

A Project Based Learning Report

on

“SPLITBUDDIE”

Submitted to the

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in partial fulfillment for the award of the Degree of

Bachelor of Engineering

in

Information Technology

by

DEVRAJ THAKKAR 23358

SAMIR THOKAL 23359

SAHIL TIWADE 23360

DHIRAJ WADILE 23361

ATHARVA BANASURE 23366

Under the guidance of

Prof. A. S. Awati



Department Of Information Technology

Pune Institute of Computer Technology College of Engineering

Sr. No 27, Pune-Satara Road, Dhankawadi, Pune - 411 043.

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CERTIFICATE

This is to certify that the project report entitled.

SPLITBUDDIE

Submitted by

DEVRAJ THAKKAR	23358
SAMIR THOKAL	23359
SAHIL TIWADE	23360
DHIRAJ WADILE	23361
ATHARVA BANASURE	23366

is a bona fide work carried out by them under the supervision of Prof. A. S. Awati and it is approved.
for the partial fulfillment of the requirement of **Project Based Learning** for the award of the Degree of
Bachelor of Engineering (Information Technology)

Prof. A. S. Awati
Project Guide
Department of Information Technology

Dr. A. S. Ghotkar
Head of Department
Department of Information Technology

Place:

Date:

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Devraj Thakkar

Samir Thokal

Sahil Tiwade

Dhiraj Wadile

Atharva Banasure

ABSTRACT

While splitting the bills and getting a track of it is difficult when you are staying with your friends. Wherever you go at a restaurant or picnic with your friends or colleagues, generally one of them pays the bill and others will pay his share of the bill later. So it will be difficult to manage or remember the lending and borrowing calculations.

SplitBuddie came as a lifesaver. You don't worry about the money you lend or borrow, you don't need to remember it, the app does for you. You can also pay the lend and borrowed money at a time in the app.

SplitBuddie is an app for splitting expenses with your friends. It lets you and your friends add various bills and keep track of who owes who, and then it helps you to settle up with each other.

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Chapter 1

INTRODUCTION

SplitBuddie is a mobile application that simplifies the process of splitting expenses with friends, family or roommates. It helps users to track and split shared expenses such as rent, utilities, groceries, dining out, and other expenses in a hassle-free and transparent way. With SplitBuddie users can easily create groups, add friends, and record expenses, and the app calculates who owes what and to whom.

SplitBuddie also sends reminders for pending payments and allows users to settle up via various payment methods like G-pay, Phonepe , Razorpay and more. It is a convenient tool for managing shared expenses and reducing the hassle of keeping track of who owes what in a group setting.

The app was created with the intention of eliminating the hassle and awkwardness associated with splitting bills manually. It streamlines the process by allowing users to input expenses, specify who participated, and SplitBuddie automatically calculates each person's share. This way, everyone involved can maintain a clear record of who owes what, reducing confusion and potential conflicts.

Overall, SplitBuddie is a reliable and user-friendly app that simplifies expense tracking and bill splitting among groups. It promotes transparency, fairness, and convenience, making it an indispensable tool for managing shared finances in various scenarios.

Chapter 2

SCOPE AND OBJECTIVE

1. Expense tracking: The app should allow users to add expenses and track them easily. This may include adding a description, category, and date for each expense.
2. Splitting expenses: The app should allow users to split expenses with other people. This may involve dividing the expense equally or assigning specific amounts to each person.
3. Payment tracking: The app should allow users to track payments made towards an expense. This may include recording the date, amount, and method of payment.
4. Group expenses: The app should allow users to track expenses for a group or multiple people. This may include creating a group and inviting people to join, then allowing members to add expenses and track payments.

Chapter 3

LITERATURE SURVEY

1. Bill Splitting and Expense Managing Assistant

It is project of bill splitting and expense management, which was developed by Rishabh Agarwal, Research scholar, Department of Information Technology, Oriental Institute of Science & Technology, Bhopal in the year 2019.

It is a mobile application that manages all your expenses, your personal contribution toward group expenses, maintain monthly income, recurring and adhoc payment.

In this, the research project methodology describes the steps and approaches to be followed to attain final product.

1. User login/registration,
2. Creating user group,
3. Adding expenses,
4. Splitting expenses details,
5. Graphical representation,
6. Collecting user data

The limitations of the project are there is no separate user expense details, all group expense details, settlement of shares, payment notification, linking with payment gateways.

2. Expenses Management System

It is a project developed by M. Vanitha Assistant Professor, Dept. of CSE, PEC, Chennai, India.

Alekhya. K B.E. Student, Dept. of CSE, PEC, Chennai, India Sai Gowthami. A. B.E. Student, Dept. of CSE, PEC, Chennai, India in year 2020.

The aim of the project is Developing an application which will be able to keep track on expenses and receivables can solve & manage monthly expenses problem.

In this, the research project methodology describes the steps and approaches to be followed to attain final product.

1.SQLite Database,

2.Android Studio

3.Login,

4.Add expenses

5.View expenses

6.View Summary

The limitations of the project are there is no creating user group, splitting expenses details, all group expense details, settlement of shares, payment notifications, linking with payment gateways.

Chapter 4

SYSTEM OVERFLOW / PROJECT FLOW

Talking about system design, we have designed our basic system will work on request generation and follow up by other end user whether to accept or reject and other part of it will work on query generations for a particular database system.

SYSTEM ARCHITECTURE:

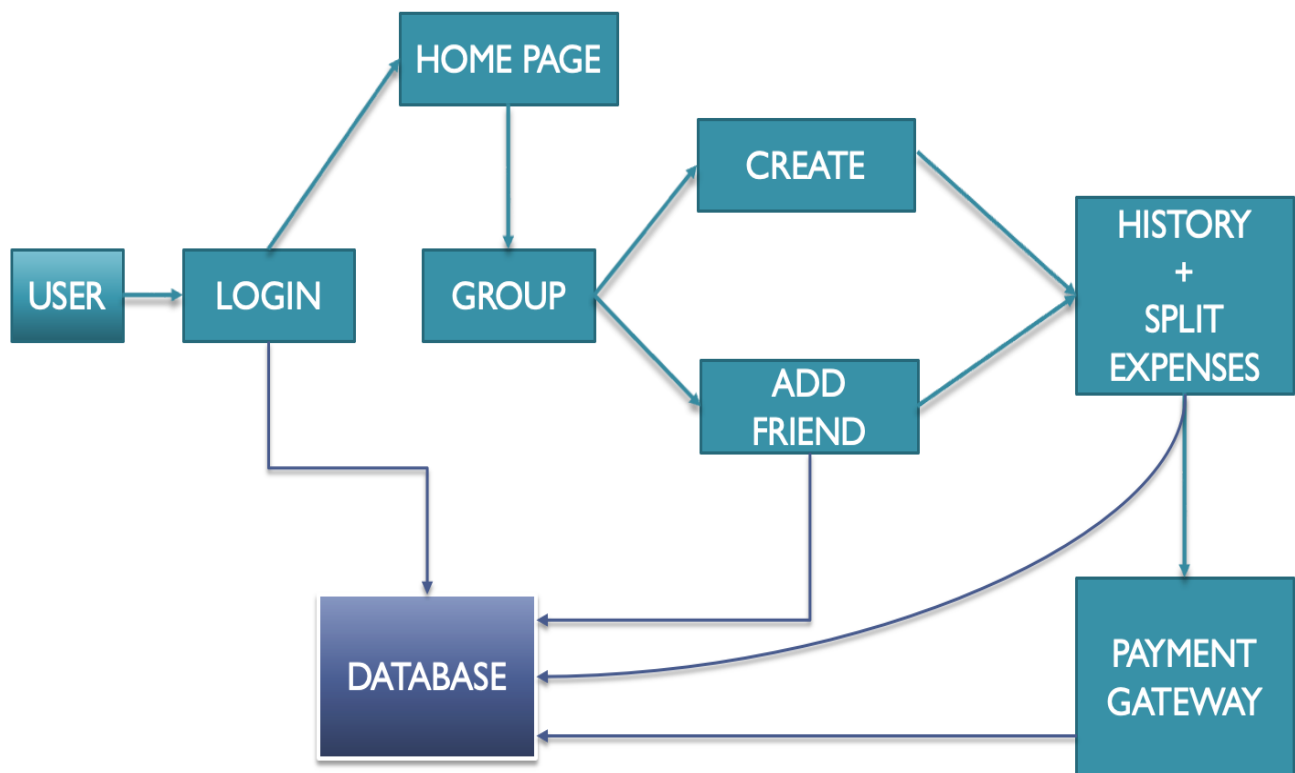


Fig 4.1: ARCHITECTURE

UML DIAGRAMS:

1. USE-CASE-DIAGRAM:

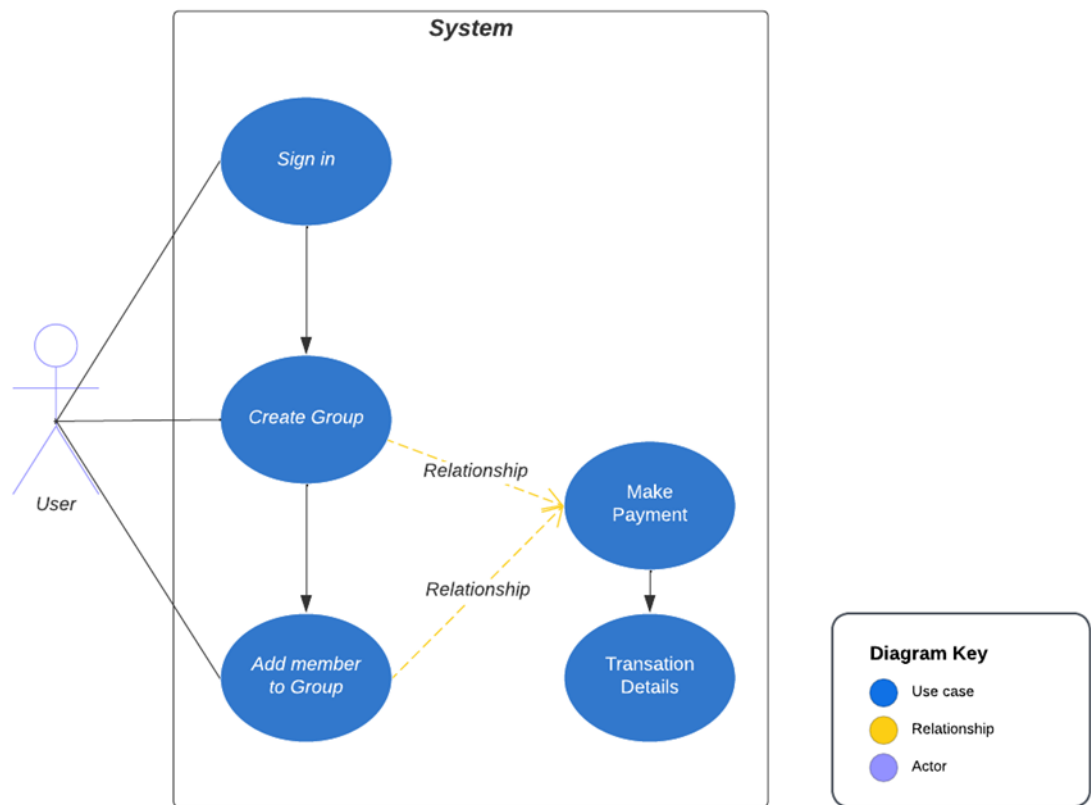


Fig 4.2: USE-CASE-DIAGRAM

2.PACKAGE DIAGRAM:

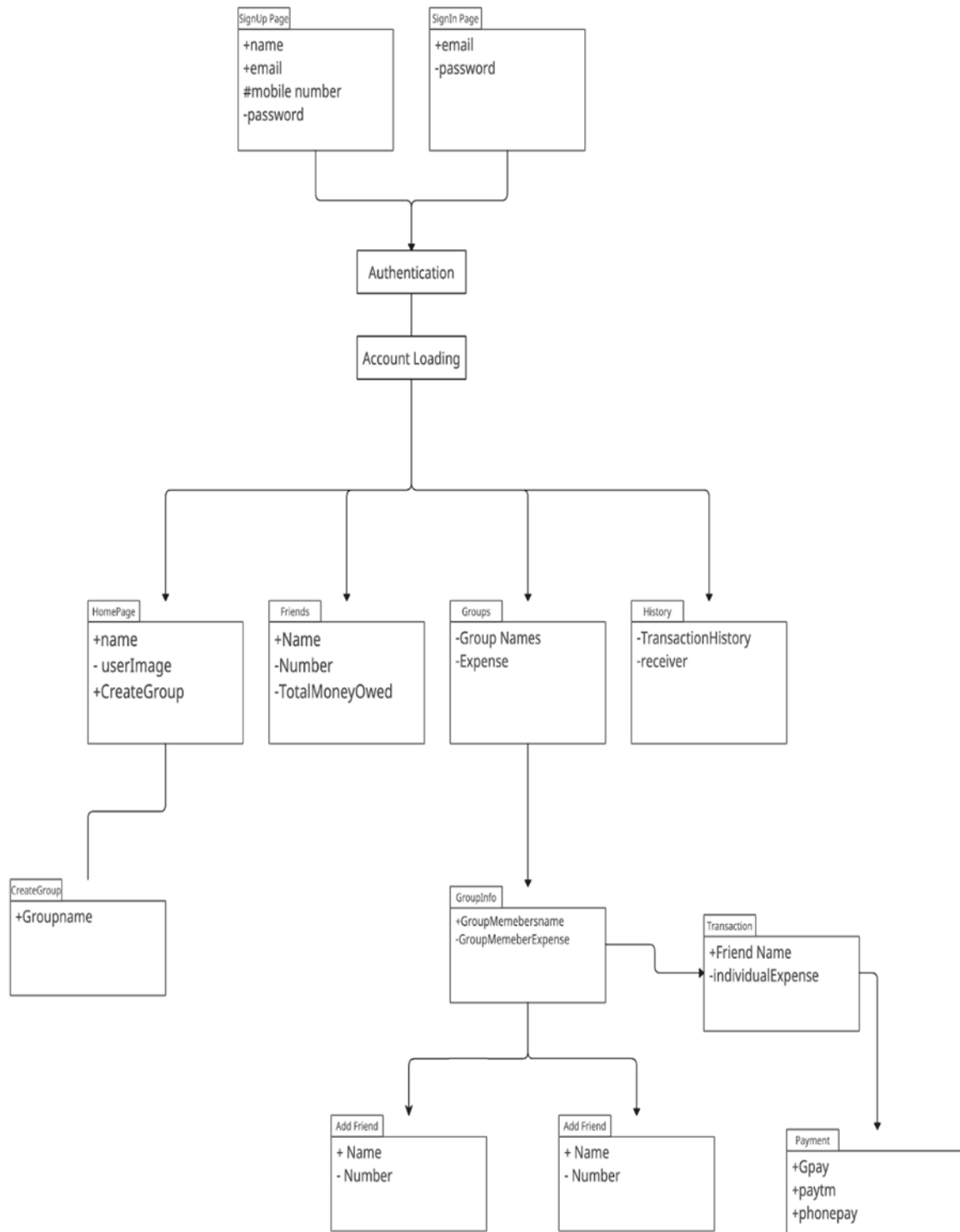


Fig 4.3: PACKAGE DIAGRAM

3.SEQUENCE DIAGRAM:

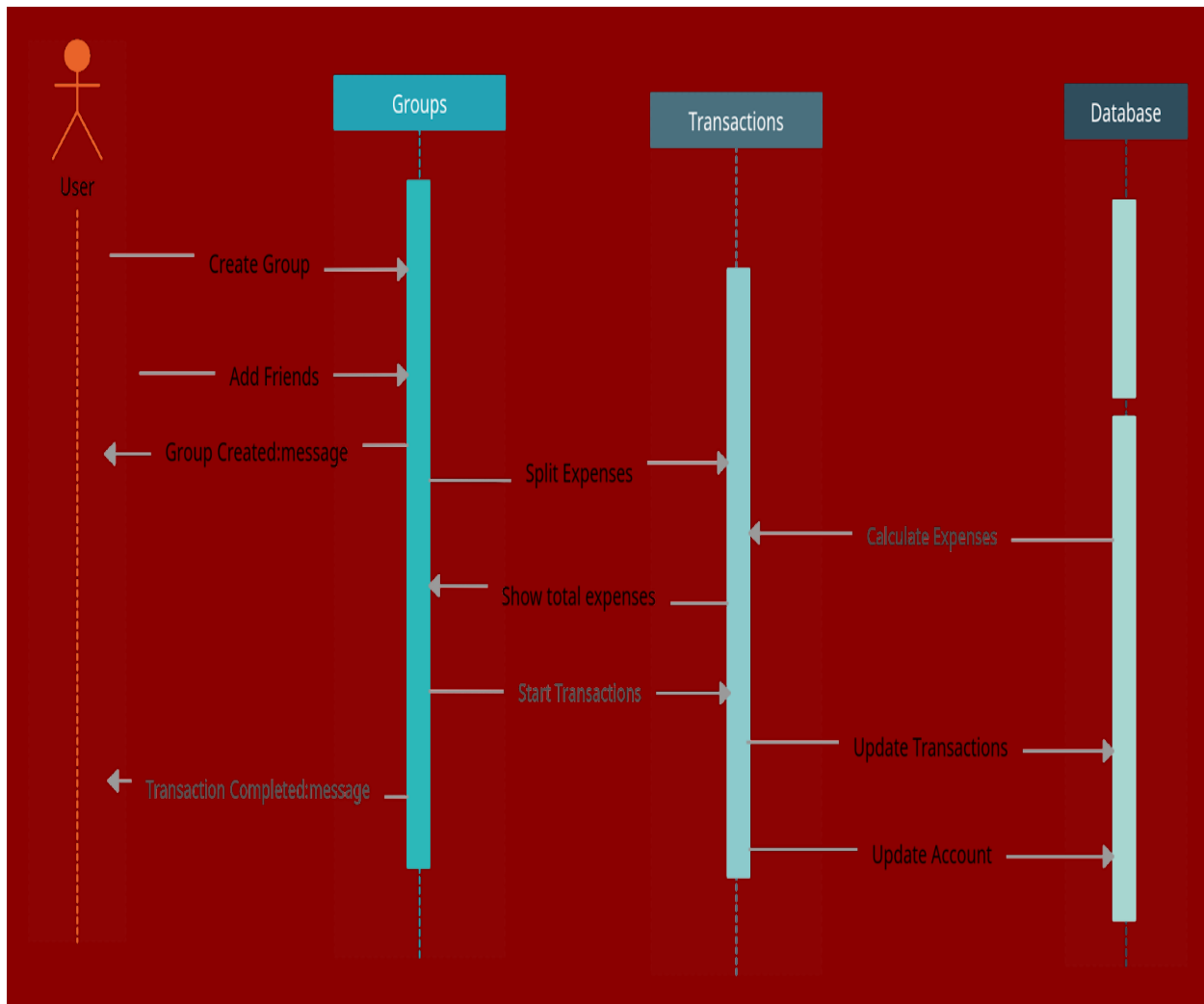


Fig 4.4: SEQUENCE DIAGRAM

4.ACTIVITY DIAGRAM for Payment Purpose:

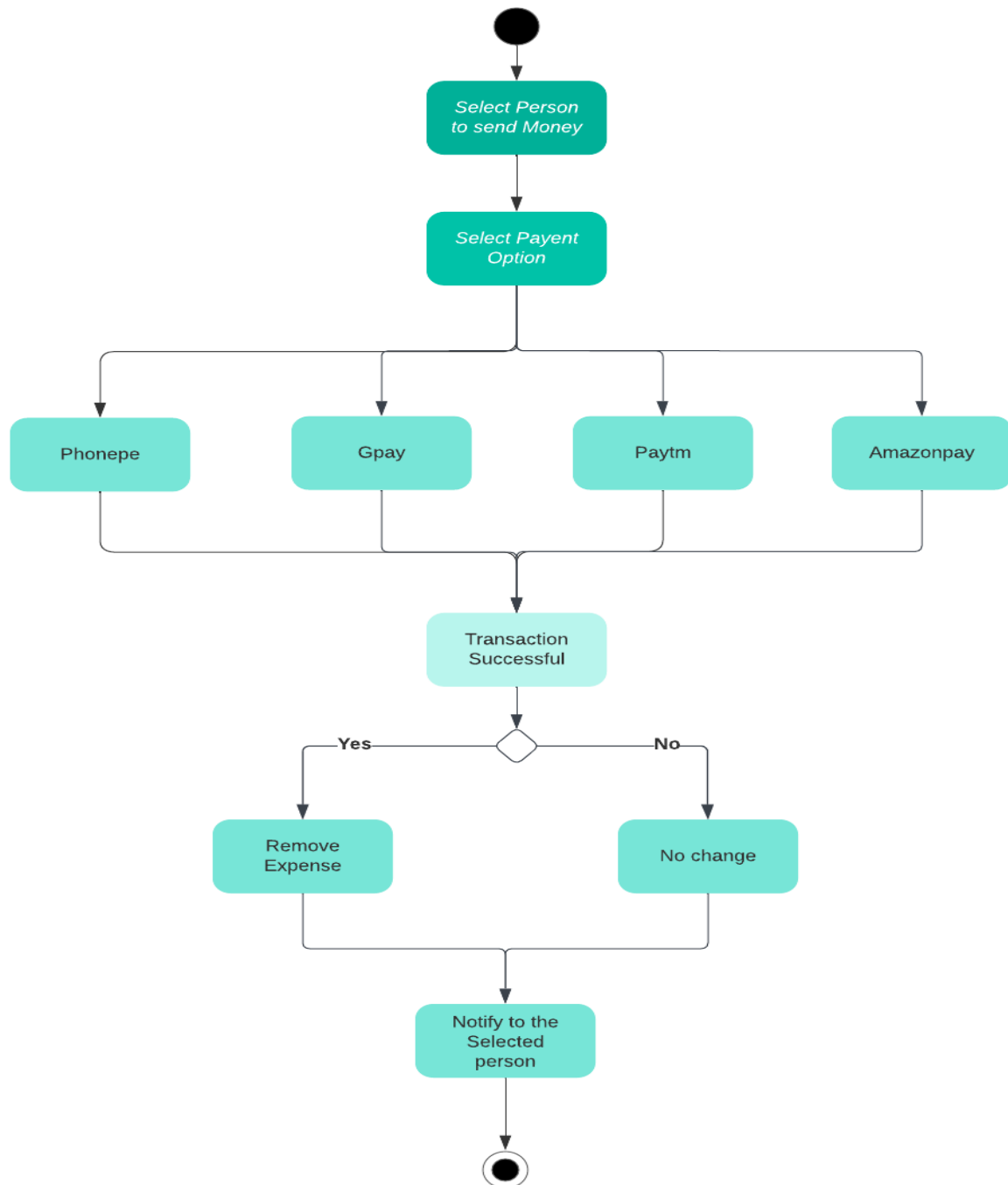


Fig 4.5: ACTIVITY DIAGRAM

5.CLASS DIAGRAM:

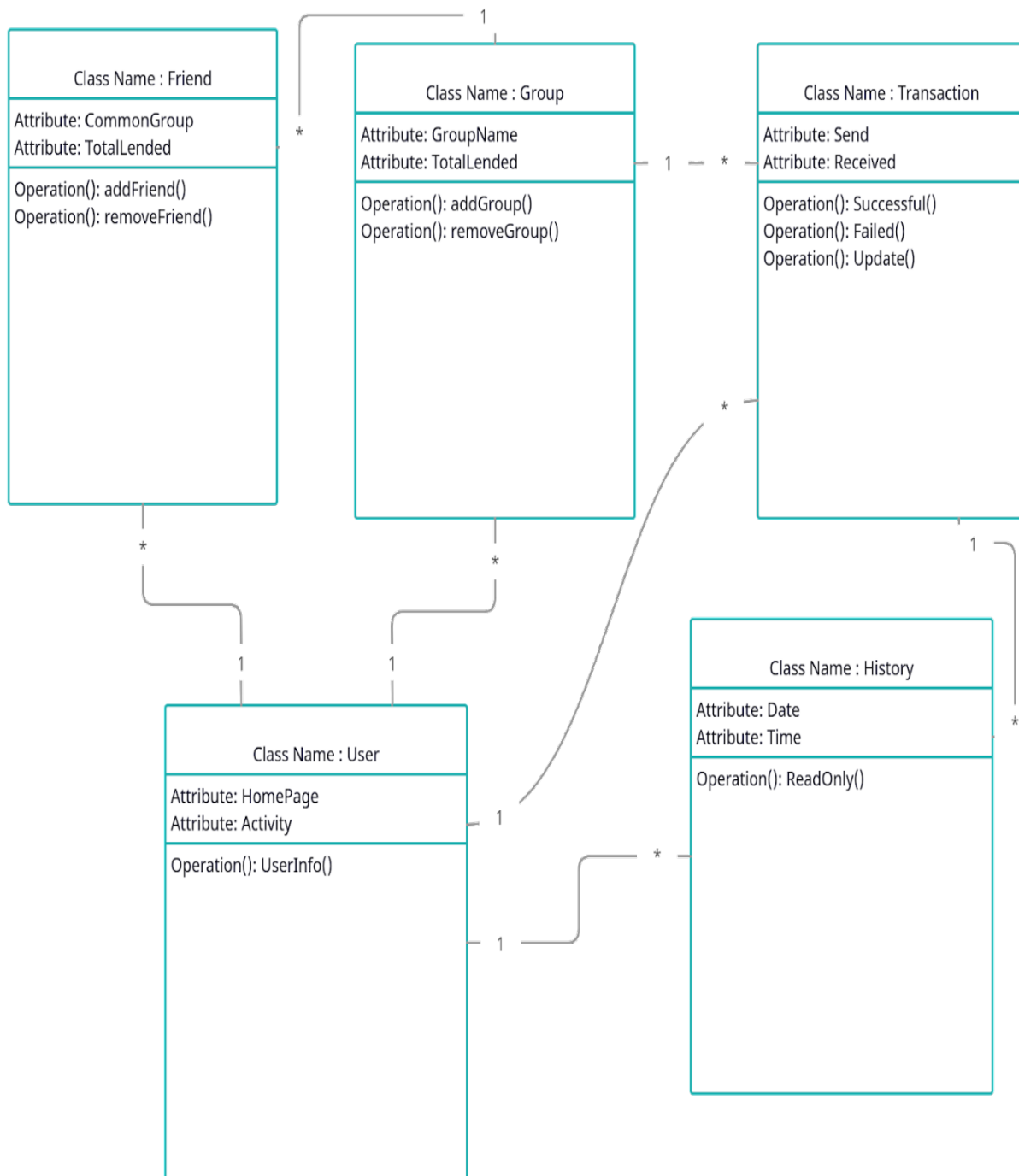


Fig 4.6: CLASS DIAGRAM

Chapter 5

IMPLEMENTATION DETAILS

Software Requirements:

1. Flutter
2. MongoDB
3. Node.js

Implementation Aspects:

1. **User Management:** SplitBuddie allows users to create accounts, sign in, and manage their profiles. The app typically implements user authentication and authorization mechanisms to ensure secure access to user-specific data.
2. **Dashboard and Activity Feed:** The app typically provides a user-friendly dashboard or activity feed, where users can see a summary of their recent activities, including expenses added, payments made, and invitations to join groups.
3. **Expense Creation:** SplitBuddie enables users to create new expenses and divide them among participants. The app usually provides an interface for users to enter details such as the expense amount, description, date, and the people involved in the expense.
4. **Expense Splitting:** SplitBuddie employs various algorithms and methodologies to divide expenses fairly among participants. Commonly used methods include equally splitting the expense, dividing it proportionally based on user-defined shares, or using advanced optimization algorithms to minimize the number of transactions required.
5. **Group Management:** Users can form groups with their friends or roommates to track shared expenses easily. SplitBuddie allows users to create groups, invite members, and manage group settings. Group expenses can be viewed collectively or individually for each group member.
6. **Notifications and Reminders:** The app may implement notifications and reminders to inform users about pending expenses, requests for payment, or group activities. Notifications can be delivered through in-app alerts, emails, or push notifications.

7. Payment Tracking: SplitBuddie helps users keep track of who owes whom and simplifies settling expenses. The app typically provides options to record payments made by individuals and updates the overall balance between participants accordingly.

Chapter 6

PROJECT SNAPSHOTS

SCREENS:



Fig 6.1: SCREENS



Fig 6.2: SCREENS

Chapter 7

ADVANTAGES OF PROJECT

1. Simplifies Payment Management: Splitbuddie app make it easy to manage payments and expenses. With such apps, you can track your expenses and split bills with your friends or colleagues effortlessly.
2. SplitBuddie app facilitate the transfer of money indirectly through its app.
3. Saves Time: Using SplitBuddie app saves time because you don't have to manually calculate and track expenses. The app does the calculations and splits payments for you, saving you the time and hassle of doing it manually.
4. Reduces Errors: Manual calculations are prone to errors, especially when there are many expenses to split. With a payment splitting app, the risk of errors is greatly reduced, as the app does the calculations automatically.
5. Improves Transparency: Splitbuddie app promote transparency because all parties involved can see the expenses and payments. This helps to prevent misunderstandings and conflicts over money.

Chapter 8

LIMITATIONS AND FUTURE SCOPE

LIMITATIONS:

1. Not all users are comfortable using apps for financial transactions or may prefer traditional methods like cash or checks.
2. This app does not provided direct payment gateway. It provides linkage between other payment apps such as GooglePay, Phonepe, Amazon pay, Paytm etc.
3. It doesn't provides the net banking facility.

FUTURE SCOPE:

1. Integration with other payment apps: The app could potentially integrate with popular payment apps like G-pay, Phonepe , Razorpay making it easier for users to settle their debts directly from within the app.
2. Advanced budgeting and analysis: SplitBuddie could incorporate more advanced budgeting and analysis features, allowing users to track their expenses over time and get insights into their spending patterns.
3. Artificial intelligence: The app could incorporate artificial intelligence to help users make smarter decisions when it comes to splitting expenses. For example, the app could suggest the best way to divide up expenses based on individual spending habits or suggest ways to save money on shared expenses.
4. Gamification: SplitBuddie could introduce a gamification element to encourage users to stay on top of their expenses and engage with the app more frequently. For example, users could earn rewards or badges for settling debts on time or for reaching certain milestones in their budgeting.
5. Social features: SplitBuddie could introduce more social features to encourage users to connect with each other and make the app more fun to use. For example, users could share photos or stories about their shared experiences, or the app could host virtual events for groups of friends to participate in together.

Chapter 9

CONCLUSION

1. User-friendly Interface: SplitBuddie has a user-friendly interface, making it easy for users to add expenses, split them with others, and keep track of who owes what.
2. Group expense management: SplitBuddie is a great app for managing group expenses, whether it's splitting a bill at a restaurant, sharing rent and utilities with roommates, or organizing a group vacation.
3. Automatic calculation of expenses: One of the best features of SplitBuddie is its ability to automatically calculate how much each person owes, taking into account who paid for what and how much. This can save a lot of time and confusion when splitting bills.
4. Integration with payment apps: SplitBuddie has integration with popular payment apps such as G-pay, Phonepe , Razorpay and Cash App, making it easy to settle up with friends and family.

Overall, SplitBuddie is a highly recommended app for anyone who needs to split expenses with others. It's simple, easy to use, and can save a lot of time and hassle when managing group expenses.

Chapter 10

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