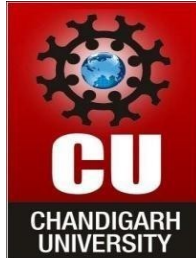


**Project Phase IV Report**  
**On**  
**Android Based Expense Management App**  
**Submitted for the requirement of Project**  
**course BACHELOR OF ENGINEERING**



**COMPUTER SCIENCE & ENGINEERING**  
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## **ABSTRACT**

Keep in mind that many people face problems with expense management. So, we took the initiative to build a app for customers which helps in managing the expenses and getting it used at right time, and avoiding unnecessary expenses. Users can set budget on the app. They can easily monitor it through visualized graph. They can search when was expenses over the budget/ deadline, it will also tell how much time is needed to neutralize the expenses. This app shows detailed information about expenses on daily basis. This application provides login to the user. They can see their previous and current expenses. Using our service, customers can more efficiently handle its expenses. Not only can this program help users handle their expenditures, but it will also help marketing executives organize campaigns according to user needs. With advanced features such as auto scan for receipts, it stands out as a quick but effective solution for controlling and maximizing the expenses of the company. This makes the analysis and cost flow smoother, with the recording of expenses offline without internet will not be a burden.

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## **Use of Modern Tools in Design and Analysis**

### **1. JAVA:**

Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. Java has an extensive set of libraries. It is easy to take advantage of these libraries. Android SDK has many standard Java libraries included. Android is made to run on different platforms i.e. hardware platforms. Thus architectural neutrality is desired and necessary. Android code is written once and to execute need to compile and optimize native code for better performance on various devices. Java has platform independent feature, so it is used for android development.

### **2. XML:**

XML stands for Extensible Markup Language. XML is a markup language much like HTML used to describe data. It is derived from Standard Generalized Markup Language(SMGL). Basically, the XML tags are not predefined in XML. We need to implement and define the tags in XML. XML tags define the data and used to store and organize data. It's easily scalable and simple to develop. In Android, the XML is used to implement UI-related data, and it's a lightweight markup language that doesn't make layout heavy. XML only contains tags, while implementing they need to be just invoked.

### **3. Android Studio:**

Android Studio is the official integrated development environment (IDE) for Android application development. It is based on the IntelliJ IDEA, a Java integrated development environment for software, and incorporates its code editing and developer tools.

To support application development within the Android operating system, Android Studio uses a Gradle-based build system, emulator, code templates, and Github integration. Every project in Android Studio has one or more modalities with source code and resource files. These modalities include Android app modules, Library modules, and Google App Engine modules.

### **4. Firebase:**

Owned by Google, Firebase is a complete package of products that allows to build web and mobile apps, improve the app quality, and help your clients grow their business. Firebase manages all data real-time in the database. So, the exchange of data to and for from the database is easy and quick. Hence, if you are looking to develop mobile apps such as live streaming, chat messaging, etc., you can use Firebase. Firebase allow syncing the real-time data across all the devices- Android, iOS, and the web without refreshing the screen. Firebase offers integration to Google Ads, AdMob, DoubleClick, Play Store, Data Studio, BigQuery, and Slack, to make your app development with efficient and accurate management and maintenance

## Discussion and report/results analysis

The first section will discuss the details of the experimental design. The second section discusses the datasets, their purpose in this chapter, and their characteristics, such as their origins, their authors, and their distribution. The third section details the proposed model's implementation and the hyper-parameter tuning process. The fourth section reviews the performance of the proposed models.

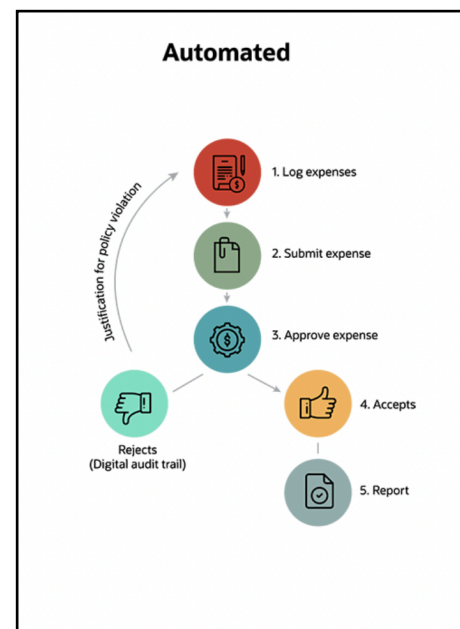
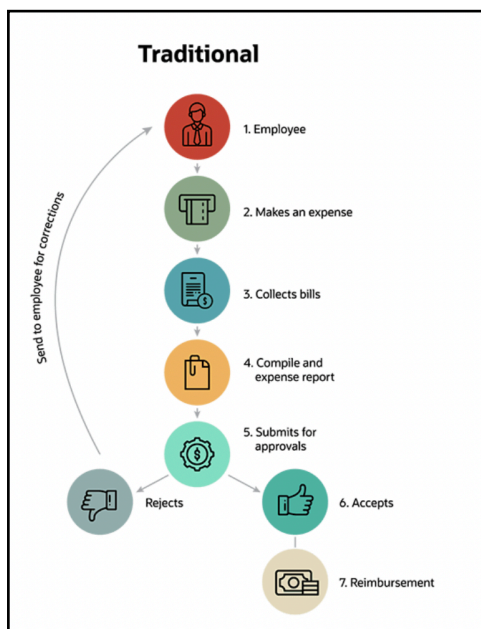
### 1. Efficiency:

As we know the efficiency of the software is an important factor. As a business, increasing the efficiency of your systems is key in ensuring you get the maximum return on your efforts. Every system you employ should focus on having the best efficiency and productivity standards while enhancing profitability. In our project we have improved the efficiency, efficiency in terms of quality, time and effort. We have made this software with minimum time and with double effort. Moreover, we have improved the quality of the software by including some libraries that will help in working of the software more efficiently.

### Types of Expense Management

Companies have different ways of managing expenses, including:

- **Paper tracking :** This is the traditional—and outdated—way to manage expenses, with employees collecting paper receipts and submitting them to the accounting department for approval on a monthly or quarterly basis.
- **Spreadsheets :** This is a popular choice among companies trying to reduce their reliance on paper that have yet to move over to a dedicated, automated expense management system.
- **Expense management software :** This approach simplifies the expense management process. The software alerts managers to expense reports needing review, letting them accept or reject the claim. Approved expenses are then automatically routed to accounting for reimbursement.



## 2. Some of the features of our app are as follows:-

These are some of the different portals of our android application.

- **Income** :- Makes record of your income .
- **Expense** :- Makes record of every expense you make.
- **Balance** :- Show you the balance you have after doing expenses.
- **About Us**:- In this you may get some idea about the developers.
- **Income Tax**:- You can also calculate the income tax on your income.
- **User login/logout** :- User can login his/her account at any time , at any place at any android device.

## Project management and Professional communication (Presentation)



### Introduction

- In today's era, you have the usual array of rent and utilities to pay.
- Can't handle our cash flow.
- Find an easier way to get rid of this problem.
- This project is an attempt to manage our daily expenses in a more efficient and manageable way.



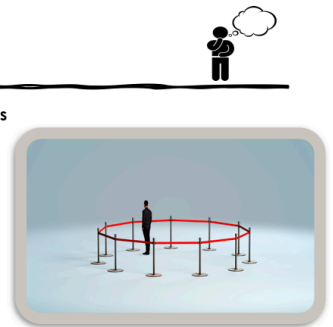
### Cont...



- Our application helps in,
- Keep the control on the expenses.
  - Free the user with as much as possible the burden of manual calculation.
  - Keep the track of the expenditure.

### Objective

- For domestic use and for small retailers only.
- Does not meet all the requirements of higher-level businesses.
- It is usable by anyone who are aiming to save for the future investments and many more.



### Technologies Used



**System software:** Android Studio



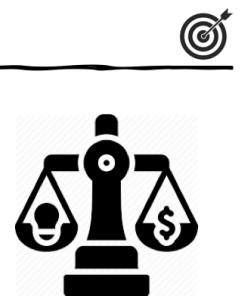
**Programming Language:** Java



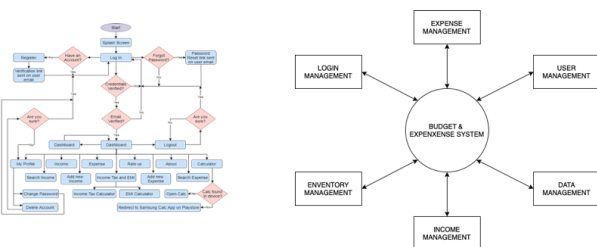
**Database:** Firebase Real Time Database

### Advantages

- Help us to keep track of how much we spend every day and on what.
- At the end of the month, we will have a clear picture where our money is going.
- Get our expenses under control
- Bring some semblance of order to our finances.



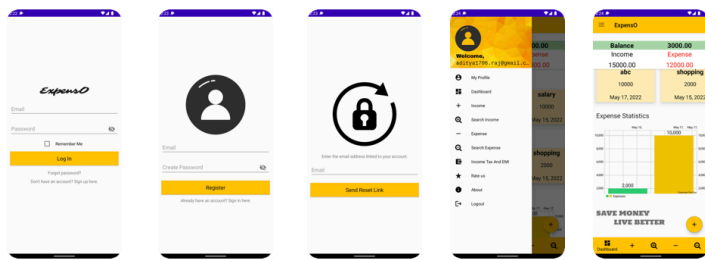
### Diagrams



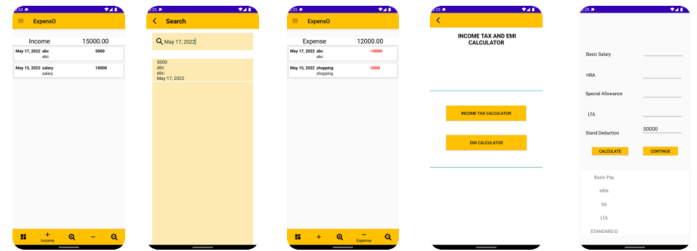
### Cont...



## Screenshots



## Cont...



## Conclusion



- Expense Manager is an online app.
- Is able to show all the information about how user uses and manages his/her allowance.
- As technology emerges, it is possible to upgrade the system.

## Reference links

- <https://developer.android.com/guide/topics/ui>
- <https://developer.android.com/guide/topics/search/search-dialog>
- <https://developer.android.com/training/basics/Intents/sending>
- <https://firebase.google.com/docs/auth/android/start>
- <https://firebase.google.com/docs/auth/android/email-link-auth>
- <https://firebase.google.com/docs/auth/android/password-auth>
- <https://firebase.google.com/docs/database/android/read-and-write>





## **Attainment of stated outcomes**

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

ExpensO has been tested with 30 volunteers who used and were instructed to use the application for managing their expenses. They were provided with the apk file and the instructions about the usage. All volunteers used the application for their expense division and management. A feedback was taken from each volunteer individually. The overall satisfaction level was found to be 95% and a number of suggestions to make it more user friendly was received. Volunteers suggested that if there is some expense which is to be divided only among a few in the group then provision for doing so should be available. For this, a provision was made to include only a few among the members for a particular bill. It was also noted that a person who paid multiple bills had to calculate the total and then enter it in the application, responding to this a calculator was added in the billing module. An expense report consists of several moving parts. User need to submit receipts and create expenses.

- Our project ExpensO application promotes this by providing managment tool for to tackle day to day economical situation and free access of the application on the tip of finger.
- ensure that all youth and a substantial proportion of adults, both men and women, achieve economical sustainiblity.
- Economical management is the fundamental key to gain the economical sustainablity.
- economic growth is linked to the management of expenses.