**iOS Mobile App Project:**

**Advanced Calculator**

Team members:

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COMP2165: Mobile Development using Swift,

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**Project Overview**

We are going to create an advanced calculator using XCode version 13.4.1(13F100), macOS Monterey version 12.5.1 (i7) and Swift 5.0. The application can perform arithmetic operations and provides some functionalities(Convertors) such as getting the difference between dates, converting length in various units, and measuring the weight and mass, temperature, time, and speed.

**Functional Requirements / Use Cases**

We will be having different scenarios, each of them having a unique functionality. We will create a list view controller where the user can access all these different views to use our application’s functionalities.

* The Standard mode may be used to conduct standard mathematical operations such as addition, subtracting, multiplying, and dividing as well as to discover square roots, compute percentages, work with fractions, and locate other mathematical expressions. Adopting this option will likely make the majority of individuals feel the most at ease.
* The Date Calculation mode is a helpful tool that lets you determine the difference between two certain dates. This is ideal for working out information like your current age or the number of days till your next trip. Simply choose the start and finish dates, and the calculator will work out the months, weeks, and days that will pass between them.
* The length converter mode will be useful to convert length into various units such as millimetres, centimetres, meters, feet, inches and kilometres
* Users can convert weight into the units like carats, milligrams, centigrams, grams, kilograms, ounces and pounds.
* The application will also have a method that the user will use to convert temperature into 3 different units (Celsius, Kelvin, Fahrenheit).
* Users can be able to convert time into seconds, minutes, or hours.
* By using speed mode the user can measure speed by meters per hour, kilometres per hour, and miles per hour.

**Project Design**

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**Work Assignments**

* Our first team member Raj will work on a controller called standard calculator and login view and list view controller there he will make connections to other controllers using storyboard ID and provide strong validations for standard view, so there would be no point where the program would break.
* Our second team member Yakshi will work on controllers for Date Calculations where she will get the date difference in years, months and days, Length Converter where she will use buttons to convert length from/to different units, and Weight converter where she might use drop-down or buttons to convert weight.
* Our third team member Nishtha will work on the Temperature controller where she may a use picker view or buttons to convert temperature values in various units, Time controller where she will create a drop-down to change the value from/to hours, minutes and seconds and Speed Calculations where she will either use picker view or buttons to convert the speeds in different units.

**We will provide strong validation in each view so there will be no point where our program would break.**