# What is Prototyping in Design?

Whether or not you know what prototyping is, you've probably already done it. As kids, most of us have sketched a treehouse design complete with telescopes and trapdoors, or constructed a car out of straws and modeling clay. You might not have known it, but that was prototyping.

Prototyping simply means making a mockup of a finished product in order to test and troubleshoot the planned design.

No matter how basic or complex the prototype may be, it's a crucial step in the design process. Making good use of prototyping is key to saving time and money, whether you're creating software or a physical product. In this post, we're going to take a closer look at what prototyping is, why it's so important, and how to get the most out of it. Whether you're a designer, a programmer, or just curious about the design process, read on to learn all about prototyping from A to Z.

# The basics of prototyping

Creating a prototype allows design teams to hone an idea long before a finished product is made, saving time, money, and headaches for everyone involved. Why are prototypes so useful? Let's look at a few of the purposes prototypes serve:

- Facilitate communication One chalenge that's often faced when designing any kind of product is communicating ideas between the design team and other stakeholders. Whether you're working with a client or talking with your company's CEO, designers and non-designers often feel like they're speaking different languages when it comes to goals and needs.<sup>1</sup> Having a prototype as a visual aid makes communicating ideas clearer and simpler.
- Help designers relate to end users Designers can sometimes have difficulty imagining how an end user will approach a new product. When you've designed something from the ground up, you know the ins and outs of it so well that it becomes hard to view it with a fresh eye. Having a prototype can bring to light UX challenges that weren't apparent during planning.<sup>2</sup>
- Fill in what research can miss While you'll still start your design process with research into what's already been done in your space and where you can innovate, research can't replace testing with a prototype.<sup>3</sup> Both UX and UI teams rely on prototypes to test and refine concepts in the design stage of any new product or system.

<sup>&</sup>lt;sup>1</sup> Management Science. *Collaborative prototyping and the pricing of custom-designed products.* <u>https://www.jstor.org/stable/30046055</u>

There are many different types of prototypes. The choice of which one to use depends on the purpose of the prototype, how far along you are in the design process, and the resources available. For example:

- Paper prototypes are best used in the first stage of the design process, to quickly envision the basics of a user interface and brainstorm possibilities for layouts and navigation
- Digital prototypes can be most useful for later iterations, to test functionality and close in on the final design<sup>4</sup>

# Why does prototyping matter?

Prototyping is one of the most important parts of the design process, and it's important to allow plenty of time for it. You should expect your team to test, revise, and create new prototypes multiple times throughout the design process.

The prototyping stage is when designers have maximum flexibility to explore different ideas and find the best solutions to UX and UI problems. It allows them to present their designs to users, quickly implement changes, and get feedback from people outside the design team. Collaborative online design tools can streamline the prototyping process by making it quick and easy for designers to share prototype versions across departments and with test users.

It becomes much harder and more costly to make significant changes later in the process, so it's crucial to create multiple prototypes and revisions before getting locked into a design.

# Low-fidelity vs. high-fidelity prototyping

While there are many kinds of prototypes, they all fall into two main categories: low-fidelity and high-fidelity. Let's look at the cases where you might use each type.

# Low-fidelity prototypes

These are the most basic kind of prototype, and this is usually where the prototyping process begins. Low-fidelity prototypes:

- Can be as simple as a sketch of the envisioned product or a flowchart mapping out the relationships between a website or app's screens
- Are quick and easy to create and revise

<sup>&</sup>lt;sup>2</sup> Interaction Design Foundation. *Design thinking: Get started with prototyping.* 

https://www.interaction-design.org/literature/article/design-thinking-get-started-with-prototyping. <sup>3</sup> Interaction Design Foundation. *Design thinking: Get started with prototyping.* https://www.interaction-design.org/literature/article/design-thinking-get-started-with-prototyping.

<sup>&</sup>lt;u>https://www.interaction-design.org/interacure/article/design-thinking-get-started-with-prototyping</u>

<sup>&</sup>lt;sup>4</sup> Wise Geek. What is digital prototyping? <u>https://www.wise-geek.com/what-is-digital-prototyping.htm</u>