



Faculty of Engineering and Applied Science

<b>Course:</b>	SOFE4640U: Mobile Application Development
<b>Assignment:</b>	#1
<b>Topic:</b>	Basic Android
<b>Due date</b>	Oct. 14, 2021 11:59 pm

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## Introduction

The purpose of this assignment was to create a simple easy to use android application to calculate the equated monthly installment for a user's mortgage. Using the tools and knowledge obtained throughout the duration of the course, best practices were followed to ensure that the code was comprehensive enough to be understood by another developer with ease. In this assignment 1 report I will outline the implementation of my views and layouts used in the creation of this android application.

## EMI calculator application

I developed this application with the user's comprehension, appeal and ease of use of the app in mind. As such I deemed only necessary to create the main activity with 2 fragments. The first fragment was an ordinary home screen to ease the user from directly thinking about the financial obligation of the mortgage payment, they did not have to think about their numbers just yet. At the bottom of this home screen of the app was a 'next' button which brought the user to the second fragment and the page in which they would be able to calculate their EMI (equated monthly installment). On this second fragment the user is presented with three input fields labeled for the principal of the loan amount, the interest rate and tenure, which are all that is needed to calculate the EMI. As the user inputs their corresponding numbers, EMI can be calculated using the principal amount of the loan held in the variable 'pAmount', the interest rate per

annum held in the variable 'iRate' and the tenure (duration of the loan in months) held in the variable 'Tenure'. Using the equation:  $E = P \times r \times (1 + r)^n / ((1 + r)^n - 1)$  where E is the EMI, P is the pAmount, r is iRate/12/100, and n is the Tenure, the EMI can then be calculated using the calculate button below the input fields. This then displays the user's EMI at the bottom of the screen.

## **Layouts**

Layouts were a great tool used in this assignment to ensure the EMI calculator application could be displayed correctly on the user's device. By constraining views to either sections of the screen or inputs to their labels this ensures that on smaller or larger devices these fields will always be placed in a consistent and correct manner.

## **Views**

Views were very helpful to properly display and organize data which users could input and interact with. In the development of this app I was able to experiment with a variety of different views to conclude which would be the easiest for the user to use. I ended up using TextViews, Buttons, Number in Decimal Views to display the information to the user and operate the application. I used the Number Views to take the input of the user, the TextViews to label the input and EMI result fields, and Button views for navigation and, call the EMlcalc() method which sets a blank TextView at the bottom of the page to the EMI result.

## **Conclusion**

This was a very interesting and beneficial experience in learning about and creating a simple EMI calculator android application. Though debugging the agreements had taken its time. After the first issue was resolved, the rest seemed straightforward.