Microsoft

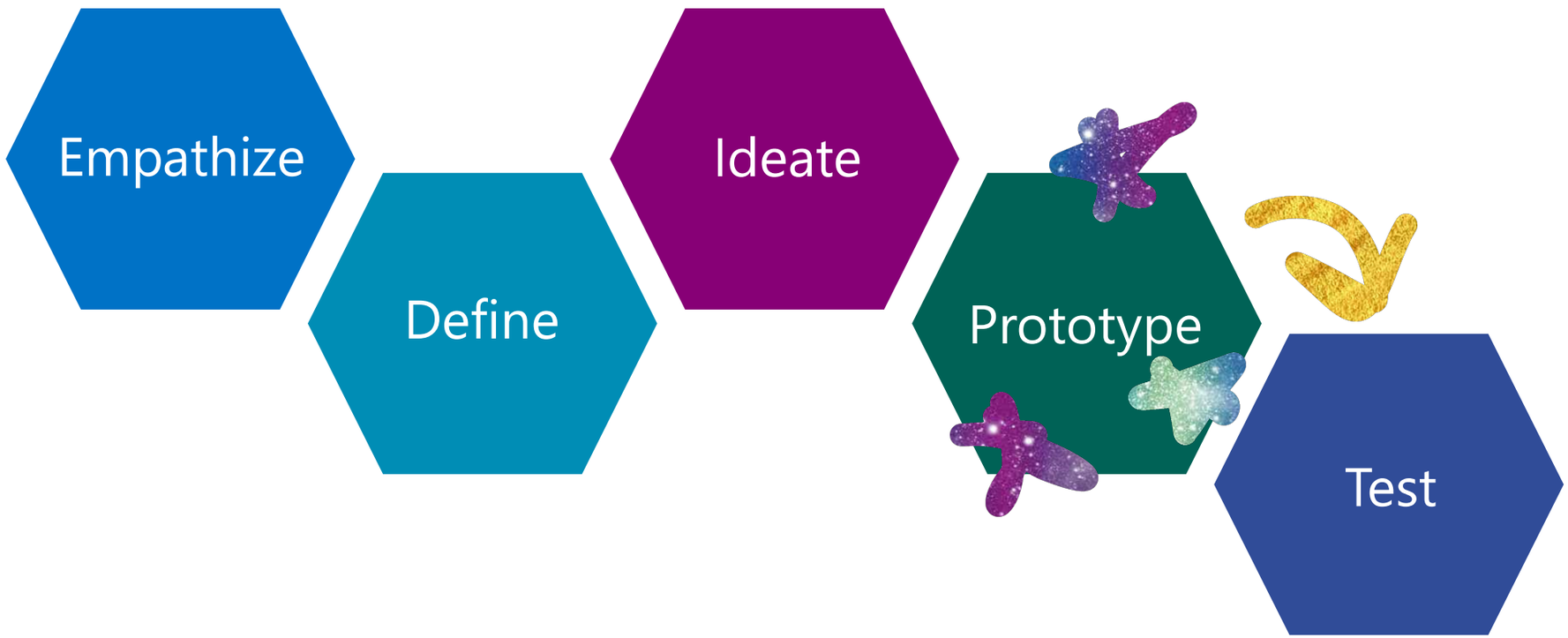
Prototype and test

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



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 future crew 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 in a certain color.
- 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 engineering 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.

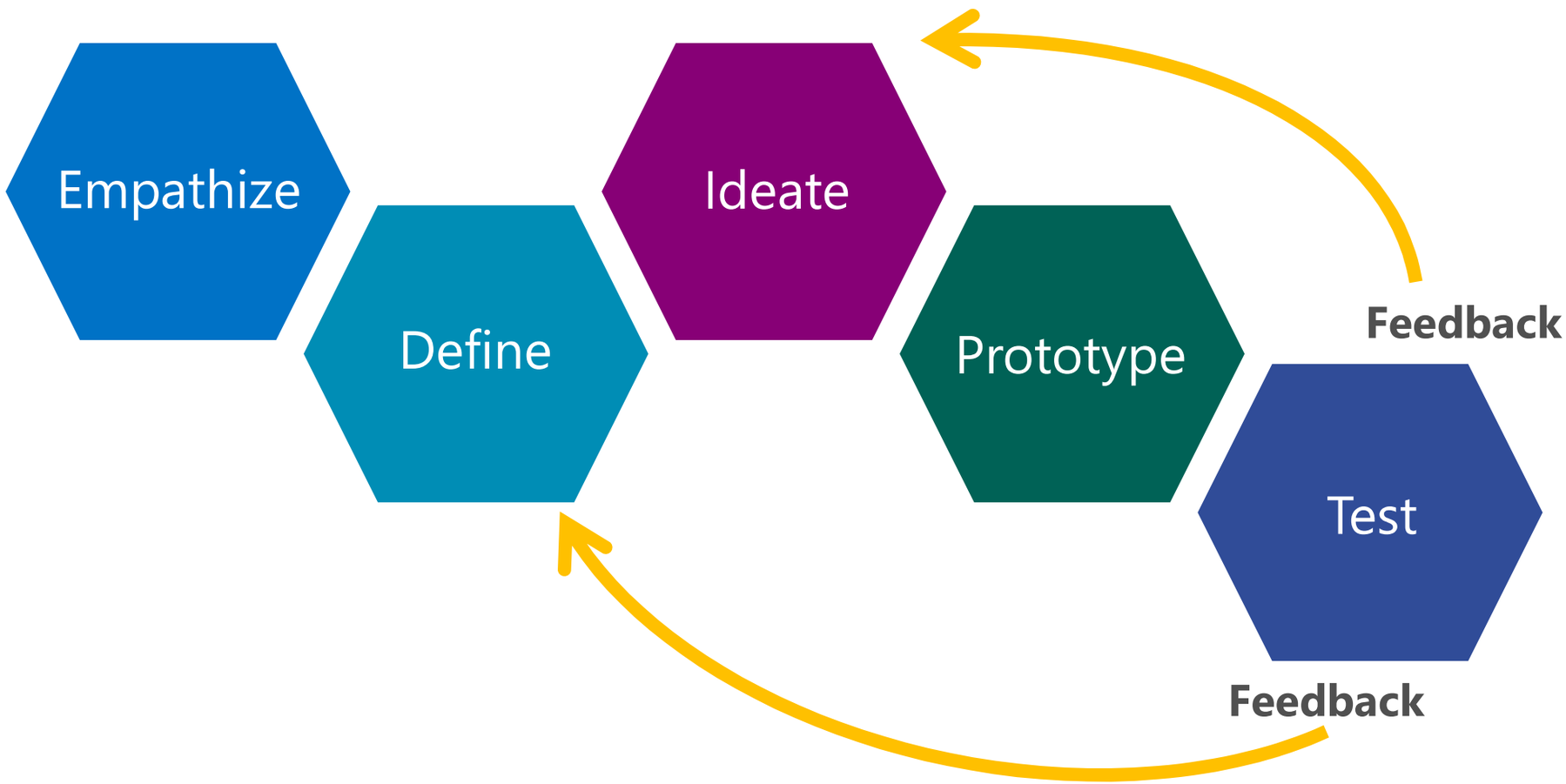
The design may include the whole interface, components / features, and how they work together. UX Designers take into consideration usability, function, technology, and branding.

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

Why prototypes?

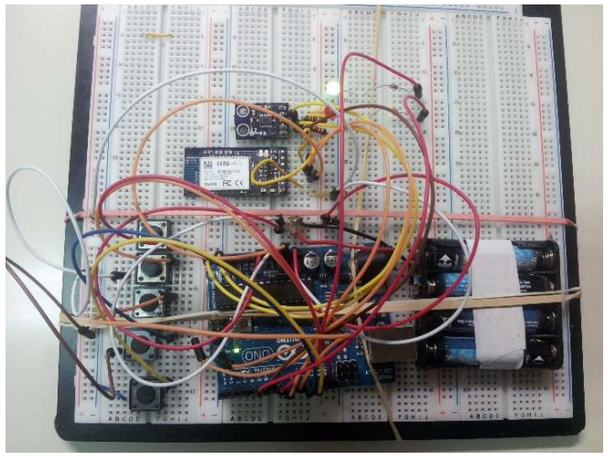
- Express ideas – visuals and samples can better represent the product than words alone.
- Enroll – it can be convincing to stakeholders to see the product in action and help get everyone on the same page in supporting the product.
- Test – it is an incredible tool for getting feedback, understanding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

Create a prototype to test and make your final product better

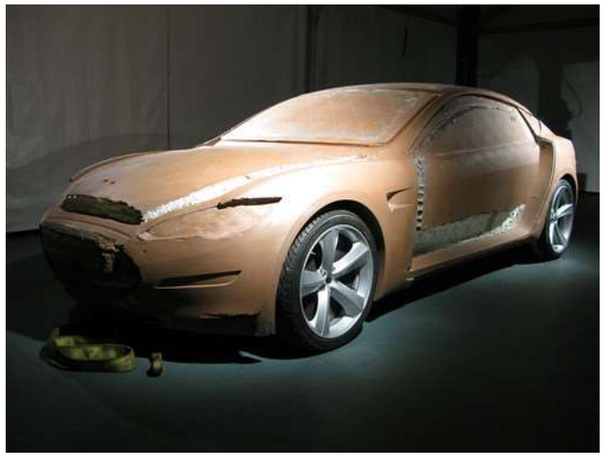


Samples of prototypes

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.

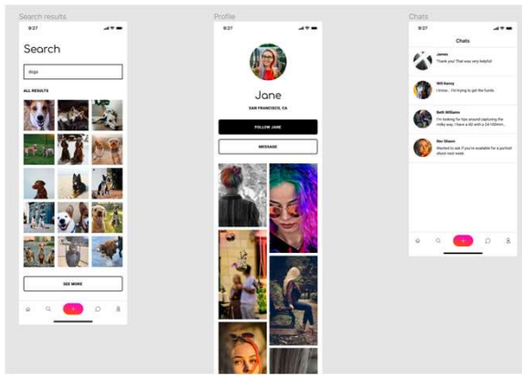
Which better meets your user needs and conveys the value of your application?

Large screen vs. small screen comparison

- Don’t focus on the features associated 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

	Low fidelity	Mixed	High fidelity
When to use	• Early in product or feature process • High-level concepts	Specific feedback on a component is needed	• 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, cheap	Focuses participant in testing	Feels real, captures motion
Tool	• Paper and marker • Wireframe tool Framebox • Wireframe template in other tool ->	• PowerPoint or Figma	• Figma • Code
Example		[FIND OR MAKE A PPT WIREFRAME TEMPALTE THAT'S NOT FROM MOBILE / WINDOWS 7]	

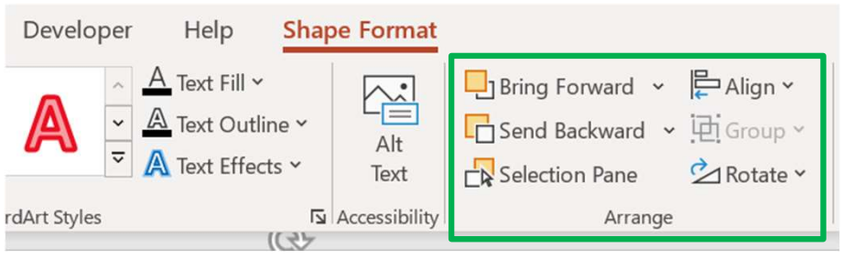
New products and features start here!

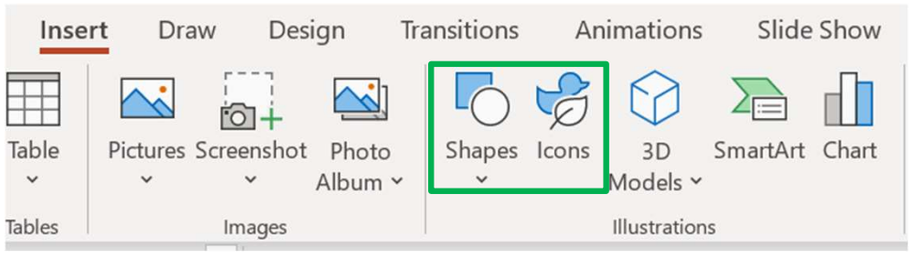
Paper prototyping tips

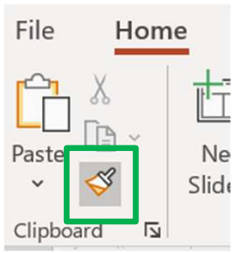
- Draw one sketch per screen
- Use shapes, rectangles, lines, circles, triangles…
- Focus on high-level over details, draw with marker, pen, or even crayon
- Use colors intentionally
- Don’t worry about showing all the words

PowerPoint prototyping tips

- Start with paper
- Give PowerPoint a chance
- In the Shape Format tab use the Arrange section to get things to lined 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