Workbook
The DataLab Innovation Week 2020

Team #14 [NAME]

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Coaching Circle #6

David Caygill

Important: Data Code of conduct

All the data we link you to will be Open Data; this is generally available, without charge, for download, reproduction and analysis but there can be restrictions so it's worth checking specific datasets.

If you download additional data from other sources, check the licence is suitable for the use you are putting it to.

Do not use personal datasets unless you know where they came from and have permission from (or are) the data owner!

Keep a record of your data sources. You can use a text file or a spreadsheet for this, but you should be able to source any data you use for this project.

Individuals should not be identifiable in anything seen by users (including by anyone external to your team and to the coaches of this event).

If you are linking to datasets live, use good practice to manage access including encryption of access credentials. Do not share personal passwords, even with your team.

https://drive.google.com/file/d/14qmCTuA3S2Cabxscq2l1APqthKdTMACG/view?usp=sharing

Questions about data? Ask your Data Coach through slack #dataquestions

Workbook

design thinkers academy
London

deal in ideas

THE
DATA LAB
value from data

Hello

This is your team workbook.

It'll guide you through the days, with instructions for each **coached activity** *and some* **logbook slides** *for you to capture the learnings and outcomes of each day.*

By the end of the programme, your team's journey will be captured in this workbook.

Note: *Some activities are filled out in this workbook in* **Google slides** *and others on* **Mural***, as indicated by these icons:* (G) (M)

The challenge

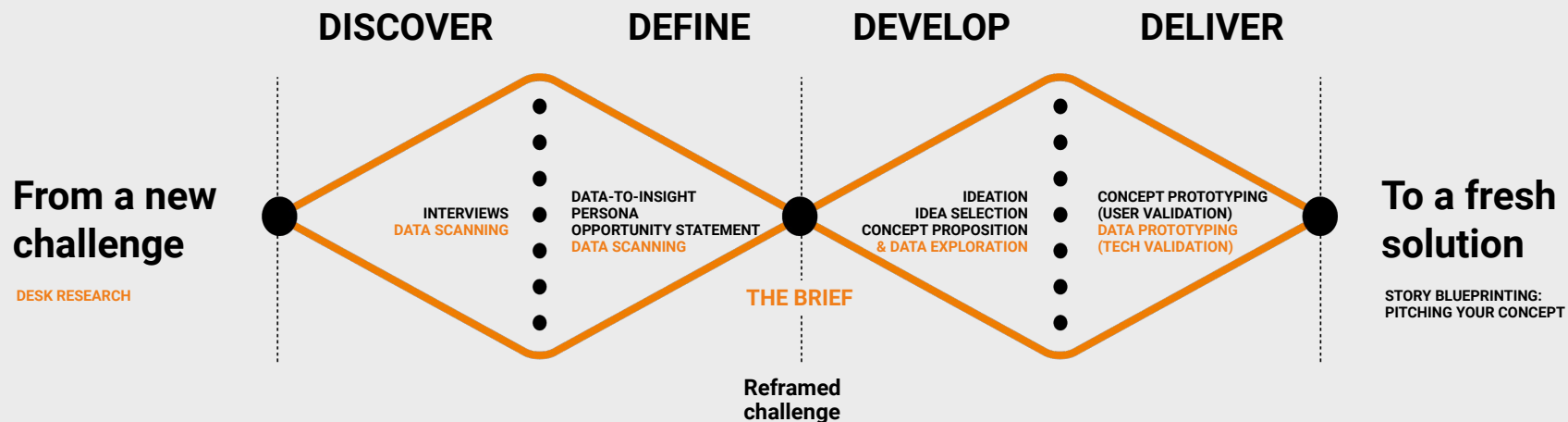How might Glasgow's businesses take action to create a world leading circular city?

You may revisit the challenge setting slides here:

https://drive.google.com/file/d/1J82TxqH7cS--Cn1TdJWOEn1s8fOHaWyw/view?usp=sharing

Schedule

KICK-OFF Wed, 27 May	DAY 1: DISCOVER Mon, 1 June	DAY 2: DEFINE Tue, 2 June	DAY 3: DEVELOP Wed, 3 June	DAY 4: DELIVER Thu, 4 June	DAY 5: DELIVER Fri, 5 June	CLOSE Wed, 10 June
Set-up for the week	Empathise with your users	Reframe the challenge	Develop a concept	Validate your concept with users	Pitch your concept	Winners, prizes & wrap-up

START 9:00 am BST

Webinar*: 1 hr Kick-off: introduction to human-centred data science, challenge setup	**Webinar: 1 hr** Masterclass delivered by expert coaches. Sharing theoretical background for the activities of the day.

BREAK 10:00 am – 10:15 am BST

Coaching Circles: 1.5 hrs
Each coaching circle has 3 teams and one coach.
Teams put learnings from masterclass into practice under guidance of the coaches.

12:30 BST start

LUNCH
12:00 noon – 1:00 pm BST

Webinar*: 1 hr

Close: Winners & prizes, Wrap-up

Self-directed Work: 2hrs
Teams put learnings from masterclass into practice independently.

Optional Office Hours: 45 min, from 3 pm to 3:45pm
Teams can check-in with their coaching circle to get feedback or support on the work being developed.

Coaching Circles:
Reflections & Wrap-up

END 4:00 pm BST

Key   ● Webinar   ● Coaching Circles & Office hours   ● Self-directed work

Week overview

DISCOVER   DEFINE   DEVELOP   DELIVER

From a new challenge

INTERVIEWS
DATA SCANNING

**DATA-TO-INSIGHT
PERSONA
OPPORTUNITY STATEMENT**
DATA SCANNING

**IDEATION
IDEA SELECTION
CONCEPT PROPOSITION
& DATA EXPLORATION**

**CONCEPT PROTOTYPING
(USER VALIDATION)**
DATA PROTOTYPING
(TECH VALIDATION)

To a fresh solution

DESK RESEARCH

THE BRIEF

STORY BLUEPRINTING:
PITCHING YOUR CONCEPT
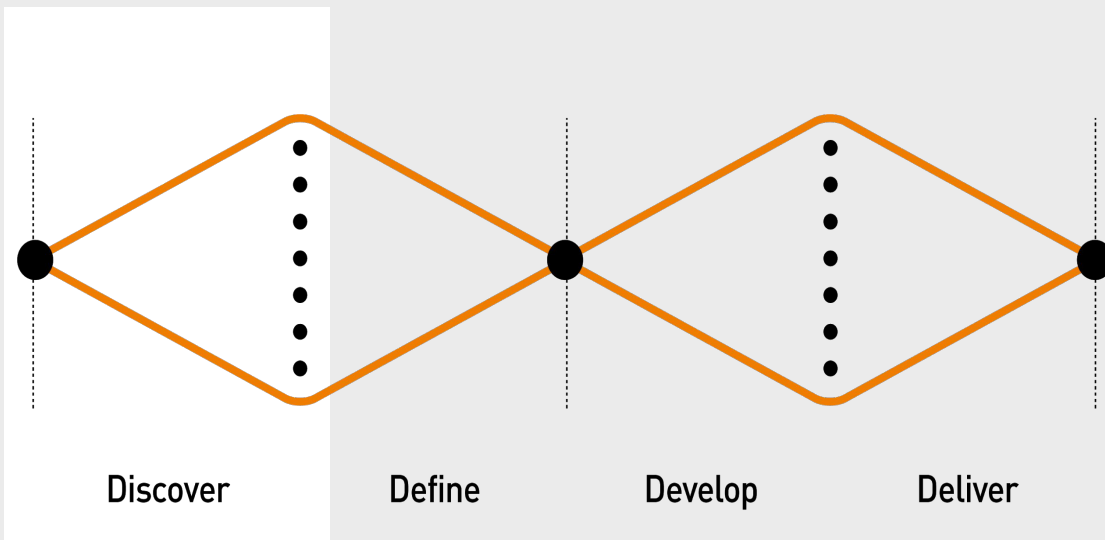
Reframed challenge

Welcome

Day 1

Empathise with your users

Today you'll be doing user research to understand different stakeholders. By the end of today you'll have gathered a lot of qualitative data around the challenge topic.

Discover   Define   Develop   Deliver

Method: Interviews

Google slides
activity

What
Interviews are a quick, easy and effective way to build empathy with stakeholders, understand their needs and wishes.

Why
Making assumptions, delegating, or ignoring such a vital step risks pushing the wrong solution.

Interview tips
- Prepare a conversation guide
- Ask open-ended questions
- Ask why often
- Assign roles: interviewer, notetaker, observer
- Go for quality (not quantity)
- Seek variety of perspectives

How
See detailed instructions in the templates on next 2 pages.

Method: Expert Interviews *template*

Google slides
activity

STEP A: Draft an interview guide

What kind of information are you looking for? Build on the template below and try to think of 2 or 3 extra questions.

1 **Introduction & build rapport**

- Introduce yourself: "Hello my name is…"
- State your purpose: "The purpose of this interview is…"

2 **Identify a few specific topic areas to cover**

- "What's the best example you've seen of…"
- "What are the key challenges in…"

- Circular economy:
What is sustainable thinking?
What are the drivers/barriers for sustainable thinking?
- Previous experience
Could you provide your favourite experience regarding the circular economy projects you have worked on?

3 **Dig deeper**

- "How does this work?"
- "How does this affect…?"

- Data
What data did you find most useful when you were formulating ideas/what data was most convincing for business to adopt a circular economy way of thinking and how did you use it?
- Glasgow/city
What are your thoughts of Glasgow as a circular economy? What do you think Glasgow could do to become a circular city?

4 **Conclude**

- "Are there any references you would recommend?"
- "Is there anything else I should be aware on this topic?"
- Thank participant and wrap up

Method: User Interviews *template*

STEP A: Draft an interview guide

What kind of information are you looking for? Build on the template below and define your questions.

1 Introduction & build rapport

- Introduce yourself: "Hello my name is…"
- State your purpose: "The purpose of this interview is…"

2 Evoke emotions

- "Tell me about your best experience with…"
- "Tell me about your worst experience with…"

- Do you support the idea of a circular economy?
- If you have any, could you please tell us your favourite story or experience relating to a circular economy? (for example: a purchase you made, a brand campaign you admired, or something which made you think twice) How did it make you feel? What was good or bad about it?

3 Dig deeper

- "Walk me through how you…"
- "How did you feel when…happened?"
- "Why is that important to you?"

- As an individual or household, how are you engaged in a circular economy? Please briefly describe, providing examples if any.
- What do you think your city could do to better support a circular economy?
- What do you think your organisation could do to better support a circular economy?

4 Conclude

Thank participant and wrap up

Amendment to User Interviews

Because of time constraints, in order to reach several perspectives we changed the user interview to a user survey of 10 questions, sharing the survey with our online networks (Facebook, Instagram, LinkedIn) and approached a few contacts personally with the general structure below:

1. Do you support the idea of a circular economy + why?
2. How do you engage in a circular economy + what more would you do, as
   a. an individual
   b. an organisation
   c. a city
3. Their favourite circular economy story
4. A brief profile of the respondent

The survey and its results are available here

Method: User & Expert Interviews

STEP B: Run user/expert interviews

- Using your expert interview discussion guide, nominate one person from your team to pair up with a member of each other team in your coaching circle, and run a joint expert interviews during your team's self-directed time. The expert interviews are scheduled – ask your coach for more details.

- Using your user interview discussion guide, split your team in pairs/trios and run user interviews during your team's self-directed time.

- In your pairs/trios, define interview roles (interviewer and note-taker).

- As a team, aim at a total of 10-12 interviews that represent a variety of perspectives on this topic.

Discover (Expert)

empathise with your users

Name of the Expert

Allan Sandilands

Summary of expert profile

- Specialised in circular economy and resource efficiency business engagement within the construction, public and third sectors
- Circular Economy consultant at Resource Future for the last four years.
- Worked on ZeroWaste Scotland project
- Developed carbon and reduction, waste reduction and sustainability enhancement programmes, both as a public sector client and as a consultant

Capture 3–5 interesting quotes

"*A circular city is not only made of businesses that do circular things. It's its culture, infrastructure, products that follow circularity, procurement that incentivises to work in a circular way.*"

"*Barriers for sustainable thinking: cost and culture*"

"*Sectors where user linkage is difficult - for example construction - the end user is not the person who paid for that building.*"

"*At the end of the day is to get profit in the most sustainable way as possible*"

"*People like to do the right thing. People do not like to see waste. It is difficult thing to sell because if it does not make financial sense then will it become financially viable in the future? It's more like a journey of becoming circular.*"

"*The biggest thing is market research and quality data on their market.*"

Discover (Users)

empathise with your users

What was your sample size?
(number of interviews)

17 (survey responses by day 2)

Summary of key profiles covered

Geography: Greece, Romania, Latvia, UK, Netherlands, Scotland

Age range: 25-35 years old mostly

Occupations: in work

Capture 3–5 interesting quotes

"Having the option to buy products that make up a circular ecconomy would be a start, often these are significantly more expensive."

"If it was easier, we would look to do it, but we have no incentive or motivation to."

"I would like to be able as a consumer to support products that are more eco friendly in the process of making. But these products are much more expensive, and I can't afford them, due to my low income. "

"Yes, I would like to do more, but I do not feel as aware as I should be on the ways I can contribute, so sometimes I feel like it would be easy to have someone [tell me] what to do to reduce my carbon footprint.

List other sources of data used
(e.g. secondary research)

Glasgow's waste strategy: https://www.glasgow.gov.uk/CHttpHandler.ashx?id=31837&p=0

Glasgow recycling map: https://glasgowgis.maps.arcgis.com/apps/webappviewer/index.html?id=345f389a91ff4f1fa193b24df832fb05

Circular Glasgow's website

Scotland and the Circular Economy Report:
https://www.zerowastescotland.org.uk/sites/default/files/Scotland%20and%20the%20Circular%20Economy%20%28a%20report%20for%20the%20Scottish%20Government%29.pdf

Video diaries *#innovationcommunity*

As part of your Design Thinking journey, we would also like each team to record their progress throughout the week, enabling us to bring this exciting collaboration of 150 students closer and to record the stories of the various projects. This journaling will also be used to form a video that will be made, documenting the Hackathon for a wider audience, including prospective students.

Please record a video answering three questions. The video should be max 20 seconds and shared on this **Slack channel:** *#innovationcommunity*.

> 1. What is your name and your current academic status?
> 2. Where are you taking part in the Hackathon from? This could include showing the view outside your window.
> 3. Your initial reactions to the Day One and The Hackathon.

Try to keep the video natural and conversational in tone, for example: Hi, I'm xxx and I'm a xxx student at xxx. I'm joining this project from my home in xxx. It's xxx to be part of this Hackathon, so far xxx.

Questions? *Check our media guidelines here: https://drive.google.com/file/d/19wvlJpLcj5dA0eBhr4cWOUAMKQ3gG5hT/view*
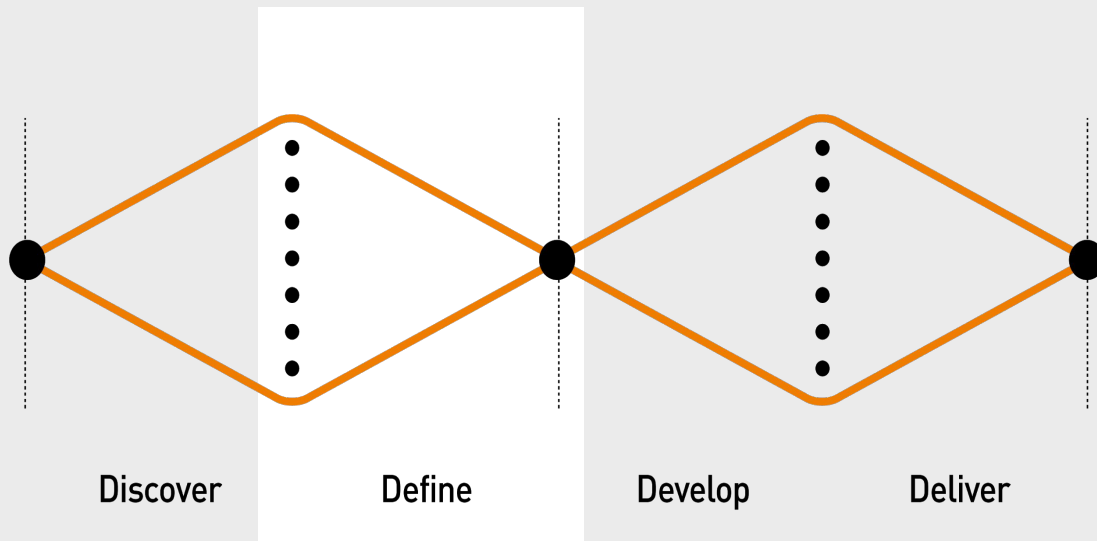
Day 2

Reframe the challenge

Today you'll be synthesizing and making sense of your research findings.

By the end of the day you'll have reframed and narrowed down your challenge's scope.

Discover   Define   Develop   Deliver

Method: Data to insight

Mural
activity

What
Data-to-Insight helps us synthesise unordered qualitative data into well defined insights.

Why
Identifying where the patterns are and where the meaning lies in a wealth of user research allows us to take action on our discoveries.

Interview tips
- Step 1: Data download
- Step 2: Data clustering
- Step 3: Theme naming

Note
See detailed instructions in your Mural Template.

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Method: Persona

Mural *activity*

What
Personas are fictional characters that we create based upon research, in order to represent the distinct user groups discovered. Each user group will be documented through filling in one persona template.

Why
Personas are important to communicate and align the team on the research findings. They help us understand and keep real user needs central to our project. Later on, we can also enrich the key personas with more information as we learn more about our users through testing.

How
Step 1:
Capture behaviours, beliefs and motivations that this user group shares around the topic. This information helps you identify and understand this user group.

Step 2:
Make the persona feel real and memorable by giving it a name, a face, and a quote that summarises their mindset and attitude towards the topic.

Note
See detailed instructions in your Mural Template.

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Method: Opportunity statement

Mural *activity*

What
A clear and focused challenge brief around which you will later develop solutions. It is entirely based on the insights and persona(s) that synthesise your research evidence.

Why
Before beginning to generate ideas, it is important to align everyone on the purpose of the project (what problem to solve and why is it relevant).

How
Step 1:
Looking back into the insights and persona(s) discovered, each team member drafts an opportunity statement.

Step 2:
The team reviews together all proposed statements, and collaboratively crafts a final one. This will be your new design brief, which you'll use tomorrow for ideation.

Note: See detailed instructions in your Mural Template.

Tips
Test out your final opportunity statement by checking it against the initial challenge brief (is it aligned with the original brief?), and against the insights and persona(s) from research (is it supported by your research evidence?).

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Define 1/2

reframe the challenge

What were your 3 top insights?

(Method: Data-to-insight)

> **Information need**
> *"Informative and engaging campaigns about waste sorting."*
> *"There's none that I can trust and think they're efficiently using the money. (organisations)"*
> **Motivation**
> *"If it was easier, we would look to do it, but we have no incentive or motivation to."*
> *"Would like to be more active in the economy.For instance by buying reusable stuff like second hand clothes."*
> **Recycle**
> *"Would like to exchange things instead of donating."*
> *"Make a point of reusing in their own households.*
> *"To have more areas for recycling.Different recycling bins in the most of the city streets."*

What is your reframed challenge question?

(Method: Opportunity Statement)

Given that being **environmentally proactive feels too expensive**

how might we help **Samantha the Student**

to **learn more and take action towards reusing, exchanging things within her community and recycle correctly.**

so they can **live a lower impact life without spending more**

Innovation week 2020

Define 2/2

reframe the challenge

**Who is your
target audience?**

(Method: Persona)

Video diaries *#innovationcommunity*

Remember to continue with your video diaries, sharing stores on #innovationcommunity.

This should be very light-touch, giving an overview of how it's going, but not including any details about your project, as we don't want to give anything away to other teams!

These videos could be organised involving different members of your team recording the progress on different days. It's up to you and your team!

These videos should give an understanding of:

> 1. How the day went; what were the pain points and what were the successes as a team?
> 2. How is your project developing?
> 3. Any insights or key learnings from your personal experience using the Design Thinking methods so far?

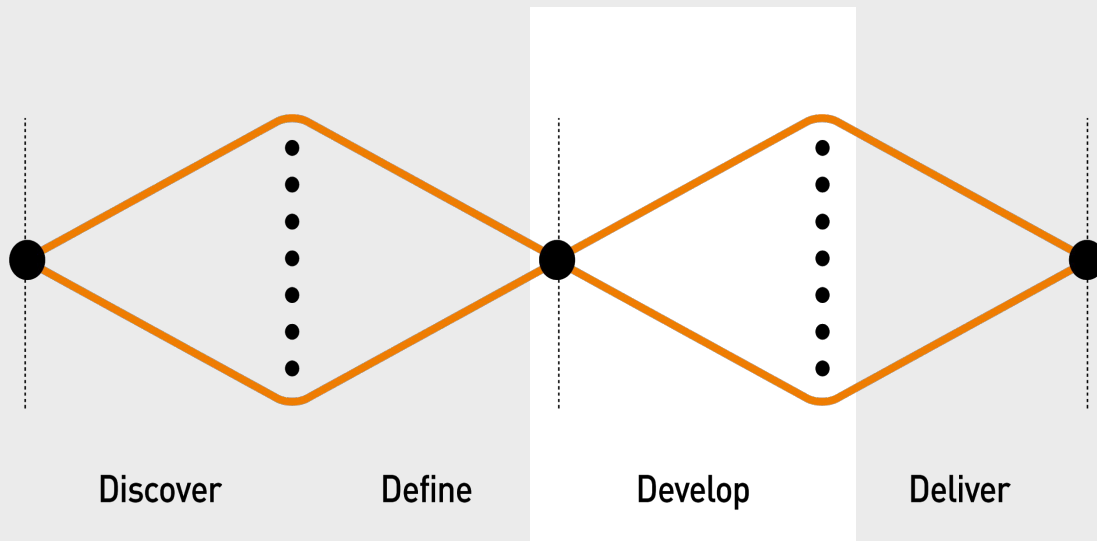# Day **3**

Develop

Develop a concept

Today you'll be creating a concept to solve the challenge.

By the end of the day you'll have a well defined concept, and done some early feasibility check.

Discover   Define   Develop   Deliver

Method: Ideation

Mural *activity*

What

Once you have a clear reframed brief (Opportunity Statement), it is time for your team to diverge and generate multiple ideas (create choices) before converging to one final concept (making choices). Ideation is a session for idea generation, where participants gather with open minds to produce as many ideas as they can to address an opportunity statement in a judgement-free environment.

Why

There is rarely one solution to a problem. Through ideation, we explore multiple paths to later select the best one.

How

5 Tips
- Defer Judgement
- Encourage wild ideas
- Go for quantity
- Silent & Solo
- Build on each other's ideas
- Stay focused on the topic

Ideation Techniques
- Round Robin: build on each other's ideas
- Crazy 8's: generate 8 new ideas from 1
- What would 'X' do?: take others' perspectives
- Make it Worse: think what could make the situation even worse helps focus on root causes and sparks new ideas

Note *See detailed instructions in your Mural Template.*

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Method: Idea prioritisation & selection

Mural *activity*

What

Once you've generated multiple ideas (created choices) it is now time to converge to one concept (make choices). Compare, prioritise and map concepts considering their desirability, feasibility, and viability.

Why

This method allows your team to align and decide together on the most promising concept.

How

Step 1:
Review and cluster ideas as a team

Step 2:
Select your 2–3 personal favourite ideas

Step 4:
Map ideas horizontally considering their relative impact
(its desirability: importance / value of solution for the user and sponsor)

Step 5:
Map ideas vertically considering their relative difficulty
(its feasibility and viability: time and complexity to build and implement it)

Note *See detailed instructions in your Mural Template.*

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Method: Concept Proposition

Mural
activity

What

A concept proposition details your concept and encourages you to get into the details of your concept.

Why

This method helps your team align and define further how your concept will work in the real world by considering its key aspects.

Tips

- Create something simple, just enough to convey a concept (e.g. a sketch or storyboard)
- Don't overthink - the quicker you create your concept, the quicker you can get feedback

Note *See detailed instructions for building a storyboard in your* ***Concept Proposition*** *Mural Template*.

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Develop

Develop a concept

Who is your key user group?
(Method: Persona's – key behaviours)

Samantha the Student (low income, but have a lot of time).

How does your concept work?

A) Desirability: Describe how will your concept solve the challenge from both the user and the sponsor's perspective.

User: Incentivise the user to actively recycle (as opposed to throwing away) becoming a patron of a local business engaged in the circular economy. It allows the user to feel they are doing more.

Sponsor: Reintroduces waste from the end consumer back into the supply chain, support local CE companies, create new recycling users.

B) Feasibility: Describe how would you build it from the technological perspective.

likely a mobile app, as the user would need be able to collect and spend points at physical while on the move

C) Viability: Describe how would it work from a business perspective.

??? no idea…. this is the current centre of debate.

Note: Now that you have a starting concept, go through the datasets and do a quick feasibility check:

- *How will you build it?*
- *Is required data available?*
- *If not, moving forward, focus on how to start capturing required data now, so that we can build it in the future.*

Video diaries *#innovationcommunity*

Day **3**

develop

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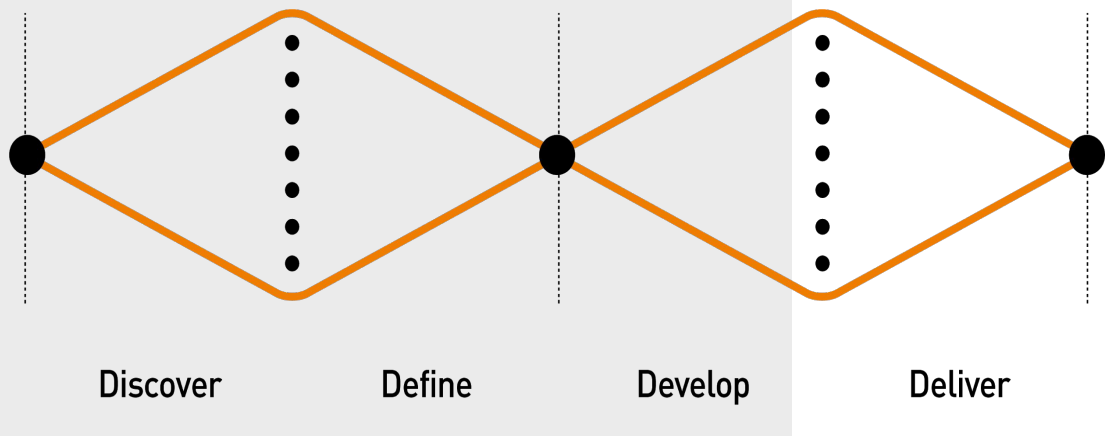
Day **4**

Deliver

Validate your concept with users

Today you'll be developing and testing your concept.

By the end of the day you'll have prototyped your concept and done some early user validation. In parallel, you'll also have continued building your data prototype for technical validation.

Discover   Define   Develop   Deliver

Method: Prototyping

What
A prototype is a manifestation of an idea (or part of it) that you can interact with and test.

Why
A prototype allows other people to experience and react to an idea. It allows you to gather evidence on validation of key aspects of a concept.

This enables you to iterate and refine the concept, before you put too much time and effort into developing something that won't produce the expected results.

Tips to prototype
- Build it cheap & quickly: don't waste time and keep it easy to change
- Start rough: start lo-fi and move progressively to hi-fi as you validate your concept's most critical aspects
- Keep it focused: test one aspect of your concept at a time
- Show, don't tell: make your prototype experiential and see how people interact with it
- Test and seek feedback often
- Iterate, iterate, iterate

How: Choose an approach (storyboard, cognitive walkthrough, role play, paper mockups, clickable wireframe, etc).

*Note: see detailed instructions for Testing using Cognitive Walkthrough on your **Concept Proposition Mural** Template (step 3).*

*Note: see detailed instructions for designing more Tests and capturing Learnings on **Test Card & Learning Card Workbook** Templates (on next 2 pages).*

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Template: test card (data) 1st

Use 1 test card per test. Copy and paste this slide to add more tes

Household recycling rates - what is the current rate, how can the incentive program increase the rate, what is the desired rate? What is the current level of detail and how might the incentive program improve the quality of that data?

1 **Hypothesis**

What are your concept's critical aspects?
State your most critical assumptions, the ones that would make the concept fail if they aren't proven right. Fill in one test card per critical assumption and run tests starting from most, to least critical assumptions.

We believe that…household recycling rates are increasing and people recycle and reuse. Our initiative can drive the increase the recycling rates.

2 **Test**

How will you verify if this hypothesis is true?
Define a low-cost test that doesn't require a lot of effort.

To verify that, we will… check the available data in Glasgow and compare it to other Scottish areas.

3 **Pass/fail criteria**

What test outcomes will you be looking for?
What result will show evidence that your hypothesis was correct (validate it)? And what will show evidence that your hypothesis was wrong (invalidate it)?

We are right if… recycling rates are on the rise and people recycle things, and if the situation in Glasgow can be improved.

And wrong if… Glasgow is already recycling/reusing most of the household waste and do not need such a solution, and the recycling rates are relatively stable, and already reached a peak.

Template: test card (Concept: Participation)

Use 1 test card per test. Copy and paste this slide to add more tests.

1 **Hypothesis**   **What are your concept's critical aspects?**
State your most critical assumptions, the ones that would make the concept fail if they aren't proven right. Fill in one test card per critical assumption and run tests starting from most, to least critical assumptions.

> We assume the average Samantha will want to participate and be rewarded for recycling. We assume she would like points she can redeem at her favourite participating business.

2 **Test**   **How will you verify if this hypothesis is true?**
Define a low-cost test that doesn't require a lot of effort.

> Ask in increments, would the user participate if
> - there was no reward (control statement)
> - there was a discount (how much, where?)
> - there was cash reward (how much?)

3 **Pass/fail criteria**   **What test outcomes will you be looking for?**
What result will show evidence that your hypothesis was correct (validate it)? And what will show evidence that your hypothesis was wrong (invalidate it)?

> They say yes to at least 1

> They say no to all

Prototype: Participation & reward

Questions:

Would you use the recycling drop-off for...

1. no reward?

2. a discount? (where would you use it? coffee, groceries, clothes, electronics?)

3. a cash reward? (how little is too little and how much is too much?)

Thank you for recycling

You're amazing!

Thank you for recycling

You've received a % discount

Thank you for recycling

You've received £

Template: test card (Concept: Distance)

Use 1 test card per test. Copy and paste this slide to add more tests.

1 **Hypothesis** **What are your concept's critical aspects?**
State your most critical assumptions, the ones that would make the concept fail if they aren't proven right. Fill in one test card per critical assumption and run tests starting from most, to least critical assumptions.

> We assume the user is willing to travel a certain distance to drop-off the item

2 **Test** **How will you verify if this hypothesis is true?**
Define a low-cost test that doesn't require a lot of effort.

> Show a map, ask incrementally how far they will go to drop an item
> - time scale: 3mins, 5mins, 10mins
> - distance: 1mile, 5miles, 10miles

3 **Pass/fail criteria** **What test outcomes will you be looking for?**
What result will show evidence that your hypothesis was correct (validate it)? And what will show evidence that your hypothesis was wrong (invalidate it)?
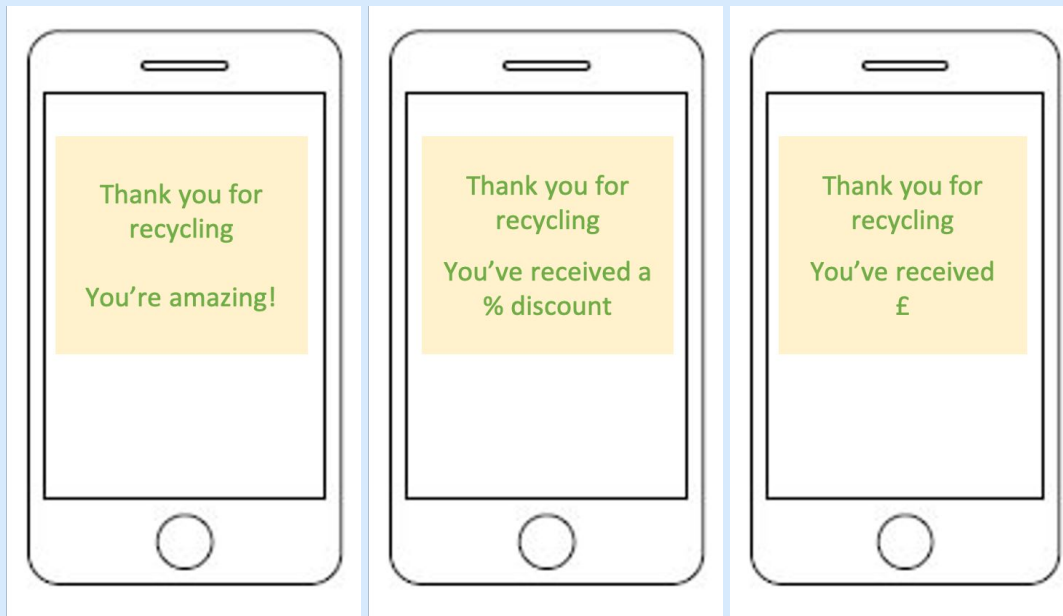
> They say yes to at least 1

> Just not interested at all

Prototype: 3 mins, 5 mins, 10 mins

Questions:

If you have a single use item, how long would you travel to collect the reward?

1. within 3 minutes?
2. within 5 minutes?
3. within 10 minutes?
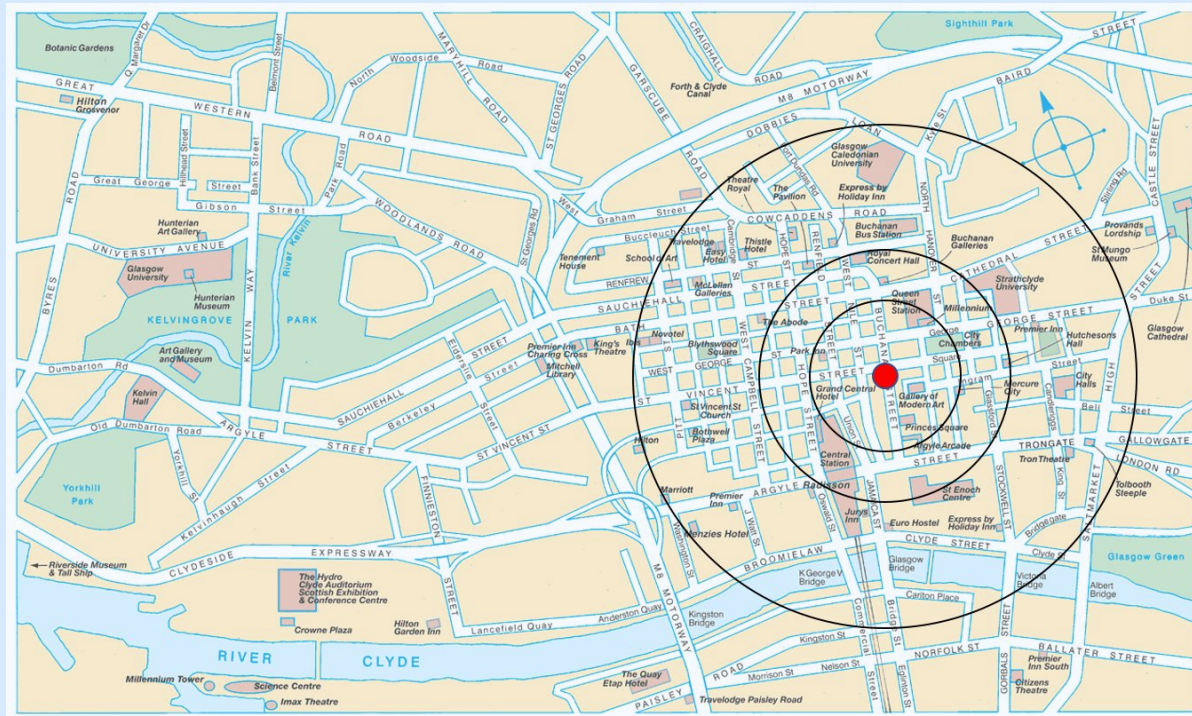
Prototype: 1 mile, 5 miles, 10 miles

Questions:

If you have a bulky item or a larger number of items, how far would you travel to collect the reward?

1. within 1 mile?
2. within 5 miles?
3. within 10 miles?
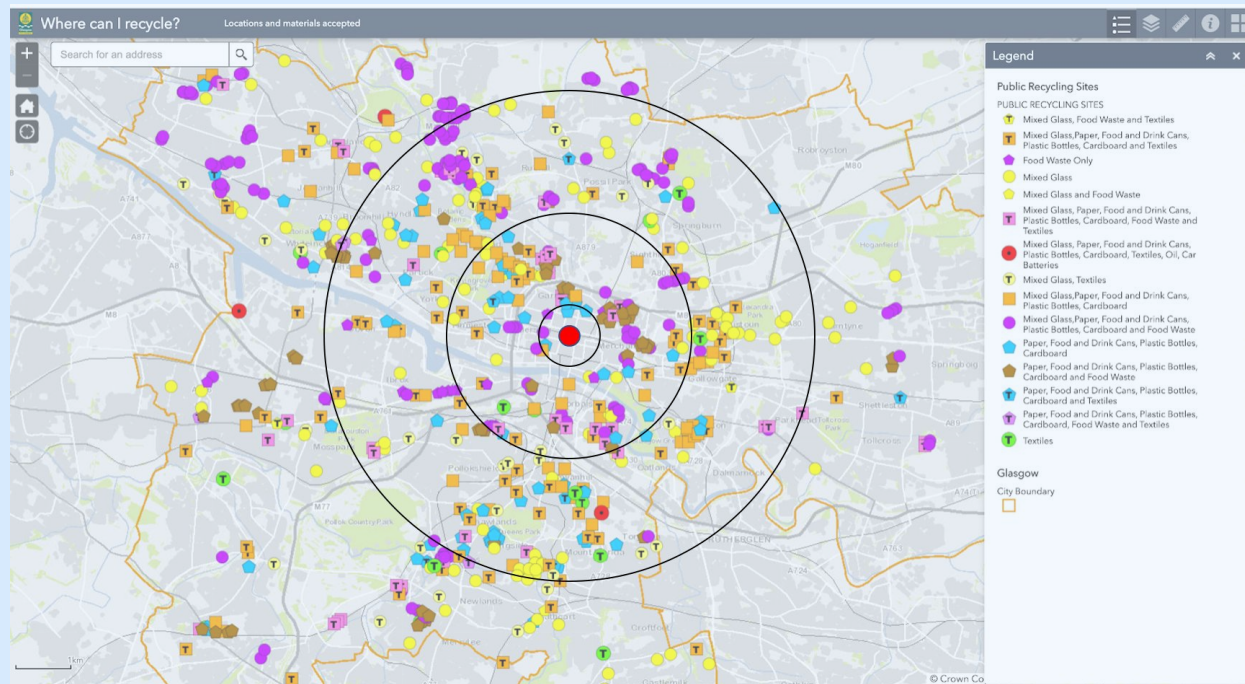
Template: test card (Concept: More data)

Use 1 test card per test. Copy and paste this slide to add more tests.

1 Hypothesis

What are your concept's critical aspects?
State your most critical assumptions, the ones that would make the concept fail if they aren't proven right. Fill in one test card per critical assumption and run tests starting from most, to least critical assumptions.

We assume Samantha would be willing to "work" a little for the reward by providing data.

2 Test

How will you verify if this hypothesis is true?
Define a low-cost test that doesn't require a lot of effort.

Ask if they would be willing to provide more information:

manually (photo, barcode, material description), or

automatically (location, time, demographic profile).

3 Pass/fail criteria

What test outcomes will you be looking for?
What result will show evidence that your hypothesis was correct (validate it)? And what will show evidence that your hypothesis was wrong (invalidate it)?

We are right if they are willing to provide data, even anonymised and under conditions.

And wrong if they are completly against providing data.

Prototype: Manual provision

Questions:

Imagine you are at the drop-off point, in order to get the reward, would you be willing to:

1. take a photo of the object?
2. scan the barcode of the object? (if it has one)
3. record the material of the item from a list?
4. describe the item?
5. provide the weight of the item (estimating, or if there is a scale at the drop off point)

6. Will you do this each time?
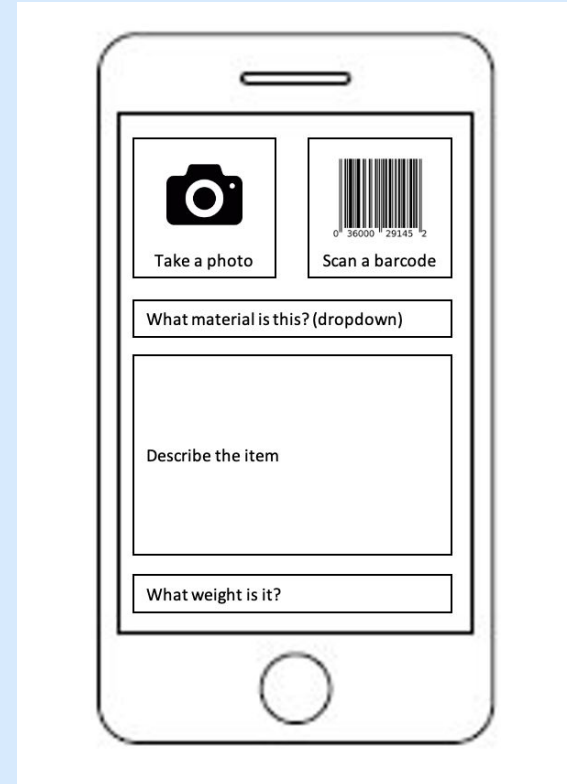
Prototype: Automatic provision

Questions:

Would you be willing to automatically:

1. Share your location?
2. Share the time of drop-off?
3. Share a limited demographic profile?

Drop-off confirmed

Drop-off point: DHJE372
Location: Buchanan Street
Time: 3.00pm 4 June 2020

Thank you!

You have earned
+10 rewards

Your balance is: 1000 rewards
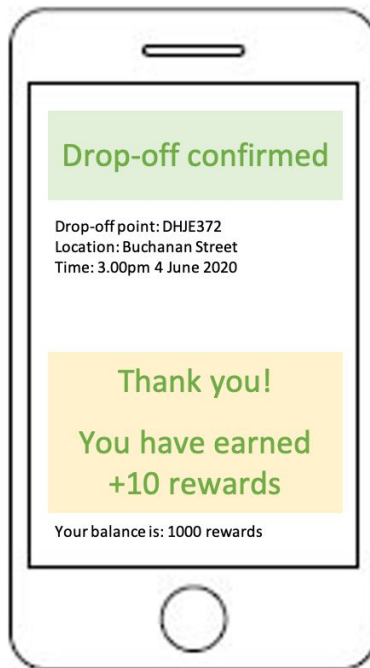
Plan

1.30-2.15pm	Data Test (household recycling rates)	Build concept tests & prototype (would you use? how far would you go? would you give more data?)
2.15-2.30pm	Regroup and share tests	
2.30-3pm	Test 2 users (15min max each) 1 ask, 1 record	Test 2 users (15min max each) 1 ask, 1 record
3-3.30pm	Regroup and share results + Dave call	
3.30-4pm	Build 2nd round	
4pm-4.30pm	Test 2 users (15min max each) 1 ask, 1 record	Test 2 users (15min max each) 1 ask, 1 record

1st test (Ecaterina)

Would you take part if….? incrementing benefits:

- profile: male, 28 years old
- **small cash reward.** (how little is too little /how much is too much).- I would not recycle more than 5 times for a free cup of coffee- ex 30/40 pennies per one time. I would collect 10 packaging items and I would take them to recycling point for cash reward of about 30-40 pennies.
- 10 min- by car or walk
- walk 1 mile, drive 5-10 miles
- I would scan the items, and I would expect that after some time the app would be able to identify the material and the weight from the barcode. I would do it for multiple items if it were a fast process.
- I would not want to connect to a public wi-fi, nor bluetooth. I might only use the system and give it my data only if it was necessary to complete the operation. Otherwise I might prefer to stay anonymous. Not connect my phone.

Figure 6 Scottish household waste recycled or reused by material 2011-2018

Template: learning card (data)

https://bit.ly/3090drd

Use 1 learning card per insight. One test can derive several insights. Copy and paste this slide to capture more insights. Make sure to fill in this card immediately after the test ends. Base on these learnings to define what's the next thing you'll need to iterate on your concept and test.

1 **Insight no. and name**

Insight #1: Glasgow has one of the lowest amounts of recycled tonnes per person among Scottish areas (=0.1 t) in 2018

2 **Hypothesis** — **What hypothesis did you test?** (Copy it from the corresponding test card.)

We believe that…household recycling rates are increasing and people recycle and reuse. Our initiative can drive the increase of recycling rates.

3 **Observations (evidence)** — **What did you observe during the test of this hypothesis?** Outline the test outcomes in terms of data and raw results (don't interpret the results just yet).

There is already data over many years so on can build on it. Rates of recycling going up, though Glasgow is still on the low.

4 **Learnings & insights** — **What did you learn from your observations during this test?** Explain what conclusions and insights you derived from your observations stated in point 3.

General recycling rates go up in Scotland, but Glasgow lacks even though it has a big amount of recycling material given it's a metropolis. So there seems to be missing a drive to get those rates up.

5 **Decisions & next actions** — **What's next?** Describe actions you'll take based on the learnings and insights stated in point 4.

It would be useful to have an app that both gets people contribute in the CE and at the same time collect data on CE, bringing the user in the center of the CE process.

Template: learning card

Use 1 learning card per insight. One test can derive several insights. Copy and paste this slide to capture more insights. Make sure to fill in this card immediately after the test ends. Base on these learnings to define what's the next thing you'll need to iterate on your concept and test.

1 **Insight no. and name**

User Working in IT motivated by discounts in local businesses, coffee shop, grocery

2 **Hypothesis**

What hypothesis did you test?
(Copy it from the corresponding test card.)

Would the user be willing to participate in CE given that they would receive points-award.

3 **Observations (evidence)**

What did you observe during the test of this hypothesis?
Outline the test outcomes in terms of data and raw results (don't interpret the results just yet).

They like the concept of the award, would not want to travel far for engaging though.

4 **Learnings & insights**

What did you learn from your observations during this test?
Explain what conclusions and insights you derived from your observations stated in point 3.

User seems to get really pro-active when they would receive something back from contributing into CE especially when it comes to daily necessities, liked the idea of barcode and would share a certain amount of anonymized data.

5 **Decisions & next actions**

What's next?
Describe actions you'll take based on the learnings and insights stated in point 4.

The point-award system running through the app should take into account the use of barcoding and not to have to move far away to contribute to CE.

Template: learning card

Use 1 learning card per insight. One test can derive several insights. Copy and paste this slide to capture more insights. Make sure to fill in this card immediately after the test ends. Base on these learnings to define what's the next thing you'll need to iterate on your concept and test.

1 **Insight no. and name**

User Working in IT motivated by green living

2 **Hypothesis** **What hypothesis did you test?** (Copy it from the corresponding test card.)

Would the user be willing to participate in CE given that they would receive points-award while providing data?

4 **Learnings & insights** **What did you learn from your observations during this test?** Explain what conclusions and insights you derived from your observations stated in point 3.

User seems to get really pro-active regardless of reward though may be tempted to do it more often when they would receive something back from contributing into CE. Liked the idea of barcode and would not share location data.

3 **Observations (evidence)** **What did you observe during the test of this hypothesis?** Outline the test outcomes in terms of data and raw results (don't interpret the results just yet).

They like the concept of the reward under terms.

5 **Decisions & next actions** **What's next?** Describe actions you'll take based on the learnings and insights stated in point 4.

The point-award system running through the app should take into account the use of barcoding and to ask user what data it should collect.

Template: learning card

Use 1 learning card per insight. One test can derive several insights. Copy and paste this slide to capture more insights. Make sure to fill in this card immediately after the test ends. Base on these learnings to define what's the next thing you'll need to iterate on your concept and test.

1 **Insight no. and name**

User retired motivated towards the collection of the wastes from their premises if that option is available

2 **Hypothesis**   **What hypothesis did you test?**
(Copy it from the corresponding test card.)

We believed that… the user will be willing to participate if there is a rewards system, however this depends on their location and what type of wastes they intend to dispose at any one time.

3 **Observations (evidence)**   **What did you observe during the test of this hypothesis?**
Outline the test outcomes in terms of data and raw results (don't interpret the results just yet).

We observed… that User is motivated by the rewards system if the waste is collected from their home, and/or if the street bins for example are digitised to include the reward system, they could use this when they are out and about.

4 **Learnings & insights**   **What did you learn from your observations during this test?**
Explain what conclusions and insights you derived from your observations stated in point 3.

From that we learned that user was happy with the idea of the reward system and digitising the waste collection system, however they stated that this may be more applicable when they are around the city centre shopping, eating out, etc. as to when they are at home.

5 **Decisions & next actions**   **What's next?**
Describe actions you'll take based on the learnings and insights stated in point 4.

Therefore, it will be useful to consider whether the points rewards system could be applicable for the collection of wastes from users premises.

Template: learning card

Use 1 learning card per insight. One test can derive several insights. Copy and paste this slide to capture more insights. Make sure to fill in this card immediately after the test ends. Base on these learnings to define what's the next thing you'll need to iterate on your concept and test.

1 **Insight no. and name**

When a user does not normally recycle (recycling without reward) they said they would recycle if there was a cash reward.

2 **Hypothesis**

What hypothesis did you test?
(Copy it from the corresponding test card.)

We assume the average Samantha will want to participate and be rewarded for recycling. We assume she would like points she can redeem at her favourite participating business.We believed that…

3 **Observations (evidence)**

What did you observe during the test of this hypothesis?
Outline the test outcomes in terms of data and raw results (don't interpret the results just yet).

Asked in increments, would the user participate if

- there was no reward (control statement) > said no.
- there was a discount > said maybe, but not definite
- there was cash reward > said yes definitely would.

4 **Learnings & insights**

What did you learn from your observations during this test?
Explain what conclusions and insights you derived from your observations stated in point 3.

A cash reward was the best incentive for someone who otherwise was not bothered to recycle. But if the user was already recycling without reward, they didn't mind if there was either points or cash. Being able to spend the reward on groceries was the most popular opinion. Generally 50p-£2 was considered fair for a box full/kilo of household recycling

5 **Decisions & next actions**

What's next?
Describe actions you'll take based on the learnings and insights stated in point 4.

Stick with the reward idea, this test insight confirms we could encourage change in behaviour

Template: learning card

Use 1 learning card per insight. One test can derive several insights. Copy and paste this slide to capture more insights. Make sure to fill in this card immediately after the test ends. Base on these learnings to define what's the next thing you'll need to iterate on your concept and test.

1 **Insight no. and name**

Users are generally ok with driving up to 5 miles to recycle and collect a reward, so long as the reward "covers the cost of fuel"

2 **Hypothesis**

What hypothesis did you test?
(Copy it from the corresponding test card.)

We assume the user is willing to travel a certain distance to drop-off the item

3 **Observations (evidence)**

What did you observe during the test of this hypothesis?
Outline the test outcomes in terms of data and raw results (don't interpret the results just yet).

Showed the user a map of Glasgow city and asked how far they would travel to recycle and collect a reward (1, 5, or 10 miles). All users asked said they would drive up to 5 miles, especially if the reward exceeded the cost of getting there. When asked to estimate the cost, one user said approx 10p a mile.

4 **Learnings & insights**

What did you learn from your observations during this test?
Explain what conclusions and insights you derived from your observations stated in point 3.

If the cost of travel was 10p a mile, then a >50p reward would incentivise users to travel a bit out of the city to a recycling point. This combined with the 3,5,10 minute walk test seem to suggest people would more likely use the system for bulk recycling, accumulating recycling at home over a week or two.

5 **Decisions & next actions**

What's next?
Describe actions you'll take based on the learnings and insights stated in point 4.

If users are more likely to bulk recycle, then this may have impact on the data collection ability as people are less likely to barcode scan a volume of items.

Template: learning card

Use 1 learning card per insight. One test can derive several insights. Copy and paste this slide to capture more insights. Make sure to fill in this card immediately after the test ends. Base on these learnings to define what's the next thing you'll need to iterate on your concept and test.

1 **Insight no. and name**

For single-use convenience items (while out and about) users are NOT inclined to detour more than 2 minutes for a drop-off point.

2 **Hypothesis**

What hypothesis did you test?
(Copy it from the corresponding test card.)

We assume the user is willing to travel a certain distance to drop-off the item

3 **Observations (evidence)**

What did you observe during the test of this hypothesis?
Outline the test outcomes in terms of data and raw results (don't interpret the results just yet).

Showed the user a map of Glasgow city and asked how far they would travel to recycle and collect a reward (3, 5, or 10 minutes on foot). Almost everyone said they would not detour for a single item. In the rare occasion they were willing to detour: up to 2 minutes.

4 **Learnings & insights**

What did you learn from your observations during this test?
Explain what conclusions and insights you derived from your observations stated in point 3.

Users are more likely to record single items (barcode scan), but less likely to take them to a drop-off point. They would prefer if the drop-off point was on the way to where they were going.

5 **Decisions & next actions**

What's next?
Describe actions you'll take based on the learnings and insights stated in point 4.

This means drop-off points in pedestrian districts have to be plenty and closely spaced, or, allow users to record items and store over time before dropping-off in bulk later.

Template: learning card

Use 1 learning card per insight. One test can derive several insights. Copy and paste this slide to capture more insights. Make sure to fill in this card immediately after the test ends. Base on these learnings to define what's the next thing you'll need to iterate on your concept and test.

1 **Insight no. and name**

Barcode scanning and number or items were information users were most willing to provide

2 **Hypothesis**
What hypothesis did you test?
(Copy it from the corresponding test card.)

We assume Samantha would be willing to "work" a little for the reward by providing data.

3 **Observations (evidence)**
What did you observe during the test of this hypothesis?
Outline the test outcomes in terms of data and raw results (don't interpret the results just yet).

Those receptive to the idea of data collection said they would be willing to fill in all the data if they knew what it was for. They identified that scanning a barcode would be able to give you the most detail with the least effort. They were less likely to take a picture.

4 **Learnings & insights**
What did you learn from your observations during this test?
Explain what conclusions and insights you derived from your observations stated in point 3.

Users were generally receptive to the idea, but data capture needs to be quick and easy. Especially if there is recycling in bulk, users were not inclined to scan every barcode.

5 **Decisions & next actions**
What's next?
Describe actions you'll take based on the learnings and insights stated in point 4.

A different system might be needed at bulk drop-off points. Maybe a scanner as the individual passes the items through, so the data is collected by that machine and the app just acts as a proximity device to receive the reward.

Develop

Develop a concept

Who is your key user group?

(Method: Persona's – key behaviours)

Students (low income, but have a lot of time). 2 behaviours: 1. those who would want to recycle more but find it difficult to navigate recycling rules of what can and cannot be recycled. 2. those who are currently not recycling.

What aspects did you test and didn't work as expected? And what did you change in your concept as result?

(Refer to: Testing & Learning Cards)

Some users may not be willing to share data. Scanning per item would not work for bulk recycling, and those with cars were willing to drive up to 5 miles. Scanning per item while out and about was less desirable if a drop-off point was more than 3 mins away.

What evidence of success did you gather through testing?

A) Desirability: Capture evidence collected that your concept solves the challenge from the user's perspective.

There are 2 problems to solve: 1. wanting to do more: 12 of 12 testers agreed they would recycle more for a reward. 2. too many recycling rules: will come in a follow up phase when a SMART recycling system can allow a user to take a picture of a product and the app tells them if it can be recycled and how.

B) Feasibility: Capture evidence collected that it can be build, from the technological perspective.

The concept centres around a service/program, the mobile app platform chosen to demonstrate the service is widely available. Most users have camera-able mobile phones to scan a barcode and take pictures. Computer vision and AI technologies for waste identification are also commercially available. e.g. https://www.winnowsolutions.com/

C) Viability: Capture evidence collected that it works from a business perspective.

12 of 12 testers agreed they would recycle more for a reward. 1 of the 12 originally said they wouldn't have recycled without a reward so this confirms a change of behaviour. 11 of 12 users said they would repeat the data recording each time they dropped -off recycling for the reward.

Note: Now that you have learned a lot from testing, make sure to review and iterate your concept tomorrow, taking all these learnings into account.

Think about:

- *What should we keep in our concept?*
- *What needs to be changed?*
- What do we need to test further before making a decision?
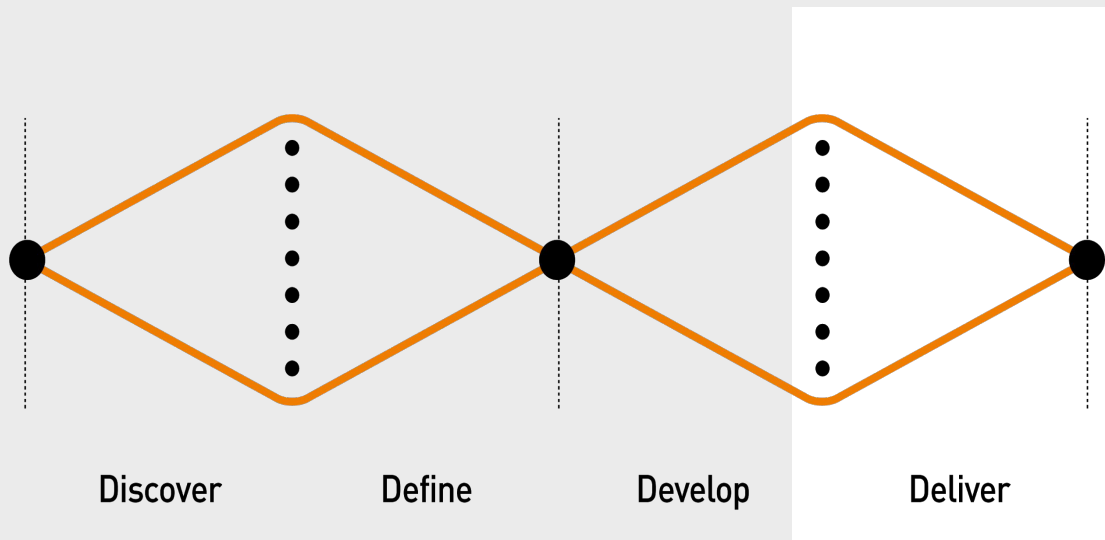- What else do we need to test and get feedback on?

Day **5**

Deliver

Pitch your concept

Today you'll be building the case for your concept and crafting your pitch.

By the end of the day you'll be ready to pitch your concept to the jury panel.

Discover   Define   Develop   Deliver

Method: Story Blueprint

Mural *activity*

What
The key to a good pitch is identifying the right story to tell.

Why
Stories help us connect, remember, and incite us towards action. Sharing your concept by telling the story of a user's experience takes it out of the abstract, and helps the audience connect with the value it offers for your users.

How

Step 1:
Identify crucial elements of the story to convey

Step 2:
Build a story centered around a key use case of your concept, culminating on a memorable "a-ha" moment of its use that demonstrates its value and outcomes.

Step 3:
Prototype your story, get feedback and iterate it, refining it to resonate more with the audience and make it more memorable.

Note: see detailed instructions in your Mural Template.

https://app.mural.co/t/tdlinnovation20201306/m/tdlinnovation20201306/1590759413617/63811501c562d02359dd093ffe09bb089bfcb522

How the idea grew...

Day 1 Gathering	Day 2 Insights	Day 3 Ideation	Day 4 Testing	Day 5 Refining
Interviewed an expert and set up a survey to reach users. Insights from the expert interview: A CE must have value in the product, not just plastic plant pots for the sake of it Costs and incentives are a barrier Waste suppliers are not reliable in the supply chain. Insights from the user surveys: We asked what people were doing to support a circular economy as individuals, in their organisations, and in cities. A large number of responses had people saying they recycled as individuals, but felt it was difficult and would like to do more	Built the persona and opportunity statement. It came down to a battle of 2 opportunity statements for two different personas: Samantha the Student finding it difficult to recycle or Bob the Builder struggling to fund sustainable construction projects. We felt we didn't know enough about Bob's problem and felt more confident with Samantha's, so Samantha was selected.	After idea prioritisation and ruthless selection, we were left with 3 competing ideas: 1. Mobile map of recycling points 2. Recycling incentives program 3. A sharing/exchange app We chose the incentives program in the end because when we considered the judging criteria, it was the most viable (over maps), and didn't already exist (over sharing app competitors like freecycle, gumtree, depop, vinted, shpock and olio to only list a few…)	Created prototypes to test our concept, then tested them. At this point we thought this idea would help our Samantha but we weren't sure how this idea was going to be viable for the sponsor. We couldn't land why a café would give up a discount for Samantha to put her recycling money somewhere else when it was the council who gained that value. That's when we realised we were looking at the wrong sponsor. That then lead to thinking about why the council would pay Samantha to recycle over existing kerbside recycling, and in paying Samantha, could we make her work a little more? This birthed the data feed into a SMART recycling city. We tested the ideas with 12 users and it was well received.	Storytelling day After finally realising what the true potential was for the sponsor, we followed that lead and were able to reframe Samantha from being an after-thought goodwill volunteer into being an empowered supplier of the circular economy.

Video diaries *#innovationcommunity*

Remember to continue with your video diaries, sharing stores on #innovationcommunity.

This should be very light-touch, giving an overview of how it's going, but not including any details about your project, as we don't want to give anything away to other teams!

These videos could be organised involving different members of your team recording the progress on different days. It's up to you and your team!

These videos should give an understanding of:

> 1. How the day went; what were the pain points and what were the successes?
> 2. How is your project developing?
> 3. Any new insights or key learnings from your personal experience using the Design Thinking methods?

Submission guide

Submit your final concept by 23:59 PM Sun, 7th June by email to: skills@thedatalab.com and blythe@designthinkersacademy.co.uk

Submissions must include all of the elements below:

1. **A link to this workbook.**

2. **Your pitch** which shows: 1) why your solution is valuable (evidence of its need collected through research); 2) how your solution works (including evidence of its desirability, feasibility and viability gathered from your prototyping and testing); and 3) recommended next steps. It might be in the form of a ppt (up to 10 slides) or a recorded video (up to 5 min. duration).

3. **The final prototype(s),** including both a concept prototype and a data prototype. The concept prototype focuses on demonstrating desirability and shows the concept from the user point of view. It might be in the form of sketches, an interface mock-up, a storyboard, or diagram that shows the steps of the user journey.

   The data prototype focuses on demonstrating feasibility and shows the concept from the technological point of view. It might be in the form of raw code, of a report in word or PowerPoint on an analysis or POC undertaken, a hosted dashboard that you give us access to, or an infographic.

Scoring criteria

This is what we are looking for in the winning concept:

1. **FRESH:** Does the idea address the challenge brief in a fresh and creative way? It could be a new interpretation of an existing idea or a clever way of combining concepts.

2. **DESIRABLE:** Is the idea based around real business or end-consumer consumer needs and desires? Will this have market pull?

3. **FEASIBLE:** Is the idea technically achievable today? We are looking for immediate impact.

4. **VIABLE:** Is there a sound commercial basis that will sustain and grow the idea?

5. **ENVIRONMENTAL IMPACT:** Does the idea create scalable impact towards the goal of making Glasgow a circular economy?

Close

Winners, prizes & wrap-up
10 June, 12:30–13:30 BST

Today we'll be announcing the winning concepts and next steps.

By the end of the day you'll be graduated as agent of change and design thinker :)

deal in ideas

Thank you
The DataLab
Innovation
Week 2020

THE DATA LAB
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London