A MINOR PROJECT II REPORT ON

“HISAB KITAB”

Bachelor in Computer Information System

Of

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**Abstract**

Hisab Kitab is a mobile application designed to improve the way how businesses make their credit and financial transaction. The digitalized system is the way how the users can record their financial statements so that they can be stored and retrieved in a second replacing the traditional paper system. This system also makes ease for the users to store and retrieve millions of the data and search for the specific transaction by filtering date, time, user name, etc. This system is based on the Flutter framework based on Dart programming language along with the SQLite database for smooth performance and easy to use and also MySQL database for data backup and online storage. Using this system and after the valid user login, in the dashboard menu users can add, retrieve, update, and delete their customers along with the financial transactions. And the best part of Hisab Kitab mobile application is that users can also add their payment details and set the date of credit collection so that system user can receive schedule notification including transaction details and user can send one click SMS remainder to customer sending the report of their credit/debit transactions in the customer’s mobile number to remind them about their billing date and amount.

**Key Words:**

Flutter, Dart, SQLite, MySQL, Financial Statement, and Business and Credit transaction.

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# INTRODUCTION

## 1.1 Background

Hisab Kitab is a mobile application designed to improve the way to manage the business & personal ledgers on your phone. It provides the service to manage the credit of any small business or persons. The digitalized system is the way how the users can record their financial statements in a way that they will be stored and retrieved in a second replacing the traditional paper system. Writing credit amounts in the diary or book is no more suitable in this digital world as the users are moving toward the digitalized system. And carrying a diary everywhere is not a good choice so there is the need for a system that can hold all the data related to the amount that is to be given or taken. (Khatabook, n.d.)

Firstly, Users will have options for login or register using the phone number and OTP verification. The benefit of log in the user rather than email or google account is that it gives the flexibility of sending the automatic SMS or WhatsApp message using the same registered number. (Piyush Bhatnagar, 2012)

After login into their statement book, they can create, update, and delete the transactions and send credit remainder to their customer. By using the Hisab Kitab app users can view their earning, credit transactions, and the amount they have to return to their users on the specific date setting remainder to both user and their customers and sending automatic SMS with the customer overall financial statement and payment details in case of credits.

## 1.2 Statement of Problem

At present, all works are done manually with hand in the bulk of files and papers which is hard to operate and hard to maintain the report of the day-to-day transactions. A paper-based system is costly and insecure. Paper-based systems for managing information in the store or for any person is expensive because they have to report their daily activities of the sales and financial resources for both the cost of the materials and the labor power of managing them. This could mean employing additional workers and requires more salaries for some big businesses.

Besides that, the use of humans rather than software lives room for more errors such as incomplete forms, missing data, etc. Not only errors, but tasks are done by human also tends to take more time as well as more resources. The most common problem using the old paper-based method to manage any financial statements are as follows: (CreditInfo, 2018)

1. More chances for human error,
2. Hard to find past data,
3. High chance of d**ata redundancy**,
4. Expensive and hard to maintain.
5. Hard to send remainder to every customer for their credits etc.

## 1.3 Objectives

1. To provide secure transaction between users reducing the chances of error and easier to access past data.
2. To help small business owners manage their credit accounts and maintain their privacy.
3. To provide the data security & backup of the user so that they can get their data even if they lost their device.
4. To help the user get the balance, amount to be taken and amount to be paid at a glance setting the remainder.

## 1.4 Hardware and Software Requirements

In this system, the hardware and software that are going to be used are very low and can probably run on any mobile phone either in Android and iOS with limited specifications.

### 1.4.1 Hardware:

* RAM: Recommended 4 GB or above
* Processor: Intel i3 or above.
* Hard-disk Storage: 2 GB or more

### 1.4.2 Software:

* Operating System: Windows 7 or above
* Front End tool: Flutter
* Back End tool: SQLite, MySQL

# LITERATURE REVIEW

There was a lot of research and project works done previously on the financial statement applications like Hisab Kitab. Some of those studies are described below:

## Case Study

The main inspiration for this Hisab Kitab application is an Indian application named Khatabook with millions of downloads on the Play Store and AppStore. Khatabook is an indigenous mobile app of India which is made for small business owner and for personal ledger. (Mathur, 2020)

Doing the research of Hisab Kitab mobile application on the internet, we have found a different way of managing the interaction between business and customers digitally. Similarly, different scholars connect the issue and trends to be follow to move our business in digitalized world. Though there are different digitalized systems of financial statement applications on the market today still there are lots of businesses or persons especially in Nepal who are still using traditional file-keeping methods. In the existing traditional system, business owners or individuals usually use physical books or diaries to record the credit information or record the amount that they have to pay or they will get, which is very old and complicated. Though the digitalization of banking services are being rapidly introduced in Nepal which is starting of digitalization of small business and enterprises. (Bhatt, 2020)

While doing the research on this topic we have found that users are not using that kind of system because of a lack of trust in those foreign products. They hesitate to give their financial details to those non-trusted organizations or companies. Many users are also not using the system due to their complex user interface. So, we are mostly focusing on the simplest user interface for the user to use and they can forget their traditional file-keeping system. The current situation of Micro and Small Enterprises (MSEs) in the developing world and the needs that they face. It pays particular attention to the need for finance and the digitalized accounting or ledger system because they are facing lack of adequate bookkeeping. (Palser, 2015)

# METHODOLOGY

## 3.1 Tools and technologies used

This project will build on the Flutter framework based on Dart programming language for the frontend or the UI of the system and for the backend we are going to use ‘SQLite’ and ‘MySQL’ databases. The tools and technologies used for building this project are Android Studio or Visual Studio Code for writing the flutter programs and using the virtual devices to run and debug our proposed system in a different interface having different built-in features.

### 3.1.1 Flutter

Flutter is a free and open-source mobile UI framework created by Google and released in May 2017. In a few words, it allows us to create a native mobile application with only one codebase. This means that you can use one programming language and one codebase to create two different apps (for both iOS and Android).

Flutter uses the programming language called Dart. It consists of two important parts as, Software Development Kit (SDK) and a Framework (UI library based on widgets). It also has good documentation which helps in any problem and it is easy to learn. (Thomas, 2019)

### 3.1.2 SQLite

SQLite is a C-language library that implements a small, fast, self-contained, high-reliability, full-featured, SQL database engine. SQLite is the most used database engine in the world. SQLite is built into all mobile phones and most computers and comes bundled inside countless other applications that people use every day.

The SQLite file format is stable, cross-platform, and backward compatible. SQLite database files are commonly used as containers to transfer rich content between systems and as a long-term archival format for data. There are over 1 trillion SQLite databases in active use which makes it easy to find solutions in large communities. (SQLite, n.d.)

### 3.1.3 MySQL

MySQL is an open-source relational database management system. Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language. The data in a MySQL database are stored in tables. A table is a collection of related data, and it consists of columns and rows for online data storage. (M Widenius, 2002)

## 3.2 Architectural Representation of System

### 3.2.1 Introduction

Today’s wide-scale software systems are among the most complex structures ever built by humans, containing lines of code, database tables, and components, all running computers. This makes some big challenges to software development teams and if these challenges aren’t handled early, systems are delivered late.

The system architecture is the conceptual model that defines the structure, behavior, and more views of a system through architectural design. This software design document is to providing insight into the structure and design of each component. In short, this document is meant to equip the reader with a solid understanding of the inner work of the Hisab Kitab mobile application. While the problem definition document is written for a more general audience, this document is intended for individuals directly involved in the development of the Hisab Kitab app. (Peters, 2008)

### 3.2.2 Use Case Diagram

A use case is a sequence of transactions in a system whose task is to yield a measurable value to an individual actor of the system.

A Use Case model is described in UML (Unified Modeling Language) as one or more Use Case Diagrams (UCDs).

A UCD has 4 major elements:

* The **system** described
* The **actors** that the system interacts with
* The **use-cases**, or services, that the system knows how to perform
* The **relationships** between the above elements

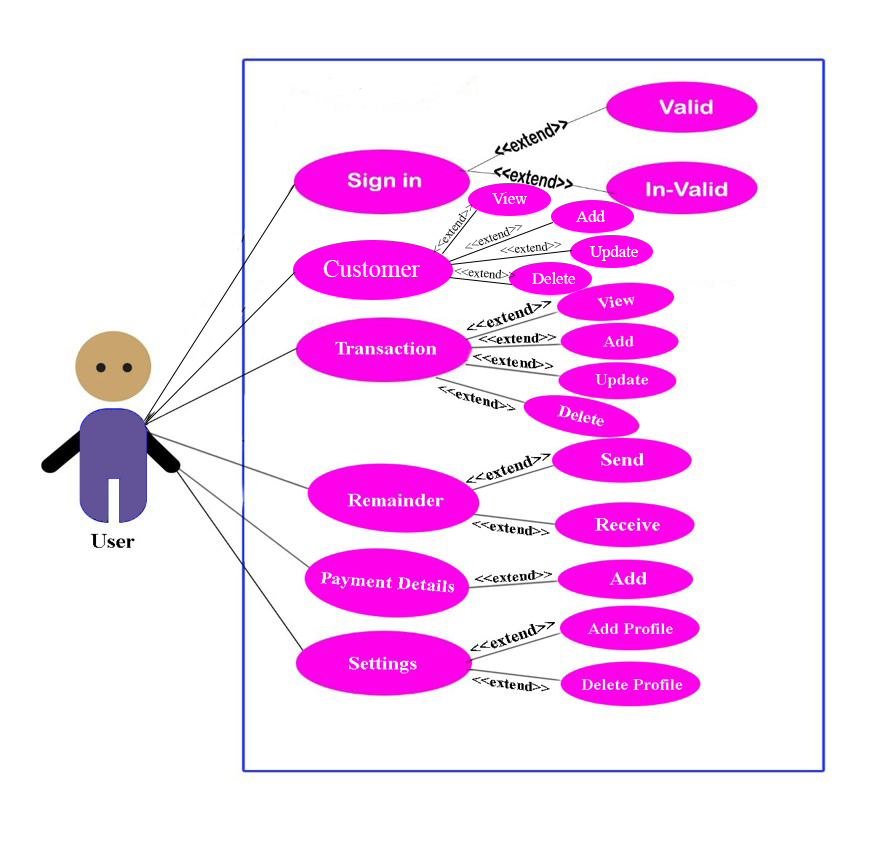


Figure 1: Hisab Kitab Use-Case Diagram

### 3.2.3 Flowchart

A flowchart is a type of diagram that represents a workflow or process. The use of flowchart makes understanding as well as creating software easily. For our software, we have created a flowchart. Since our program is a menu-based program, we have some pre-defined choices as shown below. As we have mentioned below in our flowchart, we will have the main 3 menus in the Home tab. These menus will display only after a successful login.

Start

NO

If login=

Valid

Login Failed

Bill

YES

Display Choices

YES

Display, Add, Update and Delete customers/transactions

Bill

If choice=

Dashboard

NO

If choice=

Payment

YES

Add, view & delete payment details

NO

YES

View profile, dark mode, contact & other settings

If choice=

Menu

NO

Return

Bill

Figure 2: Main User Interface Design

## 3.3. System Design

### 3.3.1 Introduction

System design is the process of defining the architecture, modules, interfaces, and data for a system to satisfy specified requirements. System design could be seen as the application of systems theory to product development. There is some overlap with the disciplines of systems analysis, systems architecture, and systems engineering.

### 3.3.2 ER Diagram

Entity Relationship Diagram is a data model utilizing several notations to depict data in terms of the entities and relationships described by that data. It has an Entity, Relationship, and Attributes.

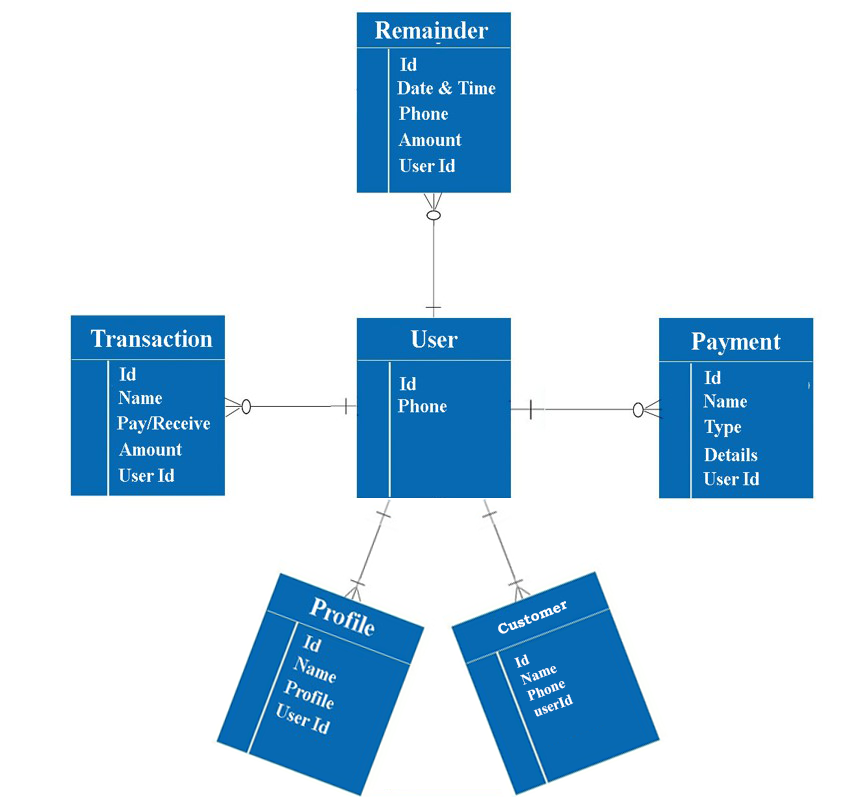


Figure 3: Teacher ER Diagram

### 3.3.3 Database Management System

The database management system (DBMS) is the software that interacts with end-users, applications, and the database itself to capture and analyze the data. The DBMS software additionally encompasses the core facilities provided to administer the database.

In order to support all the information followed in this software, this software will include 2 main tables. The first table will consist of login information and the second consists of the registration information of the user.

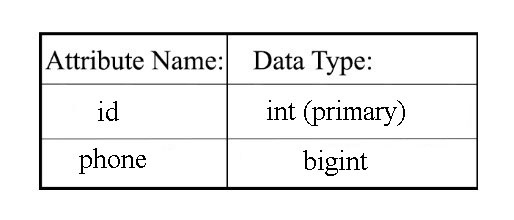


Figure 4: User Table

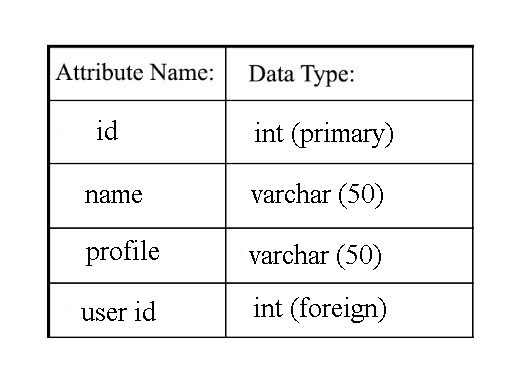


Figure 5: Profile Table

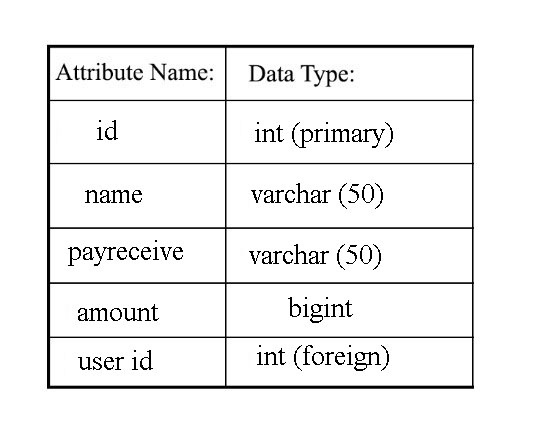


Figure 6: Transactions Table

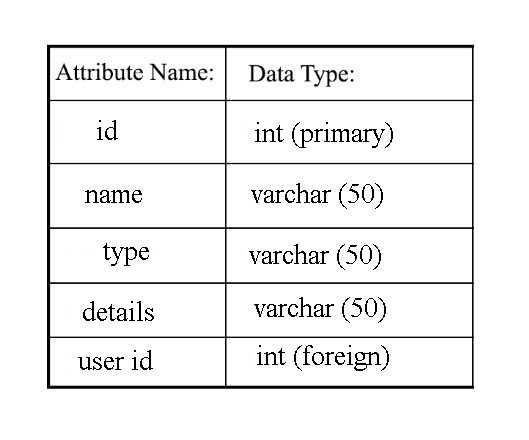


Figure 7: Payment Details Table

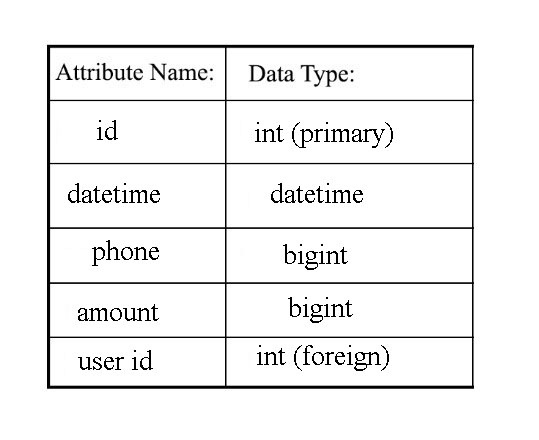


Figure 8: Remainder Table

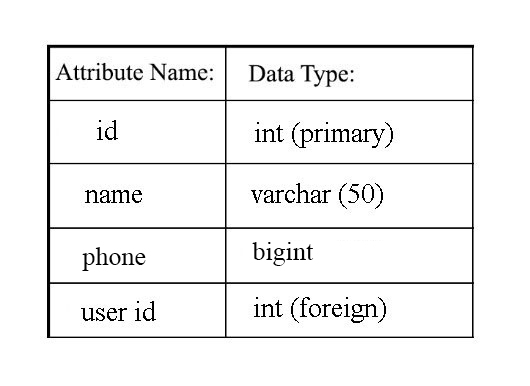
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Figure 9: Customer Table

# 4. EPILOGUE

## 4.1 Output

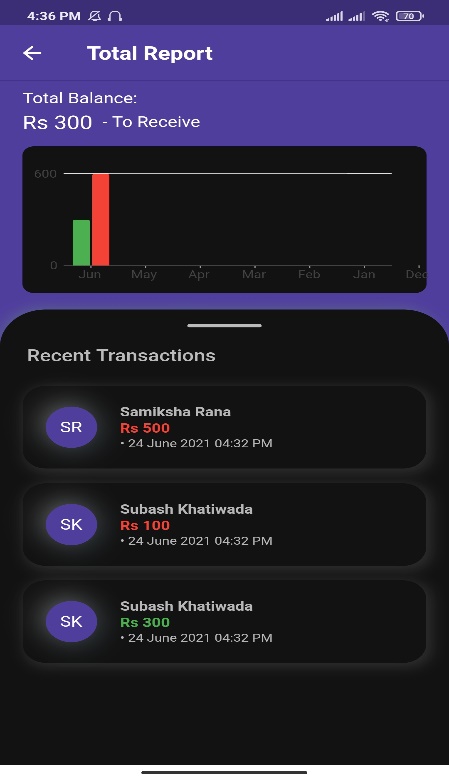
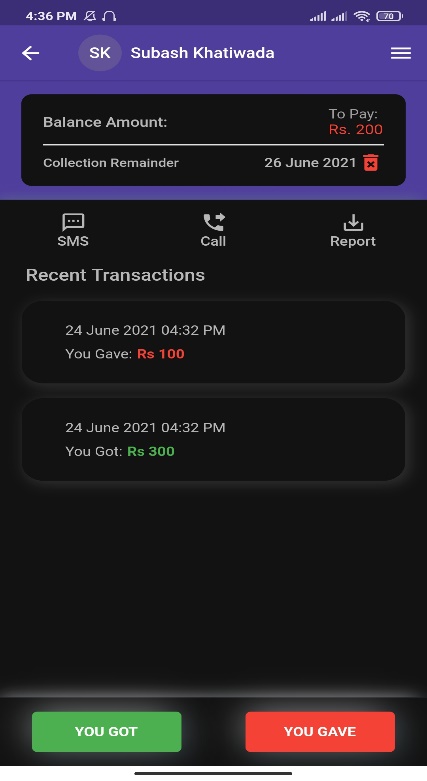
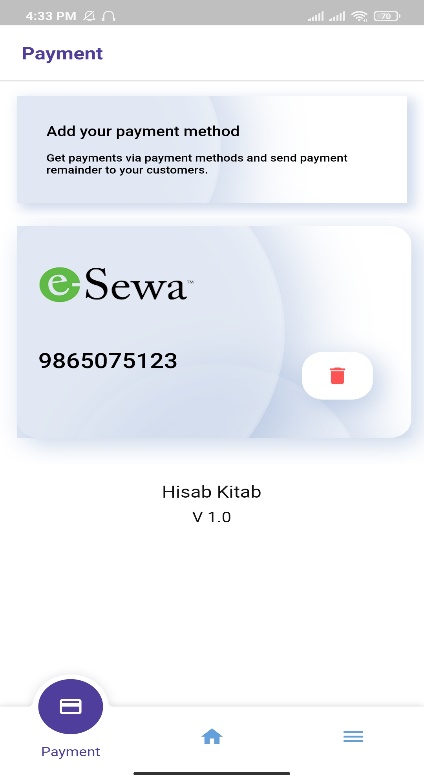
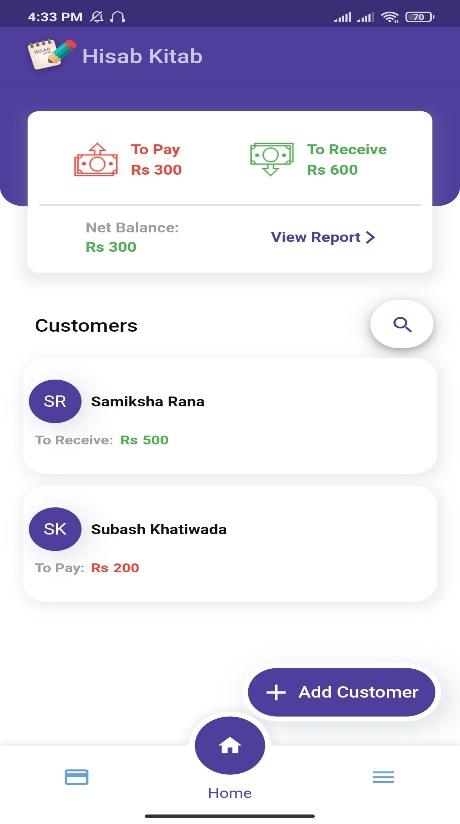
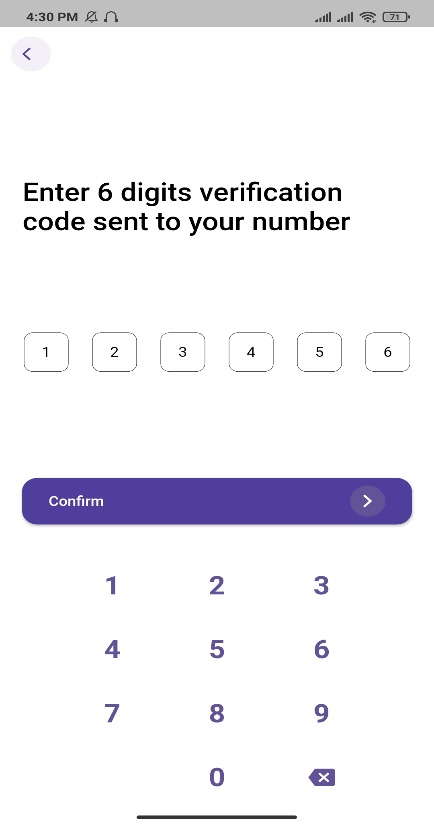
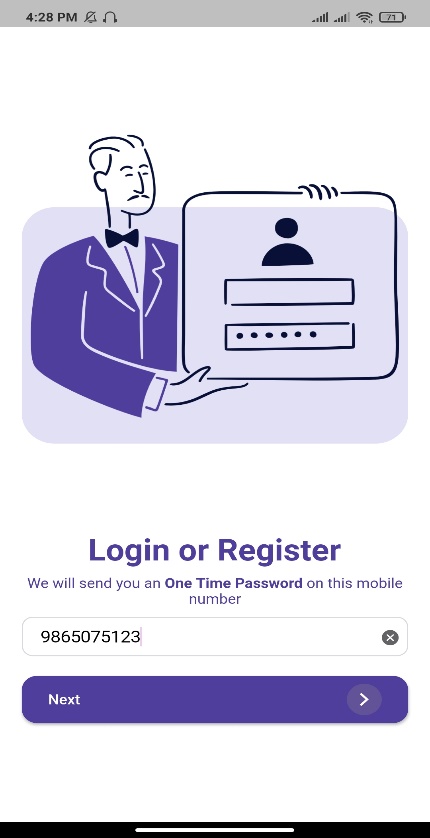


Figure 10: Sample Output

## 4.2 Work Schedule

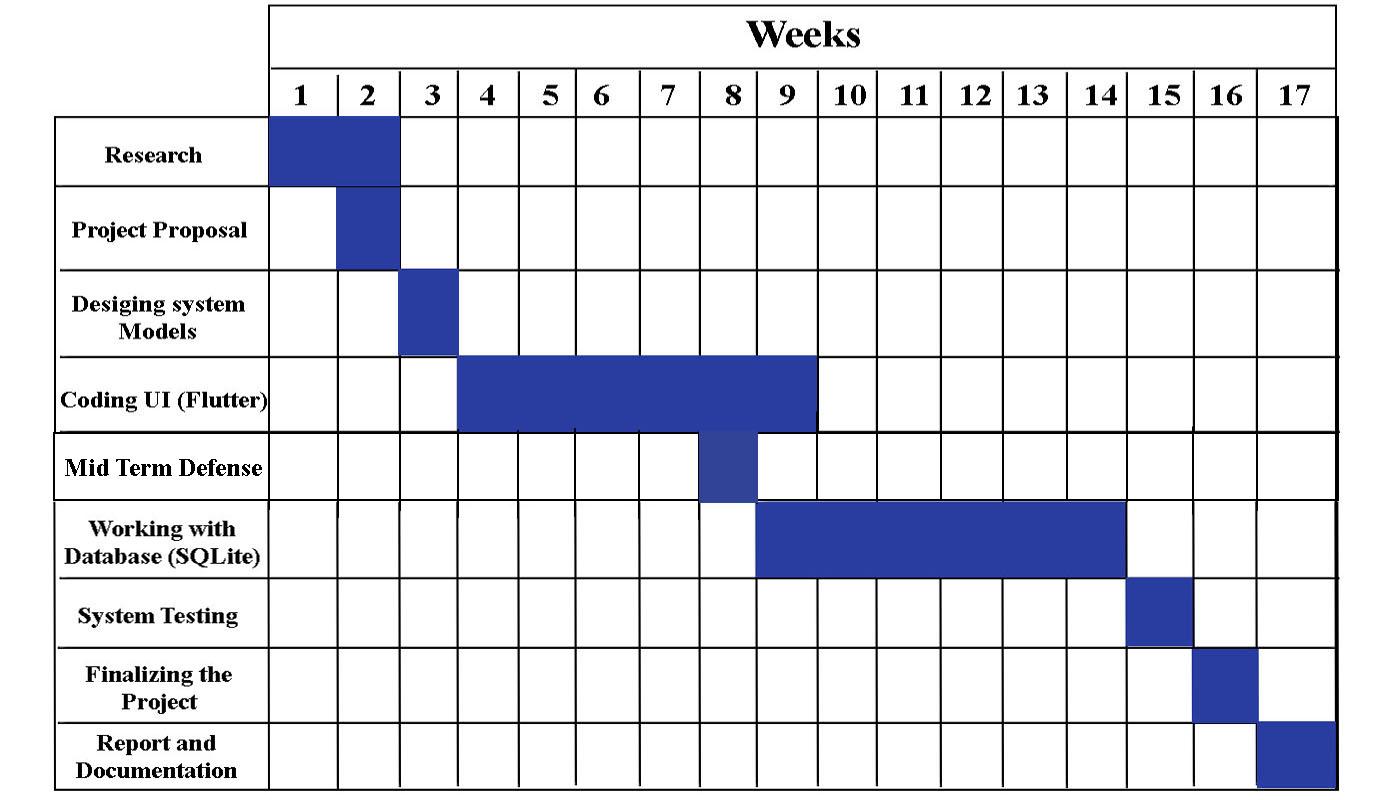


Figure 11: Work Schedule (Gantt chart)

# RESULT AND DISCUSSION

Hisab Kitab is a mobile application designed to improve the way how businesses make their credit and financial transaction. The project which we started before has been done. As we said this project is built on the ‘Flutter’ framework based on Dart Programming language for frontend or UI of the system and ‘SQLite’ and MySQL database for the backend. The tools and technologies used for this project is Visual-Studio code for writing the flutter programs and using the virtual devices to run and debug our proposed system in different interfaces having different built-in features. There is also the multiple profile feature in this application which is actually in the process of future updates.

Firstly, Users will have options for login or register using the phone number and OTP verification. The benefit of log in the user rather than email or google account is that it gives the flexibility of sending the automatic SMS or WhatsApp message using the same registered number. By using the Hisab Kitab app users can view their earning, their credit transactions, and the amount they have to return to their users on the specific date setting remainder to both user and their customers.

The functionality of the Hisab Kitab application are described below:

* The first picture (Figure 9) represents the log-in method where the user can log in. If he/she already have their account on this app then their previous data will be initialized into SQLite database if not new user will be created. This app helps them to keep every records of their financial activities.
* The second picture represents OPT verification. It verifies phone number of users by sending OTP verification code during login. It removes the possibility of a user registering with fake mobile number.
* The third picture represents the home page of this application. The homepage is the area that people notice at the first glance and decide their basic judgments about the application. The application homepage design is the door to a successful product, and a good start is half the battle.
* The fourth picture represents the payment method. It helps us to send payment remainder to the customers. For eg. Dear customer, you have Rs. 5000 payable amount. Please deposit it in our eSewa account 9812345678. Thankyou! This types of notification can be send to the customer.
* In the fifth picture, it shows that the single customer’s profile. It shows that how much money we need to pay or receive from the customer. Here we can add more number of customers records. It shows the balance records, and all financial records of users. In this, the records of receiving and paying amount of user are stored.
* And the sixth picture represents the overall report of the user from all customers and monthly data in bar chart for better visual representation. It shows all of the records activities of customers.
* And all of this records are collected and stored in the database and can retrieve when needed in future.

# 6. CONCLUSION

To Conclude, Hisab Kitab mobile application is basically a credit management system which can access all the databases and picks up different function through the user interaction in the system. Users can view, add, update, and delete the financial report or transactions and mainly send the SMS reminder to the user for remaining credit transactions in their due date. And the main security or authentication of user is secured with the help of One Time Password (OTP) verification while user login. Lastly, Hisab Kitab mobile application will have a very easy implementation environment and generate report flexibly and can change the way how business and individual manages their ledgers by their fingertip.

# 7. FUTURE ENHANCEMENTS

This system has a very vast scope in the future. The project can be implemented in the online store and can be updated in the near future as and when the requirement for the same arises, as it is very flexible in terms of expansion. With the proposed software of database space, the client is now able to manage and hence run the entire work in a much better, accurate, and error-free manner. The following are the future scope for the project:

* The multiple profile features part is running for the future updates
* Can add expenses tracker and calculate profit and loss
* Can add different tools like tax calculator, billing system and more
* Will also work on data security, data integration and building more user friendly UI’s.

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