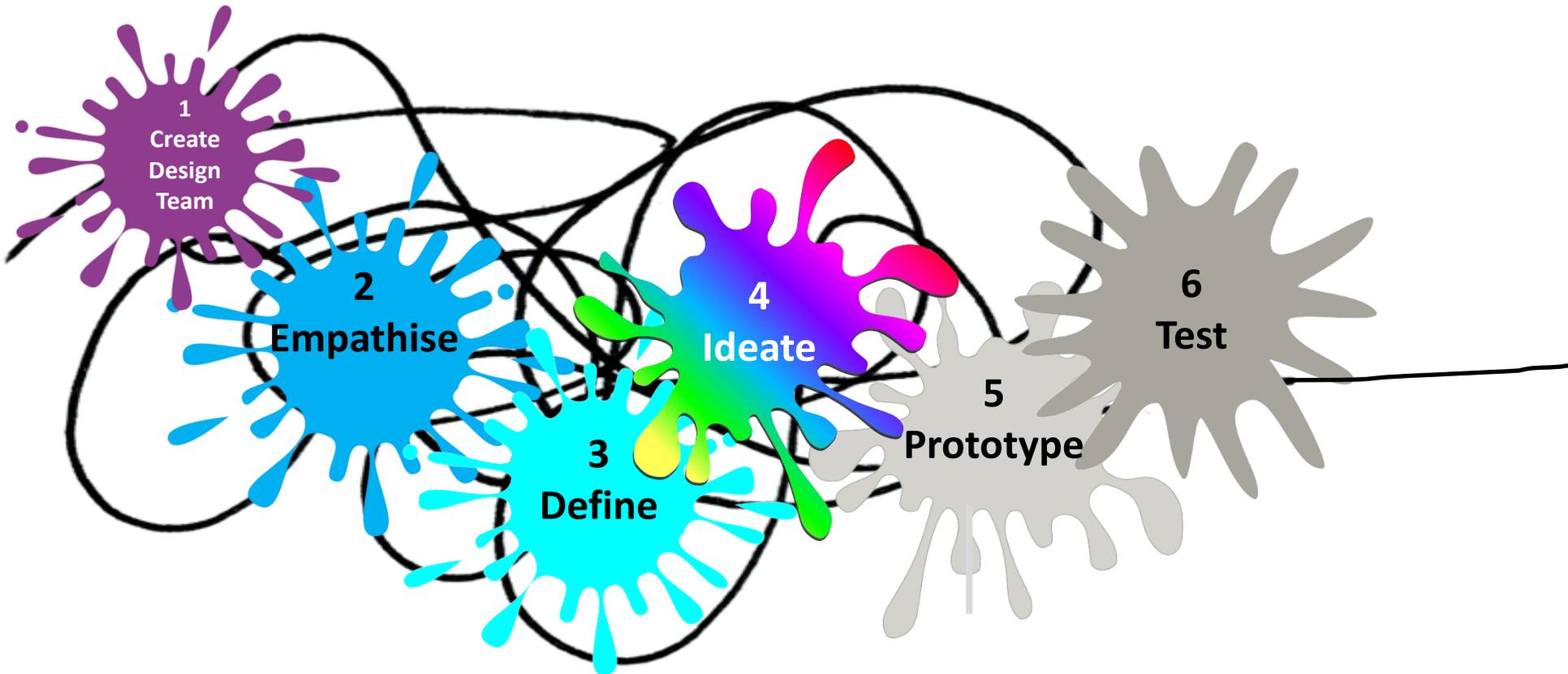


design thinking; process, theory and practical guidance



Step into your Design Thinking Mindset

Work only with what emerges in this room

Assume that anything is possible as long as it is; Desirable/Viable/Feasible

Follow and trust the process

Have fun and learn loads

Overview

This handout aims to do two things:

- Provide a theoretical overview to the stages in the Design Thinking Process

You can find this on pages :

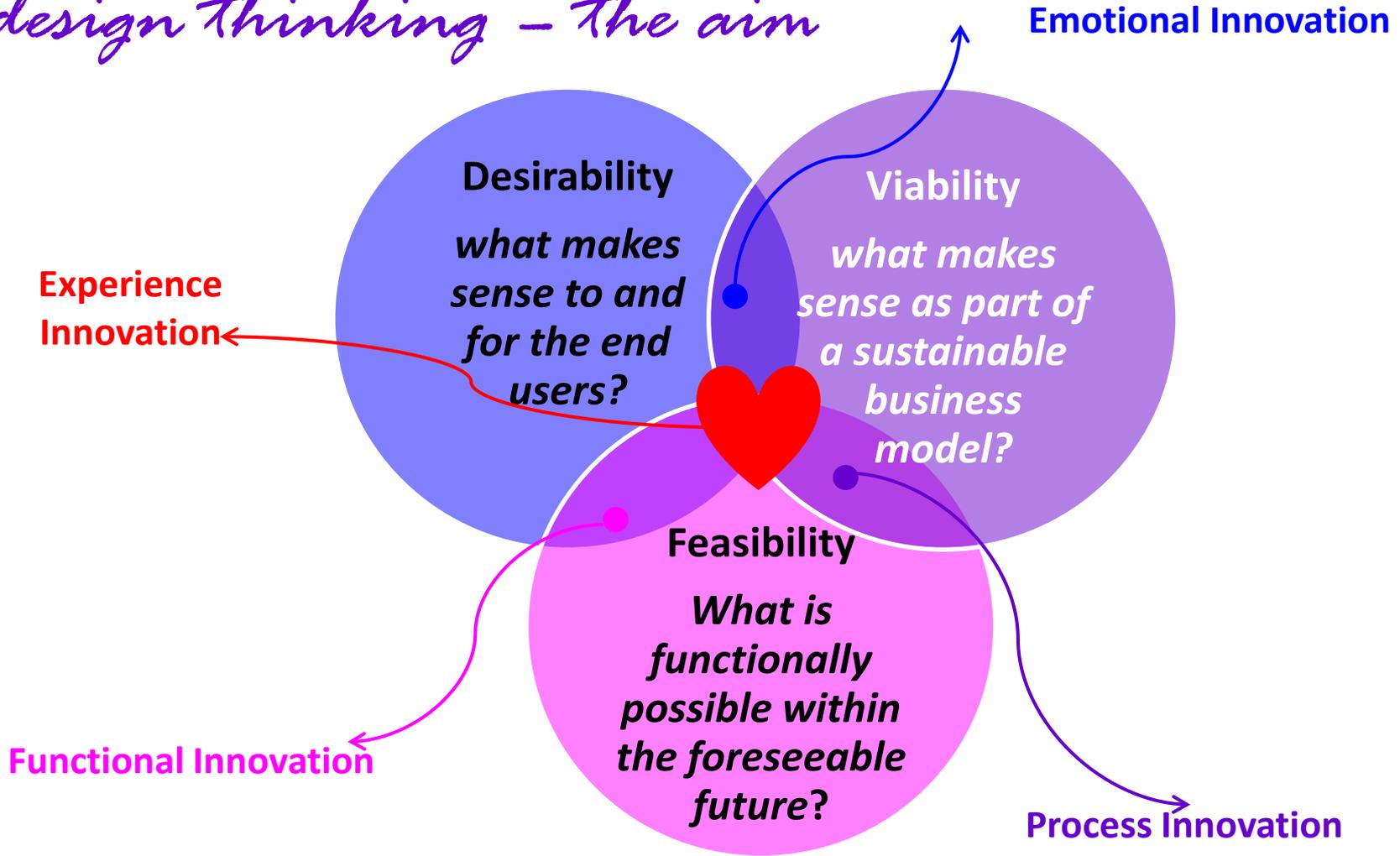
- 2: The aim of Design Thinking
- 5: Empathy Journeys
- 8: Define
- 12: Ideate
- 15/16: Prototyping

- Provide specific guidance for you to undertake each of the stages on the BWC workshops and when you use the process in the workplace

You can find this on pages:

- 3/4: Creating Design Teams
- 6/7: Empathy Journeys
- 9/10/11: Define
- 13/14: Ideate
- 17/18/19: Prototyping
- 20/21/22: Testing

design thinking - the aim



bring the criteria into balance



creating design teams

Defining the Design Challenge: 75 minutes

What do you believe your Design Challenge to be based on the areas you chose to be part of?

Take 5 minutes to brainstorm words that describe what you think the challenge is

From this take 10 minutes to cluster the themes and identify the insights. Themes are things that naturally sit together, and would be expected. Insights are more surprising responses

From this create a statement in the following format: Our Design Challenge is to.....

10 minutes

Check that the Design Challenge is not too basic or too complicated and is something you can prototype, test and iterate in the time available and is it open-ended enough to allow a creative response

From this create a statement in the following format:

We believe that our Design Challenge meets the criteria because:

No more than 10 minutes

Ensure by checking with each person that this describes a problem that will hold their interest for the duration of the experiment

Describe the skills and strengths each member brings to the team

Agree that you are collectively confident that you can explore this challenge and suspend judgements and existing ideas

Next ask each person to take 10 minutes on their own to record on 3 large post-it notes: how they will maintain commitment, suspend judgement and define what strengths they bring to the challenge and the team

Organise these together

From this create 3 statements/paragraphs in the following format:

We will maintain commitment to each other and the challenge by:

We will suspend pre-judging the outcome and imposing our existing ideas by:

Our strengths map looks like:

30 minutes

Nominate a scribe, a time keeper and a facilitator, smaller teams may need to double up these roles



creating design teams

Inventing your own design team model and habits: 55minutes

What will your team be called and how will you have a very specific identity (logo etc.)?

Who will be the team leader for detail and delivery and who will be the team leader for happiness and learning?

How, where, and with what frequency will you meet, including how you will feed back to the rest of the Design Team? This needs to be diarised and a priority

What will your Rules of Engagement be for being together and your conversations and how will you capture the story around progress, happiness, learning and the development of the team?

How will you share with the wider organisation?

Capture this on flipcharts. Your first task as a team will be to pull all of this together as the introductory chapter in your story

Nominate a different scribe, a time keeper and a facilitator, smaller teams may need to double up these roles

Empathy The Theory

Design Thinking begins and ends with **Empathy** for the people who experience the service/system that you are focussed on exploring. At this point you are a group of **curious explorers**, deeply interested in the stories and experiences of the users of the system or service. It is not your job to judge, defend or interpret what you have heard. Stay with the people who experience the system or service as long as you can to get a real feel for what is happening, **immerse yourself in their world**. The investment of time at this point is the foundation stone for the rest of the process.

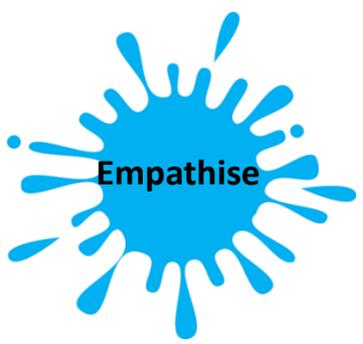
It is critical that you spend significant time with the users of the service or system. We recommend you look at both ends of the 'bell curve' where the service or system is working well and the user experience is good and where the service or system is not working well and the user experience is bad.

This way you can gather as many stories as possible, understand and surface as many assumptions as possible and appreciate what excellent would look and feel like at both ends.

When you go and spend time with people, naturally you will need to put them at ease and be really clear about what you are there for and what the roles are of the team. You may have a graphic recorder, photographer and observer as well as the person carrying out the inquiry. We suggest that the observer is focussed on what they saw in terms of interactions, what they heard in terms of tone, pitch and pace and what they felt in terms of the emotion in the space.

The following methods, tools and frameworks can be helpful at this point:

- *Appreciative Inquiry Discovery Question to find out what it is about the system/service that really works*
- *Appreciative Inquiry Dreaming Question to find out what it is about the system/service that could be different/better in the future*
- *Appreciative Inquiry Design Question to find out the **forensic detail** of what they would like to happen in the future that doesn't happen now and the impact that would have on them*
- *Empathy Maps*
- *Creative use of images to ask people to chose an image of what it looks and feels like to them now as opposed to what they would like it to look and feel like*
- *The 'What's Working' Quadrant*



planning empathy journeys

Take 80 minutes in your Design Team to consider and record:

Who has direct experience of your Design Challenge?

- *Some may naturally fall into groups and some of these individuals and groups may be in this room*
- *Who may have interest/power/influence even if they have no direct experience*
- *How invested are these groups in change?*

How easy will it be to take an Empathy Journey with these individuals and groups and what methodology will you use?

- *You may need different methods for different individuals and groups*

What are the powerful questions that you want to explore?

- *Draft these, ensuring they allow stories about what works as well as what doesn't*
- *These will need to be consistent to improve the validity and reliability*

Who will conduct these Empathy Journeys between now and our next workshop?

Nominate a scribe, a time keeper and a facilitator, smaller teams may need to double up these roles



practice empathy journeys

Road test your Empathy Journey questions

You will have a chance to use three methods with three different people

One of these must be a practice at graphic recording

Take 20 minutes now to think about which 3 people from your Design Team will conduct the Empathy Journeys and which 3 methods they will use

Each journey will be 30 minutes

- **2 minutes to set the scene and check-in**
- **5 minutes to discover the persons relationship with the system/service being explored**
- **13 minutes to ask the empathy journey questions**
- **2 minutes to check out**
- **5 minutes to get feedback from the observer**
- **3 minutes to gather learning from everyone**

Define The Theory

Design Thinking begins and ends with **Empathy** for the people who experience the service/system that you are focussed on exploring, as you move to the **Define** stage be mindful of your internal voices of judgement, fear and cynicism. Central to the success is listening with attention, grace and ease to all of the team that were part of the Empathy process.

At this point in the process it is critical that you spend significant time with a representative sample of the people that were part of the first stage, looking at information that you have gathered from both ends of the 'bell curve' and begin to surface the themes and insights that you notice emerging.

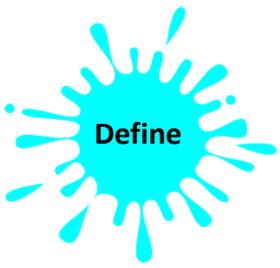
*Its good to have a big wall space where you can post the visuals/photos that came out of the **Empathy Journey** stage. Think about a CSI investigation board, you are building a picture of what is going on for people together.*

Themes are thoughts and opinions that have been said over and over and feel as if they 'come from' the same sort of place. These are possibly things you would have expected given your experience of the system/service.

Insights are more surprising, these may be thoughts and opinions that surface that you did not expect, possibly unintended impacts of the system/service that flag a blindspot in your understanding.

Find a way to cluster themes and insights that makes sense to you as a Design Team, keeping your original idea of what your Design Challenge was at the centre.

At this point stand back, go for a walk or a coffee and then come back to your board and ask yourself the question: 'What do we recognise as our Design Challenge now?' You may think that you knew this before you set off on the Empathy journey but very often going on that exploration, listening to those stories and seeing the themes and insights that emerge can change your perception and understanding of what is really going on and what people are really experiencing.



Define

Defining the Themes and Insights: 90 minutes

Take 10 minutes to set out all the data that you gathered from your empathy journeys. Put a flipchart with your original design challenge in the centre. It's the CSI board!

Next take 25 minutes to cluster the themes record these on a fresh flipchart/s

Themes are thoughts and opinions that have been said over and over and feel as if they 'come from' the same sort of place. These are possibly things you would have expected given your experience of the system/service.

Now take 20 minutes to repeat the process for the insights record these on a fresh flipchart/s

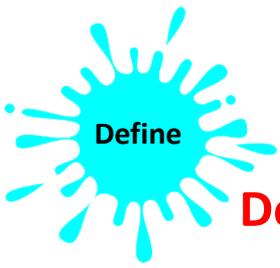
Insights are more surprising, these may be thoughts and opinions that surface that you did not expect, possibly unintended impacts of the system/service that flag a blindspot in your understanding.

Take a further 25 minutes to record a response to the following questions?

- What are we discovering that is connected to everything else?
- Where do things feel most fluid/most stuck?
- What's the visual metaphor we are seeing/want to see?
- How does this impact on the perceived Design Challenge?

Nominate a scribe, a time keeper and a facilitator, smaller teams may need to double up these roles.

Remember rules of Engagement



Continuing defining

Defining the Design Challenge and 'How might we?' question

Take 10 minutes to theme the questions from the other design teams

Take 5 minutes to discard the questions that you think you already have a response to either from your experience or from what emerged from the Empathy Journeys

Take 5 minutes to consider the questions that remain unanswered, how will you explore these further?

20 minutes for the following 3 questions:

What assumptions are you still holding at this point?

How is your natural bias affecting what you are seeing?

Finally crystallise the Design Challenge as you believe it to be now and record to on flipchart as a 'How might we.....?'

Nominate a scribe, a time keeper and a facilitator, smaller teams may need to double up these roles.

Remember rules of Engagement

Ideate The Theory

Before you begin to generate ideas, a critical step is to take your themes and turn them into 'How might we...?' questions. These questions should be broad enough to generate lots of ideas and defined enough that it stays connected to the data that you gathered as part of your **Empathy Journey**. This can be tricky, think about what you have learned about flipping and reframing. Take the themes and insights and flip them into a positive statement. You need to make sure it's not over complex. As you do this and pose the questions it can be helpful to have an overarching phrase to support the ideas generation such as:

We mightby.....

This may feel over pedantic but it helps to get 'How' responses and not 'What' responses.

It is at this point in the process that you adopt an abundance mentality, it's all about getting as many ideas as possible. It's good to have a big wall space where you can post the coloured post-it notes from the brainstorm and have the space to move things around.

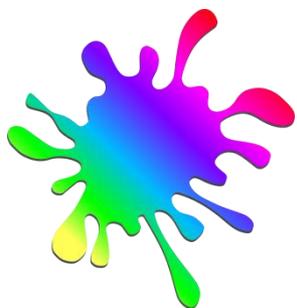
Rules of brainstorming. There are lots of ways to run a brainstorm. This is just a way that we have found works well, everyone is involved and there is no chance of things being filtered:

- Pass out pens and Post-its to everyone and have a large piece of paper, wall or whiteboard on which to stick them
- Review the Brainstorm Rules of your specific brainstorm before you start
- Pose the question you want the group to respond to, write it down and put it at the top of the paper, wall or whiteboard
- Generate as many ideas as possible
- Set a time for the first round, at this point there should be no conferring but participants should be encouraged to look at other ideas and build on them. Thereafter allow a further time for participants to look at everything and post any further ideas they have
- You can repeat this process as often as you want until you are sure there are no more ideas to come.

Bundling/Sorting/Looking for themes

Bundling Ideas takes you from strong individual concepts to solutions of substance. Think of it as a game of mix and match, with the end goal of putting the best parts of several ideas together to create more complex concepts. You've probably noticed that many ideas start to resemble each other - which is a good thing. Try different combinations; keep the best parts of some, get rid of the ones that aren't working and consolidate your thinking into a few concepts you can start to share.

Design Thinking encourages you not to decide and become focussed on one right answer too early and this is too early! So before you complete this stage you need to have 2 or 3 ideas to move forward to the Prototyping Stage with.



Ideate Part 1

Initial Ideate 15 minutes

With your own Design Team

Individually, with no conversation, write as many **HOW** responses to the questions as you can think of – be as crazy in your thinking as you can!

Stick them up on 3/4 flipcharts as you go and build on ideas that you see

With another Design Team (or in the workplace random people that you can borrow for 5 minutes)!

Move one group clockwise and repeat the process

Stick them up on 3/4 flipcharts as you go and build on ideas that you see

With another Design Team (or in the workplace random people that you can borrow for 5 minutes)!

Move one group clockwise and repeat the process

Stick them up on 3/4 flipcharts as you go and build on ideas that you see

Nominate a scribe, a time keeper and a facilitator, smaller teams may need to double up these roles.

Remember rules of Engagement



Ideate Part 2

Second Ideate 50 minutes

Work in an effective way to cluster the themes - write a **statement** that describes the **ideas** from each cluster, aligned to the **How might we?** question

For example: we could reduce loneliness in communities by creating new community living spaces across ages and abilities

For example: we could reduce loneliness in communities by encouraging employers to support retired workers in innovative ways such as engaging them as mentors

For example: we could reduce loneliness in communities by developing young people as befrienders

Once you have all of your statements, double check that the ideas can solve/address the themes and insights from earlier and map them over

What are you left with that still seems important?

Nominate a scribe, a time keeper and a facilitator, smaller teams may need to double up these roles.

Remember rules of Engagement

Prototyping the Theory

One of the things that makes **Design Thinking** unique is the use of **Rapid Prototyping**. Prototyping is a different thing than Piloting. With Piloting you are taking one idea and testing it out, at the point of the pilot the idea will be pretty well developed. This often means that there is a timeline for the pilot and that significant investment has already been made, so stopping the process even if it's not working rarely happens. Prototyping is the opposite. It is quick, cheap and not the finished thing. It is a way of thinking with your hands, manifesting what has been inside your head or a group of heads and bringing it out into a visual, an object or a structure. Think about Thomas Eddison and the light bulb. He failed over a thousand times before he got it to work, each of these failures brought him closer to success as he learned from each iteration of his prototype.

In our experience, at this stage you often find glitches that can be ironed out before you test the prototype with your service/system user

To make it easy we have divided prototyping methods into 3 types:

- 2D Paper Prototyping
- 3D Structural Prototyping
- 4D People Prototyping

2D Paper Prototyping

- Getting your idea on paper in a **2D visual** way can help you to represent the relationships between the system, the intention, the key players and processes, outside your head
- This should be at least flipchart size, it could have elements of collage as well as coloured drawings and words
- Keep it simple; big shapes, use of colour and lines to show connections and relationships
- You might want to highlight any questions you are holding at this stage
- It could also be a mindmap, where you put the idea for your prototype in the centre and use the 'branches' of the mindmap to represent the system, the intention, the key players and processes and any questions you are holding
- How you create your 2D prototype is up to you, remember pictures speak louder than words and colour increases our level of retention by 75%
- You should be able to use your **visual** to explain your prototype in 10 minutes

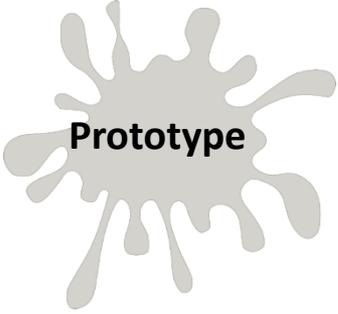
Prototyping the Theory

3D Structural Prototyping

- Getting your idea into a **3D structural** format can help you to move the key people, processes and intentions around to get a sense of connections, gaps, lines of sight and blind spots
- Keep it simple; use the size of objects as a metaphor for power/position or you can use colours to represent different groups of stakeholders
- You can use things like string and pipe cleaners to show the connections and questions
- Where you have space this can be as large and complex as the real situation, it is a great way to get the stakeholders round the table to build the model of the prototype together
- You can use basic containers, clothes pegs, string, skittles or make something from paper in a 3D format
- How you create your 3D prototype is up to you, remember that this is part of the learning process and your prototype may change as a result of the process
- You should then have someone, not part of your Design Team, to look at the 3D prototype and ask you questions about support, challenges, opportunities and measuring impact

4D People Prototyping

- Getting people to take on roles within your prototype and embody the dimension of feeling can present questions that you had not thought about or complexities you had not noticed so far, this is **4D Prototyping**
- This is not about how it is or should be. It is merely a representation that can provide you with more information about the prototype
- Individuals take the key 'roles' or concepts of the ideas and build their prototype from the different positions and spaces they take with each other. They can for example; decide to be 'loosely linked' together, bound together, stuck together, tangled, wear layers and layers of clothing...the list is endless, it goes as far as the prototype needs
- You are using people as they are, this is not about dressing up! It's the same principle as the 3D prototyping but real people taking on the shape and emotion of the prototype
- How you create your 4D prototype is up to you, remember that this is part of the learning process and your prototype may change as a result of the process



Prototype

2d prototype

Firstly take 5 minutes to decide which idea you want to prototype. You will prototype at least 3 as part of the process so in some respects it doesn't matter where you start, although, to get the learning it might be worth starting with what appears to be the toughest!

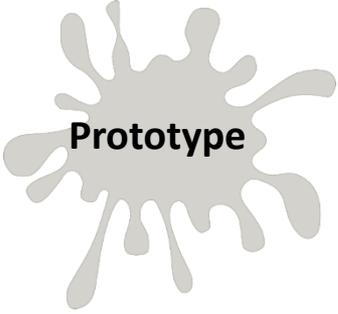
Next take 20 minutes to consider and record the following on a flipchart – specifically for this idea

- Context of the prototype
- Intention of the prototype
- Key stakeholders
- Support you need now
- Questions you are still holding

Next take a further 15 minutes to draft what the 'idea' looks like visually

Finally take a further 20 minutes to pull it all together in a 2D way that will make sense quickly to others using Flipchart/ Brown Board or Foam Board must be at least flip chart size

Nominate a scribe, a time keeper and a facilitator, smaller teams may need to double up these roles.
Remember Rules of Engagement



Prototype

3d prototype

Firstly take 10 minutes to think about colour schemes, how will you use colour to help people make sense of your 3D prototype?

Next take 10 minutes to consider and draft the following on a flipchart – specifically for this idea
How will you ‘make’ the idea in 3D have a look at all of the available resources and see what inspires you

Next take a further 30 minutes to pull it all together in a 3D way that will make sense quickly to others using Flipchart/Brown Board or Foam Board as a base. It needs to be robust enough for you to go back to the people you conducted the Empathy Journeys with and get their feedback

Finally prepare a 10 minute pitch to share the 2D and 3D prototype

Nominate a scribe, a time keeper and a facilitator, smaller teams may need to double up these roles.
Remember Rules of Engagement

4d prototype

Initially take 10 minutes to decide on what you think the key roles/processes are within the prototype

Next take 5 minutes to decide who will take on the roles one at a time (6/8 of you will need to step forward and take on the roles, as best as possible people don't take their own). Others to observe

In the first instance the group will explore how their prototype sits in the current system (not about how it is or should be, but what you are feeling about it as a result of the work you have already done)

Next the facilitator takes 5-10 minutes to ask each role to think really deeply about what it 'feels' like to be that role, and for each to take up the space and to let your body try and take on the shape of that feeling. The first person places themselves and then the next role will be offered and they will place themselves in relation to the first and so on

Stay in the position – it can be helpful to photograph this

Once everyone is in place the facilitator will invite someone to start and say 'I amand I feel....' and so on until we have heard from everyone. **Stay in the position**

Next the facilitator takes 5-10 minutes to begin to direct the moving of the prototype roles in terms of what as a Design Team you need to do next. These are small shifts if change that need to happen to get you closer to the 3D prototype

(not about how it is or should be, but what you are feeling about it as a result of the first 4D prototype)

Once everyone is in place, the facilitator invites someone to start and say 'I amand I feel....' and so on until you have heard from everyone

Stay in the position – it can be helpful to photograph this

Finally the facilitator will sit with the group and take 10 minutes to ask:

- What have you discovered about your prototype that you didn't know before this experience?
- How would you change your prototype to reflect what you have discovered?



Testing the prototype/s

One of the things that makes Design Thinking unique is the use of Rapid Prototyping and the next stage Testing. At this point it is important that you are testing the Prototype, not the finished article, that will come later in a Piloting and Implementation stage.

Now that you've got a prototype to share, get it in front of the people you're designing for. There are lots of ways to do it: Reconvene the Empathy Journey participants and other stakeholders and share your prototype .

Capturing honest feedback is crucial. People may praise your prototype to be nice, so assure them that this is only a tool by which to learn and that you welcome honest constructive feedback.

Share with lots of people at both ends of the bell curve so that you get a variety of reactions to make sure you're capturing a cross-section of potential users.

Write down, or graphically record the feedback you hear and use this opportunity with the people you're designing for to ask more questions and push your ideas further. Filming feedback sessions can be great too, but remember to get consent and think about the impact on honesty.

Doing something with the feedback

Sit with your design team and share the feedback you collected. Share inspiring stories and consider your learning. You'll now probably want to synthesize some of the feedback you got. You can Create Frameworks based on what you heard and how it applies to your idea. You might also now try a Brainstorm around how your idea could change based on your feedback.

Get tangible and start building the next iteration of your prototype. Integrating Feedback and Iterating is closely tied to Rapid Prototyping So once you've determined how your prototype should change to reflect the feedback you got, build it again.

Remember that this is a method for refining your idea, not for getting to the ultimate solution the first time. You'll probably do it a few times to work out the kinks and get to the right answer.



Testing the prototype/s

Moving to a Live Prototype

Though you've been getting feedback from the people you're designing for all along, a Live Prototype is one of the most powerful ways to test your solution with the system/service users.

Until now, your prototypes have been rough, and they've done only enough to convey the idea you wanted to test. A Live Prototype, however, gives you a chance to stress test your solution in real-world conditions.

It can run from a few days to a few weeks, and is a chance to learn how your solution works in practice. Live Prototypes are all about understanding the feasibility and viability of your idea.

Keep iterating until it is as good as it can be.

Doing something with the results of the live prototype

You've got a concept you feel great about and you've tested it in the world. Now you'll need to create a plan for how you're going to implement it.

A Roadmap helps you gather the key stakeholders in your project and collectively figure out a timeline, assign responsibility for each element of the project, and establish milestones.

Devising an innovative solution and putting it into practice are two different propositions.

All of the normal rules of Project Implementation apply at this point, the only caution would be to keep the conversation going, stay close to your intention and the people you are designing for and keep an open mind.

See more at www.ideo.com/work/human-centered-design-toolkit where there are lots of free templates as well as ideas and case studies.



Practical tips to test the Prototype/s

WEEK 1

Meet with your Design Group and decide and record the following:

Reiterate goal of the test – you have the goal for the overall prototype - what's your goal for the test?

Remember that you won't be able to 'test' the whole prototype in the time available so choose something that you can do and subsequently report on

What is already in place that you could use as a 'space' to run the test? (existing meetings etc.)

Who will you run the test with and how will you engage them in your prototype?

Ideally the group includes people other than the learning group (potentially we invite some of these people to the final day)

What are the 4 things you want the test to tell you? Keep it simple it's a short time!

What are the next 4 steps as a result of this conversation

WEEK 2

Action your next 4 steps

Meet and brief others that you want to be involved

Set the date for next week for the first 'test'

Prepare whatever resources or plans you need to conduct the first test

What are the next 4 steps as a result of this stage



Practical tips to test the Prototype/s

WEEK 3/4/5

Action your next 4 steps (as applicable)

Run the test at least 3 times over this period

Analyse what you found out at each stage

Get feedback from the people involved

What are the next 4 steps as a result of this stage

WEEK 6 and repeat!

Action your next 4 steps (as applicable)

Create a 2D prototype of what you found out – a poster showing the story of:

What you tested?

Who was involved?

What you found out?

What you will do next between now and June?

Your recommendations for Senior Management

Create a 3D prototype of what you intent to test next

In addition you are required to think about how you can **creatively** share your top 4 personal learning points from the process, what you have done with the learning and what you will do next