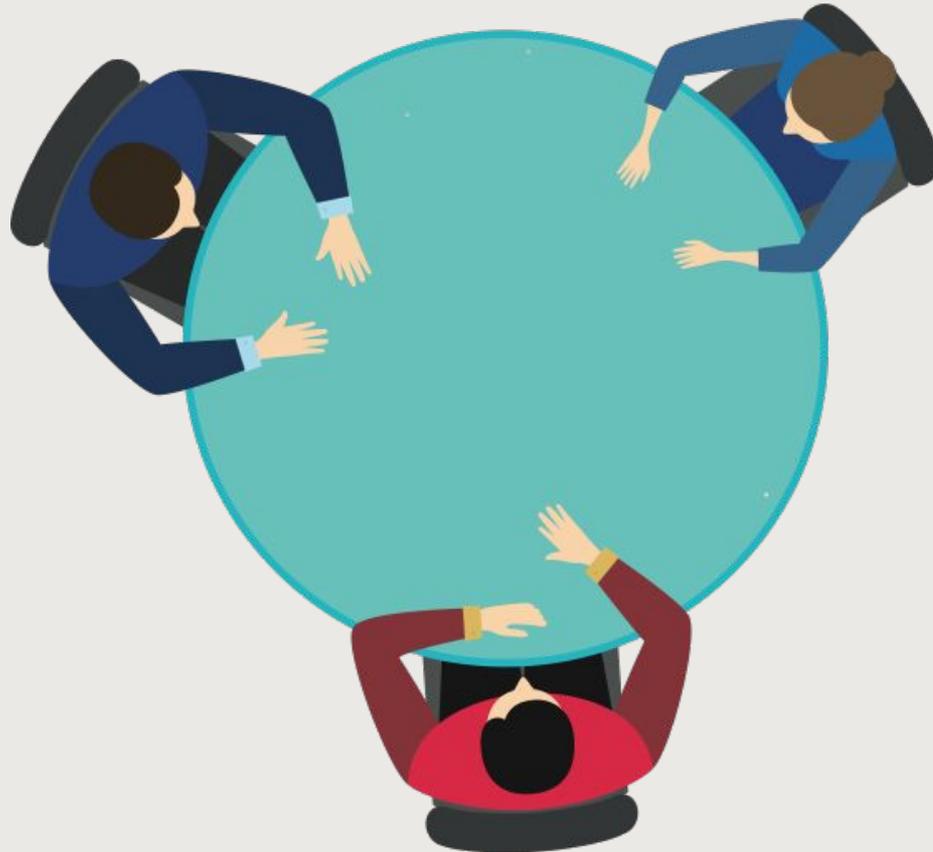
Assign teams to separate workstations.



1 - 3 people



Pens
Template



Sketch Persona: Activity Slide



1 - 3 people



Pens
Template

Personas are fictional characters which you create based on the different user types that arose during research.

Personas highlight a typical users' needs, experiences, behaviours and goals around the service or product. By understanding your user, you will have better clarity around what is required to design a better experience for your target user group.

Activity

Using the Sketch Persona template:

1. Choose a persona based on the customer type you want to focus on.
2. Start by sketching their likeness, giving them a name and outlining some key demographic features like Age, Ethnicity, Salary, Family Situation etc. Don't forget to add a few quirky traits to make them realistic.
3. Next, outline their typical actions and behaviours in relation to the problem.
4. Consider their needs and goals by considering what they are ultimately trying to achieve. If everything was working perfectly what would the outcome be that they are striving for?
5. Lastly, what are their main pain points? These are often generated by something that is lacking and preventing them from achieving their goals/needs.



Pro Tips

- You are generally creating personas to represent a large proportion of the segment group, so try to express broad and deep insights to capture as much as possible.
- The gap between their desired needs and their pain points highlights potential opportunity areas to explore.

Sketch Persona: Worksheet

Persona Name	
Sketch	Behaviors
	Needs/Goals
Demographics	Pain Points

Sketch Persona: Worksheet (Example)

Persona Name ANNA THE ANALYST	
Sketch 	Behaviors DILIGENT INVESTOR. READS FIN REVIEW. USES FINSTOCK APP DAILY. HEAVILY INFLUENCED BY SUPERIOR'S ADVICE @ WORK.
	Needs/Goals FINANCIAL SECURITY. MORTGAGE-FREE IN UNDER 10YRS. MORE "ME TIME"
Demographics <u>30-40 YRS</u> <u>INNER-CITY</u> <u>PROFESSIONAL</u> FEMALE, NO KIDS.	Pain Points STOCKBROKING & ADMIN FEES. PEERS WHO DONT CONTRIBUTE THE BOREDOM OF THE DAILY COMMUTE

Ideal Storyboard

Ideal Storyboard: Facilitator's Guide



2 - 4 people



Pens
Template

Prep

- Storyboard template
- Sketch Personas for reference

Introducing the exercise

Ideal scenarios help us understand what the ideal customer experience looks like.

We'll be using character-driven storytelling to create the ideal future state narrative. This'll help to understand how people use the solution, and land on a vision for the solution.

Some key elements of a good story include:

- **Personality:** Use one of the sketch personas from the story, to show how this journey was borne out of a real customer experience.
- **Authenticity:** Ground your story in reality, make the setting relatable to the audience.
- **Emotion:** Play up the emotional elements of a story; the frustration, the joy, the interactions.



Learning Outcomes

- Storytelling
- Ability to visually demonstrate concept vision and building empathy in audience

Facilitation tips

- Encourage participants to highlight emotional elements of the story to build empathy in their audience.
- Make it simple, stupid! The story does not have to be complex, making things simple and clear will help deliver greater impact.

Ideal Storyboard: Room Setup



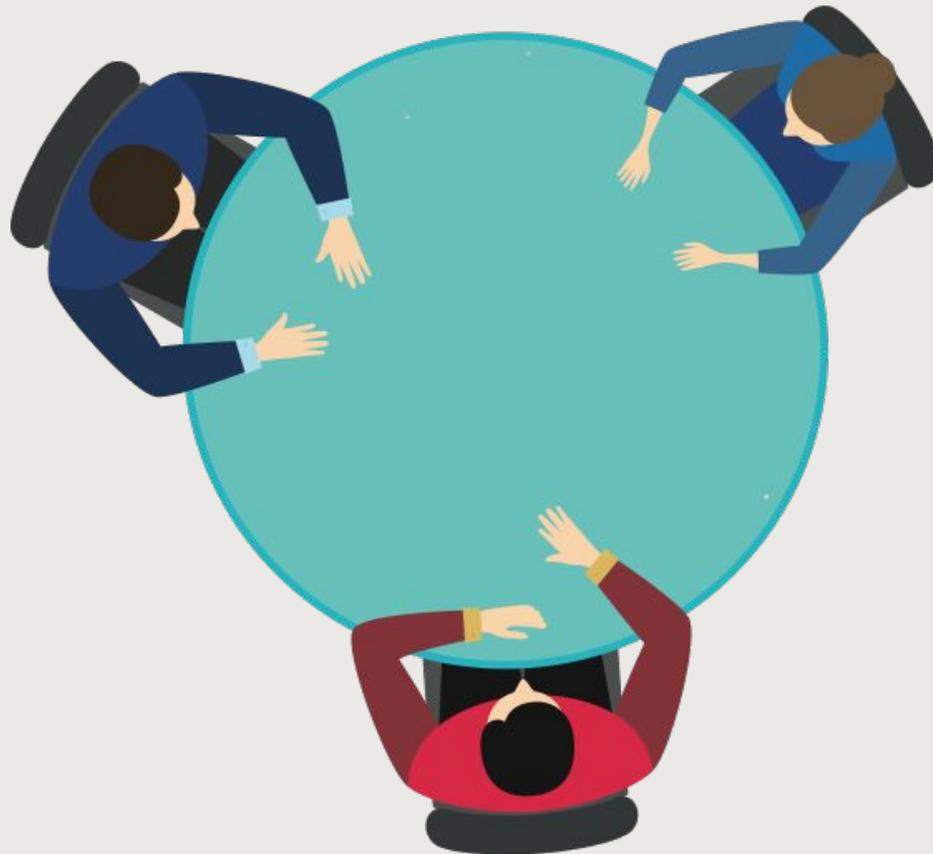
Assign teams to separate workstations.



2 - 4 people



Pens
Template



Ideal Storyboard: Activity Slide



20-40
mins



2 - 4 people



Pens
Template

Storyboarding is a powerful visual tool to describe the ideal future scenario for a product or service.

By illustrating the use of your concept or idea by telling a character driven, sequential story with words or pictures, you can effectively articulate how the proposed concept or idea solves their problems and why.

Your storyboard also illustrates the impact of your concept beyond just direct customer use, thus showing the alternative future state it could create.

Activity

Split into teams across concepts.

1. To start, identify the following elements for your story:
 - Character: Start by selecting a user persona to bring to life.
 - Scenario: What customer scenario do you want to set the scene?
 - Plot: What is going to happen to the user of the product or service? What are their goals?
 - Product/Concept use: How can you demonstrate how the product would be used?
 - Problem Solved: How will you show the concept improving the life of the customer?
2. Write and illustrate your ideal storyboard using the Storyboard Canvas.

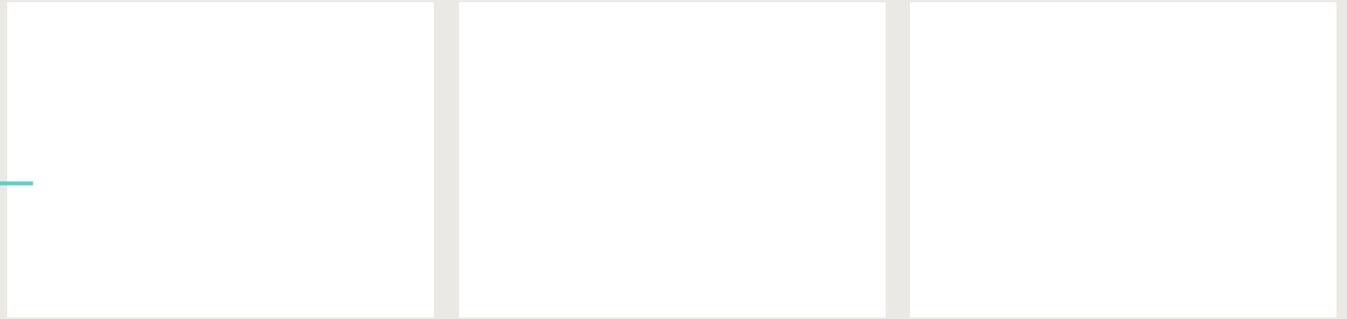


Pro Tips

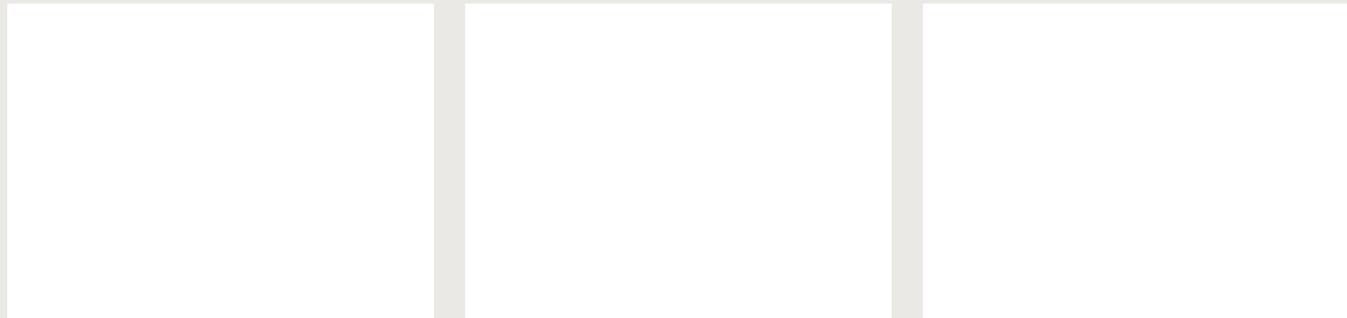
- Build empathy with the user; make sure to highlight the highs and lows of the experience.
- Make the story relatable and steeped in reality for greater impact.
- Strip your illustrations and explanations back to the essentials only; readers will be able to grasp it easier than a detailed explanation.

Ideal Storyboard: Worksheet

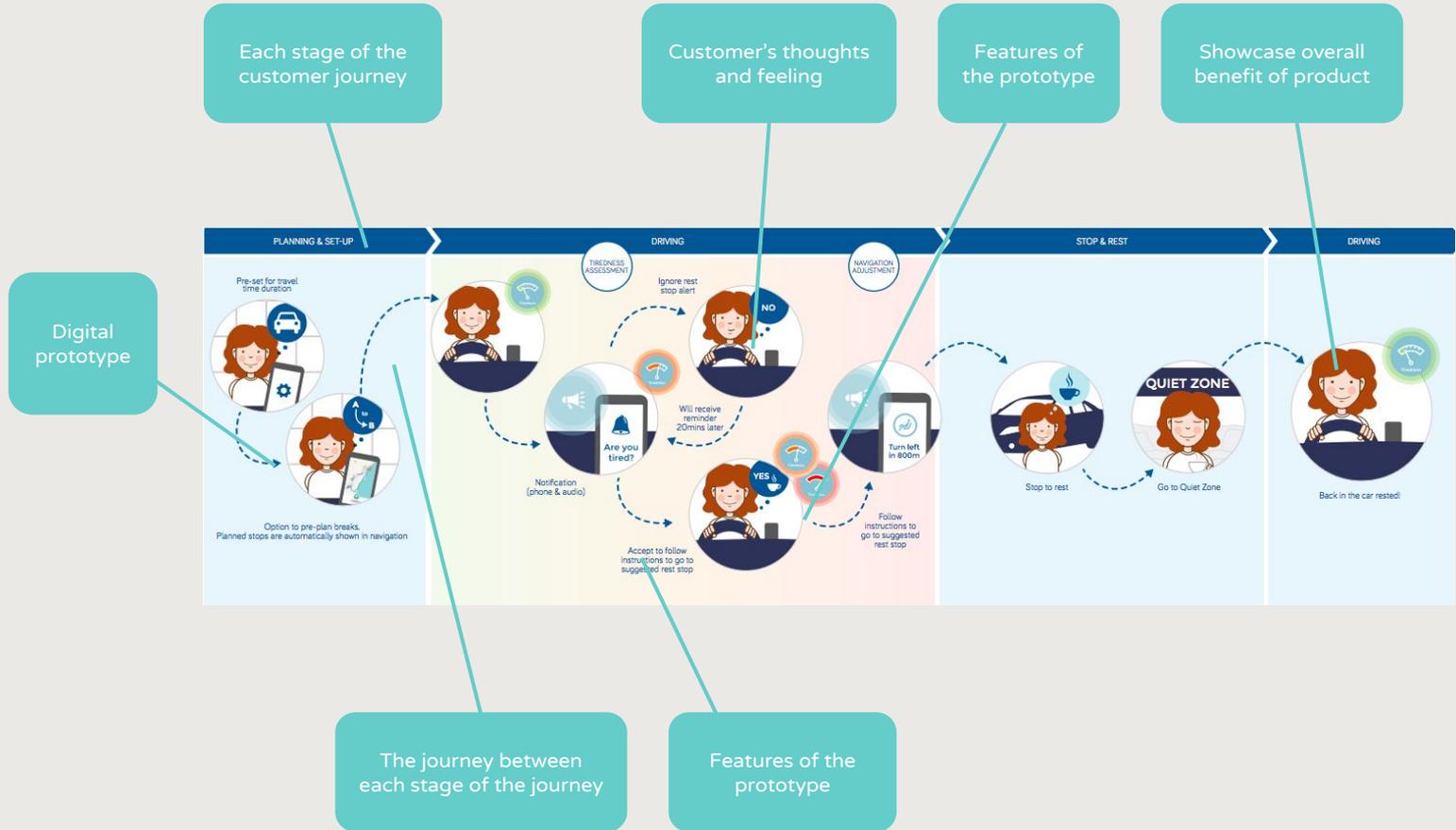
Illustration space



Story/narrative
space



Ideal Storyboard: Example



Page Flow Sketching

Page Flow Sketching: Facilitator's Guide



3 - 4 people



Coloured pens
Template

Prep

- Stimulus for the activity, including but not limited to: the problem space; customer jobs to be done

Introducing the exercise

To explore page flows from nothing (or even if there are existing workflows) we can use an activity to explore possible executions and collaboratively come up with the best page flows and interactions (that can lead directly into concept/prototype testing).

Sketches can be a series of screens, series of interactions, or variations of one screen or one interaction.



Learning Outcomes

- Time-boxed ideation
- Giving and receiving critique

Facilitation tips

- Arrange people into teams of 3-4. It means iterations run quicker. Equal sized teams also makes it easier to manage the time boxing.
- Be disciplined with the timeboxing, it is not a discussion.
- Pre-stack the teams with a mix of people from different backgrounds and disciplines.

Page Flow Sketching: Room Setup



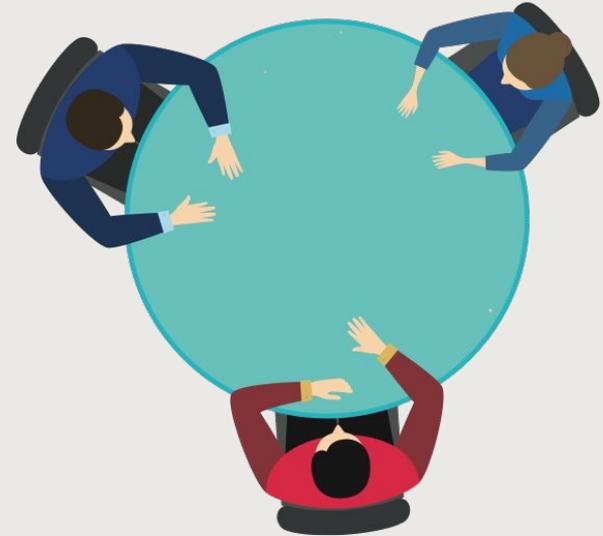
Assign teams to separate workstations.



3 - 4 people



Coloured pens
Template



Page Flow Sketching: Activity Slide



30-90
mins



3 - 4 people



Coloured pens
Template

This activity is a rapid way to explore flows and screens of a service or digital tool (website, app etc.).

In teams, consider a job that is part of the experience you want to ideate against (and produce screen flows).

Activity

In teams of 3 or 4 (aim to have the same number in each team):

1. Everyone individually (quietly) sketches 6-8 screens or steps on a worksheet (5 min).
2. Each team member has 1 min to pitch their sketches to the team, who are silent (1 min).
3. After 1 min, the sketcher is silent, and the team critiques the sketches. Use the green sharpie for good aspects, red for poor (2 min).
4. Repeat steps 2-3 until everyone has pitched and received critique.
5. Rinse and repeat (steal the best ideas) and continue to build until a solid workflow begins to emerge (this typically takes at least 3-4 rounds, or more).
6. (Optional) Take the final sketches, and reproduce them in more detail for testing.



Pro Tips

- Sketch using sharpies, not fine pens. The idea is to get down the core idea, not the detail.
- When critiquing leave your opinions to yourself, talk from the customers/jobs perspective.
- Use a mix of words and sketches.

Page Flow Sketching: Worksheet

The worksheet is a structured form for sketching page flows. It features a header section with the following fields:

- 8UP PROJECT:** Project Name (indicated by a callout box labeled "Project Name")
- AUTHOR:** Author Name (indicated by a callout box labeled "Author")
- page #** (indicated by a callout box labeled "Page Number")

The main body of the worksheet consists of a 2x4 grid of sketching areas. Each area contains a 10x10 grid for sketching and three horizontal lines below it for text. Callout boxes on the left identify these areas:

- Sketch space** (points to the top grid in the first column)
- Space for supporting text** (points to the lines below the top grid in the first column)

Page Flow Sketching: Example

Project Name

Author

Simple critiquing of circling in red, or ticks in green quickly show which aspects of the sketch work for the given jobs being explored

Page Number

Thick sharpies means only the important elements of the interface (or experience) are sketched

Just enough copy to support the sketch

Author

8UP PROJECT: **Maas** AUTHOR: **JASON CRANE** 1

Tiles to support suggestion ✓

Select travel ~~made options~~

Itinerary ✓

Take a photo to give feedback. ✓

Shifting elements and re-ordering ✗

Real-time chat notifications ✓

Service Model Prototyping

Service Model Prototyping: Facilitator's Guide



Prep

- Printed graphics or images of the service elements



3 - 5 people



Coloured pens
Post-its + Blu-tak
Craft materials

Introducing the exercise

This exercise is all about getting hands-on and building out your service.

You'll get a bunch of materials and you can use them in anyway you want to prototype your idea. Don't worry about making things perfect, this is about rough and ready experimentation.

Put yourself in the shoes of your customer and make sure you think about every touchpoint along the way!

Learning Outcomes

- How to prototype a service
- Isolating service elements / touchpoints

Facilitation tips

- Have the team articulate what is happening at each stage of the service and gain feedback from other participants. Ensure participants understand that it is important to gain constructive feedback.
- They don't need to be artists! Some participants may not consider themselves equipped to deal with this task, make sure to build their creative confidence.
- The purpose of this stage is experimentation - so encourage your participants to not be afraid of failure. If things aren't working, encourage them to see this as an opportunity to enhance their hypothetical service and iterate.

Service Model Prototyping: Room Setup



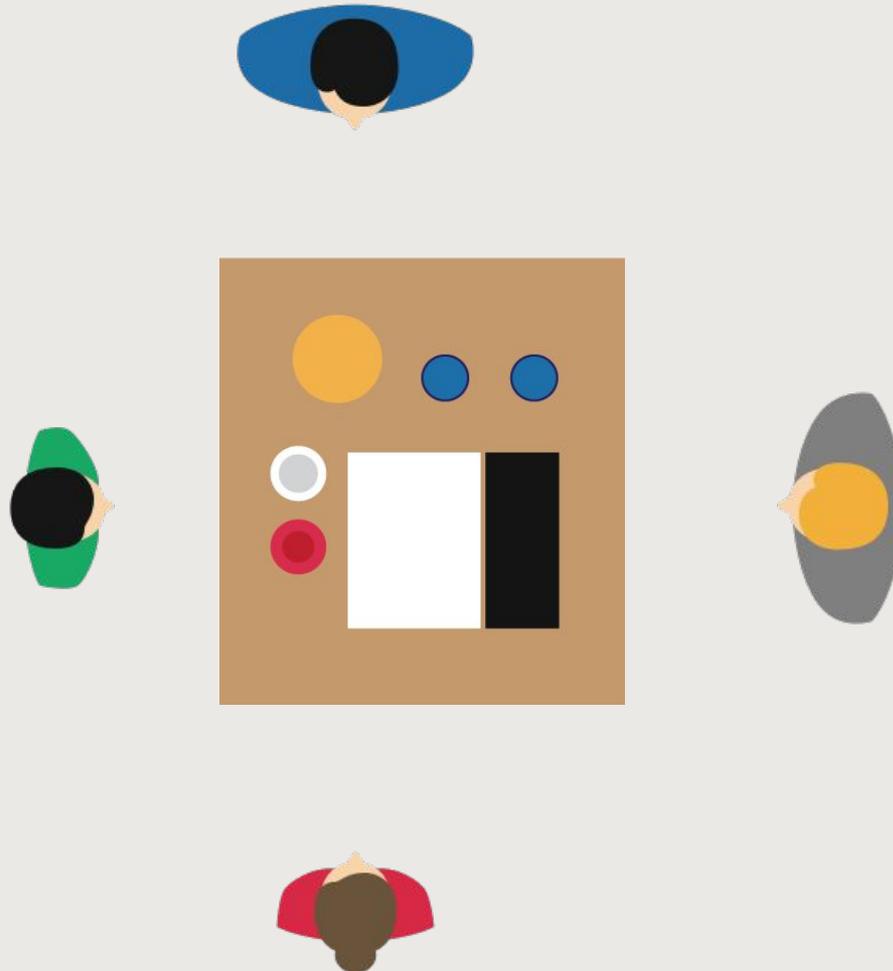
Create communal workspace where all participants have access.



3 - 5 people



Coloured pens
Post-its + Blu-tak
Craft materials



Service Model Prototyping: Activity Slide



Service Model Prototyping is a process used to visualise an idea and learn which elements need prioritisation or revision before larger scale development.

By building a visual / physical representation of your proposed service it is easier to gain constructive customer feedback on how the service will work and test your assumptions. Test your service by running through the key aspects of how a service would run.

Activity

Use as many creative utensils as is available.

1. Start by considering the customer journey through the service. Work sequentially through the journey and consider each of the following elements at every stage of the service model.
2. What are the physical elements that need to be represented i.e. train station, Opal machine etc.
3. What are the systems or processes that underpin this part of the service?
4. What people are interacting with the customer at each stage of the service i.e. customer service, external partners.
5. Have your team talk through what is happening through each stage of the service and gather feedback on where there are gaps or extra considerations.



3 - 5 people



Coloured pens
Post-its + Blu-tak
Craft materials



Pro Tips

- Just get started! You don't need to be an artist to make this exercise work for you!
- Don't be afraid of constructive feedback on your service - it will give opportunity to enhance your offering.

Service Model Prototyping: Example

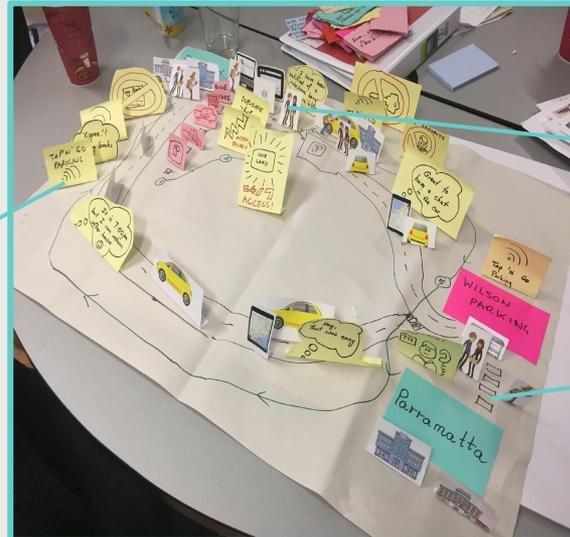
Systems/Processes



Physical
Elements

Digital
Prototype

Customer
Thoughts/Feelings



Stages of
Journey

Locations

Concept Testing

Concept Testing: Facilitator's Guide



45 - 60
mins



1-2 people +
Observation team



Prototypes or
illustrated concepts
+ transmission/recording
equipment

Prep

- Concepts prepared in a standardised format
- Testing facilities (Quiet room, recording tools)
- Introductory script/discussion guide

Introducing the exercise

It's easy to get caught up in the brilliance of our ideas, but it's the customers we're serving, so we need to see how they use (and don't use) them.

Testing is really about identifying where our idea fails – disproving rather than proving.

It's up to customers to use it the way they would and give open and honest feedback.

There are two types of testing, exploratory and concept:

Exploratory testing: Using testing as a way to understand your problem and customer better.

Concept testing: Finding opportunities for concept to be improved and iterated.



Learning Outcomes

- Interview & testing techniques
- Iterative product development

Facilitation tips

- Recruitment is a fine art. Find a trustworthy recruiter and put together a tight brief to ensure you get the most relevant customers. Add a few extra customers to account for drop-outs or duds.
- Write up a testing schedule with interviewer, interviewee and any relevant background details.
- Limit testing to one or two testers, one taking notes and another guiding tests.
- Set up an observation room where others can view or listen in via a conferencing app (e.g. [Google Meet](#)). They can take notes, discuss findings and send questions back through to the interviewer.

Concept Testing: Room Setup



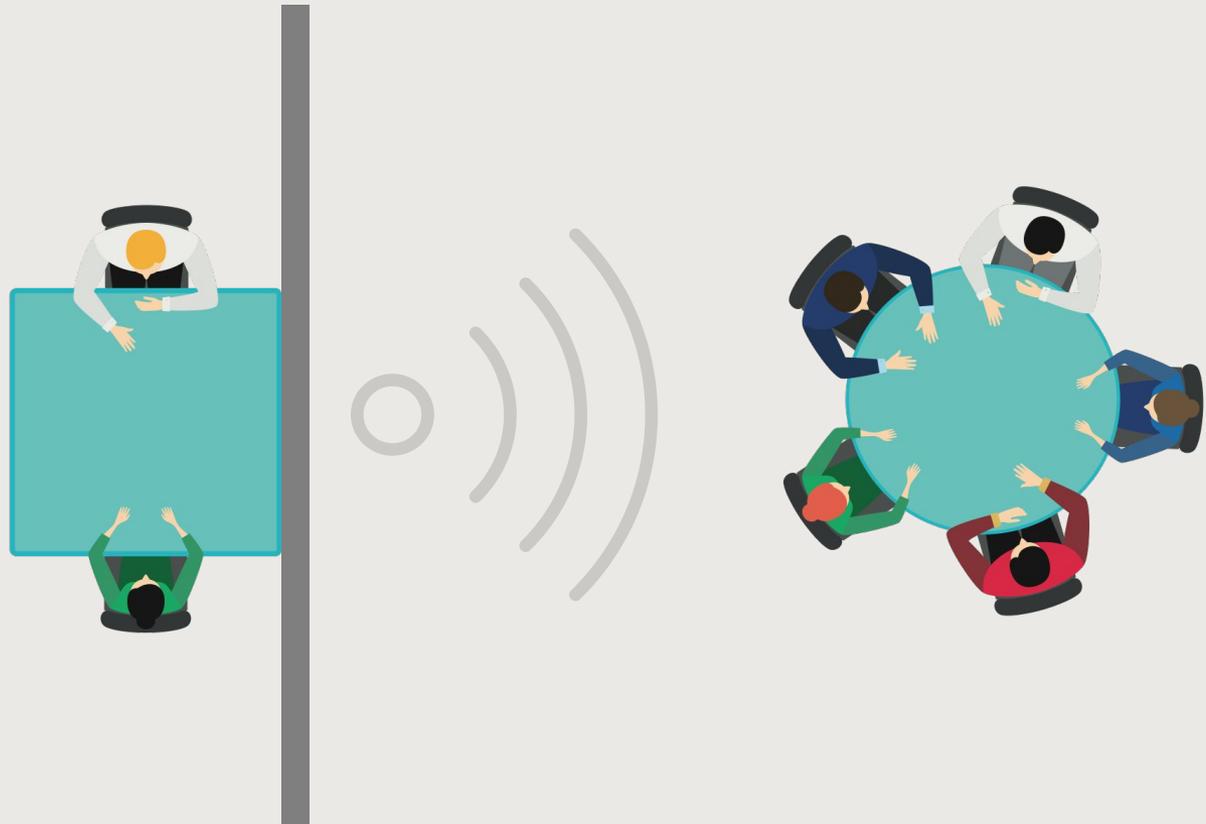
Setup interview in private, quiet space with discrete transmission equipment.
Create a separate group working space, well away from interview.



1-2 people +
Observation team



Prototypes or
illustrated concepts
+ transmission/recording
equipment



Concept Testing: Activity Slide



Testing concepts is a great way to validate problems, gain customer insights and find opportunities to improve your ideas.

All your concepts should have a hypothesis attached (e.g. here's what we expect to see/hear).

Activity

1. Welcome your customer and run through the introductory guide, ensuring they understand the context, expectations and timeline. Before starting, check if they have any questions and get the OK to record.
2. Use the discussion guide to run through each of your concepts.
3. At the end, ask them to rank the concepts from most to least appealing and interrogate why they chose each one over the others.
4. Thank the customer and finish the interview. Catch up with the team and discuss findings/insights as a group.
5. After all the interviews have been completed, regroup and fill out at least three Learning Cards, deciding on next steps/iterations.



1-2 people +
Observation team



Prototypes or
illustrated concepts
+ transmission/recording
equipment



Pro Tips

- Encourage customers to “think aloud”, and say what they’re thinking whilst they interpret or use your product.
- Look for what they get wrong (not what they get right).
- After the first 3-4 interviews, revisit your discussion guide and update to cover any gaps or areas of interest.
- See how you can reshape your assumptions about customers based on real use.

Concept Testing: Discussion Guide

Discussion Guide

Welcome (Introduce yourself, make customer feel comfortable):

Purpose of today (Explain the project purpose and what you're testing):

How it will work (Explain testing process):

Expectations of you (Explain how customer needs to feedback, what is and isn't helpful)

Any questions?

Do you mind if I record?

Background (Probe customer for contextual information & get customer talking):

Testing (Test concepts and probe for feedback/root causes):

Wrap-up (Thank customer, provide payment details and take headshot)

Concept Testing: Discussion Guide (Example)

Discussion Guide

Welcome...

- Introduce myself. I work for this company.

Purpose of today...

- We're working on a project for our client to understand travel habits better.
- I'll be showing you some very basic concepts for feedback.

How it will work ...

- We'll start with some background info
- Then I'll be getting your response to 6 concepts

Expectations of you...

- Need your honest feedback. Don't feel bad if you have something negative to say, that's more important than what's right.
- Keen to get your feedback in your own words

Any questions?

Do you mind if I record?

Background :

- Tell me a bit about you? Work/home/other
- Tell me about a day in the life.
- Tell me about your experience with the area we're covering today.
-

Testing:

- Introduce the concepts one by one and capture first-thoughts, feedback, potential usage scenarios and suggested builds.
- Use their real life as prompts/example scenarios
- Have customer force-rank concepts and explain why each one goes where it does

Wrap-up

- Thanks for coming
- Payment/incentive details
- Take photo & ensure waiver is signed

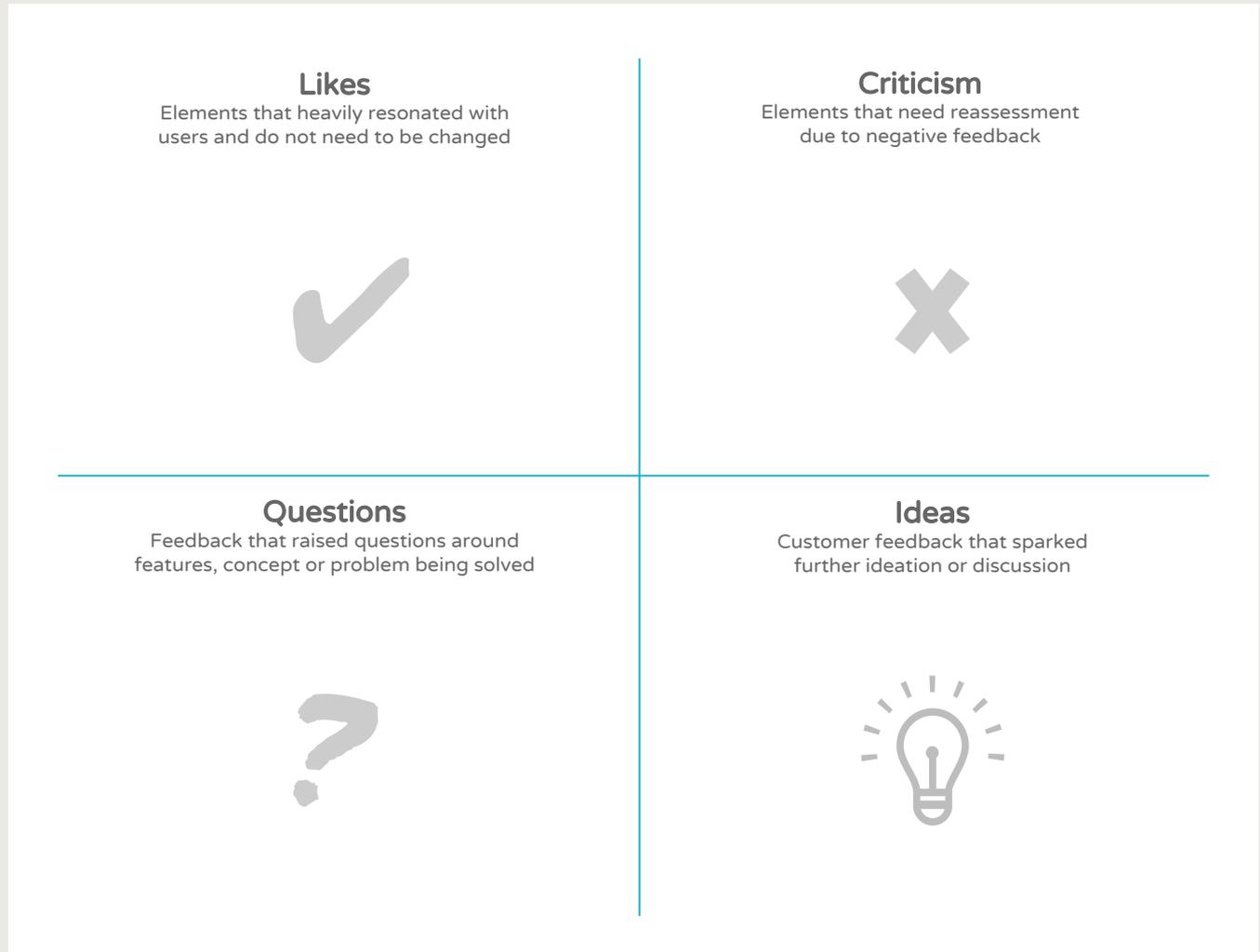
Concept Testing – Learning Card

LEARNING CARD		
DATE:	OWNER:	CARD NO.
<p>1. HYPOTHESIS</p> <p>We believed that...</p>		
<p>2. OBSERVATION</p> <p>We observed...</p> <p style="text-align: right;">DATA RELIABILITY: LOW / MED / HIGH</p>		
<p>3. LEARNINGS & INSIGHTS</p> <p>From that we learned...</p> <p style="text-align: right;">ACTION PRIORITY: LOW / MED / HIGH</p>		
<p>4. DECISIONS & ACTIONS</p> <p>Therefore we will...</p>		

Concept Testing – Learning Card (Example)

LEARNING CARD		
DATE: 14 Feb '18	OWNER: Gordon	CARD NO. 6
<p>1. HYPOTHESIS</p> <p>We believed that... <i>Customers would be 50% more likely to book a train ticket 1 week in advance if we offered them a 25% discount</i></p>		
<p>2. OBSERVATION</p> <p>We observed... <i>Customers are anxious about booking in advance without the possibility of a refund if they don't travel</i></p> <p>DATA RELIABILITY: LOW / MED / HIGH</p>		
<p>3. LEARNINGS & INSIGHTS</p> <p>From that we learned... <i>There is an expectation of fare flexibility for advance sales. We need to adapt our offering in order to meet these customer expectations</i></p> <p>ACTION PRIORITY: LOW / MED / HIGH</p>		
<p>4. DECISIONS & ACTIONS</p> <p>Therefore we will... <i>Prototype a range of fare flexibility options at a similar price-point and retest with customers</i></p>		

Concept Testing – Insight Matrix



Concept Testing – Insight Matrix (Example)

Likes

Elements that heavily resonated with users and do not need to be changed



Criticism

Elements that need reassessment due to negative feedback



Questions

Feedback that raised questions around features, concept or problem being solved



Ideas

Customer feedback that sparked further ideation or discussion



Concept Testing – Prioritisation Card

Testing Round:	Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6
Customer 1						
Customer 2						
Customer 3						
Customer 4						
AVERAGE						

NOTE: After each customer ranks the concepts, add their score to the prioritisation card. At the end of testing, add the scores for each concept to see the average scores. The average should not be used as a statistical result, but as a discussion for 'how did concept X help the customer make better progress than concept Y'

Concept Testing – Prioritisation Card

Testing Round:	Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6
#4	Hot Wheels	Bumps -away!	Lucid light	Unlock it	Global swap	Clamp-n-stamp
Customer 1	1	6	4	5	3	2
Customer 2	3	5	4	6	1	2
Customer 3	3	6	5	4	2	1
Customer 4	2	6	3	2	1	1
AVERAGE	9	23	16	17	7	6

NOTE: After each customer ranks the concepts, add their score to the prioritisation card. At the end of testing, add the scores for each concept to see the average scores. The average should not be used as a statistical result, but as a discussion for 'how did concept X help the customer make better progress than concept Y'

Icebreakers & Energisers

Icebreakers



Icebreakers are a great way to get the group relaxed and working together.

Use these at the start of projects or when forming into new teams to fast-track collaboration.

One-handed Paper Planes

Directions:

1. In teams of 5 or less, give participants 60 seconds to build a paper aeroplane with an A4 piece of paper using their left hand ONLY.
2. After 60 seconds is up, line up the teams and see whose plane flies the farthest.

Learnings:

- By working together, we can achieve things we couldn't on our own.
- Action produces faster results than discussions.

Getting To Know Who?

Directions:

1. Ask everyone to write down something no-one else in the room knows about them.
2. Have participants pull them out one at a time, read them out and try and guess who wrote it.

Learnings:

- There is more to other people than their job title or role.
- We all have hidden talents, it's up to us to discover each others.

Energisers



Energisers get the blood pumping and the minds firing.

Use these during long working sessions or after breaks when energy or enthusiasm starts to wane.

Go Bananas

Directions:

1. Get everyone to stand in a circle.
2. Starting with one person, and going around the room (clockwise, or anti-clockwise) each person asks the room 'Go Bananas?' with the entire room responding with 'Go Bananas!' at the same volume.
3. The first person whispers, and each person after that increases the volume, so by the time the entire room has completed, the room is screaming 'GO BANANAS!'

Human Postcards

Directions:

1. Split group into teams of 2-6. Have one team stand up the front whilst the others watch on.
2. Get someone watching to call out a destination. The team up front have five seconds to create a scene of a postcard from that destination. Give the team a few turns before swapping out for another one.

Tip: Encourage individuals to work together to create the scene: Don't have two trees, have one tree and a monkey hanging out of it!

Appendix

Problem Space – Prioritisation Card

Problem Space	Strategic Alignment	Customer Outcomes	Stakeholders Engaged	Confidence of Outcome	Effort Required	TfNSW Capability	Estimated Reach	Potential Impact
<i>A brief outline of the problem space you're addressing</i>	<i>Does your problem align with the Future Transport Technology Roadmap?</i>	<i>Does solving the problem have the potential to deliver improved customer outcomes?</i>	<i>Is there strong stakeholder engagement (including a Sponsor)?</i>	<i>Are you confident of reaching an outcome (incl. measures of success and risk assessment)?</i>	<i>Potential effort to obtain resources or funding for project.</i>	<i>How capable is TfNSW of executing project (Readiness / technical)?</i>	<i>How much of the network or customer base does the problem affect?</i>	<i>What is the potential impact of solving this problem?</i>
	Y/N	Y/N	Y/N	S/M/L	S/M/L	S/M/L	S/M/L	S/M/L
	Y/N	Y/N	Y/N	S/M/L	S/M/L	S/M/L	S/M/L	S/M/L
	Y/N	Y/N	Y/N	S/M/L	S/M/L	S/M/L	S/M/L	S/M/L
	Y/N	Y/N	Y/N	S/M/L	S/M/L	S/M/L	S/M/L	S/M/L



T-Shirt Sizing

T-shirt sizing is a simple way to gauge and understand the size of something without being too specific. The purpose of this S/M/L approach is a simple, glanceable way to be able to compare and contrast. To t-shirt size a problem or project consider, is it: (S)mall, (M)edium, or (L)arge?
Where possible, also include data, cost analysis and risk or capability scoring if available.

What do we know?

What do we think we know?

What do we want to know?

Who is the audience?

5 Whys



Original problem:

Why?

Why?

Why?

Why? :

Root cause:

Customer Journey Map

USER NAME	STAGE 1	STAGE 2	STAGE 3	STAGE 4
THINKING				
FEELING				
DOING				

Problem Statement

How might we _____

In order to _____

For _____

Idea Canvas

Idea:



Blockers/drivers addressed:

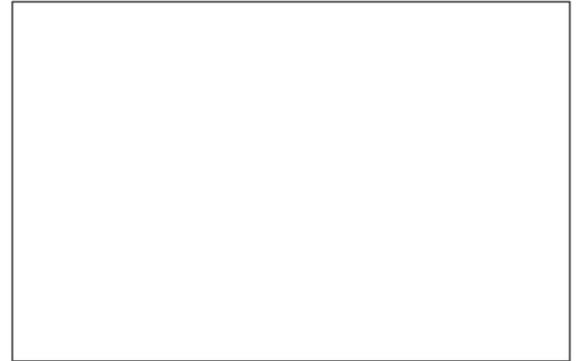
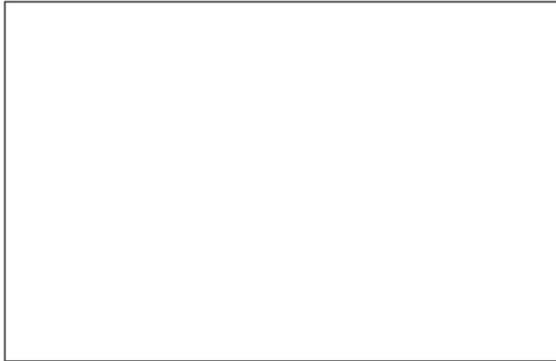
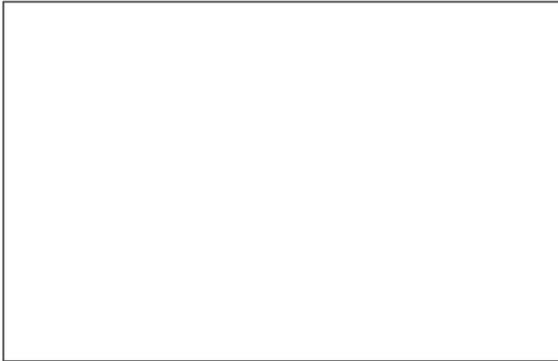
How it impacts customer:

Sketch persona

Persona Name	
Sketch	Behaviours
	Needs/Goals
	Pain Points
Demographics	

Ideal Storyboard



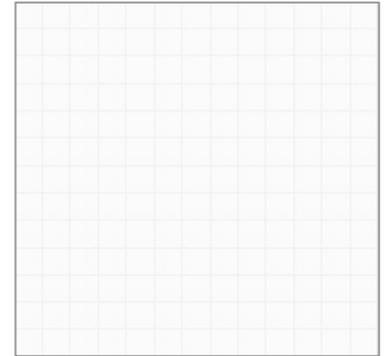
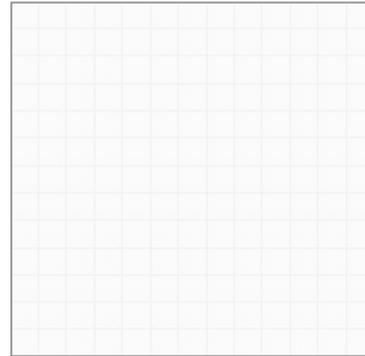
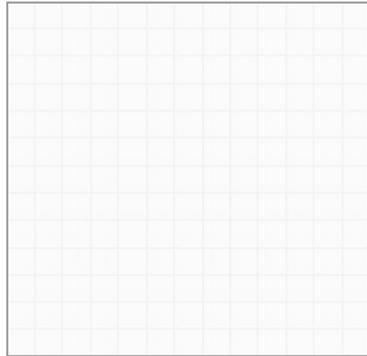


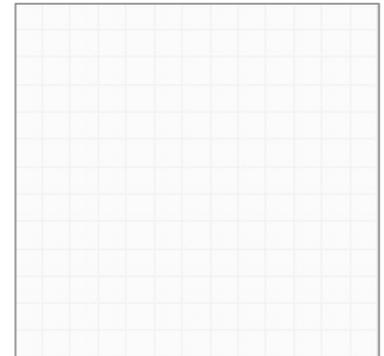
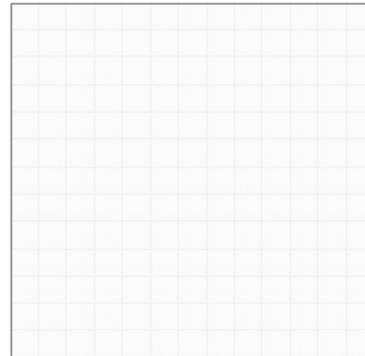
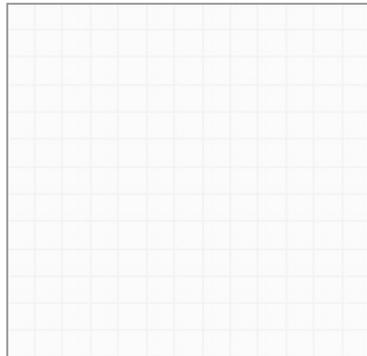
Pageflow Sketching

Project:

Author:

Pg. __





Learning Card

DATE:	OWNER:	CARD NO.
1. HYPOTHESIS <i>We believed that...</i>		
2. OBSERVATION <i>We observed...</i>		
DATA RELIABILITY: LOW / MED / HIGH		
3. LEARNINGS & INSIGHTS <i>From that we learned...</i>		
ACTION PRIORITY: LOW / MED / HIGH		
4. DECISIONS & ACTIONS <i>Therefore we will...</i>		

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Likes

Elements that heavily resonated with users and do not need to be changed



Criticism

Elements that need reassessment due to negative feedback



Questions

Feedback that raised questions around features, concept or problem being solved



Ideas

Customer feedback that sparked further ideation or discussion



Prioritisation Card

Testing Round:	Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6
Customer 1						
Customer 2						
Customer 3						
Customer 4						
AVERAGE						

Acknowledgements

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- Symplicit

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- Gamestorming (Dave Gray)
- IDEO

Transport Toolkit