RESEARCH ARTICLE　　　　　　　　　　　　　　　　　　　　　　　　　　　OPEN ACCESS

SIMPLE FINANCE ASSISTANT

Sugashini K [1], Madhumathi N [2], Nivethetha A S [3], Rajarajeshwari P V [4]

Assistant Professor [1] Department Of Information Technology,
Final year [2], [3],[4]Department Of Information Technology,
Sri Shakthi Institute of Engineering and Technology, Coimbatore, Tamilnadu, India.

ABSTRACT

Simple finance management plays a crucial role in individuals' lives, yet many struggle to navigate its complexities effectively. This abstract presents a conceptual overview of a Simple Finance Assistant (SFA), an innovative digital tool designed to empower users to manage their financial affairs efficiently. The Simple Finance Assistant integrates advanced technologies such as artificial intelligence, machine learning, and natural language processing to provide personalized financial guidance tailored to individual needs and goals.Its key functionalities encompass budgeting, expense tracking, investment analysis, debt management, retirement planning, and goal setting., the Simple Finance Assistant offers real-time insights into users' financial health, facilitating informed decision-making and fostering responsible financial habits. Furthermore, it educates users on various aspects of personal finance, including risk management, asset allocation, tax optimization, and long-term wealth accumulation strategies.This introduction aims to provide an overview of the Personal Finance Assistant, outlining its key features. Privacy and security are paramount with robust encryption protocols safeguarding sensitive financial data. Moreover, the Simple Finance Assistant adheres to ethical standards, ensuring transparency and impartiality in its recommendations. harnessing the capabilities of modern technology, the Simple Finance Assistant seeks to revolutionize the way individuals manage their finances, enabling them to make informed decisions, achieve financial stability, and work towards their long-term goals

Keywords : Large Language Model (LLM), End-to-End Text and Image Processing, Gemini Pro Platform, dotenv, Streamlit User Interface, Operating System (OS) Integration, Google.GenerativeAI, PIL (Python Imaging Library), pyttsx3 Text-to-Speech Integration.

I.   INTRODUCTION

In today's fast-paced and dynamic world, managing personal finances hasbecome increasingly challenging. From budgeting and expense tracking to investment decisions and retirement planning, individuals are often overwhelmed by the complexities of financial management. Moreover, the abundance of financial products and services, coupled with fluctuating economic conditions, further complicates the task. Recognizing these challenges, there is a growing demand for innovative solutions that can streamline and simplify personal finance by using Simple Finance Assistant (SFA). In response to this need, the concept of a Personal Finance Assistant (Simple Finance Assistant) has emerged as a promising approach to empower individuals to navigate their financial affairs more effectively.

The Personal Finance Assistant is envisioned as a comprehensive digital tool that leverages cutting-edge technologies to provide tailored financial guidance and support. By harnessing the power of artificial intelligence, machine learning, and natural language processing, the Simple Finance Assistant offers personalized insights and recommendations based on users' unique financial situations, goals, and preferences. This introduction aims to provide an overview of the Personal Finance Assistant, outlining its key features, functionalities, and benefits. By harnessing the capabilities of modern technology, the Simple Finance Assistant seeks to revolutionize the way individuals manage their finances, enabling them to make informed decisions, achieve financial stability, and work towards their long-term financial goals. Review of empirical studies and research findings assessing the effectiveness of SFAs in improving users' financial behaviors and outcomes.Examination of the impact of SFAs on various aspects of personal finance management, such as saving rates, investment decisions, debt reduction, and retirement preparednes

1.1   HYPERTEXT PREPROCESSOR

1.1.1   About PHP

PHP is a general-purpose scripting language geared towards web development. It is an open-source environment that it is readily available and free. PHP is perfectly suited for Web development and can be embedded directly into the HTML code. On a web server, the result of the interpreted and executed PHP code which may be any type of data, such as generated HTML or binary image data would form the whole or part of an HTTP response. The PHP syntax is like Pearl and C. Its ability to interact with databases, including popular choices like MySQL, allows for the storage and retrieval of data, making it a go-to solution for content management systems, e-commerce platforms, and a wide array of web-based services.

Server-side scripting

PHP is a widely used server-side scripting language that plays a pivotal role in web

development. As a server-side scripting language, PHP is executed on the web server to generate dynamic web content, interact with databases, and facilitate various server-related tasks. Operating on the server side, PHP processes user requests, and the resulting HTML or content is sent to the user's browser. PHP has a large and active community of developers. There is a wealth of documentation, open-source libraries, and frameworks available, such as Laravel and Symfony, which facilitate web application development. Its simplicity, compatibility with databases, and extensive community support have made it a popular choice for building dynamic and interactive web applications. It remains a significant player in the web development ecosystem.

Command line scripting

Command line scripting in PHP allows developers to extend the language beyond web applications, empowering them to create versatile and efficient scripts for various purposes. With PHP's command line interface (CLI), it becomes a powerful tool for automating tasks, processing data, or even building complex system applications. Command line scripts are written & executed directly in the terminal or console, providing a means to interact with the server or computer at a deeper level, and command line scripting is a testament to its adaptability, ensuring that it remains relevant.

1.1.2 Features of PHP

Open Source:

PHP is an open-source language, which means it is freely available for anyone to use, modify, and distribute. This fosters a large and active community of developers and contributors.

Cross-Platform:

PHP is cross-platform, allowing it to run on various operating systems like Windows, Linux, macOS, and more. This versatility makes it a convenient choice for web developers.

Simplicity:

PHP's syntax is relatively easy to learn and understand, making it accessible for developers of different skill levels. It shares similarities with C and other popular programming languages.

Server-Side Scripting:

PHP is primarily a server-side scripting language. This means that it is executed on the web server, processing requests and delivering dynamic content to the user's browser.

Database Integration:

PHP offers strong support for connecting to databases. It is often used with database management systems like MySQL, enabling the creation of data-driven web applications.

Community and Support:

PHP has a large and active community of developers who provide extensive documentation, forums, and resources. This community-driven aspect ensures continuous support and development.

Security

Although PHP itself is inherently secure, vulnerabilities may arise from inadequate coding practices. To mitigate potential risks such as SQL injection and cross-site scripting (XSS), developers must adhere to stringent security best practices. This entails employing robust coding techniques and implementing protective measures to fortify PHP-based applications against security threats.

Real-Time Applications:

While PHP is not typically used for real-time applications, it can be combined with technologies like JavaScript and Web Sockets to create real-time features in web applications.

1.1.3 MYSQL

MySQL is an open-source relational database management system (RDBMS) that is widely used for storing and managing structured data. It is a critical component in the development of dynamic web applications, content management systems, e-commerce platforms, and many other software systems. MySQL's relational database structure facilitates efficient data storage, retrieval, and manipulation, employing the universally recognized Structured Query Language (SQL).

ACID compliance guarantees data consistency and reliability, while its support for stored procedures and triggers allows developers to encapsulate business logic within the database.

Its cross-platform compatibility ensures adaptability to diverse operating systems, and a rich ecosystem of features, including replication, clustering, and robust security mechanisms, makes it suitable for projects of all scales.

1.1.3 FEATURES OF MYSQL

Client/server Architecture:

MySQL is a client/server system. There is a database server (MySQL) and arbitrarily many clients (application programs), which communicate with the server. The clients can run on the same computer as the server or on another computer.

Relational Database:

MySQL is a relational database management system (RDBMS) that organizes data into tables with rows and columns, allowing for efficient data storage and retrieval

SQL Compatibility:

As before said SQL is a standardized language for querying and updating data and for the administration of a database. Through the configuration setting sol-mode, we can make the MySQL server behave for the most part compatibly with various database systems.

Platform independence:

MYSQL can be executed under several operating systems. The most important are Apple Macintosh OS X, Linux, Microsoft Windows, and UNIX.

High Performance:

MySQL is known for its high performance and efficient data handling. It can manage large datasets and handle complex queries, making it suitable for demanding applications.

Scalability:

MySQL can scale to meet the needs of applications, from small personal projects to large-scale enterprise systems. It offers various features for replication, clustering, and partitioning to ensure scalability.

Data Types:

MySQL supports a wide range of data types, including integers, floats, strings, dates, and more, allowing developers to store and manipulate diverse data efficient

II. LITERATURE SURVEY

2.1 Implementation of our system using PHP

This introduction aims to provide an overview of the Personal Finance Assistant, outlining its key features, functionalities, and benefits. By harnessing the capabilities of modern technology, the concept of Simple Finance Assistant seeks to revolutionize the way individuals manage their finances, enabling them to make informed decisions, achieve financial stability, and work toward their long-term financial needs & goals. Review of empirical studies and research findings assessing the effectiveness of SFAs in their improving users' financial behaviors and outcomes. Examination of the impact of SFAs on various aspects of personal finance management, such as saving rates, investment decisions, debt reduction, and retirement preparedness. Analysis of user satisfaction, adoption rates, and long-term engagement overview with SFAs.Review of empirical studies and research findings assessing the effectiveness of SFA.

2.1 Database Connection to System using MYSQL

Several studies have shown that SMS can have a positive impact on academic performance. For example, Osman et al. (2020) found that SMS improved students' attendance rates, resulting in improved academic performance. In our system, the literature review suggests that SMS is a valuable tool for educational institutions, but its successful implementation and adoption depend on adequate resources, stakeholder involvement, and effective training. We used the javascript.info website to refer the concepts of java script-related activities in our system. Many websites provide useful MySQL reference materials for projects. Here are some of the most used onesin our project.

MySQL Official Documentation:

The official documentation for MySQL is available on the MySQL website. It includes everything from installation and configuration guides to advanced query techniques and performance tuning.

W3Schools MySQL Tutorial:

W3Schools is a popular online learning platform that provides tutorials on various programming languages, including MySQL. Their MySQL tutorial covers the basics of the language, as well as more advanced topics.

MySQL Cheat Sheet by SQLtutorial.org:

SQLtutorial.org offers a MySQL cheat sheet that provides a quick reference for common MySQL commands and syntax. It is a handy resource for developers who need to quickly lookup a command or function.

MySQL Forums:

The MySQL Forums are a great resource for developers who need help with specific MySQL-related issues.

MYSQL ACID Properties:

MySQL, like many other relational database management systems (RDBMS), adheres to the principles of ACID (Atomicity, Consistency, Isolation, Durability) to ensure data integrity and reliability.

ATOMICITY:

Atomicity ensures that a transaction is treated as a single unit of work, either all of its operations are executed or none are. In MySQL, transactions are atomic by default when using the InnoDB storage engine, which is the default engine for MySQL as of version 5.5. This means that if a transaction fails at any point, any changes made by the transaction are rolled back, leaving the database in its original state.

CONSISTENCY:

Consistency ensures that the database remains in a consistent state before and after the transaction. In MySQL, this is often

maintained through the use of constraints, such as foreign key constraints and unique constraints, which enforce data integrity rules.

Additionally, MySQL supports the use of transactions and rollback mechanisms to ensure that the database remains consistent

ISOLATION:

Isolation ensures that the concurrent execution of transactions produces an equivalent result to a serial execution of those transactions. In MySQL, different isolation levels can be specified for transactions, such as READ UNCOMMITTED, READ COMMITTED, REPEATABLE READ, and SERIALIZABLE.

DURABILITY:

Durability ensures that once a transaction is committed, its changes are permanent and will not be lost, even in the event of a system failure. In MySQL, durability is achieved through mechanisms such as transaction logging and the use of transaction commit protocols. The InnoDB storage engine, which is commonly used in MySQL, provides durability by writing transaction logs to disk before acknowledging the commit, ensuring that committed transactions are durable even in the event of a crash.

I. METHODOLOGY

SYSTEM STUDY
    3.1 Existing System

         The existing system of a Simple Finance Assistant (SFA) encompasses a range of digital tools, platforms, and services designed to assist individuals in managing their personal finances more effectively. While each Simple Finance Assistant may vary in terms of features and capabilities, they typically offer several key functionalities including Budgeting and Expense Tracking Financial Goal Setting, Investment Management, Debt Management, and Retirement Planning, SFAs assist users in planning for retirement by estimating future retirement needs, projecting retirement income, and recommending strategies for retirement savings, such as contributing to employer-sponsored retirement plans or individual retirement accounts (IRAs). Tax Optimization: Some SFAs offer tax optimization tools and resources to help users minimize their tax liabilities. They may guide tax-efficient investment strategies, deductions, and credits. Financial Education: Many SFAs offer educational resources, articles, and tutorials on various aspects of personal finance, including budgeting, investing, saving, and retirement planning.Security and Privacy: They aim to improve users' financial literacy and empower them to make informed financial decisions.SFAs help users manage debt by tracking loan balances, interest rates, and payment schedules. They may offer strategies for debt repayment, be a vital way to identify growth opportunities, exit businesses that aren't performing well, and help manage expenses. Many youths and adults, who are entering the stage of earning and dealing with money, are overwhelmingly in chaos while managing their money. They don't have any specific idea or guidance to manage their cash flow in the right direction. Beginners to financial planning need a way to be motivated to develop a positive habit of budget management as it is currently discouraging and a hassle to track expenses. As a result, many people spend all their money while they are earning and become broke very early. To solve this problem, and to help an individual manage his/her finances by their own customized financial goals. Due to the lack of basic financial education, people have poor spending habits and poor control over finances. Every year thousands of people get purchasing power without knowing the basics. PhonePe is looking for a way to extend its market by helping young adults to build spending habits and monitor them as well as prepare them for a financially independent lifestyle. The term personal financial statement refers to a document or spreadsheet that outlines an individual's financial position at a given point in time. The statement typically includes general information about the individual, such as name and address, along with a breakdown of total assets and liabilities. The statement can help individuals track their financial goals and wealth and can be used when they apply for credit.

such as debt snowball or debt avalanche methods.: Many SFAs offer tools for investment analysis and portfolio tracking. Tracking finances may seem like a no-brainer, but for time-crunched small business owners, it can easily be forgotten. That can be disastrous for your business both now and in the future. Finance tracking not only gives you a complete picture of your business but also reduces the time it takes to prepare for taxes and allows you to identify potential issues quickly, which keeps employees honest.

3.1 Disadvantages of Existing System:

The disadvantages of an existing system can vary depending on the specific system in use. However, here are some common disadvantages that organizations may face with an existing system:

Complexity:

Loan management systems can be complex to set up and maintain, especially if they are highly customized or integrated with other systems. This complexity can increase the learning curve for users and administrators.

Cost:

Implementing and maintaining a loan management system can be expensive. Costs may include software licenses, hardware infrastructure, customization, training, and ongoing support.

Customization Challenges:

While customization can tailor the system to specific business needs, it can also introduce challenges. Customizations may make the system more difficult to upgrade or maintain, and they can also increase the risk of bugs or errors.

Integration Issues:

Integrating a loan management system with other systems (such as accounting software or CRM systems) can be challenging. Data consistency and compatibility issues may arise, leading to additional complexity and maintenance overhead.

Scalability:

Some loan management systems may not scale well with growing loan portfolios or increasing transaction volumes. Performance issues may arise as the system becomes overloaded, requiring additional resources or redesign.

Security Risks:

Loan management systems often handle sensitive financial and personal data, making them attractive targets for cyber attacks. Security vulnerabilities in the system can lead to data breaches or unauthorized access, potentially resulting in financial losses and damage to reputation.

User Experience:

Poor user interface design or inefficient workflows can frustrate users and decrease productivity.A clunky or unintuitive interface may require additional training and support to use effectively.

PROPOSED METHODOLOGY

4.1PROPOSED SYSTEM

The Loan management system is important and helps to ensure the success or failure of any credit institution. Mortgage loan problems have always been a keynote on the risk of loan loss. The scope of this project is to provide good communication and communication between the customer and the manager. The current system can be a user-friendly system, which does not store data in the proper security and can easily track information and contains the operation of fast-recovery information, such as customer data, all loan details and includes many documents. This Financial Management System is designed to perform the functions of the back offices of a bank and a non-cash financial institution offers any sort of loan. The system can make daily operations more efficient and provide faster response. Including adding, editing, retrieving customer information, maintaining and issuing new loans, change

the loan rate. The scope of this project is to use the loan in a very smart way. The project includes a system analysis and style for obtaining a loan details process, settlement process, and approving the payment process. the existing system identifies issues arising from the functionality of the book. This project is designed to hit many issues such as data shortage, data inaccuracy, time, etc. The new computerized system will minimize errors while providing more control over the system and more robust management information in the form of implementation strategies. The new system was monitored to ensure that there was no error in the systems, so the program results met the export target financial target. to enhance the effective management of consumers, the system must also be developed to support other bidding loan details.

4.2 ADVANTAGES OF PROPOSED SYSTEM

Streamlined User Interface:

The system features an intuitive and user-friendly interface, making it easy for loan officers, administrators, and borrowers to navigate and use the system efficiently.

Customization Options:

While maintaining simplicity, the system allows for a high degree of customization to the unique requirements of different financial institutions or lending businesses.

Scalability:

Designed to handle growing loan portfolios and increasing transaction volumes, the

system is scalable and can accommodate the expansion of the organization without compromising performance or reliability.

Seamless Integration:

The system seamlessly integrates with other essential systems used by the organization, such as accounting software, CRM systems, or third-party credit scoring services, ensuring smooth data flow and eliminating silos.

Robust Security Measures:

Security is a top priority, and the system incorporates robust encryption, authentication, and access control mechanisms to safeguard sensitive financial and personal data from unauthorized access or cyber-attacks.

Automation and Workflow Optimization:

The system automates routine tasks and workflows, reducing manual effort and minimizing the risk of errors. Automated notifications and reminders keep stakeholders informed about important events and deadlines

4.3 ARCHITECTURE DIAGRAM
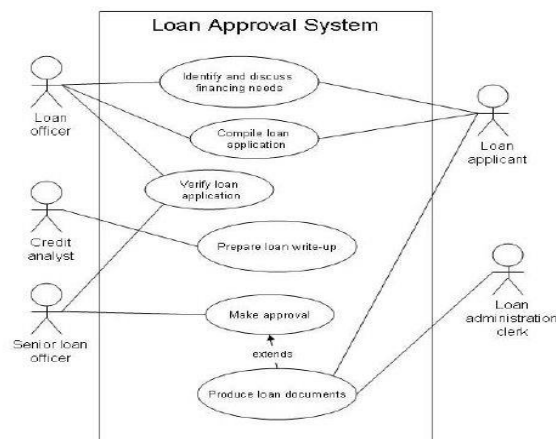
.4. IMPLEMENTATION OF PROPOSED SYSTEM MODULE DESCRIPTION
• ADMIN MODULE
• USER MODULE
4.4.1 ADMIN MODULE:
Admin can login with email and password, through the login page. Admin is the super user of the website who can manage everything on the website including loan approval etc.

1. Login Page:
This module allows administrators to securely log in to the finance assistant system by entering their authorized credentials, such as username and password.

2. Dashboard:
The dashboard provides an overview of the entire application, offering a simplified view of various modules and their average estimations, enabling quick access to key functionalities.

3. Loans:
This module lists all available loan types along with their details, facilitating the selection of specific loan options for individuals based on their needs and preferences.

4. File Charges:
Admin can manage and file charges within this module, ensuring transparent and efficient handling of financial transactions and associated charges.

5. Payments:
Admin can access a comprehensive list of user payment details in this module, Enabling easy monitoring and management of financial transactions within the system.

6. Expenditures:
Within this module, administrators can view their own expenditures, including Expenses deducted from their salary and savings, providing insights into personal financial management.

7. Pending Payments:
This module displays pending payments, allowing administrators to track and manage outstanding payment obligations effectively.

8. Borrowers:
Admin can access information related to borrowers, including their profiles, loan history, and current status, facilitating efficient management of borrower accounts.

9. Loan Plans:
This module outlines various loan plans available within the system, including details such as interest rates, repayment terms, and eligibility criteria, aiding administrators in guiding users through the loan selection process.

10. Loan Types:
Admin can review different types of loans offered within the system, including descriptions and features, to better assist users in choosing the most suitable loan options.

11. Users:
This module provides access to user profiles and account information, allowing administrators manage user accounts, permissions, and preferences effectively.

12. Administrator:

This module enables administrators to configure and manage system settings, user roles, and permissions, ensuring smooth operation and security of the finance assistant system.

4.4.2 USER MODULE:

In this module, user can log in using their username and password credentials and they can apply the loans for their needed type, plan etc. The user is treated as the borrower in this Simple finance assistant system.

4.4 SYSTEM SPECIFICATION

4.5.1 Software requirements

This section gives the details of the software that are used for the development.

- Operating System: Windows 10 /Linux
- Web Browser: Google Chrome
- Coding Language: PHP
- Database: MySQL

4.5.2 Hardware specification

This section gives the details and specifications of the hardware on which the system is expected to work.

- Processor: Intel (R) core(TM) i3-6100U
- Ram: 4 GB
- Hard Disk: 500 GB

4.6 SOFTWARE DESCRIPTION

4.6.1 PHP

PHP is a general-purpose scripting language geared towards web development. It is an open-source environment that it is readily available and free. PHP is perfectly suited for Web development and can be embedded directly into the HTML code. On a web server, the result of the interpreted and executed PHP code which may be any type of data, such as generated HTML or binary image data would form the whole or part of an HTTP response. The PHP syntax is like Pearl and C. Its ability to interact with databases, including popular choices like MySQL, allows for the storage and retrieval of data, making it a go-to solution for content management systems, e-commerce platforms, and a wide array of web-based services.

4.6.2 MYSQL

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amount of information in a corporation network. MySQL is an open-source relational database management system (RDBMS) that is widely used for storing and managing structured data. It is a critical component in the development of dynamic web applications, and content management systems.MySQL's relational database structure facilitates efficient data storage, retrieval, and manipulation.

4.6.3 VS CODE

Visual Studio Code (VS Code) is a free, open-source code editor developed by Microsoft. It is widely used by developers and software engineers for writing, testing, and debugging code across multiple programming languages and platforms. VS Code is a lightweight yet powerful tool that provides a user-friendly interface and awide range of features, including code highlighting, autocompletion, debugging tools, version control integration, and more. It is highly customizable through extensions and themes, allowing developers to tailor the environment to their specific needs. One of the main advantages of VS Code is its cross-platform compatibility, as it can be used on Windows, macOS, and Linux. It also offers seamless integration with other Microsoft products, such as Azure cloud services and GitHub. 4.6.4 HTML

HTML stands for Hypertext Markup Language, and it is the standard markup language used for creating and structuring content on the World Wide Web. HTML is the backbone of every web page, and it provides the basic structure and semantics of a web page. Structure and Semantics: HTML provides a clear structure for web pages, making it easy to organize content into headings, paragraphs, lists, and other elements. It also provides semantic tags to describe the meaning and purpose of the content, which is important for accessibility and SEO. Cross- Platform Compatibility: HTML is platform-independent and can be viewed on any device with a web browser. This makes it easy to create web pages that are accessible to a wide audience. Ease of Use: HTML is easy to learn and use, especially for beginners. It has a straightforward syntax that uses tags to define elements, and there are many resources available online for learning HTML.

4.6.5 CSS

CSS (Cascading Style Sheets) is a language used for styling web pages and making them visually appealing. Here are some of the key features of CSS: Separation of Content and Presentation: CSS separates the content of a web page from its presentation, making it easy to update the design of a website without affecting its content. This separation also

allows developers to create consistent styles across multiple web pages. Selectors and Cascading: CSS uses selectors to target specific HTML elements and apply styles to them.Styles can be defined in multiple locations, and they cascade down to child elements, making it easy to create complex and dynamic styles. Layout

Control: CSS provides a range of layout options, such as positioning, floats, and flexbox, that allow developers to control the layout and arrangement of elements on a web page. Responsive Design: CSS offers media queries and other responsive design techniques that allow developers to create web pages that adjust to different screen sizes and devices. Typography Control: CSS provides precise control over typography, allowing developers to customize the font family, size, color, spacing, and other aspects of text.

4.6.6 BOOTSTRAP

Bootstrap is a popular front-end development framework that is used to design and develop responsive, mobile-first web applications. It offers a range of features that make it a popular choice for developers. Here are some of the key features of Bootstrap: Responsive Design: Bootstrap provides a responsive grid system that allows developers to create mobile-first, responsive designs that adjust to different screen sizes and devices Components: Bootstrap comes with a wide range of pre-built UI components, such as navigation menus, buttons, forms, modals, and more, that can be easily customized and integrated into web applications.

IV RESULTS AND DISCUSSION
5.1 ADMINISTRATOR
5.1.1 LOGIN PAGE:

5.1.2 DASHBOARD:

5.1.3 LOANS

5.1.3.1 EDIT LOANS

5.1.3.2 NEW LOAN
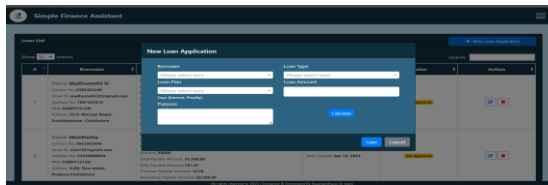
5.1.3   FILE CHARGES
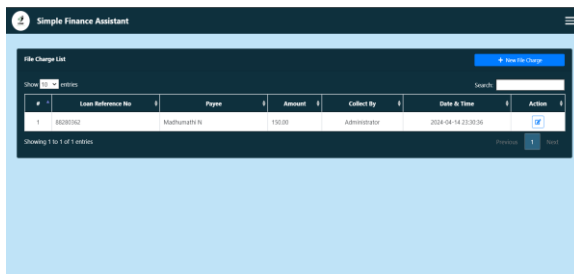
5.1.4.1 NEW FILE CHARGES:
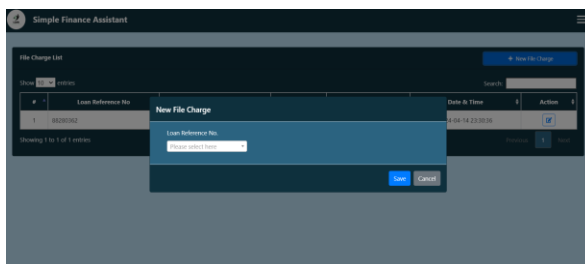
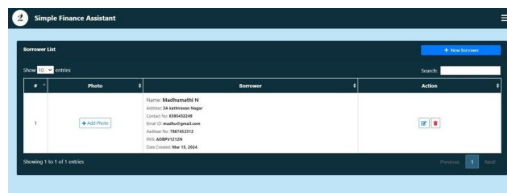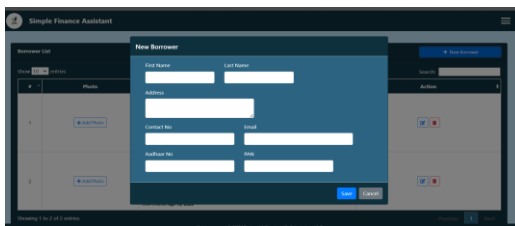## PAYMENTS
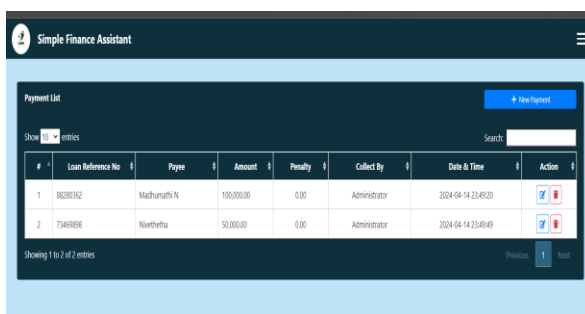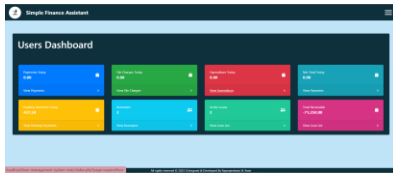
5.1.4.2 NEW PAYMENTS
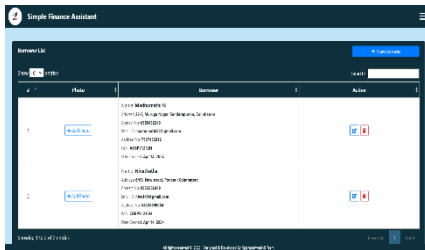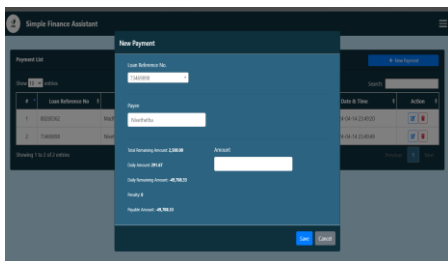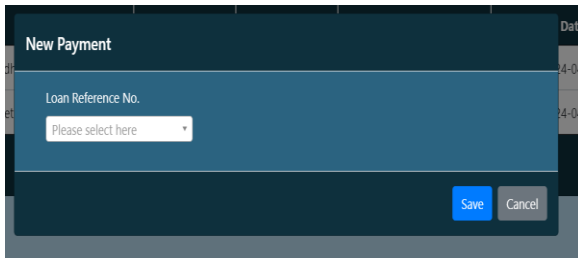
5.1.7   BORROWERS

5.1.7.1   NEW BORROWERS
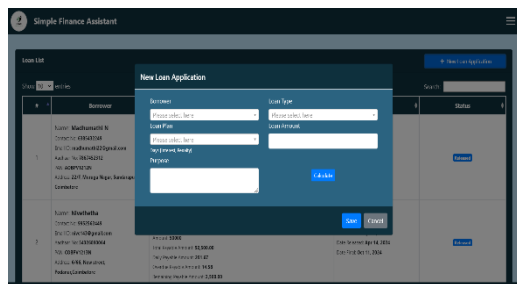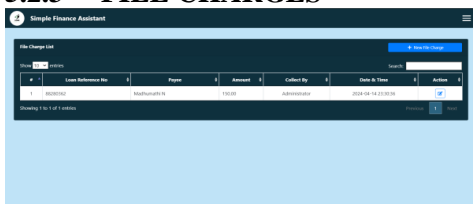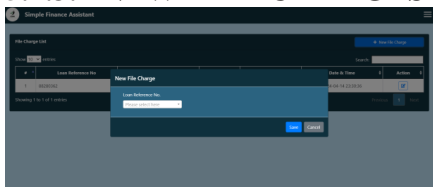
5.1.6 EXPENDITURE

5.1.6.1 NEW EXPENDITURE

5.1.8 LOAN PLANS

5.1.9 LOAN TYPES:

5.1.10 PENDING PAYMENTS

5.2 USER LOGIN

5.2.1 DASHBOARD

5.2.2 LOANS

5.2.3 FILE CHARGES

5.2.3.1 NEW FILE CHARGES

5.2.3 PAYMENT

NEW PAYMENT

EXPENDITURE

NEW EXPENDITURE

PENDING PAYMENTS

BORROWERS

REFRENCE

RESEARCH PAPERS:

[1] C. e. a. Clapp, ""Tracking climate finance: what and how?," International Media of Singapore, 2012..

[2] M. Housel, The Psychology of Money.

[3] M. Wesseling, "An EU Terrorist Finance Tracking System,"London: Royal United Services Institute for Defence and Security Studies, London, 2016.

BOOKS:
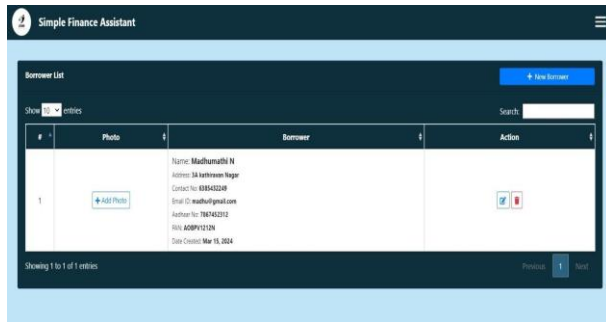
[1] Freeman, Pro Angular 6 - Third Edition.

[2] "Building Your Own Personal Finance Tracker." The Balance, 2021,.

[3] "How to Build Your Own Personal Finance System." Lifehacker, 2019,lifehacker.com/how-to-build-your-own-personal-finance-system-1656094110

WEBSITES:

[1] The Ultimate Guide to Personal Finance Software."
[2] The Simple Dollar,2021, www.thesimpledollar.com/financial-wellness/personal-finance-software.
[3] "How to Make a Budget: A Step-by-Step Guide." NerdWallet, 2021,www.nerdwallet.com/article/finance/how-to-make-a-budget".
[4] "Best Personal Finance Apps and Tools for 2021." Money Under 30, 2021, www.moneyunder30.com/best-personal-finance-apps".