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The Idea

Apple and iOS users expect high-quality designs in applications on the App Store. However, there are currently no UX tools optimized for iOS design. Many mobile UX designers use a tool like Zeplin to specify how a screen/layout should look, and then it is up to the developer to interpret the Zeplin layout, implement it, and make it scale to different device sizes. This approach makes it difficult for the UX designer to explain exactly how they want the layout to behave on devices of different form factors and results in both the UX designer and programmer doing the work of specifying every detail of the design.

We propose an iOS application that allows UX designers to design interfaces directly on the devices they are intended to be used with. Although doing UX design on an iPhone would be somewhat cumbersome and inconvenient for most projects, it offers major advantages when the design is intended to be used with iPhone. Namely, the design can be specified precisely for all form factors. Additionally, once the design is complete, it could be automatically converted to Swift code, which would save developers a lot of time. Lastly, multiple UX designers and developers could collaborate on the same project as long as they all had access to an iPhone. And, of course, users of the app could work on their projects anywhere as long as they have their phone.

The Implementation

The main components of this project are the backend (a server to manage accounts, data, and sharing), the frontend (an Xcode project written in Swift for the iOS app), the algorithm (converting the layout on the screen to Swift code), and integration of 3rd party APIs for image manipulation, graphics, account management, etc.

Most of this project shouldn't be too difficult to implement. Many applications (such as PowerPoint for iOS) already implement much of the functionality we would need to, such as dragging-and-dropping items like text boxes on to the screen, moving them around, and resizing them. The algorithm to convert to Swift code should also be trivial; since the UX designer already specified the frame of every UI element, we could just iterate over the subviews of the parent view and record their frames in a line of swift code.

The Challenges

The most challenging part of the project may be making it user-friendly; it's important that the user can see the whole screen to have an idea of how their design will look when used, but they also need to be able to access various tools and items to manipulate the screen. Additionally, it

may be difficult to find usable 3rd-party tools to help implement some of the more complicated functionality in the app, like drag-and-drop interfaces and user accounts.

We will minimize these risks by starting with minimal goals in terms of UX features we will include; we don't provide all the options that a design suite like Zeplin or Photoshop provide. Additionally, we will do good research and ensure the availability and usability of APIs we need before starting the project.

The Alternatives

As previously mentioned, many companies use tools such as Zeplin for their mobile UX design needs. Additionally, there are some options such as Marvel that let you turn sketches into interactive prototypes on your phone, and options such as FluidUI that allow you to preview a design on a mobile device. However, to the best of our knowledge, there are no options that let UX designers work directly on the devices they're designing layouts for, and there are no options that convert their work directly to usable code.