UX Foundations: Prototyping

1. **Prototyping Basics**
- A prototype is an early working model of a design used to gain feedback and rapidly experiment with ideas.
- Prototypes consists of 3 types:
- Sketch, Wireframes, Mockup
- **Sketch: Drawing of the user interface**
- **Wireframes: Grayscale high-level rendering of a user interface.**
- **Focused on information and overall layout**
- **A mockup is visual design including color, hierarchy, and iconography**
- **Interactivity: any interactive behavior occurring on the user interface that changes the state of the design or the flow.**
- Prototypes test out flows and interactions, validate design concepts and rapidly iterate through ideas.
- Test and validate your designs early and often.
- Design prototyping does not require code.
- Focus on the design, not the tool.
- Prototypes limit the expense of development.
- Test out design concepts.
- Refine useability of product.
- Communication tool for the project team.
- Prototyping limits the risk of delivering a product that doesn't solve the right business problems of user needs.
- Prototype helps in validating new product ideas, useability testing and communicating design with others that how the design is working.
- Test in person and remotely.
- Use the right tool for the right job.
- Make sure the prototype fidelity matches the kind of feedback you are looking for.
2. **Prototyping Fidelity**
- Design thinking is a problem-solving method.
- **Design council double diamond:** discover, define, develop and deliver
- **IDEO human-centered design model:** hear, create, deliver

- **Standford d.school design thinking process:** empathize, define, ideate, prototype, test
- They all are user centered, focused on empathy
- Problem statement defined by users
- Ideation
- Prototyping and iteration
- Delivery of the design
- The design process is a framework to solve design problems.
- Fidelity can refer to the visual appearance, but also the degree of functionality represented in a prototype.
- Defining the problem statement will help you ensure you are designing the right things.
- **Low fidelity prototypes** are rough representation of the design, in visual appearance and interactivity. Users are more likely to be open with their feedback. They are easy to create with little time or effort.
- **High fidelity prototypes: T**hey are close to final design and fully interactive. They are more representative of look and feel. They require more time to create. Users might not willing to give feedback. they are difficult to update.
- The goal of testing your prototype is to find out if your design solves the right problems.
- You can take the learnings from the test and incorporate them into the design and iterate.
3. **Prototyping Tools**
- Find the best tool for your workflow and your personal process.
- Creating paper prototypes help you focus on layouts, lightweight interactions and flows.
- **Pop** is a tool to create paper prototyping. You can upload your sketches and use links to make them interactive.
- One of the tools that's great for prototyping is a tool called Moqups. Moqups is browser-based, so you don't have to use a tool to create the design. You can quickly create your prototype directly in the tool. The default style of mock up lends itself to a low-fidelity visual appearance, which help reinforce that you are creating quick ideas.

- For basic prototypes, InVision is really easy to use for linking your screens together using hotspots. InVision doesn't allow you to create your design in the browser like mock-ups, so you will need to use a different software to create your screens, like Sketch or Photoshop. InVision prototypes can be created for the web, mobile, and other devices. InVision has built-in transition states for mobile prototyping, so if you're using fully rendered mock-ups, you can create high-fidelity prototypes for mobile using this tool. The limitation for InVision is simulating data entry. For example, you can't mimic someone filling out a form, because it's a static mock-up that the user will be interacting with, not a real form field.
- Keynote is primarily a presentation software, but you can use it for prototyping and for wireframing concepts and ideas quickly. Keynote has a lot of built-in animation, so it's really easy to experiment with different effects to prototype animations and help visualize interactions. One of the reasons you may want to use Keynote for prototyping over another tool is the ability to produce the interactions and animations that you're visualizing, quickly.
- Axure also has a lot of options to create a high-fidelity visual appearance so you can create your designs directly in Axure that span from low fidelity to high fidelity.