Google's design team discussed the importance of sketches and paper prototypes in product design, even at high-tech companies where the design process often starts with a simple sketch. Sketches can be used at any stage of product design to help designers quickly express ideas, optimize user interactions, and communicate key design decisions. Through sketching, designers can define user flows, explore layouts, draw wireframes, and add details such as buttons and colors. Paper prototypes further enhance the process, allowing simulated interactions, test screen transitions, and quickly validate designs.

Paper prototypes are not only low-cost and flexible, but also help designers think about the purposeful use of color, as well as explore the effects of elevation and shading. Using Google's Material design specifications, designers can design more intuitive interfaces through layering, color, and shading. The design team suggested using primary and accent colors purposefully, and simulating the height on paper. By taking photos to document prototypes or creating animated GIFs, designers can easily share and validate ideas. Sketches and paper prototypes form the basis for the final high-fidelity digital model and are indispensable tools in the design process.

The second video introduces the core concepts of digital prototyping and the use of two tools. Digital prototypes explore ideas through interactive design and quickly test designs without coding. Using the Principal tool, the team built a prototype of an e-commerce application that simulates user actions such as scrolling, clicking, adding a shopping cart, and more. With simple drag-and-drop and setup, the prototype achieves realistic interactions that support user testing and team communication. In addition, some tools provide gesture-based interaction design capabilities to build detailed interaction prototypes through nodal logical blocks. Both tools demonstrate the different focus of prototyping, and suggest trying multiple tools to find the right workflow.

Native prototyping is an important stage of product development that aims to bring ideas to life by writing code. Compared to paper and digital prototypes, native prototypes focus more on real devices, data, and users, helping teams validate the product experience in a real-world environment. Whether it's developing an Android app through Java or building an iOS system, native prototyping requires technical capabilities that involve multiple platforms and hardware capabilities, such as sensors, cameras, and GPS. This approach allows for rapid iteration and low-cost experimentation, providing an opportunity to evaluate frameworks, libraries, and user responses.

The core of native prototyping is to validate the user experience, not only designing the look, but also testing the layout, animation, and interaction features. By getting feedback early in development, the team can focus on perfecting key features and setting the right direction. In addition, prototypes help communicate with stakeholders to demonstrate the value and potential of the product through practical experience. In essence, native prototyping is a process of exploration, experimentation, and validation. It combines technology and design to drive products to meet user needs faster and more precisely, while enhancing team confidence and ensuring that the end result is successful and engaging.