Mobile Application Development Assignment 1 Report

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Github Repository: https://github.com/kunalpanda/Mobile_Dev_Asign_1

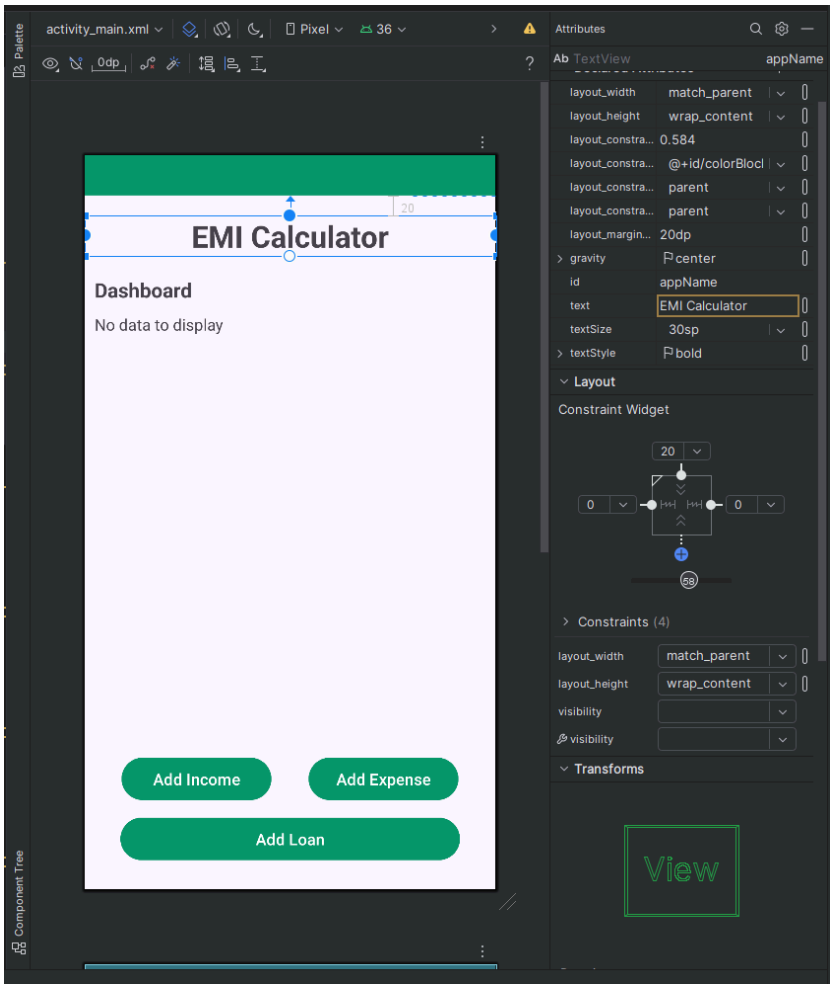
Introduction:

This report outlines the detailed use of various activities, views and layouts used within the EMI calculator app developed for SOFE 4640U. Overall, this app uses four activities:

1. **Main Activity:** Home page of the app, includes buttons for navigation purposes and a dashboard outlining monthly income, expense and savings/deficit.
2. **Expense Activity:** The expense logger that accepts both one time and recurring expenses, along with an expense name for organization purposes. This page also has a scroll view that is used to display various, categorized expenses. Three buttons are placed at the bottom in a hamburger style to allow the user to log an expense, clear the expense history, and navigate back to the home page.
3. **Income Activity:** This is an expense logger page that allows users to enter their monthly income. The user can enter multiple incomes, and the app will add them up. This page also features a hamburger-style button setup at the bottom of the page, one for submitting the income, one for resetting the income and one to navigate back to the home page.
4. **EMI Activity:** This is the loan calculator of the application. The user can enter a principal amount, an annual interest rate and a tenure to calculate monthly payments. The app also requires a name/label for the loan, as it allows the user to enter multiple loans. This page also features a scroll view, allowing users to view the monthly payment details of various loans if necessary. This page also features a hamburger-style button that allows the user to either submit the loan information, reset it, or navigate back to the home page.

Layouts:

This app uses constraint layouts to organize each activity. Constraint layouts allow for dynamic sizing across various screen sizes while ensuring each element is anchored to another fixed element or the edges of the screen. Below is a screenshot of the home page of the app, outlining the use of the constraint layout:



Intents:

This app uses intents to navigate between its various activities. The main page uses one variable to set up and store an intent, while click listen is triggered by the user and executes the intent to navigate to that specific page. This design enables efficient navigation while minimizing storage overhead and future-proofing the app.

Best Practices:

The app remains consistent with development best practices taught within SOFE 4640U by employing meaningful variable names and using comments to explain the high-level functionality of each section of code. Additionally, the app organizes reusable logic into independent functions, such as string builders and view updaters, to improve readability and maintainability. It also uses custom classes to represent data types like loans and expenses, ensuring optimal organization and encapsulating object-specific calculations, for example, computing the monthly EMI within the loan class.