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Summary: PROTOTYPING FOR PHYSICAL AND DIGITAL PRODUCTS

In her text, McElroy begins by explaining that a prototype is a preliminary version of a product. Following versions of the product are drawn from the previous prototype and so on. Some examples of industries where prototypes are used are touched on, such as architecture and industrial design, where plans, sketches and models are created. The category I find is most relevant to this class is 'Personal Electronics'. In this field, a project is broken down into components which are tested individually (functionality, materials, compatibility, etc.) When all prototype components are functional, they are put together to form the final project.

McElroy discusses the reasons behind why making prototypes is so important. They help us understand our progress and visualize goals. We can then figure out what could use more work and improve it for the next prototype. Another point she makes is that it opens doors for feedback. A prototype model can be a lot more effective to communicate an idea than just words. Lastly, a prototype can shed light on new ideas in a shareable form. By making prototypes throughout the evolution of a project, we reduce the possibility of creating a final piece with an unforeseen problem.

In prototypes for digital and physical products, the goal is the same: to make the best product possible. In both cases, the fidelity level of each prototype is very important, and depends on the specific objective. For low-fidelity prototypes, the objective is to test the overall concept, to discover whether the project's headed in the right direction. These often lack in context, as the medium intended for the final version is often not the one used. For example, it may be a sketch of an idea. Mid-fidelity prototypes start to take the shape of the final version, but the details are still missing. They are mainly made to test out the functionality. High-fidelity prototypes are nearing the end of development. In this stage of testing, the focus is on the

details, and the aim is to smooth out any minor problems or bugs. The higher the fidelity, the more time, money and resources it takes to build so it is important to start low and work up.

The material aspect of designing a physical product makes it different from a digital one. The prototypes need to reflect on the material and the electronics. When choosing the materials, there are many influential factors such as the user, the environment and the electronics involved. When working with electronics, the prototype levels are very similar. Start with a sketch, write up the pseudocode and test out individual components. Then for higher fidelity, start piecing the project together and testing each function.

When prototyping for digital products such as programs or apps, the main difference is the focus on interaction between the user and the product. A smooth experience is important, so the user's speed and ease with navigating the software to find what they need are tested more extensively. Sketches are considered low fidelity; a coded version would be mid-fidelity and striving for a flawless product is done with high-fidelity prototypes. McElroy gives some good examples of questions to ask a user when testing a prototype, and notes the importance of getting them to talk about their experience as opposed to answering yes/no questions, and to give them specific tasks to complete. There is valuable data to be gathered from their reactions.