



**Faculty of Engineering and Applied Science**

**UI/UX Design**

**Project Final Report**

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# Interface Design for Mobile Applications

## Introduction

We now live in a world where everything is accessible through your phone, from people to products and just about anything in between. With the way that technology is progressing, it's hard to imagine that things like social media and mobile applications never even existed on a smartphone just a few years ago. And while we have made big strides in the years since, the user interface for mobile applications still remains a core issue for developers today, with many designers facing challenges when it comes to figuring out how to use UI elements to achieve near perfection. In particular, developers must take many factors into account when starting the process of creating a mobile application. First, they must ensure that the application adheres to client needs while also making it visually appealing. Next, the usability of the app plays a major role in its success - with the most important part being its completion - followed by the UI experience of the app. In fact, the greatest determining factor for whether an app will receive a good review or a bad one is the user experience. The reason for this is that even if the app functions and meets all the necessary requirements, a UI designer's job is to take it one step further: making it as easy to use as possible by getting rid of all the clutter. Going back to visual appeal, the less clutter, the more aesthetically pleasing the app will be. And with more people reaching for their phones as opposed to their desktops, there's a significant likelihood that mobile application usage will soon overtake that of websites. Thus, leading to greater competition among designers, and a greater need to ensure that your app stands out from the rest.

## Challenges

There are various issues that users must face when it comes to using a mobile application. Given the fact that we all have our own unique preferences, it can be quite difficult for a designer to come up with the 'perfect' solution, which means that they must adhere to general criteria to accommodate the majority of their clients and work to achieve near-perfect status. The biggest challenge comes back to attempting to satisfy every individual client's needs as well as garnering customer loyalty and the highest ratings possible, but to do so requires making the app both inherently user-friendly and visually appealing. Unquestionably, those two tasks are difficult to accommodate as it requires coming up with the idea for the right design to interest the clients. The next problem lies with having to determine the right size to make the buttons and characters for optimal readability, as the phone screen is proportionally smaller than that of a laptop. On the same note, it is also important to reduce the amount of information on the app itself so as to not take away from its features - the main purpose of any app.

Compatibility is yet another challenge that may present itself. The average user has a significant number of applications on their device, with those applications requiring the assistance of other applications to meet the client's needs. For instance, a delivery application may require the assistance of Google maps, while a social media app may need Gmail to log in or register. So, if one of these third-party applications has any errors, it will reflect poorly on the original application and make it appear that the developers were at fault. Apart from the problems that this can pose for users, any sort of complication also has the ability to add further stress on developers as finding solutions can be quite time-consuming. As a result, not gathering enough user feedback is the biggest fault any company could make as this represents a vital opportunity for making product improvements. Simply put, research and testing must always be conducted in the market in which you are focused, and with the people that are invested in it.

## Solutions

Every good company has one goal: to meet and exceed customer needs. To achieve that, requirements must be set and plans put in place. More specifically, development teams will meet to determine the best course of action toward meeting this grand goal and plan out what they must do from start to finish. These meetings must always encourage communication between each member in order to mobilize the plan moving forward and increase efficiency. As mentioned, there will always be challenges that present themselves throughout the development process, and to tackle those challenges, we must come up with effective solutions. To allow for the app to run smoothly, we must make it as easy as possible for a user to operate, all the while making it visually appealing. Essentially, both these solutions go back to the idea of having 'less' - less writing, less visual clutter, and fewer unnecessary features. For a user to truly grasp how the app works, developers must include more animations and transitions to enhance visual learning. It is better to have key features laid out for the user to see right away instead of a function that searches for them. That being said, if there are too many buttons to the point that a user must scroll, this can also pose an issue. Simple will always get the job done without issues, and the right design layout will lead to the best user experience. All this works best if there is a timeline that communicates what must be done within each stage, and encourages meeting deadlines and reducing time in any way possible.

Consistency is always key; the UI for the app should be consistent throughout every section in order for a user to navigate it with ease. Solving the issue of compatibility requires utilizing tools that test for these errors and doing research on third-party activities to determine if they will work with the app. Getting user feedback is the final requirement for building an app as it is the best way for developers to ascertain how well users can operate the app as well as their opinions on what they like and dislike about it. There are many different ways to tackle this portion, namely gathering feedback during the design phase before any sort of building has started and adjustments can be made. Firmware is key to achieving this as it allows a group to design the layout without any functionalities and provide a general mockup of how it will look. Another way to get user feedback is to assemble a census of individuals that vary in age and other factors, then have them try out beta versions of the app before release so as to gather user input. And finally, there is the option to incorporate a feature that allows users to fill out a form about their experience with the application.

## Use Cases

**Use Case #1: Food Delivery/ Ordering Apps:** For a food related mobile application such as food delivery or food ordering app like UberEats or Instacart, the user interface is critical to obtain and maintain users. A key user interface component that must be implemented into an app such as this would be navigation components. This important component helps users who are new to the app or need help navigation through the app with ease. If the user has difficulty navigating through the app to add items to their cart or find specific products and stores, it will discourage them from ordering again on the application. The most efficient way to implement the navigation component is by implementing search bars for users to manual search items and stores, and to implement categories on the homepage for easy user access.

**Use Case #2: Social Media:** Another mobile application where interface design is essential is in social media applications such as Instagram, Twitter, and Snapchat. Social media applications are the most important type of mobile application to have an efficient interface design. Having a user interface that satisfies everyone will maintain daily users on the app. An interface design that consists of search buttons, real updates, and a simple but unique design helps social media apps stand out and maintain daily users.

**Use Case #3: Entertainment:** Entertainment applications such as Netflix and YouTube are also a massive category in mobile applications, where interface design is very important in creating a successful application. For entertainment applications, simplicity in the design is key for users, where videos and movies display pictures, titles, and descriptions in order to maintain users.

# Conclusion

In conclusion, the main objective of creating an application is to make sure that it meets the client's needs in such a way that it generates repeat customers. For the app to be successful, developers must come up with solutions to tackle the challenges of the market in which they are entering. In specific, many factors go into the planning stage to accommodate for any issues that may slow down development or the meeting of deadlines. Developers must also put user needs first, and then attempt to make the app visually appealing. Furthermore, constant testing is required for any app to determine whether or not everything is running smoothly, while customer feedback is essential to see if there is room for improvement. As a general rule of thumb, less is always more when it comes to app development, so making it as simple as possible to use is a cornerstone of success. If all these points are considered and implemented in the development of the app, then it will be more useful to clients, and effectively lead to more happy and appreciative customers.