**Android Application Project | Tip Calculator**

**Description:** The goal of our project application is to construct a working app that allows a user to calculate the required tip based on number of people, cost of bill, and tip percent the user would like to pay. The functions of the application will allow the user to either split the check with everyone or know the total tip amount. The ability to have text boxes and drop downs will allow easier access to the user to navigate more affectively across the interface.

The goal of such a project is not only to teach us how to construct and build out an application but to let us solve problems that could be simplified even more. The main things to look at when constructing a framework for an application is the main problem that you are trying to solve. A problems goal is to cut down on time and sometimes cost, this is why I have chosen to construct a tip calculator. All phones have a calculator but not everyone knows how to calculate tip based on percent or dividing up the check. The goal with my application is addressing the problem with understanding on how to calculate and creating a solution that will cut down on time so that users can focus on everything else going on around them.

**Problem:** The problem being addressed within the application is to simplify the process of tipping at any restaurant, we see that the increase of people within a group increases the stress of calculating tip based on overall and personal price since users want to converse with their group instead of trying to calculate the tip. By creating an easier way to simplify this process we can create a stress free environment for the users to quickly calculate tip without any added additions.

**Platform:** Android

**Front/Back end Support**

Front end support is seen within the software development or hardware part of the user interface. Since we do not get to dictate which hardware we are using other than knowing that the application will be used on mobile devices we need to look within the development of the software. The different concepts and components that will support the front end that are:

Design/markup language: Java/ Kotlin/ C++

Usability/Accessibility: The users will operate the application from their mobile devices using any android device that utilize Nougat 7.1 or higher to run the application. Utilizing an older yet optimized version of android SDK’s will allow users with older and preexisting phones to operate the application without any issues.

The reason behind the different concepts and components are to relocate specific required skills to different sectors within development and maintenance. To be able to develop access for users to view one way as developers are able to see the others is how front and back end work.

**Front End:** This is where we would have the user interface that will allow them to navigate around the application. Since we are focused on solving the issue of time to find out the tip we would create a simplistic interface with easy to understand directions to get from point a to b. This section is mainly for the visuals that the user will see and experience.

**Back End:** Our back end will house all the functions that would allow the user to input the price of the meal, how many people the check would split between, and percent of tip, if they would like to have percent of tip for their own meal or all. Since we wouldn’t need a database to store any user information or recent inputs we can focus on making a simple function structure to lead the user through the process.

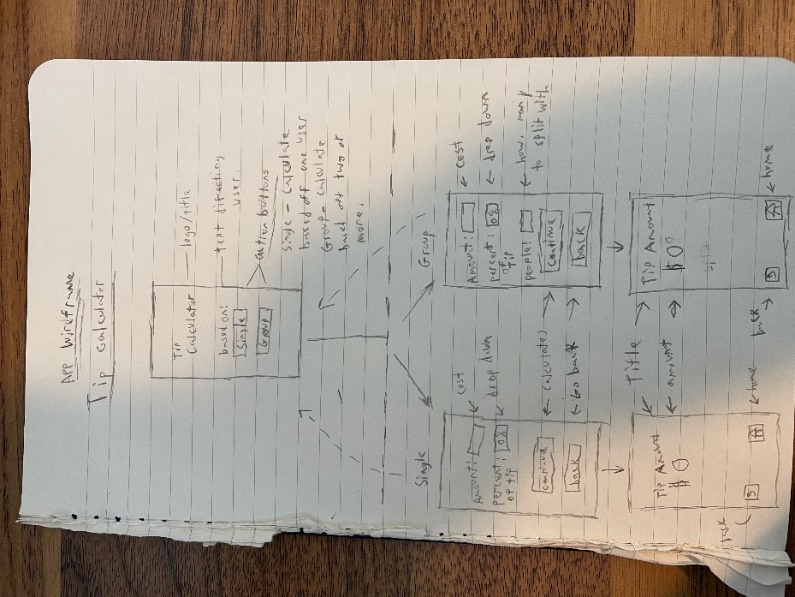
**Functionality**

Simplicity – Creating an interface that will capture people who have short attention spans can increase user interactions within the application. This is why I decided to create a seamless interface that involves an easy to use navigations which most users will recognize based on other popular apps that they may already utilize within their daily lives. Understanding the competitors and applications that are able to execute well on such a design for their users allows us to improve and cater to the same design techniques without adding difficulty within the app.

Speed – Looking at retention in how simplicity works within our device has integrated the speed of movement between each layer within the application. Having a faster loading speed between button pushes allows users to quickly locate the right information within the shortest amount of time.

Security – Since our application does not need the use of the internet in any capacity since everything will be built within the application allowing users to utilize all the features that our application has to offer without he worry of any data or information being illegally accessed.

**Wireframe Design**

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