A Mini Project Synopsis on

EXPENSE TRACKER

S.E. - I.T Engineering

Submitted By

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Academic year : 2021-22

CERTIFICATE

This to certify that the Mini Project report on **Expense Tracker** has been submitted by **Purvesh Gangapurkar (20104063), Rahul Patil (20104073) and Ambadas Malegave (20104112), Om Chavan (20104056)** who are a Bonafede students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2021-2022** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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Place: A. P. Shah Institute of Technology, Thane
Date:

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ACKNOWLEDGEMENT

This project would not have come to fruition without the invaluable help of our guide **Ms. Rajashri Chaudhari.** Expressing gratitude towards our **HOD, Prof. Kiran Deshpande,** and the Department of Information Technology for providing us with the opportunity as well as the support required to pursue this project. We would also like to thank our peers for their helpful suggestions.

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Chapter 1

Introduction

Nowadays, every technical field is trying to style human life at ease. With the rapid growth in the use of the internet and the technologies associated with it, several opportunities are coming up in the web or mobile application. In today's busy and expensive life we are in a great rush to make money. But at the end of the month we broke off. As we are unknowingly spending money on little and unwanted things. So, we have come over with the idea to track our earnings. The application "Expense Tracker" is developed to manage the daily expenses in a more efficient and manageable way. By using this application we can reduce the manual calculations of the daily expenses and keep track of the expenditure.

Expense Tracker System is designed to keep a track of Income-Expense of an individual on a day-to-day basis. This System divides the Income based on daily expenses. Expense Tracker aims to help everyone who are planning to know their expenses and save from it.

Budgeting systematically and Expense Tracking takes a crucial role in managing the expenses. Expense tracking will bring in several advantages for an individual. The expense tracker will help any organization to deal with all their expenses more efficiently. By using software for managing expense tracking will help to control unnecessary expenses. There are several benefits and advantages of using online expense trackers, expense tracking makes any organization run faster and smoother.

The tracker will become an important tool for any individual to improve the expense management. Our Expense tracker system will provide the reference links according to their expense categories. This reference videos will help the user to know and understand particular expenses and to invest in proper options according to their expense categories.

1.1 Purpose:

We can use our Expense tracker system to manage the expenses correctly. It will be very helpful for the user to save his/her money in a convenient way. It will also be very useful for user in investing the money in the right direction.

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The main purpose of the Expense tracker is to give a perfect idea about the expenses according to the income. Expense tracker also suggests ways to save money accordingly or to invest the money according to their expense category.

1.2 Objectives:

- To keep a track of Income-Expense on a day-to-day basis.
- To keep an accurate record of your money inflow and outflow.
- To save money for pre-defined expenses which will help planning on your future investments.
- To keep track of daily expenses and budgeting.
- To help everyone who are planning to know their expenses and save from it.
- To know where the money is going.
- To provide Graphical overview of expenses.
- To Minimize manual effort with daily record of expenditures and incomes.
- To provide Immediate and easy retrieval of report.

1.3 Scope:

The main purpose of Expense tracker is to give an perfect idea about the expenses according to the income. Expense tracker also suggest the ways to save the money accordingly or to invest the money according to their expense category.

- Can be use by anyone who are willing to manage their expenses.
- Aiming to save the money for the future investments and many more.
- There is not any range criteria or any kind of profession or gender are focused , it will be used hugely.
- In a very short time, the collection will be obvious, simple and sensible.
- This application can be useful for users to increase their savings as they are going physical to digital.

Chapter 2

Problem Statement:

The main purpose of Expense tracker is to give an perfect idea about the expenses according to the income. Expense tracker also suggest the ways to save the money accordingly or to invest the money according to their expense category.

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One of the major problem identified in this current time was, there were no such platform which will keep record of their expenses.

Chapter 3

Proposed System:

To reduce manual calculations, we propose an application which is developed to manage expense. This application allows users to maintain a digital automated diary.

This system is a bunch of benefits from various points of view. This online application enables the end-users to register to the system online, Expense Tracker application which will keep a track of Income-Expense of a user on a day to day basis. This application takes Income from user and divides in daily expense allowed.

Expense tracking application will generate report at the end of month to show Income-Expense via multiple graphs. Their will be categories on the basis of expenses which will give an clear idea about the flow of the money and will provide suggestions. By Tracking Expenses, it will be very helpful for the people to do their budget planning. By using our Expense tracker system, everyone can save and manage their expenses.

- Security of data.
- Ensure data accuracies.
- Minimize manual data entry.
- Minimum time needed for the various processing.
- Greater efficiency.
- User-friendliness and interaction.
- Minimum time required.

3.1 Features & Functionality:

1. User Friendly and Easy To Manage :

- Simple and interactive user interface.
- All important information displayed at one place i.e Dashboard

2. Expense Categories :

- Manage the information according to their Categories.

3. **Data Search :**

- Provides the searching facilities based on various factor such as expense and types .

4. **Graph and Pie chart :**

- Graph and Pie chart is displayed to make the understanding more clear.

5. **Printable Expense report :**

- You can easily export PDF for the Expense report.

6. **Suggestions :**

- Suggestions are provided based on your expenses.

7. **Rating :**

- Users can relate the application based on their experience.

Chapter 4

Project Outcome:

The main outcome of the project is to save time and resources simultaneously. As a user can track his expenses with a few clicks he is saving his time as well as resources. As our application is easy to use i.e it has a user-friendly interface, user can manage his/her expenses easily. User can add his expense and income records. There are various options available for the user to track their expense. Such as graph, pie chart. Users are able to search and edit their data. Expenzo is able to keep record of many users at a time.

1. User Can log In.
2. User can get perfect idea about his/her expenses.
3. User will be able to manage his/her expenses correctly.
4. User will get the suggestions for saving his/her expenses.
5. Our Expense Tracker system can keep record of many users at a time.

Chapter 5

Software Requirement:

Technology Used:

- **Front-end**: Tkinter
- **Back-end:** PostgreSQL
- **Integrated Development Environment (IDE):** Pycharm
- **Platform**: Windows 10/11

We have used **pgAdmin 4**, pgAdmin 4 is the most popular and feature rich Open Source administration and development platform for PostgreSQL, the most advanced Open Source database in the world.

pgAdmin's Features :

- Multiplatform.
- Designed for multiple PostgreSQL versions and derivatives.
- Extensive documentation.
- Desktop mode.
- Server mode.
- Create, view and edit all common PostgreSQL objects.

PostgreSQL :

PostgreSQL is a powerful, open source object-relational database system with over 30 years of active development that has earned it a strong reputation for reliability, feature robustness, and performance.

Some of its advantages include the following:

1. **Open Source DBMS:** Only PostgreSQL provides enterprise-class performance and functions among current Open Source DBMS with no end of development possibilities. Also, PostgreSQL users can directly participate in the community and post and share inconveniences and bugs.

2. **Diverse Community:** One of the characteristics of PostgreSQL is that there are a wide variety of communities. Regarding PostgreSQL as Open Source DBMS, users themselves can develop modules and propose the module to the community. The development possibility is superiorly high with collecting opinions from its own global community organized with all different kinds of people**.**

3. **Function :** SQL functions called 'Store Procedure' can be used for server environment. Also, we support languages similar to PL/SQL in Oralcle such as PL/pgSQL, PL/Python, PL/Perl, C/C++, and PL/R.
4. **ACID and Transaction:** PostgreSQL support ACID(Atomicity, Consistency, Isolation, Durability).
5. **Diverse indexing techniques:** PostgreSQL not only provides B+ tree index techniques, but various kinds of techniques such as GIN(Generalized Inverted Index), and GiST(Generalized Search Tree), etc as well.
6. **Flexible Full-text search:** Full-text search is available when searching for strings with execution of vector operation and string search.
7. **Diverse kinds of replication:** PostgreSQL supports a variety of replication methods such as Streaming Replication , Slony-I, and cascading.
8. **Diversified extension functions:** PostgreSQL supports different kinds of techniques for geographic data storage such as PostGIS, Key-Value Store, and DBLink.

Pycharm IDE:

PyCharm is a dedicated Python Integrated Development Environment (IDE) providing a wide range of essential tools for Python developers, tightly integrated to create a convenient environment for productive Python, web, and data science development. PyCharm is a dedicated Python Integrated Development Environment (IDE) providing a wide range of essential tools for Python developers, tightly integrated to create a convenient environment for productive Python, web, and data science development.

Programming languages used: Python

Features of PyCharm :

- Intelligent Code Editor. ...
- Availability of Integration Tools. ...
- Data Science and Machine Learning [Professional Edition Only] ...
- Google App Engine [Professional Edition Only] ...
- Integrated Debugging and Testing. ...
- Multi-technology Development [Professional Edition Only] ...
- Project and Code Navigation. ...
- Refactoring.

Python:

Python is a high-level, general-purpose programming language with an elegant syntax that allows programmers to focus more on problem-solving than on syntax errors. One of the primary goals of Python Developers is to keep it fun to use. Python has become a big buzz in the field of modern software development, infrastructure management, and especially in Data Science and Artificial Intelligence.

Python is a high-level, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation. Its language constructs and object-oriented approach aim to help programmers write clear, logical code for small- and large-scale projects.

Tkinter is a graphical user interface (GUI) module for Python, you can make desktop apps with Python. You can make windows, buttons, show text and images amongst other things.Tk and Tkinter apps can run on most Unix platforms. This also works on Windows and Mac OS. The module Tkinter is an interface to the Tk GUI toolkit.

Tkinter:

Tkinter is a Python binding to the Tk GUI toolkit. It is the standard Python interface to the Tk GUI toolkit, and is Python's de facto standard GUI. Tkinter is included with standard GNU/Linux, Microsoft Windows and macOS installs of Python. The name Tkinter comes from Tk interface. Tkinter is one of the most popular Python GUI libraries for developing desktop applications.

This framework provides Python users with a simple way to create GUI elements using the widgets found in the Tk toolkit. Tk widgets can be used to construct buttons, menus, data fields, etc. in a Python application. Python has a lot of GUI frameworks, but Tkinter is the only framework that's built into the Python standard library. Tkinter has several strengths. It's cross-platform, so the same code works on Windows, macOS, and Linux. However, Tkinter is lightweight and relatively painless to use compared to other frameworks. This makes it a compelling choice for building GUI applications in Python, especially for applications where a modern sheen is unnecessary, and the top priority is to quickly build something that’s functional and cross-platform.

Python GUI Programming With Tkinter

- Displaying Text and Images With Label Widgets.
- Displaying Clickable Buttons With Button Widgets.
- Getting User Input With Entry Widgets.
- Getting Multiline User Input With Text Widgets.
- Assigning Widgets to Frames With Frame Widgets.
- Adjusting Frame Appearance With Reliefs.

Chapter 6

Project Design:

In this phase, a logical system is built which fulfils the given requirements. The design phase of software development deals with transforming the customer's requirements into a logically working system. Normally, design is performed in the following two steps:

1. Primary Design Phase:

In this phase, the system is designed at the block level. The blocks are created based on analysis done in the problem identification phase. Different blocks are created for different functions emphasis is put on minimizing the information flow between blocks. Thus, all activities which require more interaction are kept in one block.

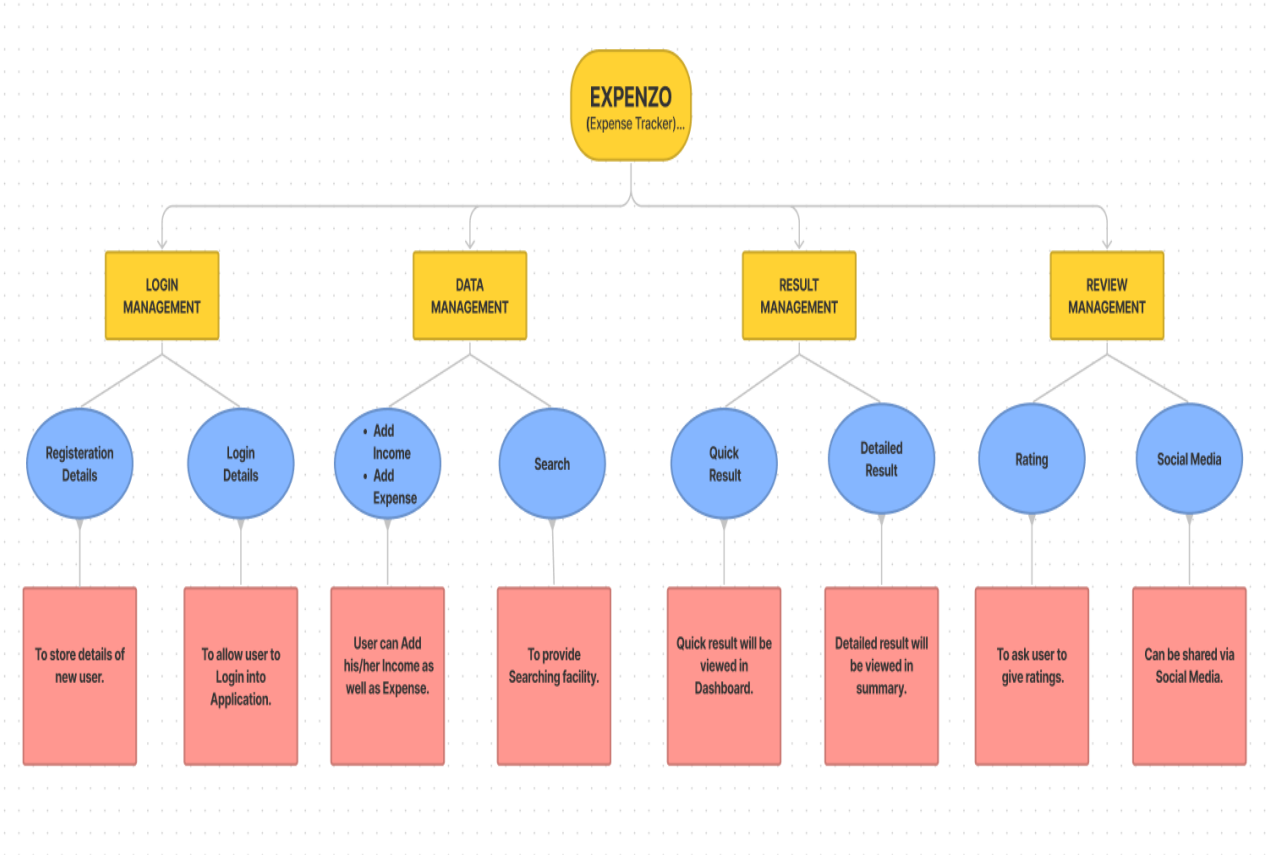

Figure 6.1: Block Diagram.

2. Secondary Design Phase:

In the second phase, the detailed design of every block is performed.

General tasks involved in the project design process are following:

- Design various blocks for overall system processes.
- Design smaller, compact, and workable modules in each block.
- Design various database structures.
- Specify details of programs to achieve the desired functionality.
- Design the form of inputs and outputs of the system.
- Perform documentation of the design.
- System reviews.

6.1 User Interface Design:

User Interface Design is concerned with the dialogue between a user and the computer. It is concerned with everything from starting the system or logging into the system to the eventual presentation of desired inputs and outputs. The overall flow of screens and messages is called a dialogue.

The following steps are guidelines for User Interface Design:

- The system user should always be aware of what to do next.
- The screen should be formatted so that various types of information, instructions, and messages always appear in the same general display area.
- Message, instructions, or information should be displayed long enough to allow the system user to read them.
- Use display attributes sparingly.
- Default values for fields and answers to be entered by the user should be specified.
- A user should not be allowed to proceed without correcting an error.
- The system user should never get an operating system message or fatal error.

Registration Page: This is OTP based Registration page**,** New users can enter their details and email and create his/her account. The ‘Register’ button will direct the user to the Login page.

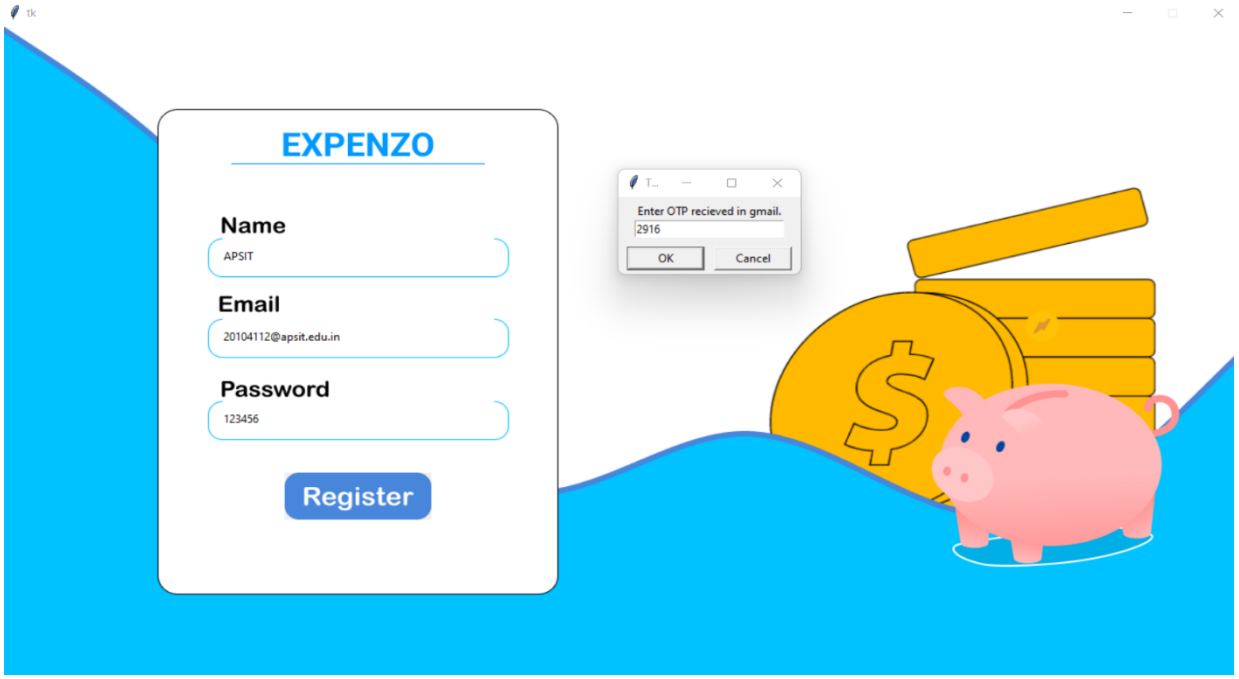

Figure 6.2 : Registration Page.

Login Page: Registered users and can log in through this page. The ‘Login’ button will take them to Dashboard.

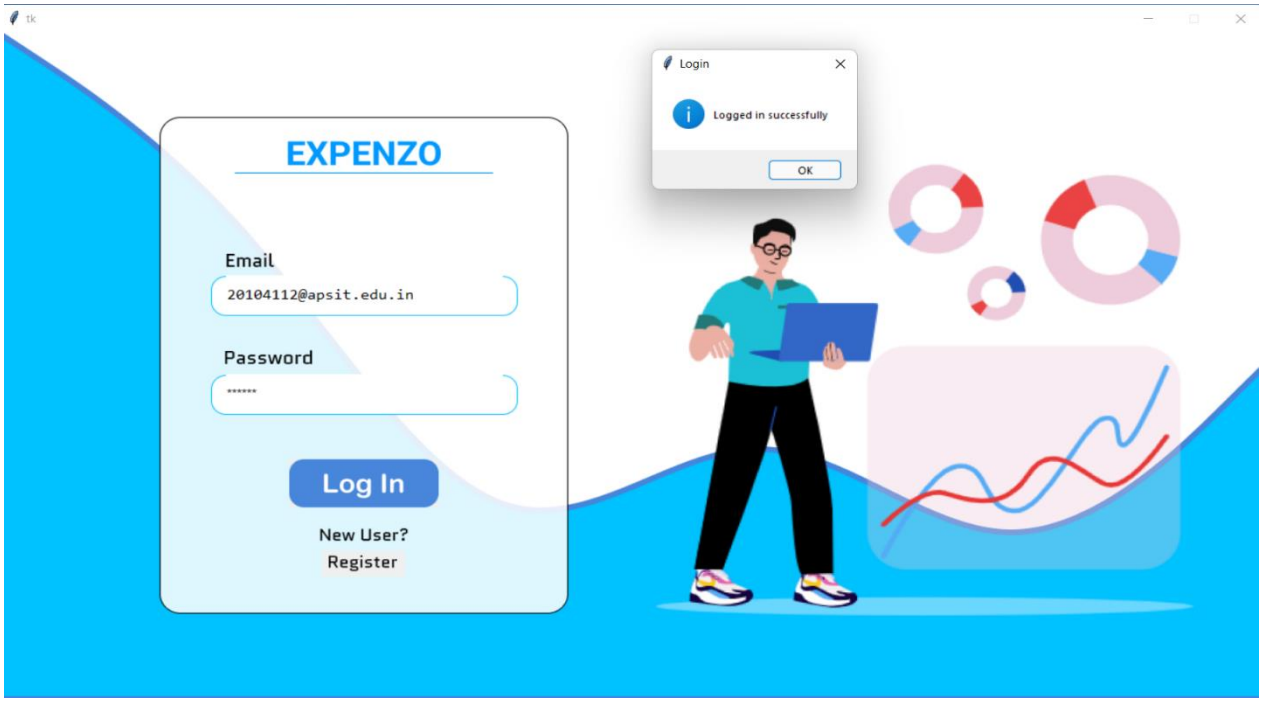

Figure 6.3 : Login Page.

Dashboard: This is quick access page. Users can monitor various features by using Dashboard i.e. Balance amount, Total income and expense, Summary, Graph & Pie chart.

Figure 6.4 : Dashboard.

Add Income page: Users can add his/her income transactions.

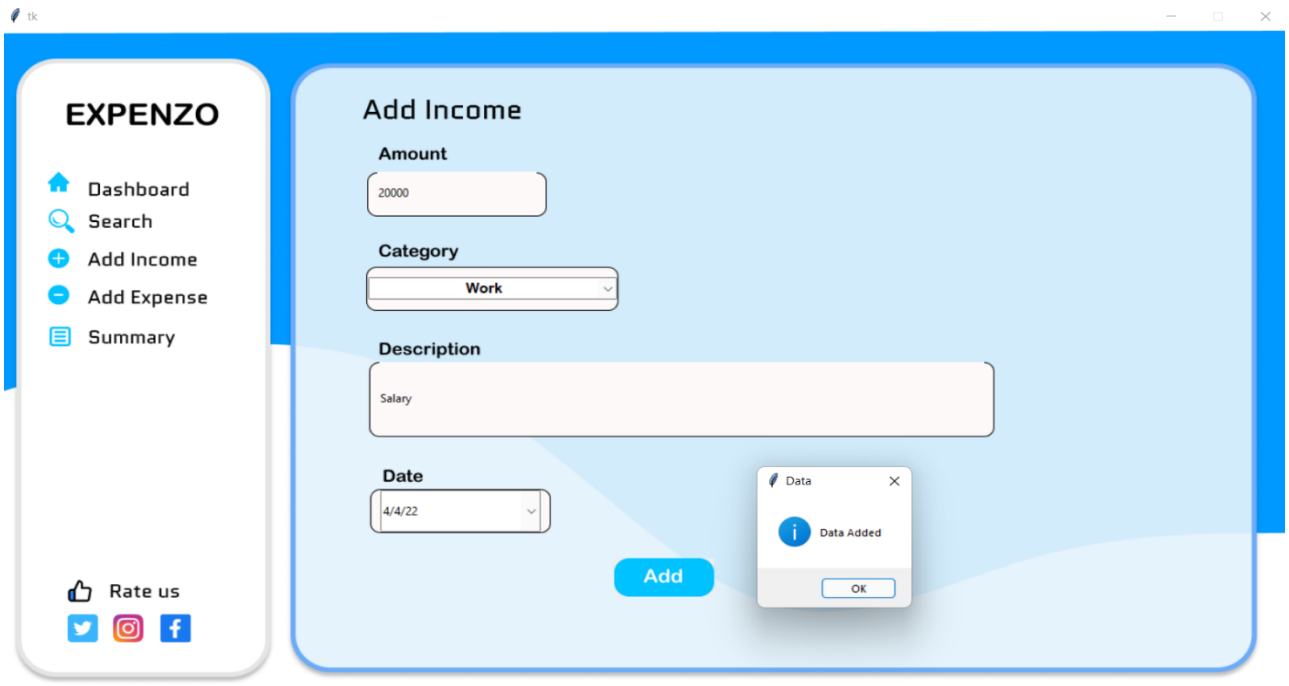

Figure 6.5 : Add Income Page.

Add Expense page: Users can add his/her expense transactions.

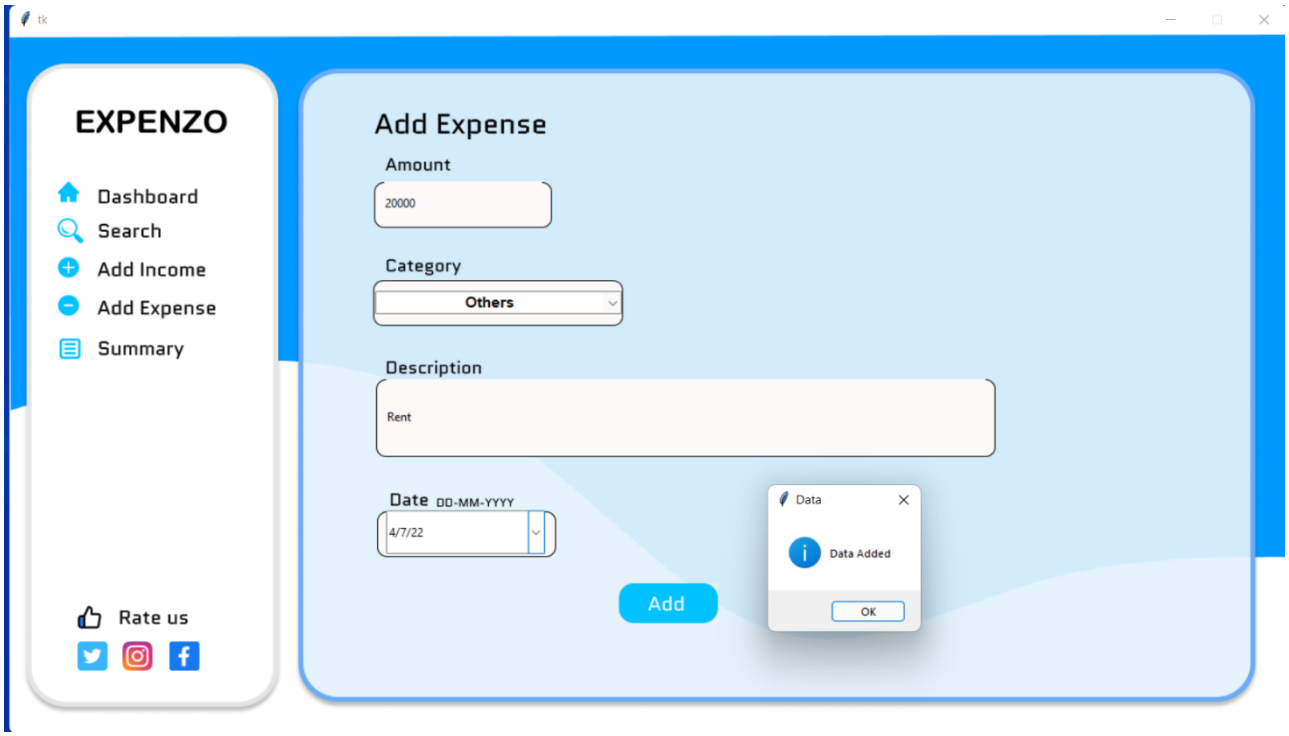

Figure 6.6 : Add Expense Page.

Search Page: User can search his/her data entries by using filters such as date and category.

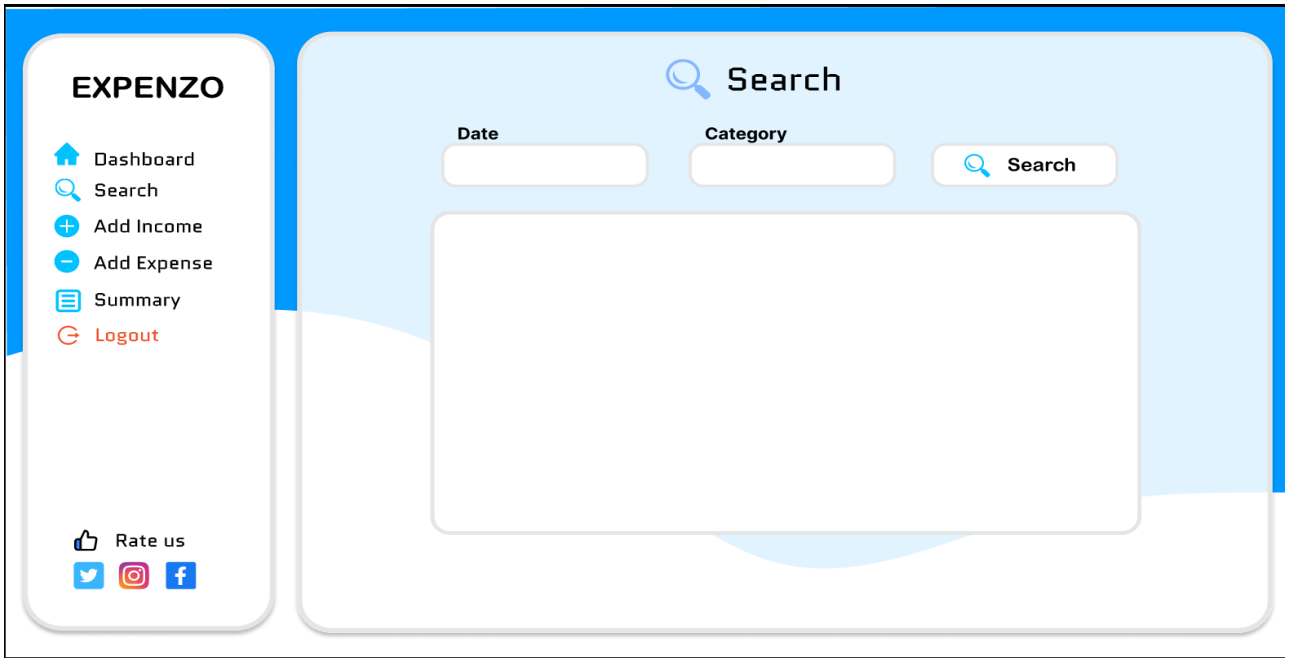

Figure 6.7 : Search Page.

Summary Page: This page shows all income/expense data.

Figure 6.8 : Summary Page.

Green Category Page: Based on users status this page guide him/her to invest money more effectively.

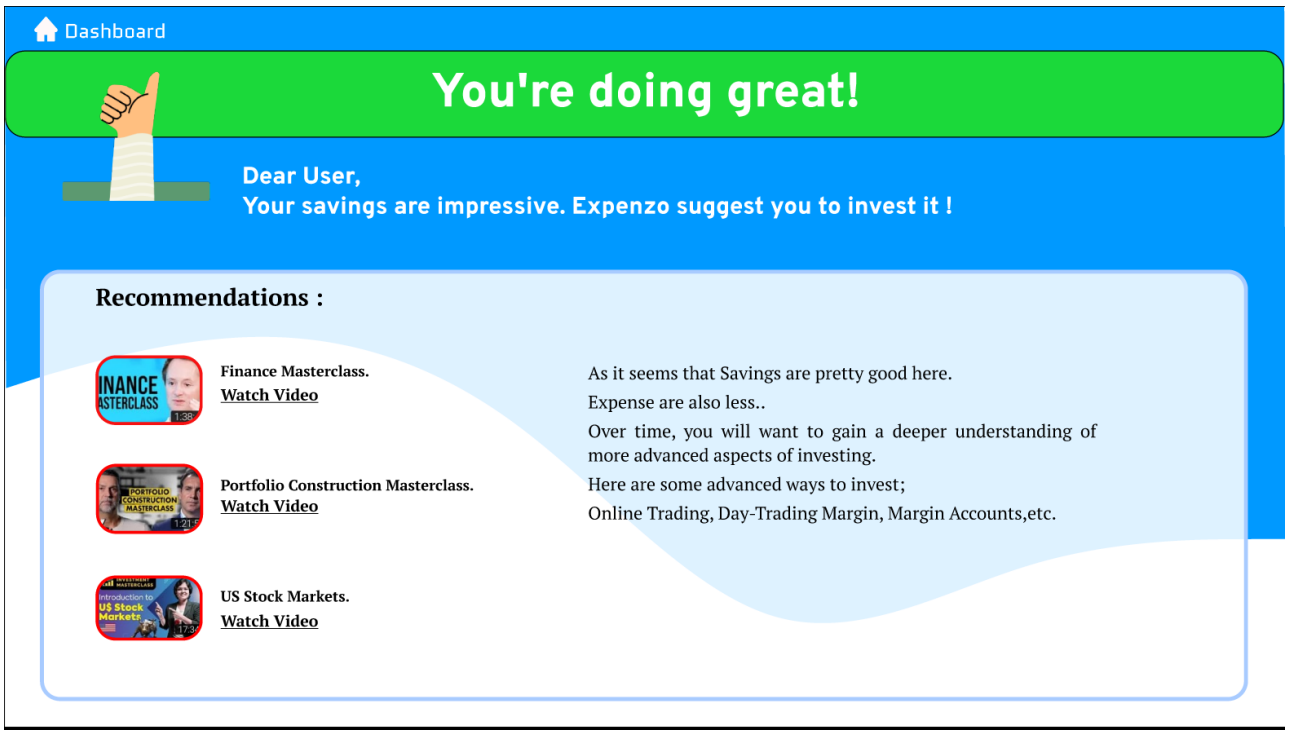

Figure 6.9 : Green Category Page.

Red Category Page : As user is saving less money, Based on users status this page guide him/her to save money.

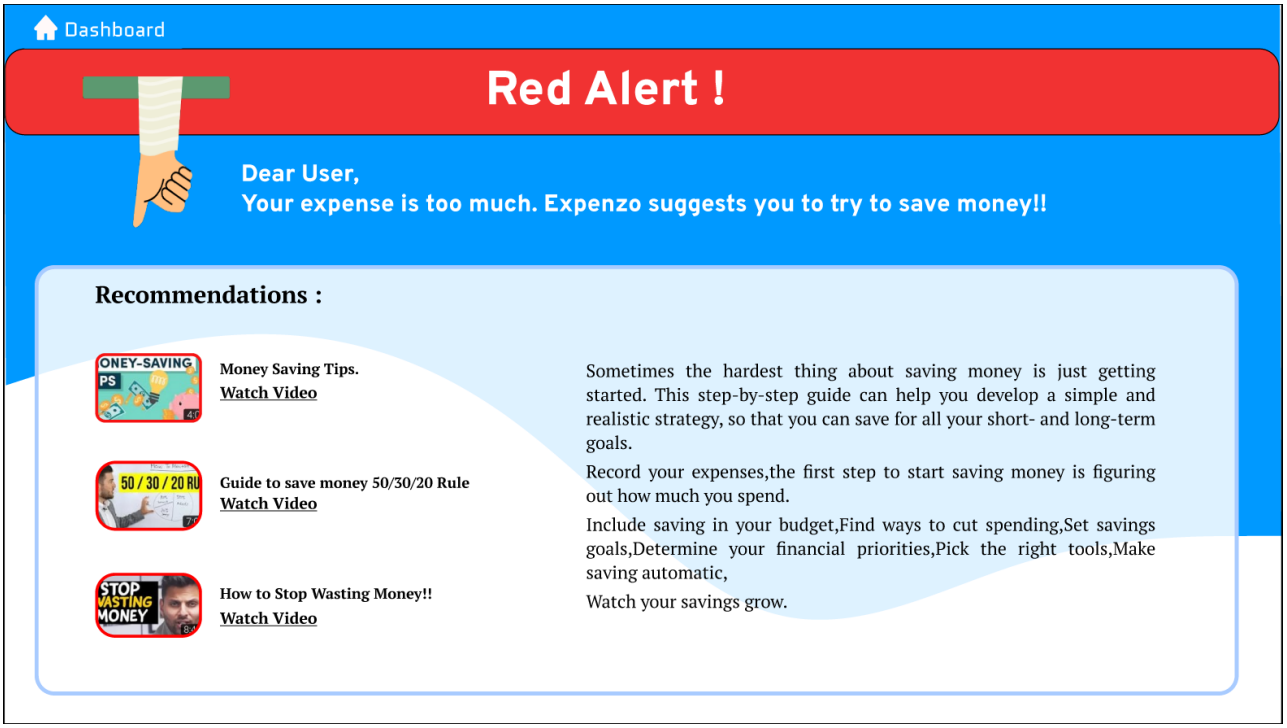

Figure 6.10 : Red Category Page.

Yellow Category page: As user is saving moderate money, Based on users status this page guide him/her to invest money.

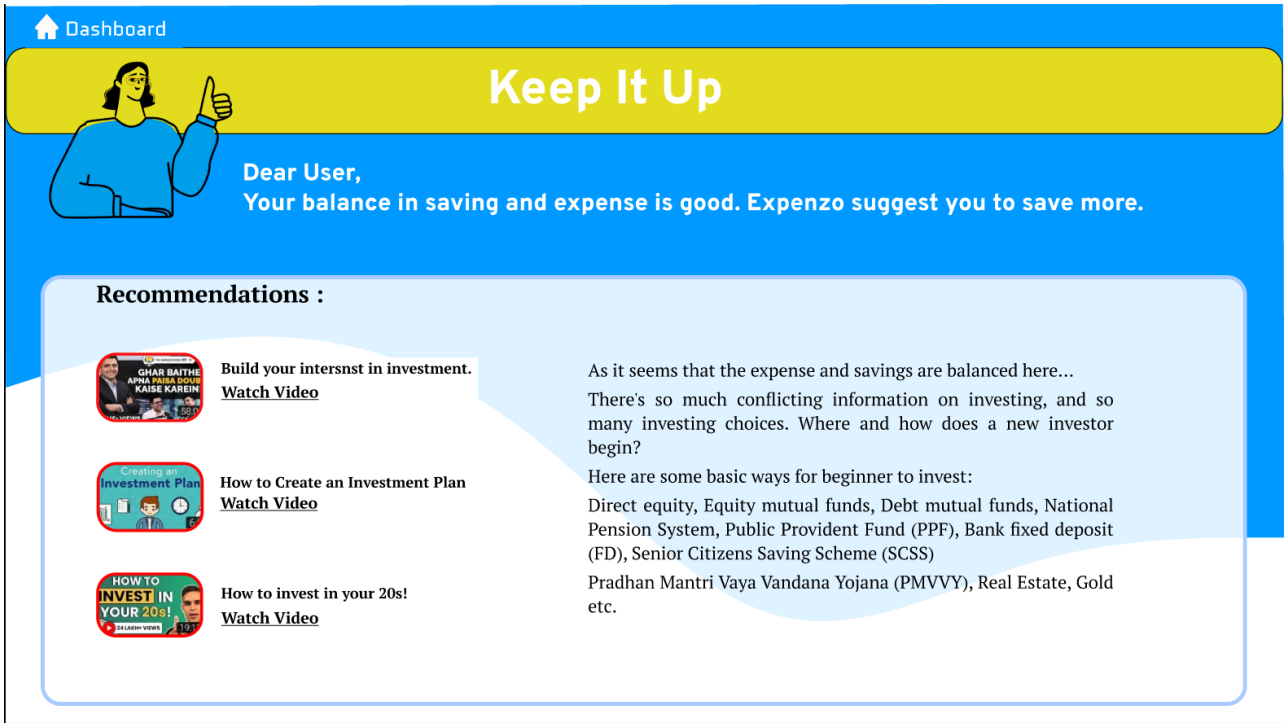

Figure 6.11 : Yellow Category Page.

Social media page: This page redirect users to social media handles.

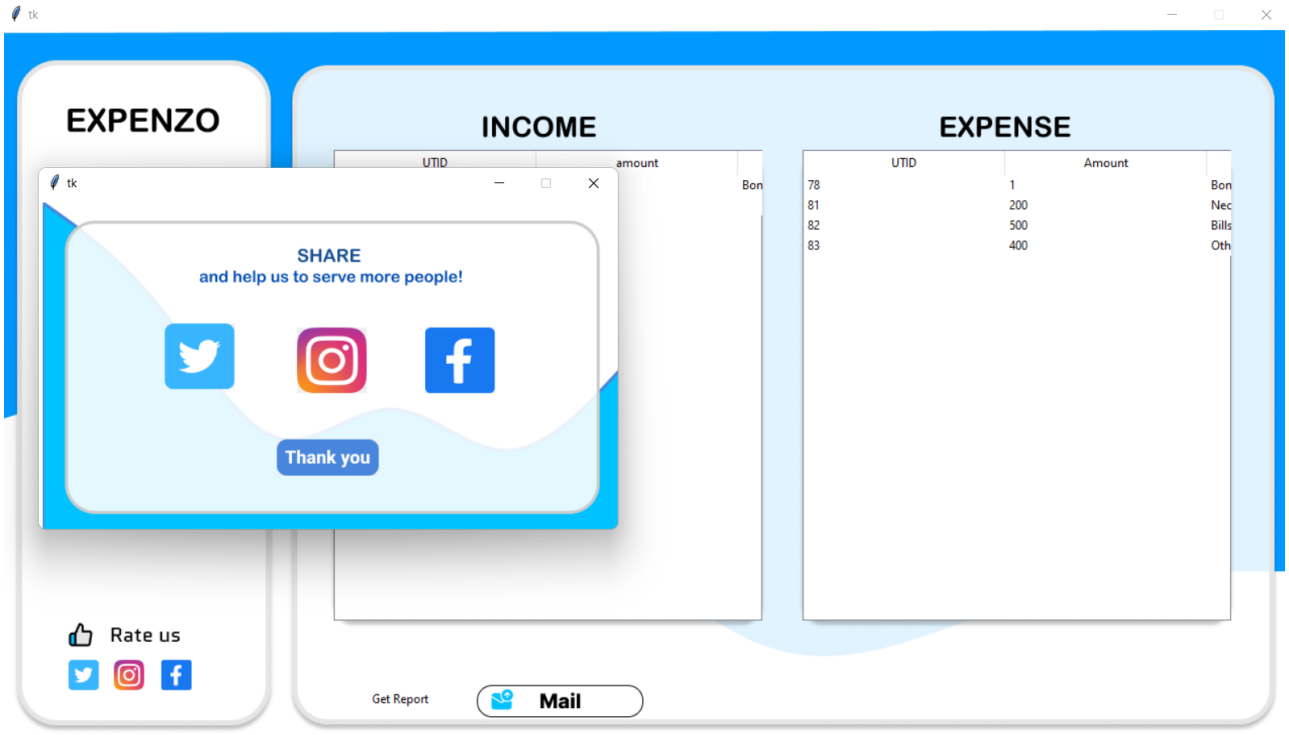

Figure 6.12 : Social media Page.

Rating page: This page accepts feedbacks from the users.

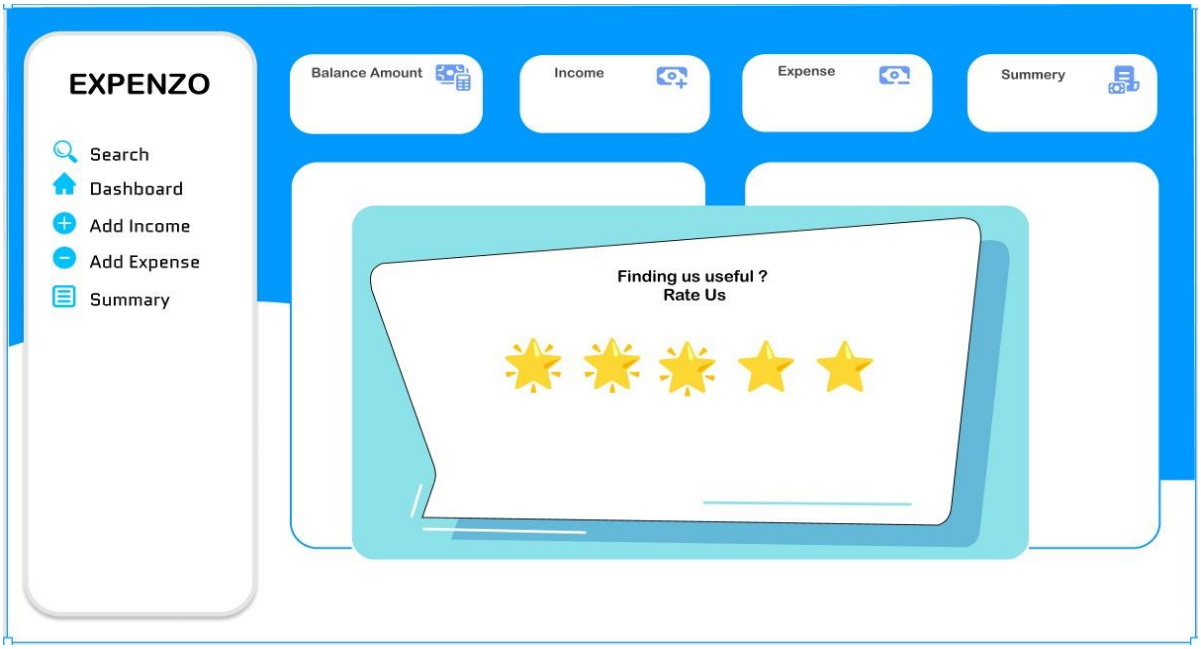

Figure 6.13 : Rating Page.

Chapter 7

Project Scheduling Template:

Sr. No	Names	Time duration	Work to be done
1	Purvesh Gangapurkar. Rahul Patil. Ambadas Malegave. Om Chavan.	1st week of February to end of 2nd week of February.	Designing phase of User Interface
2	Purvesh Gangapurkar. Rahul Patil. Ambadas Malegave. Om Chavan	3rd week of February to end of February.	Implementation and testing of Design.
3	Purvesh Gangapurkar. Rahul Patil. Ambadas Malegave. Om Chavan	1st week of March to end of 2nd week of March.	Database Phase1: Creating Database.
4	Purvesh Gangapurkar. Rahul Patil. Ambadas Malegave. Om Chavan	3rd week of March to end of March.	Database Phase2: Connection of Database to UI.
5	Purvesh Gangapurkar. Rahul Patil. Ambadas Malegave. Om Chavan	1st and 2nd week of April.	Final testing of Application and Resolving issues if any.

Chapter 8

Conclusion:

Our project is only a humble venture to satisfy the needs to manage their project work. Several user-friendly coding has also been adopted. This package shall prove to be powerful in satisfying all the requirements of the school.

In the end, it is concluded that we have made effort on the following points…

• Made a statement of the aims and objectives of the project.

• The description of Purpose, Scope, and applicability.

• We define the problem on which we are working on the project.

• We describe the requirement Specifications of the system.

• We understand the problem domain and produce a model of the system, which describes operations that can be performed on the system.

• We designed the user interface and security issues related to the system.

• Finally, the system is implemented and tested

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