Mobile Application Development (SOFE 4640U)

Assignment 1: Basic App Development

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Due Date: October 2, 2024

GitHub Link: https://github.com/rohanradadiya/MOBILE_APPLICATIONS_ASSIGNMENT1

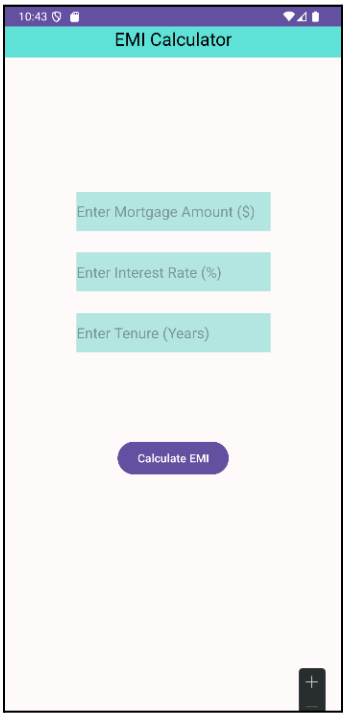
To start, assignment 1 for Mobile Application Development served a great purpose in being able to understand the steps necessary for basic app development. Being able to work through Android application development was the main purpose of this assignment. Through the various labs conducted so far in the Mobile Application Development course, there was basic knowledge learned in regards to learning Android Studio and the different features available in it. This project allows being able to tie all the knowledge to be able to put together this "EMI Calculator" application.

In terms of layouts used in the application, there were two of them. The main purpose of layouts in the first place is to be able to provide the visuals of the application and design the user interface of the activity. Layouts utilize XML, hence the files for the layouts end in .xml. They are also categorized under the "layout" package in Android Studio. In terms of this project, there were two layout files used, being activity_main.xml and activity_emicalculation.xml. Moving on, in terms of the activity_main.xml, it allows for the layout and design for MainActivity. The layout is technically built using ConstraintLayout, which is meant to allow the various placements of the views. Within this layout, three "EditText" fields allow the user to enter their desired values to be able to calculate the EMI. Specifically, the three inputs are the mortgage amount (in dollars), the interest rate (in percent), and lastly the tenure which represents the years. There is also a TextView at the top of the layout which contains the name of the application, "EMI Calculator", and a button that the user can click on to be able to calculate the EMI, which navigates to a different page on the application. The second layout, "activity_emicalculation.xml", is the second activity layout, which contains a TextView to portray the final calculation of the EMI to the user, and a "back" button to be able to navigate to the previous page to change any values or just to return in general.

Next, there are a couple of views used in this EMI Calculator application which play a major role in the functionality. For instance, in MainActivity, the "EditText" view is utilized for the user to

be able to input their desired values for the tenure, mortgage amount, and desired interest rate. Moving on, the mortgage amount and interest rate utilize the “numberDecimal” input type because it can be a decimal value and it would play a role in the overall calculation. On the other hand, tenure was set to the “number” input type, so that the value entered by the user would tend to be a whole number. The button on MainActivity is utilized by the user to begin the EMI calculation, and when it is clicked, the values are sent to the second activity which conducts the calculation, done with the OnClickListener. Also, the back button in EMICalculation is used to be able to navigate back to the previous page to change or edit values that were originally inputted. Lastly, the TextView for the calculated EMI functioned in terms of showing the actual result for the EMI to the user, as a string.

Finally, intents are crucial in Android application development because they allow for the passing of data between activities or pages. In this app, there is an intent utilized for the passing of data from MainActivity to EMICalculation. Because there is a button that calculates the EMI, in this case, the “Calculate EMI” button, the intent allows for the inputted values to be passed to EMICalculation to be able to compute with the numbers. As seen in the code, there is “getIntent” utilized for the receiving of values, all operated through the intents.



Overall, the assignment was successful in allowing me to apply the current knowledge learned in the course to calculate the equated monthly installment practically based on the user’s inputs.