Microsoft

Prototype and test

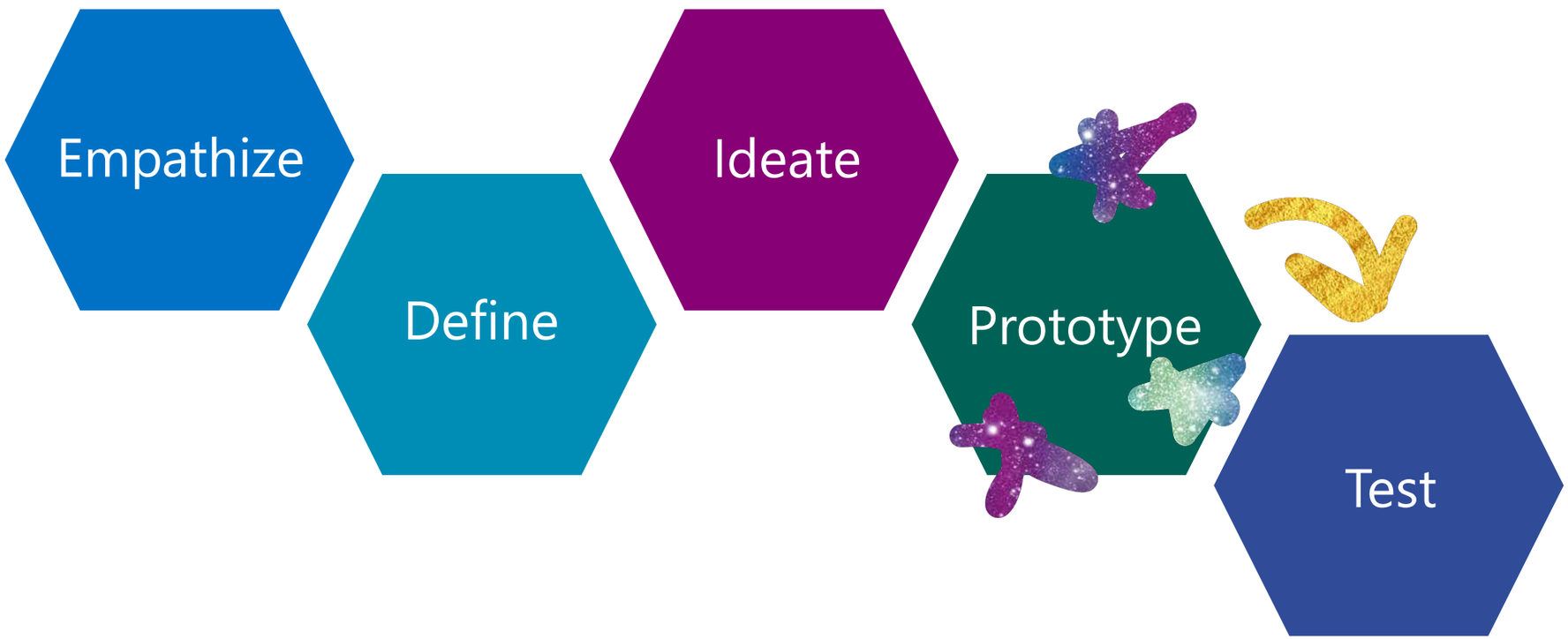
Agenda

- Revisit design thinking phases
- Introduce prototyping
- Types of prototypes and tools
- Prepare tasks for a usability study

Design thinking phases

Phases of design thinking

From ideating we start in the prototyping phase, getting more detailed about fewer concepts. These first prototypes of the app will be used to test with users.



[Stanford's Design Thinking Model]

Introducing prototypes!

What is a prototype?

A model of something; a simplified version of the solution. In the development of any product, whether it's an app or a car, many prototypes are created and used to gather feedback and test before the final version.

All disciplines in the feature crew (the team of people working together on a product or feature) may create and use prototypes to experiment and test. Here are some common cases*:

- PMs create wire-frame, low detail prototypes to explore two different feature options and get user feedback.
- User experience designers create high-fidelity, detailed prototypes to test details with customers, like whether the UI is navigable.
- Engineers create prototypes to assess the feasibility of a technical investment or explore a new technology.

*These are just examples. A PM and designer might code and build an interaction prototype. An engineer might draw out the options given different technical constraints.

The role of user experience designer

A user experience (UX) designer crafts the end-user experience of a product. The user experience is a customer's emotion and attitude towards the product.

The design may include the whole interface, components / features, and how they work together. UX Designers take into consideration usability, function, technology, and branding.

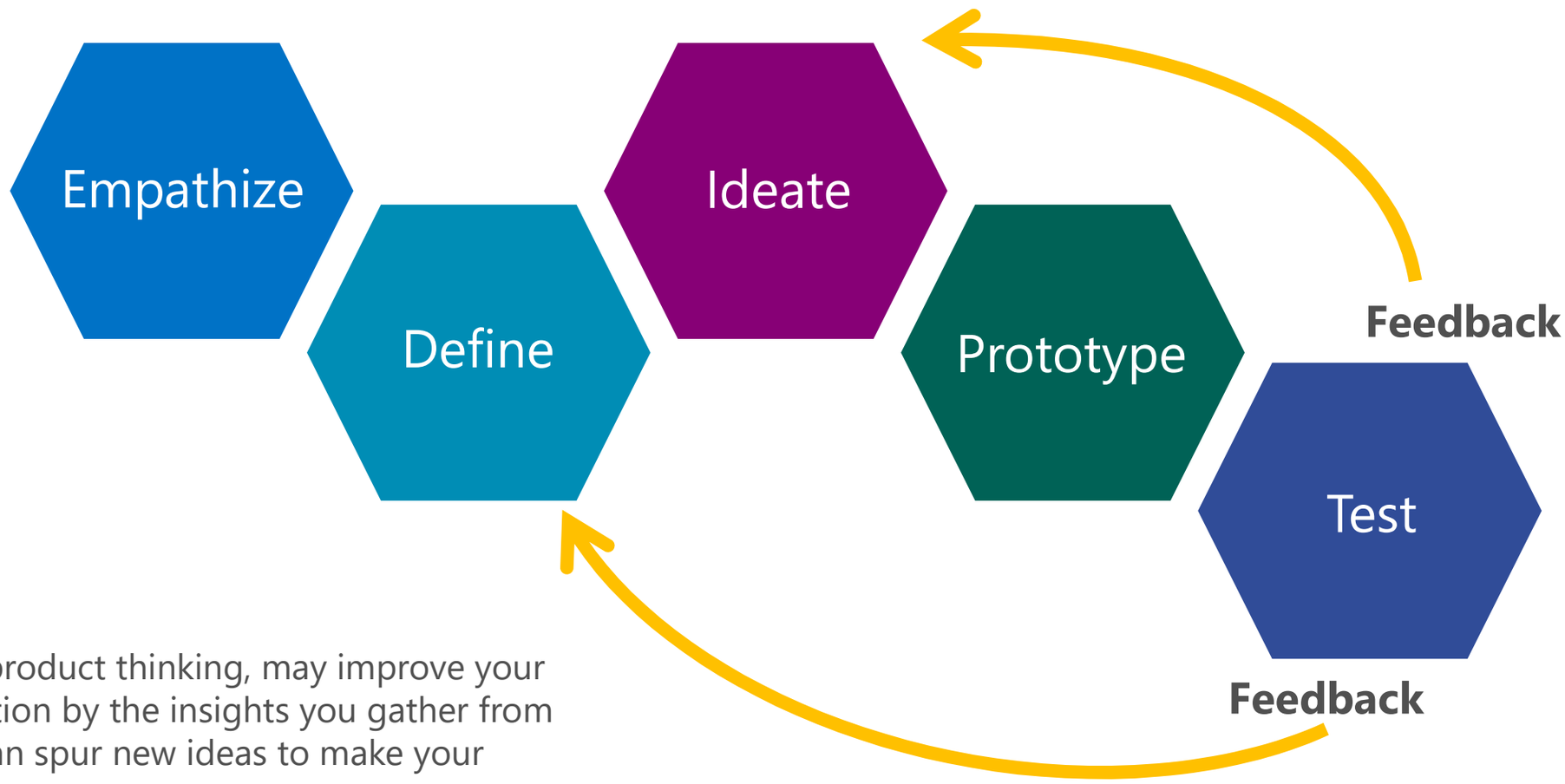
Much like PM, a UX designer is an interdisciplinary role that takes on different functions depending on team needs and place in the product lifecycle.

Graphic, interaction, motion, and sound are also specialized design roles in the design umbrella.

Why prototypes?

- Express ideas – visuals and samples can better represent the product than words alone.
- Enroll – it can be convincing to stakeholders to see the product in action and help get everyone on the same page in supporting the product.
- Test – it is an incredible tool for getting feedback, understanding where pain points are in your product, and how well it meets customer needs before building.
- It's less expensive – if an improvement is caught in the design phase, it's easier to change in a drawing than in code. It can prevent having to re-do a major investment.

Create a prototype to test and make your final product better

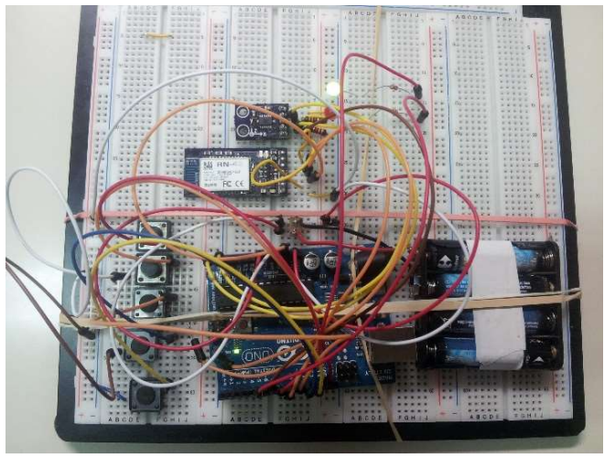


It helps refine product thinking, may improve your problem definition by the insights you gather from your users, it can spur new ideas to make your prototype better.

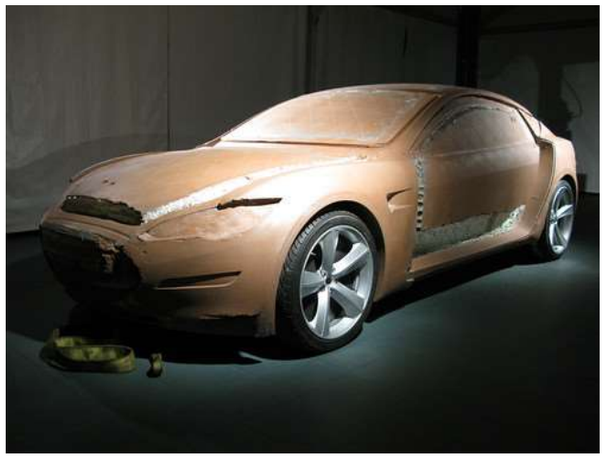
Samples of prototypes

Prototyping is used across products and industry. Even API designs can be prototyped and tested with users.

Paper app prototype



Arduino and breadboard hardware prototype



Clay car prototype

Large screen vs. small screen

Where to start?

Most web experiences that ship today scale between mobile and large screen or have a mobile optimized view. Many products have native iOS and Android apps in addition to the web app. Some products are just mobile or large screen apps with no web equivalent.

The final app pitch includes a large or small screen prototype. It's assumed that with enough time and funding, your team would build and ship both large and small screen experiences.

However, time is limited. Pick to optimize for large or small screen experience.

Which better meets your user needs and conveys the value of your application?

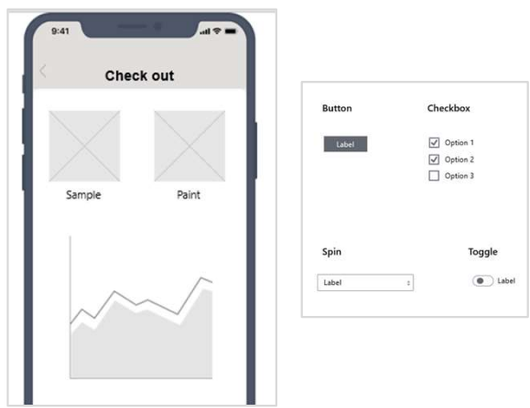
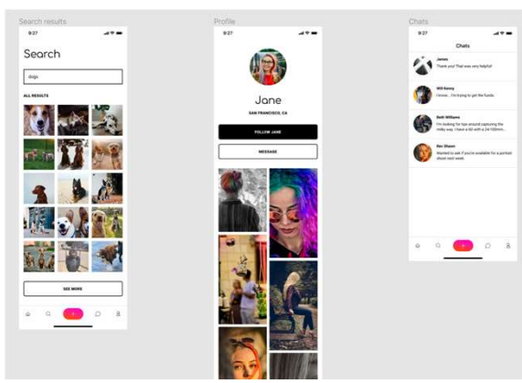
Large screen vs. small screen comparison

- Don’t focus on the features associated with large or small screen. Most can be matched. Focus on the user experience and user needs.
- Context – is the experience amplified when on the go? Is it something the user needs at hand all the time?
- Space – does a larger screen size allow users to interact with your app more easily?
- Interaction – does your experience depend on touch? Is there a lot of typing or clicking?
- Things you can achieve on both platforms: show notifications, connect to other devices, integrate with other applications… features.

Types of prototypes and tools

Prototype spectrum

Here are three types of prototyping, strengths, and weaknesses. Everyone will create a paper prototype. The team can choose any type can type for the MVP in the spec.

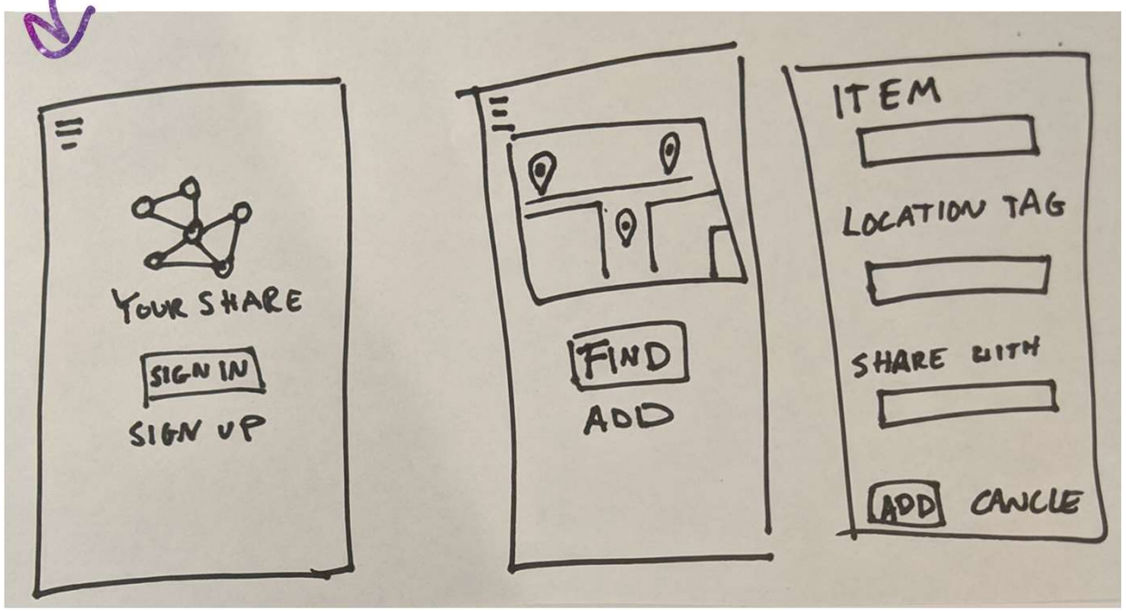
	Low fidelity	**Either low or high**	**High fidelity**
When to use	• Early in product or feature process • High-level concepts	• Mix high fidelity with low fidelity to highlight area of focus • Easy digital sharing	• Product or feature is close to being ready to code • Detailed concepts
When not to use	Visual design is essential to testing	Early in the product or feature process	Early in the product or feature process
Strengths	Fast, inexpensive	Common tool	Feels real, captures motion
Tool	• Paper and marker • Wireframe tool Framebox • Wireframe template in other tool ->	• PowerPoint	• Figma • Code
Example			

New products and features start here!

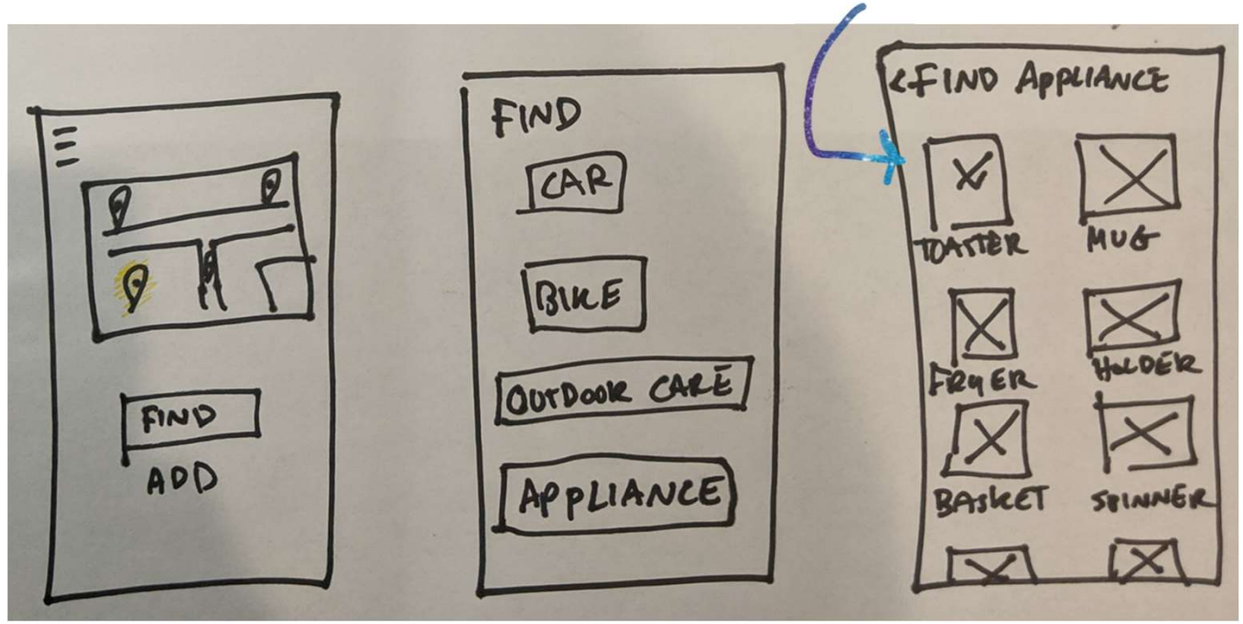
Paper prototyping tips

- Draw one sketch per screen
- Use shapes, rectangles, lines, circles, triangles…
- Focus on high-level rather than details, draw with marker, pen, or even crayon
- Use colors intentionally
- Don’t worry about showing all the words

Think about how the screens will flow and how users will navigate through the app



Boxes represent images



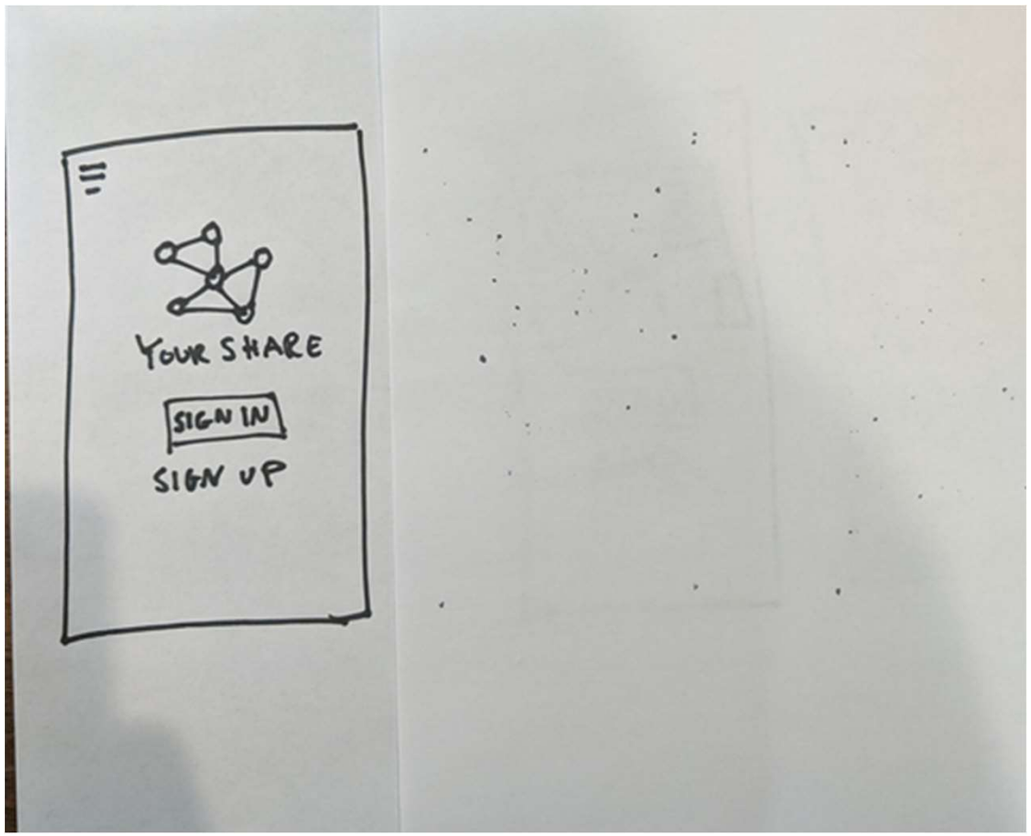
Fold paper in thirds to get more evenly spaced screens

Using in usability

- Draw the screens that demonstrate the functionality of the app and the flow
- Add the usability task to the usability study – what do you want to learn and have the participant try to do?
- Show the user one screen at a time, and prompt the participant with the task
- When they interact (tapping the paper) move on.
- If the participant tries something unexpected ask what they thought would happen before moving on.

Using in usability

What the participant sees

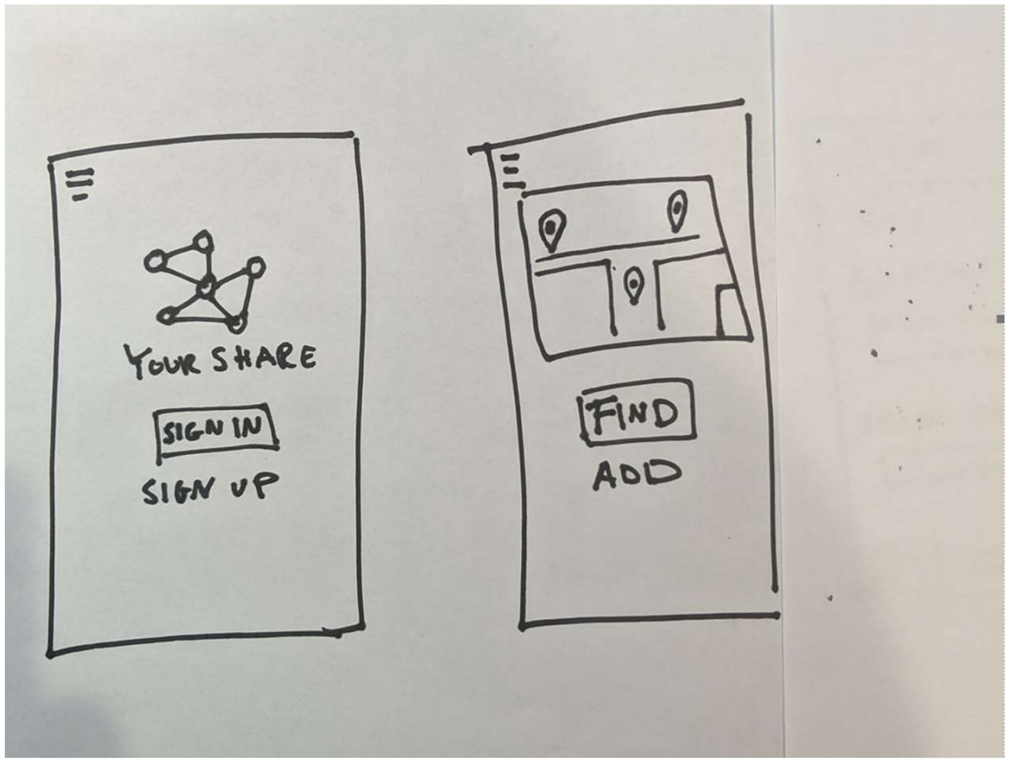


What the researcher asks

1. You open the app, what do you see?
2. You're a returning user. Sign-in.

Using in usability

What the participant sees

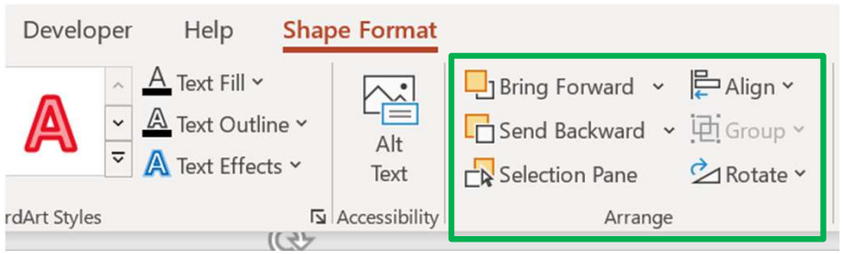


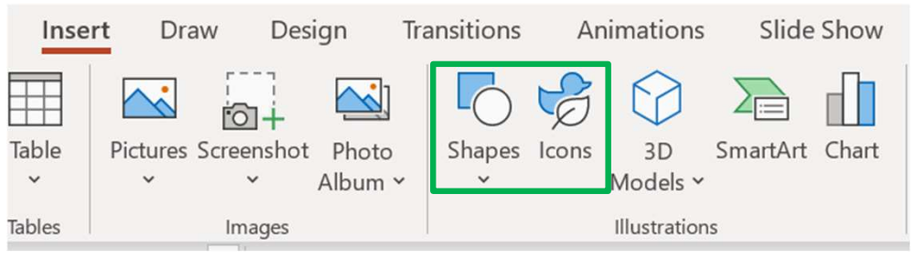
What the researcher asks

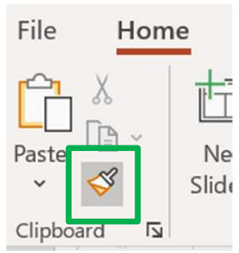
1. Great, your signed in. What do you see now?
2. What do you think Find does?
3. What would expect to happen when you press add?

PowerPoint prototyping tips

- Start with paper
- Give PowerPoint a chance
- In the Shape Format tab, use the Arrange section to get things to line up
- In the Insert tab, checkout Shapes and Icons
- In the Home tab, use the paintbrush tool to copy the styling of one object to another







Figma tips

- Start with paper
- Get a jump start with their sample and tutorial projects
- Take a Tour of the Figma Interface
- Look for getting started and intro to Figma guides on YouTube
- Free-tier is three projects and two editors