

# **A Developer's Firm Management System**

Submitted to the Department of Computer Science and Engineering of  
Mawlana Bhashani Science and Technology University in partial  
fulfillment of the requirements for the degree of B.Sc in CSE.

Submitted by

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Supervised by

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Department of Computer Science and Engineering  
Mawlana Bhashani Science and Technology University  
Tangail - 1902, Bangladesh

June, 2023

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## **Project / Thesis Evaluation Committee:**

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## A Developer's Firm Management System

We the undersigned, recommend that the project completed by the student listed above, in partial fulfillment of B.Sc in CSE degree requirements, be accepted by the Department of Computer Science and Engineering, Mawlana Bhashani Science and Technology University for deposit.

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# Declaration

I hereby declare that this project titled, “***A Developer’s Firm Management System***” is our own project work and we confirm that any part of this project has not been submitted yet for a degree or any other qualification at this university or any other institution.

.....

Md Saddam Hossen (CE-18046)

.....

Md Nurul Kabir (CE-18049)

*Dedicated to,*  
*Our Beloved Parents*

## **Abstract**

The project aims to develop a user-friendly, offline software solution designed to efficiently manage the operations of a developer's firm. This comprehensive system incorporates various functionalities, including project management, client management, financial tracking, and collaboration tools. A unique feature called "Sharemate" is introduced, enabling the firm to sell flats within the system. Additionally, the system allows for credit and debit transactions, data editing and deletion, result report generation in PDF format for different time periods, data backup, restoration, and user registration. The primary objective of this project is to provide developers and their firms with a powerful management system that operates offline, ensuring data security and enabling uninterrupted operations without constant internet connectivity. The user-friendly interface enhances usability and accessibility, allowing for seamless adoption and efficient usage by firm personnel. The system encompasses project management functionalities, enabling effective planning, task tracking, and resource allocation. Client management features facilitate centralized information storage, communication tracking, and collaboration with clients. Financial tracking capabilities empower the firm to monitor project costs, revenue, and profitability, with integrated credit and debit functionalities for seamless financial transactions. The Sharemate feature expands revenue generation opportunities through the sale of flats within the system. Data management functionalities allow authorized users to securely edit and delete information, ensuring data integrity and accuracy. The system provides options for data backup, restoration, and user registration, enhancing data security and system reliability. Result reports can be generated in PDF format for different time periods, empowering the firm to analyze project performance and financial metrics. This feature aids in decision-making and strategic planning. The project offers a comprehensive offline solution that optimizes operations, supports revenue generation, and enhances data security for developers and their firms. The user-friendly interface ensures ease of use and promotes efficient adoption. By addressing the unique needs of developer firms, this system aims to contribute to their profitability and success in a competitive market environment.

## **Acknowledgment**

In this very special moment, first and foremost we would like to express our heartiest gratitude to the almighty Allah for allowing our to accomplish this B.Sc study successfully. We are really thankful for the enormous blessings that the Almighty has bestowed upon us not only during our study period but also throughout our life.

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Md Saddam Hossen (CE-18046)

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# Chapter 1

## Introduction

# Chapter 1

## Introduction

### 1.1 Overview

The project is an offline software solution designed to provide efficient management capabilities for developer firms. With a user-friendly interface, the system incorporates various functionalities to facilitate tasks such as selling flats through the Sharemate feature, managing financial transactions (adding credit and debit), editing and deleting data, generating result reports in PDF format for different time periods, and ensuring data integrity through backup and restoration mechanisms. The ultimate goal of the system is to help the firm maximize profitability by streamlining operations and providing a seamless user experience. The project's primary objective is to develop an offline management system specifically tailored to the needs of developer firms. Operating without the need for continuous internet connectivity, the system ensures data security and allows for uninterrupted operations. The user-friendly interface enhances usability, making it easy for firm personnel to navigate and utilize the system effectively. The system offers comprehensive project management features, enabling efficient planning, task tracking, and resource allocation. Client management functionalities centralize client information, facilitate communication tracking, and foster collaboration. Financial tracking capabilities allow monitoring of project costs, revenue, and profitability, with integrated credit and debit functionalities to facilitate financial transactions. The Sharemate feature expands revenue streams by enabling the firm to sell flats directly within the system. Data management functionalities ensure the secure editing and deletion of information, safeguarding

data integrity and accuracy. The system incorporates backup and restoration mechanisms to minimize the risk of data loss and support business continuity. User registration processes enhance user management and access control, ensuring secure and authorized system usage. Result reports can be generated in PDF format for different time periods, empowering the firm to analyze project performance and financial metrics. This feature facilitates data-driven decision-making and strategic planning, contributing to the firm's profitability. In summary, the project is an offline software solution that combines a user-friendly interface with a wide range of functionalities tailored specifically for developer firms. By optimizing operations, facilitating financial transactions, ensuring data security, and providing a seamless user experience, the system aims to help developer firms maximize profitability and achieve their business objectives.

## 1.2 Motivation

The motivation behind the project can be attributed to several reasons:

1. **Efficiency and Accuracy:** Manual calculations in construction projects can be time-consuming and prone to errors. By automating the calculation process, the project aims to improve efficiency and accuracy in financial calculations. This can save time for project managers and reduce the risk of human errors that may occur during manual calculations.
2. **Cost Management:** Construction projects involve various financial aspects, including expenses, payments, and budgeting. Effective cost management is crucial to ensure projects stay within budget. The project's motivation lies in providing a software solution that can accurately calculate and track project costs, helping project managers make informed decisions regarding resource allocation and cost optimization.
3. **Streamlined Project Management:** Construction projects often involve complex financial calculations and data analysis. By developing a software tool that automates these processes, the project aims to streamline project management activities. This includes simplifying data entry, generating real-time calculations and reports, and providing a comprehensive overview of the project's financial status.

4. **Enhanced Decision-making:** Accurate and up-to-date financial information is essential for making informed decisions in construction projects. The project's motivation is to provide decision-makers with timely and reliable financial data, enabling them to assess project progress, identify areas of concern, and make data-driven decisions to ensure successful project outcomes.
5. **User Convenience:** By utilizing a user-friendly interface, such as Java Swing, the project aims to make the software accessible and convenient for users. The motivation is to provide a tool that is easy to navigate and requires minimal training, allowing project managers and other stakeholders to quickly adapt to and utilize the software effectively.

In summary, the motivation behind the project is to address the challenges and limitations of manual financial calculations in construction projects. By automating the process and providing a user-friendly interface, the project aims to improve efficiency, accuracy, cost management, decision-making, and overall project management in the construction industry [1].

## 1.3 Significance

The project holds significant importance in the following ways:

1. **Improved Efficiency:** By automating the construction calculation process, the project significantly improves efficiency. Manual calculations can be time-consuming, especially in complex construction projects involving numerous financial transactions. Automating these calculations reduces the time and effort required, allowing project managers to focus on other critical tasks.
2. **Enhanced Accuracy:** Manual calculations are prone to errors, which can have a significant impact on project finances. The software developed in this project ensures accurate calculations, minimizing the risk of errors. This accuracy helps project managers make reliable financial decisions and ensures the project stays within budget.
3. **Cost Optimization:** Effective cost management is vital in construction projects. The software provides a comprehensive view of project finances, allowing project

managers to identify areas of cost overruns or potential savings. With accurate financial data at their disposal, project managers can optimize costs, allocate resources efficiently, and make informed decisions to achieve cost-effective project outcomes.

4. **Streamlined Project Management:** The project contributes to streamlined project management by simplifying financial calculations and data analysis. The software automates complex calculations and generates real-time reports, providing project managers with up-to-date financial information. This streamlining enables better monitoring of project progress, early identification of financial issues, and timely interventions to ensure project success.
5. **Decision-making Support:** Reliable financial data is crucial for making informed decisions in construction projects. The software provides decision-makers with accurate and timely information, enabling them to assess the financial health of the project and make data-driven decisions. This support empowers project managers and stakeholders to respond effectively to financial challenges, mitigate risks, and drive project success.
6. **User Convenience:** The project's utilization of Java Swing and Apache NetBeans provides a user-friendly interface for the software. This convenience allows users, even those without extensive technical knowledge, to easily navigate the software and leverage its features. The intuitive interface enhances user adoption and ensures a positive user experience.
7. **Industry Impact:** The project's significance extends beyond its immediate application. The automation of construction calculations and the utilization of modern software development tools contribute to advancing technology in the construction industry. The project serves as an example of how technology can be leveraged to enhance efficiency, accuracy, and decision-making in construction projects, potentially inspiring further innovation in the industry.

In summary, the project's significance lies in its ability to improve efficiency, accuracy, cost management, and decision-making in construction projects. By streamlining calculations, optimizing costs, and providing reliable financial data, the software developed in

this project has the potential to have a positive impact on project outcomes, industry practices, and the overall efficiency of the construction sector.

## 1.4 Problem Statement

The problem statements for the project can include the following:

1. **Manual Calculation Complexity:** The current practice of manually calculating construction project finances involves complex calculations that are time-consuming and prone to errors. This complexity increases as the project size and number of financial transactions grow. There is a need to automate these calculations to simplify the process and reduce the chances of errors.
2. **Lack of Real-time Financial Data:** Project managers often face challenges in accessing up-to-date financial information related to construction projects. This lack of real-time data hinders their ability to make informed decisions promptly. There is a need for a system that can provide accurate and timely financial data to support effective decision-making.
3. **Inefficient Cost Management:** Effective cost management is crucial in construction projects to ensure they stay within budget. However, manual calculations and data analysis can lead to inefficiencies in cost management. Project managers require a system that can streamline cost calculations, identify cost overruns or potential savings, and provide insights for optimized cost management.
4. **Limited Financial Visibility:** Project stakeholders, including project managers, contractors, and clients, often struggle to gain a comprehensive view of project finances. This limited financial visibility makes it challenging to track project progress, assess financial health, and identify potential financial risks. There is a need for a system that can provide a centralized and detailed overview of project finances.
5. **Complexity in Credit and Debit Transactions:** Construction projects involve numerous credit and debit transactions, such as material purchases, subcontractor payments, and equipment rentals. Tracking and managing these transactions manually can be time-consuming and error-prone. An automated system is required



to simplify the process of inputting credit and debit transactions and generating accurate financial outputs.

6. **Technical Proficiency Requirement:** Existing software solutions for construction project financial management often require a high level of technical proficiency to operate. This poses a challenge for users with limited technical knowledge or experience in using complex software tools. There is a need for a user-friendly system that can be easily utilized by project managers and other stakeholders without extensive technical expertise.
7. **Limited Integration with Existing Tools:** Construction projects typically involve the use of various software tools and systems for different purposes, such as project scheduling, resource management, and document control. However, the lack of integration between these tools and financial management systems creates inefficiencies and increases the likelihood of errors. There is a need for a project financial management system that can seamlessly integrate with existing project management tools.

By addressing these problem statements, the project aims to overcome the challenges associated with manual construction project financial calculations, provide real-time financial data, streamline cost management, improve financial visibility, simplify credit and debit transactions, enhance user convenience, and integrate with existing project management tools.

## 1.5 Objectives

The objectives of the project could include the following:

1. **Develop an automated system:** Design and implement a software system using Java Swing in Apache NetBeans that automates the calculation process for construction project finances. The system should be capable of handling credit and debit inputs from users and generating accurate financial outputs.
2. **Improve accuracy and efficiency:** Ensure that the automated system performs calculations accurately and efficiently, eliminating the potential for manual errors

and reducing the time required for financial calculations. This objective aims to enhance the overall reliability and productivity of financial management in construction projects.

3. **Provide real-time financial data:** Implement functionality to retrieve and display real-time financial data related to construction projects. The system should be capable of accessing up-to-date information and presenting it to project managers and stakeholders in a user-friendly manner.
4. **Streamline cost management:** Develop features that assist project managers in effectively managing project costs. This includes functionalities such as automated cost calculations, tracking cost overruns or savings, and generating reports and insights for optimized cost management.
5. **Enhance financial visibility:** Create a comprehensive and centralized view of project finances within the system. Provide stakeholders with easy access to financial information, including project expenditures, income, budget status, and any outstanding payments or invoices.
6. **Ensure user-friendly interface:** Design an intuitive and user-friendly interface for the software system. Simplify the process of inputting credit and debit transactions, generating financial reports, and accessing relevant project financial information. This objective aims to make the system accessible and usable for project managers and other stakeholders with varying levels of technical expertise.
7. **Facilitate integration with existing tools:** Enable seamless integration of the financial management system with other existing project management tools or software being used in construction projects. This objective aims to eliminate data silos, reduce duplicate data entry, and enhance overall project management efficiency.

By achieving these objectives, the project aims to automate construction project financial calculations, improve accuracy and efficiency, provide real-time financial data, streamline cost management, enhance financial visibility, ensure a user-friendly interface, and promote integration with existing project management tools.

## 1.6 Contributions

The contributions of the project could include the following:

1. **Automation of financial calculations:** The project contributes to automating the calculation process for construction project finances. By implementing a software system that can handle credit and debit inputs and generate accurate financial outputs, the project eliminates the need for manual calculations, reducing errors and saving time.
2. **Improved accuracy and efficiency:** The automated system ensures greater accuracy in financial calculations by eliminating the potential for human errors. It also improves efficiency by performing calculations quickly and reliably, allowing project managers to focus on other critical tasks.
3. **Real-time financial data access:** The project enables project managers and stakeholders to access real-time financial data related to construction projects. This contributes to better decision-making by providing up-to-date information on project expenditures, income, budget status, and outstanding payments.
4. **Streamlined cost management:** By automating cost calculations and providing insights into cost overruns or savings, the project contributes to streamlined cost management in construction projects. Project managers can track and manage costs more effectively, leading to improved financial control and project profitability.
5. **Enhanced financial visibility:** The project enhances financial visibility by centralizing project financial information within the software system. Stakeholders can easily access and analyze financial data, enabling better monitoring of project finances and facilitating informed decision-making.
6. **User-friendly interface:** The project contributes to a user-friendly interface that simplifies the process of inputting financial transactions, generating reports, and accessing project financial information. This enhances usability and makes the system accessible to project managers and stakeholders with varying levels of technical expertise.

7. **Integration with existing tools:** The project aims to facilitate integration with other existing project management tools or software used in construction projects. This contribution reduces data duplication, improves data consistency, and enhances overall project management efficiency.

Overall, the project's contributions include automating financial calculations, improving accuracy and efficiency, providing real-time financial data access, streamlining cost management, enhancing financial visibility, offering a user-friendly interface, and promoting integration with existing project management tools. These contributions help optimize financial management processes in construction projects, leading to better project outcomes and financial control.

## 1.7 Organization

The remainder of this project is organized as follows:

- **Chapter 2 Background Study** Introduces the background of this project in detail of Financial Calculations in Construction, Existing Approaches and Tools, Related Projects, Technologies and Frameworks, Industry Standards and Best Practices.
- **Chapter 3 System Analysis and Design** Introduces the background of this project in detail of ER Diagram, Class Diagram, Sequence Diagram, Use Case Diagram Flow Chart. Using this diagram trying clearly showing project working principle.
- **Chapter 4 Implementation** Illustrates the project GUI interface with working details.
- **Chapter 5 Result Discussion** Illustrates the project output as PDF. Different type PDF will generate according to various time period .
- **Chapter 6 Conclusion and Future Work** Concludes the whole project work and gives future research directions.

# Chapter 2

## Background Study

# Chapter 2

## Background Study

### 2.1 Introduction

The background study of the project involves conducting a comprehensive review of the relevant literature and existing approaches in the field of financial calculations in construction projects. The purpose of the background study is to gain a thorough understanding of the existing practices, tools, and technologies used in this domain and identify any gaps or shortcomings that the project aims to address.[2]

### 2.2 Financial Calculations in Construction

An overview of the importance of financial calculations in construction projects is provided. This includes understanding the various types of calculations involved, such as cost estimation, budgeting, resource allocation, and financial analysis. The challenges and complexities associated with manual calculation methods are explored.

1. **Cost Estimation:** Financial calculations are used to estimate the costs associated with various aspects of the construction project, including materials, labor, equipment, and overhead expenses. Estimating costs accurately helps in preparing realistic budgets and ensuring that the project remains financially viable.
2. **Budgeting:** Financial calculations are used to develop and manage the project budget. This involves allocating funds to different project activities, tracking expenses against the budget, and making adjustments as necessary. Budgeting ensures

that the project stays within the approved financial limits and allows for effective financial control.

3. **Cash Flow Management:** Financial calculations are used to analyze and manage the cash flow of a construction project. This involves predicting the inflow and outflow of funds over time, identifying potential cash flow issues, and implementing strategies to ensure a steady and sufficient cash flow. Effective cash flow management is critical to meet project expenses and maintain liquidity.
4. **Financial Analysis:** Financial calculations are used to assess the financial performance and viability of a construction project. This includes analyzing financial ratios, profitability measures, return on investment (ROI), and other financial indicators to evaluate the project's financial health and identify areas for improvement. Financial analysis helps in making informed decisions and maximizing project profitability.
5. **Cost Control:** Financial calculations are used to monitor and control project costs. This involves comparing actual costs against estimated costs, identifying cost variances, analyzing the reasons for deviations, and implementing corrective measures. Cost control helps in minimizing cost overruns, optimizing resource utilization, and improving project efficiency.
6. **Financial Reporting:** Financial calculations are used to generate accurate and timely financial reports for stakeholders. These reports provide an overview of the project's financial status, including income, expenses, profitability, and financial risks. Financial reporting enables stakeholders to assess the project's financial performance and make informed decisions.

Automation and streamlining of financial calculations in construction projects can save time, reduce errors, improve accuracy, and enhance overall project management efficiency. Software solutions like the "Design and Implementation of Automatic Construction Developing Calculation" aim to simplify and automate these calculations, providing users with a user-friendly interface to input financial data and generate accurate outputs, thereby improving financial decision-making and project control.

## 2.3 Existing Approaches and Tools

There are several existing approaches and tools available for financial calculations in the construction industry. These approaches and tools vary in complexity, functionality, and suitability for different project requirements. Here are some common approaches and tools used:

1. **Spreadsheet Software (e.g., Microsoft Excel):** Spreadsheet software is widely used for financial calculations in construction. It provides a flexible platform for creating custom financial models, performing calculations, and generating reports. Excel allows users to build complex formulas, create interactive dashboards, and automate calculations using macros. It is a versatile tool that can handle various financial calculations, including cost estimation, budgeting, cash flow analysis, and financial reporting.
2. **Construction Estimating Software:** Construction estimating software is specifically designed for accurate cost estimation in construction projects. These tools typically include databases of construction materials, labor rates, equipment costs, and other project-related expenses. They enable users to input project parameters, select items from the database, and generate detailed cost estimates. Construction estimating software helps streamline the estimation process and provides standardized outputs.
3. **Project Management Software:** Many project management software solutions offer financial management features that support financial calculations in construction. These tools allow users to create project budgets, track expenses, manage cash flow, and generate financial reports. They often integrate with accounting systems to ensure accurate financial data and provide real-time visibility into project finances.
4. **Building Information Modeling (BIM) Software:** BIM software is widely used in the construction industry for collaborative project planning, design, and construction. It includes features for estimating costs, generating quantity takeoffs, and analyzing project data. BIM software can help in performing accurate financial



calculations by linking cost data to the project's 3D model and automating quantity calculations.

5. **Financial Management Systems:** Dedicated financial management systems designed for the construction industry provide comprehensive functionality for financial calculations. These systems integrate financial modules with project management, accounting, and reporting capabilities. They offer features such as cost estimation, budgeting, cash flow management, invoicing, and financial analysis. Financial management systems help in centralizing financial data and streamlining financial processes across construction projects.
6. **Custom Software Solutions:** Some organizations develop custom software solutions tailored to their specific financial calculation needs. These solutions are designed to automate and streamline financial calculations based on the organization's unique requirements. Custom software solutions can integrate with existing systems, provide specific functionalities, and enhance overall financial management in construction projects.

When selecting an approach or tool for financial calculations in construction, it's important to consider factors such as project size, complexity, budget, integration capabilities, and user requirements. The chosen approach or tool should align with the project's specific needs and enable efficient and accurate financial calculations throughout the project lifecycle.

## 2.4 Related Projects

There have been various research studies and projects related to financial calculations in construction and related fields. Here are a few examples:

1. **"Automated Cost Estimation and Quantity Takeoff for Construction Projects Using Building Information Modeling (BIM)"** - This research focuses on leveraging BIM technology to automate cost estimation and quantity takeoff processes in construction. It explores the integration of BIM models with cost databases and algorithms to improve accuracy and efficiency in financial calculations.
2. **"Financial Risk Assessment in Construction Projects"** - This research investigates methods for assessing financial risks in construction projects. It explores quantitative models and tools that can analyze project financial data, predict potential risks, and provide decision support for risk mitigation strategies.
3. **"Intelligent Decision Support Systems for Construction Cost Management"** - This project aims to develop decision support systems that utilize artificial intelligence and data analytics techniques for construction cost management. The research focuses on improving cost estimation accuracy, optimizing resource allocation, and enhancing financial decision-making in construction projects.
4. **"Blockchain Technology for Construction Payments and Financial Transactions"** - This research explores the application of blockchain technology in construction project payments and financial transactions. It investigates the potential benefits of using blockchain for secure and transparent financial transactions, reducing payment disputes, and improving financial management in the construction industry.
5. **"Integrated Project Controls for Construction Cost Management"** - This project focuses on developing integrated project control systems that incorporate cost management, scheduling, and resource allocation in construction projects. The research aims to enhance the coordination and optimization of financial calculations and project control activities to improve project performance.

6. **"Machine Learning Techniques for Financial Analysis in Construction Projects"** - This research explores the application of machine learning algorithms for financial analysis in construction projects. It investigates the use of historical project data to develop predictive models for cost forecasting, cash flow analysis, and risk assessment in construction financial management.

These are just a few examples of the wide range of research studies and projects related to financial calculations in construction. The field is constantly evolving, with ongoing research efforts aimed at improving accuracy, efficiency, and decision-making in financial management within the construction industry.

## 2.5 Technologies and Frameworks

When it comes to technologies and frameworks for developing software applications in the field of construction and financial calculations, several options are available. Here are some commonly used technologies and frameworks:

1. **Java:** Java is a popular programming language that offers robustness, scalability, and platform independence. It can be used for developing various components of the software application, including the user interface, business logic, and data processing.[3]
2. **Swing:** Swing is a GUI (Graphical User Interface) toolkit for Java that provides a set of components and utilities for creating desktop applications with a rich user interface. It allows developers to create interactive and responsive interfaces for the software application.[4]
3. **Apache NetBeans:** Apache NetBeans is an integrated development environment (IDE) that supports Java development. It provides features such as code editing, debugging, and project management tools, which can aid in the development of the software application.[5]
4. **SQL:** SQL (Structured Query Language) is used for managing and querying databases. It can be utilized to store and retrieve financial data, user inputs, and calculations related to the construction project.[6]

5. **JDBC:** JDBC (Java Database Connectivity) is a Java API that allows Java applications to interact with databases. It enables the software application to establish connections, execute queries, and retrieve or update data in the database.[7]
6. **Apache Maven:** Apache Maven is a build automation tool used for managing dependencies, compiling source code, and creating executable files or deployable artifacts. It simplifies the build process and helps in managing project dependencies.[8]

These are just a few examples of the technologies and frameworks that can be utilized for developing a software application for financial calculations in construction. The choice of technologies and frameworks may vary depending on specific project requirements, developer preferences, and the overall architecture of the application.

# **Chapter 3**

## **System Analysis and Design**

## Chapter 3

# System Analysis and Design

### 3.1 ER Diagram

There are lot of tables created in this project to manage the various data. A brief discussion on the tables are given below:

1. **Share-mate:** In this table, the information of the sharers of a specific project is stored with the help of some attributes. There are columns like project name (which is the primary key), flat no, flat name, total selling cost of the flat etc. By this table, we can find out the percentages of the sharers for a project.
2. **Project-Income:**In this table, project name , flat name , money , date column exist. All kind of flat income are store in this table.
3. **ProjectExtraIncome:**In this table, project name , money , date column exist. All kind of project extra income(ex-rest cement) are store in this table.
4. **ProjectCapitalIncome:**In this table, project name , depositor, money , date column exist. All kind of capital income are store in this table.
5. **Project-Debit:**In this table, project name , money , date column exist. All kind of spent are store in this table.
6. **Project-Extra-Debit:**In this table, , money , date column exist. All kind of Extra spent are store in this table.

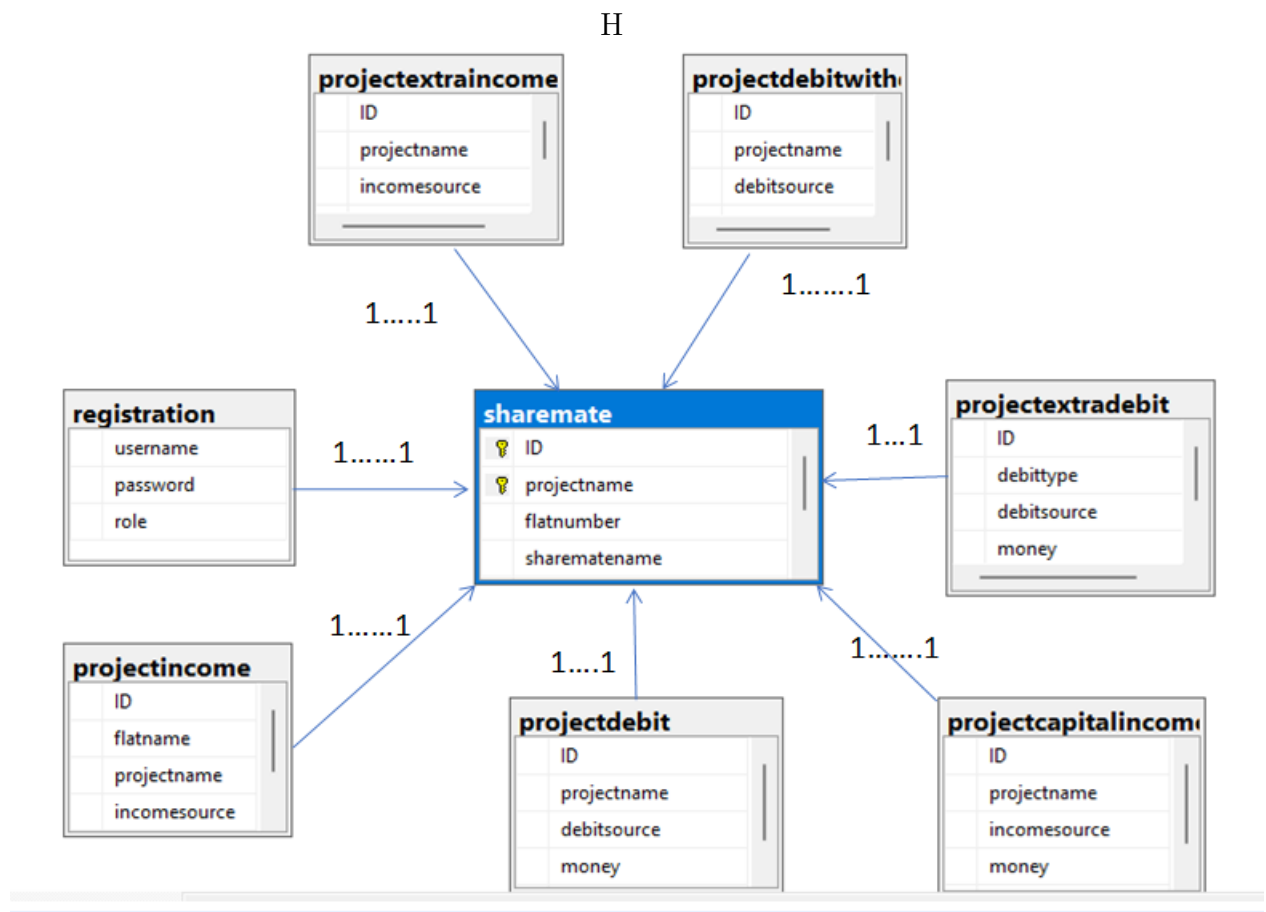


Figure 3.1: ER Diagram of the Project

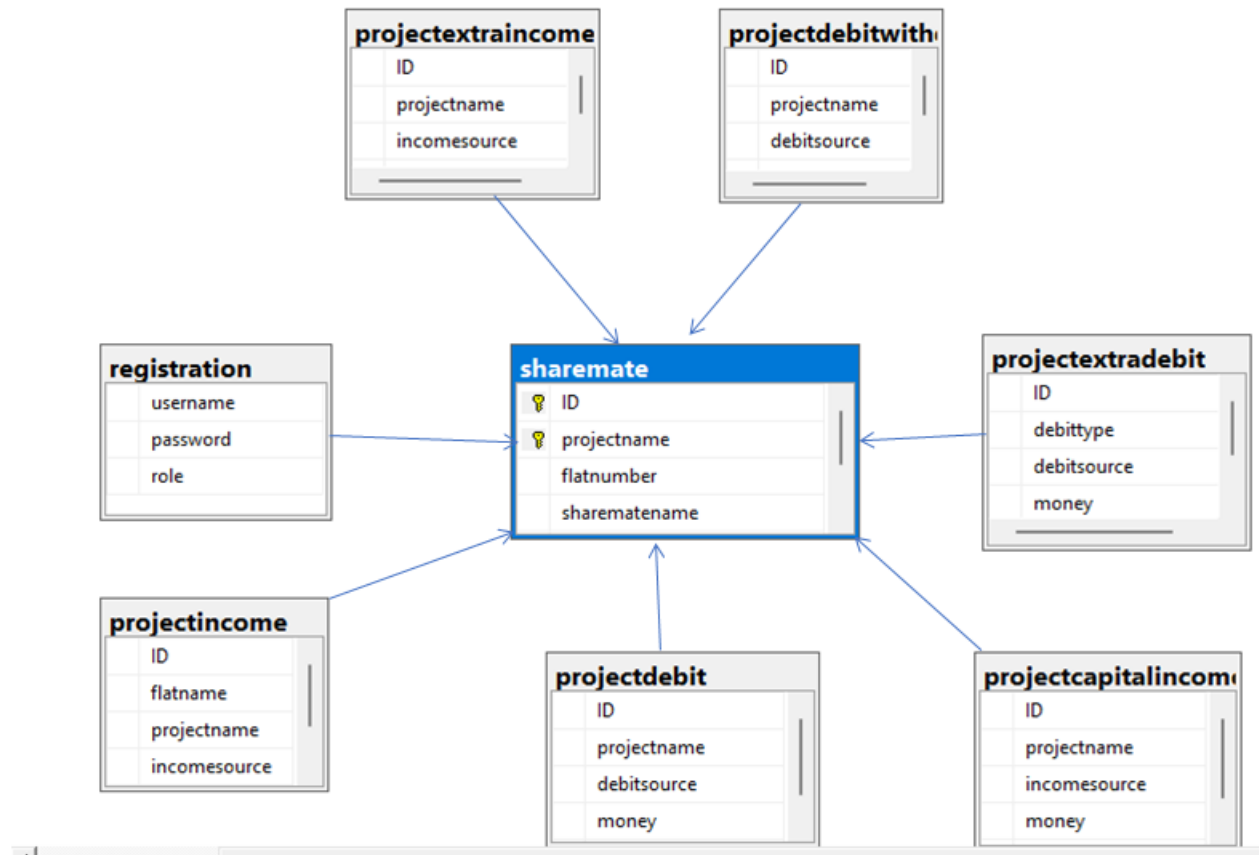


Figure 3.2: Class Diagram of the Project

In this chapter, we have shown the ER diagram of the database of this project in Figure 3.1. This figure clearly demonstrates the relationship among the tables of the database. There are One to One relationship among the tables. Share-mate is the central table and project name is the primary key.

## 3.2 Class Diagram

The class diagram for the project represents the static structure of the system by illustrating the classes, their attributes, methods, and the relationships among them. Here's a discussion on the key elements of the class diagram:

1. **Share mate Class:** In this class the attributes are project name, flat number, flat name, flat selling price, share mate name, percentage of share mate. The relationship among other class is one to one.



2. **Project Income Class:** In this class the attributes are project name, flat name, money, date . The relationship with Share mate class is one to one.
3. **ProjectExtraIncome Class:** In this class the attributes are project name, money, date . The relationship with Share mate class is one to one.
4. **ProjectDebitWithdraw Class:** In this class the attributes are project name, money, date . The relationship with Share mate class is one to one.
5. **Project Debit Class:** In this class the attributes are project name, money, date . The relationship with Share mate class is one to one.
6. **ProjectCapitalIncome Class:** In this class the attributes are project name, money, date . The relationship with Share mate class is one to one.

In this chapter, we have shown the Class diagram of the database of this project in Figure 3.2. The class diagram illustrates the associations between the classes using lines with arrows. In this case, the Sharemate class has one-to-one relationships with each of the other classes, indicating that each instance of the Sharemate class is associated with one instance of the corresponding class.

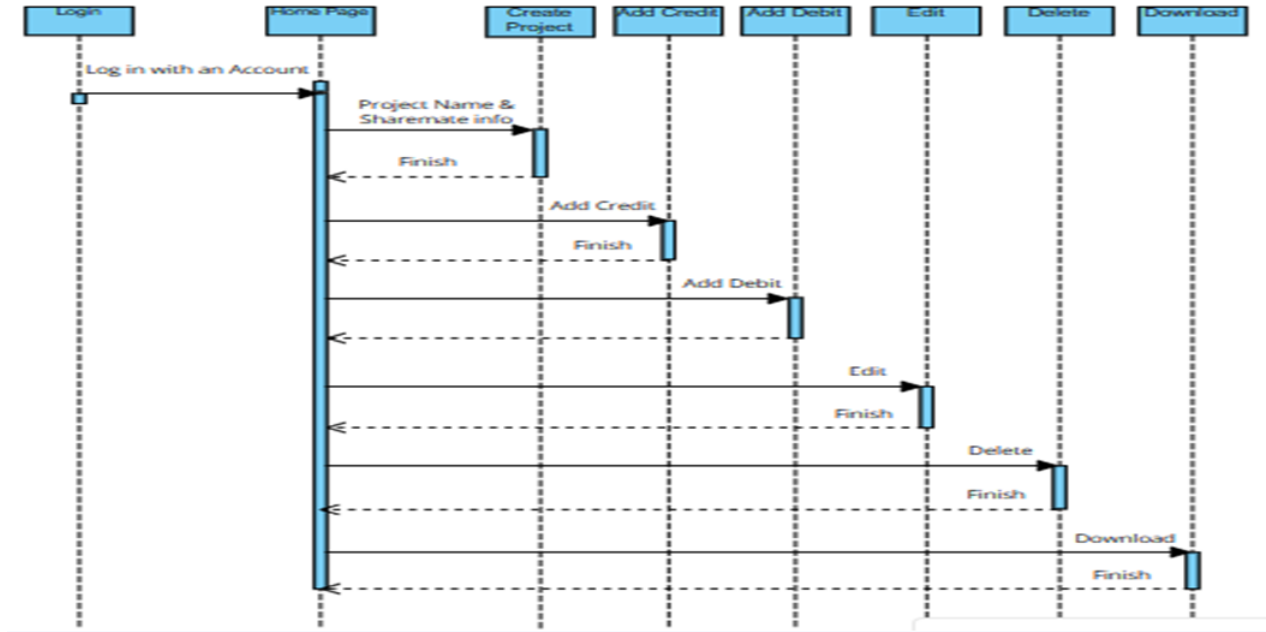


Figure 3.3: Sequence Diagram Of The Project

### 3.3 Sequence Diagram

The sequence diagram for the project illustrates the dynamic behavior of the system by depicting the sequence of interactions between the different objects or components. Here's a discussion on the key elements of the sequence diagram:

1. **Login Sequence:** In this Sequence User sends a login request to the system. System verifies the user's credentials. System sends a response indicating the success or failure of the login attempt.
2. **Match or Not Sequence:** In this Sequence System receives the login request from the user. System compares the provided credentials with the stored user data. System determines if the credentials match or not. System sends a response indicating the result of the match.
3. **Home Page Sequence:** In this Sequence User successfully logs into the system. System retrieves and displays the home page for the user.
4. **Create Project Sequence:** In this Sequence User selects the option to create a new project. User provides the necessary project details. User submits the project

creation request. System validates and saves the project information. System sends a response indicating the successful creation of the project.

5. **Add Credit Sequence:** In this Sequence User selects a project to which they want to add credit. User provides the credit details. User submits the credit addition request. System validates and saves the credit information for the project. System sends a response indicating the successful addition of credit.
6. **Add Debit Sequence:** In this Sequence User selects a project to which they want to add debit. User provides the debit details. User submits the debit addition request. System validates and saves the debit information for the project. System sends a response indicating the successful addition of debit.
7. **Edit Sequence:** In this Sequence User selects a project to edit. User modifies the project details. User submits the project edit request. System validates and updates the project information. System sends a response indicating the successful project edit.
8. **Download Sequence:** In this Sequence User selects a project from which to download files/reports. User requests the system to download the specified files/reports. System retrieves and sends the requested files/reports to the user.
9. **Delete Sequence:** In this Sequence User selects a project to delete. User confirms the deletion request. System removes the project and its associated data from the system. System sends a response indicating the successful deletion of the project.
10. **Restore Sequence:** In this Sequence User selects the option to restore deleted projects. User chooses a deleted project to restore. User submits the project restoration request. System retrieves the deleted project and restores it along with its associated data. System sends a response indicating the successful restoration of the project.
11. **Registration Sequence:** In this Sequence User selects the registration option. User provides the required registration information. User submits the registration request. System validates and saves the user's registration data. System sends a response indicating the successful registration.

In this chapter, we have shown the sequence diagram of the database of this project in Figure 3.3. The sequence diagram captures the flow of messages and interactions between different components, illustrating how they collaborate to perform the required calculations and generate the output. It helps in understanding the dynamic behavior of the system and the sequence of operations during the execution of specific tasks.

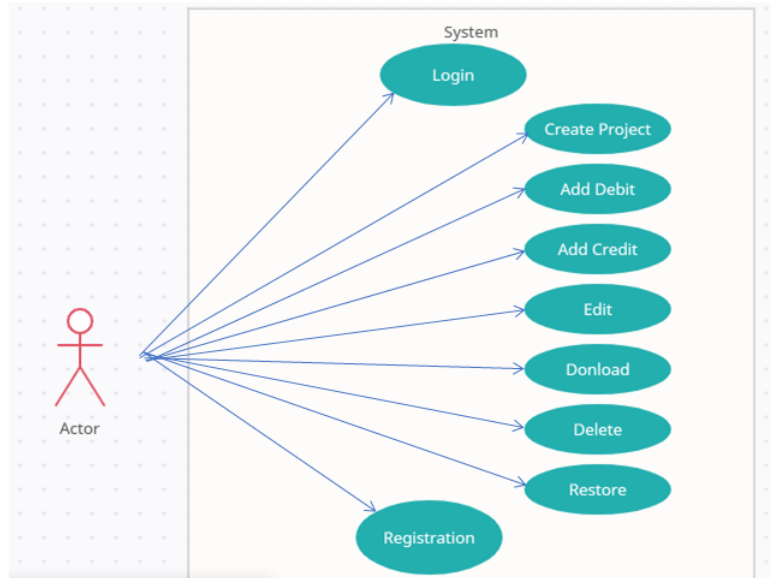


Figure 3.4: Use Case Diagram Of The Project

## 3.4 Use Case Diagram

The use case diagram for the project provides an overview of the system's functionality and the interactions between its users and the system itself. Here's a discussion on the key elements of the use case diagram:

Here are the details of the use case diagram:

1. **Actor:** Represents a user or system entity interacting with the system.
2. **Login:** Allows the actor to log into the system by providing their credentials
3. **Create Project:** Enables the actor to create a new project by providing project details such as name, description, etc.
4. **Add Credit:** Allows the actor to add credit information to a specific project. The actor provides the project details and the credit amount.
5. **Add Debit:** Enables the actor to add debit information to a specific project. The actor provides the project details and the debit amount.
6. **Edit:** Allows the actor to edit the details of a project, such as project name, description, or financial data.

7. **Download:** Enables the actor to download project-related files or reports.
8. **Delete:** Allows the actor to delete a project from the system. Once deleted, the project and its associated data cannot be recovered.
9. **Restore:** Enables the actor to restore a previously deleted project. The system restores the project along with its associated data.
10. **Registration:** Allows a new actor to register for an account in the system by providing the necessary information.

In this chapter, we have shown the use diagram of the database of this project in Figure 3.4. The use case diagram provides a high-level view of the system's functionality and the various interactions between users and the system. It helps in identifying the major use cases and understanding the system's overall scope and purpose. Note that the use case diagram presented here is a simplified representation and may not cover all possible use cases and interactions within the system. The actual use case diagram for the project would be specific to the requirements and functionalities of the system.

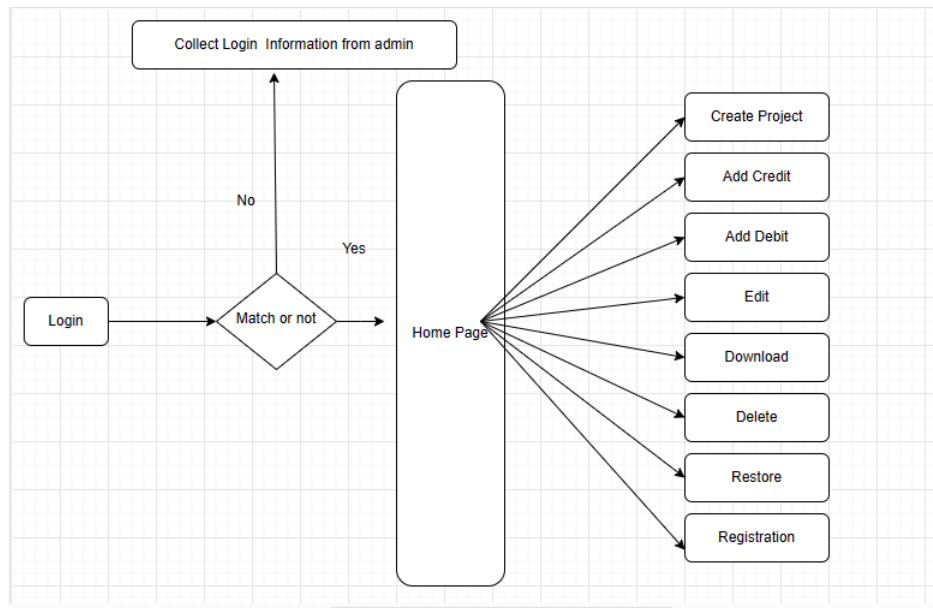


Figure 3.5: Flow Chart Of The Project

## 3.5 Flow Chart

A flowchart for the project represents the flow of activities and decisions within the system. It visually depicts the sequence of steps and the logical connections between them. Here's a discussion on the key elements of the flowchart:

1. **User Login:**The user enters their credentials to log in to the system.This step is represented by an "Input" symbol.
2. **Validate Login:**The system validates the user's login credentials.This is shown as a decision symbol, where the system checks if the login is valid.
3. **Login Successful:**If the login is successful, the flowchart continues to the next step.This is represented by an arrow flowing out from the decision symbol.
4. **Login Failed:**If the login is unsuccessful, the flowchart shows an alternative path, indicating a failed login.This is represented by an arrow flowing out from the decision symbol.
5. **Match or Not:**The system checks if the user's credentials match the stored data.This is represented by a decision symbol.

6. **Match:**If the user's credentials match, the flowchart continues to the next step.This is represented by an arrow flowing out from the decision symbol.
7. **Not a Match:**If the user's credentials do not match, the flowchart shows an alternative path, indicating a mismatch.This is represented by an arrow flowing out from the decision symbol.
8. **Home Page:**If the login is successful and the credentials match, the user is directed to the home page.This is shown as a process symbol.
9. **Create Project:**The user creates a new project within the system.This step is represented by an "Input" symbol.
10. **Add Credit:**The user enters credit information for the project.This step is represented by an "Input" symbol.
11. **Add Debit:**The user enters debit information for the project.This step is represented by an "Input" symbol.
12. **Edit Project:**The user selects a project to edit.This step is represented by an "Input" symbol.
13. **Download Project:**The user selects a project to download.This step is represented by an "Input" symbol.
14. **Delete Project:**The user selects a project to restore from a backup or recycle bin.This step is represented by an "Input" symbol.
15. **Restore Project:**The user selects a project to restore from a backup or recycle bin.This step is represented by an "Input" symbol.
16. **Registration:**If the login is unsuccessful and the user wants to register, they can proceed with registration.This step is represented by an "Input" symbol.

In this chapter, we have shown the use diagram of the database of this project in Figure 3.5. The flowchart provides a visual representation of the sequence of activities and decision points within the system. It helps in understanding the flow of information and the logical steps involved in the process. Note that the flowchart presented here is a simplified



representation and may not cover all possible scenarios and decision branches within the system. The actual flowchart for the project would be specific to the requirements and processes of the system.

# Chapter 4

## Implementation

# Chapter 4

## Implementation

### 4.1 Login

The login process is a fundamental part of many systems and involves the authentication of users. Here is a discussion of the login process:

1. The user initiates the login process by entering their credentials, typically a username/email and password.
2. The system receives the login request and proceeds to validate the provided credentials.
3. The authentication system compares the entered credentials with the stored user data to determine if they are valid.
4. If the credentials are valid, the system grants access to the user and proceeds to authenticate their identity. This may involve generating a session token or setting a login status.
5. Once the user is authenticated, the system redirects them to the home page or the designated landing page.
6. In case the provided credentials are invalid, the system denies access and displays an error message, prompting the user to enter valid credentials or recover their account.

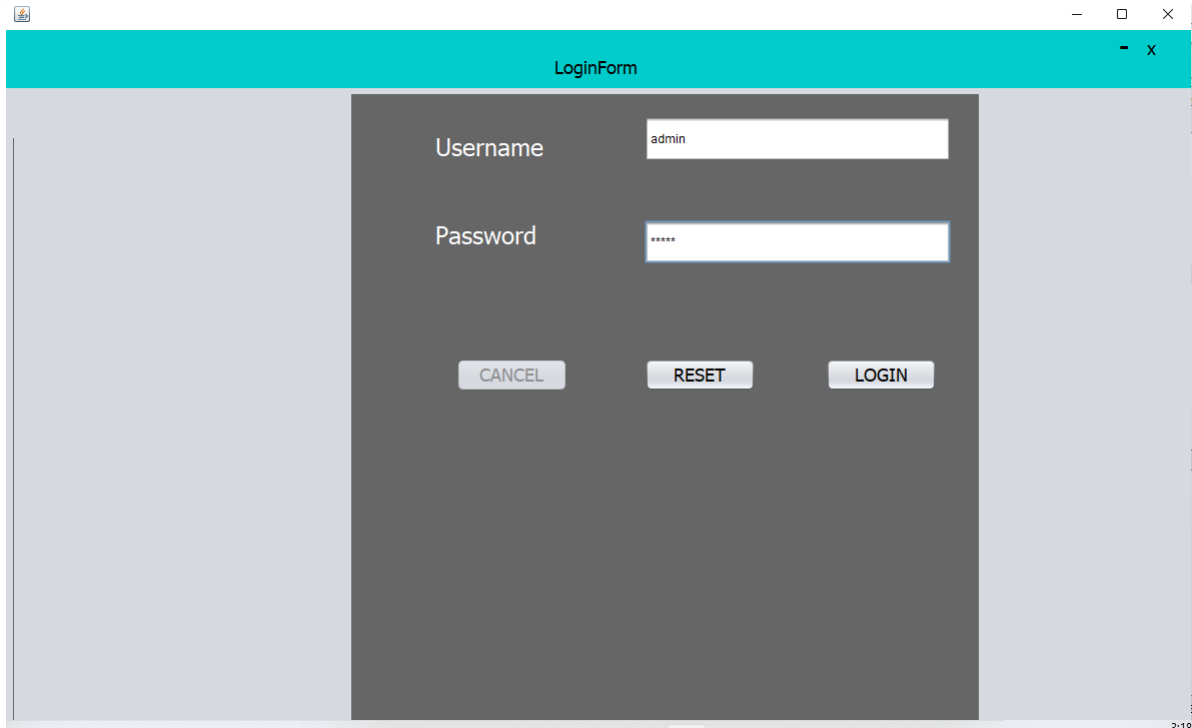


Figure 4.1: Login Image Of The Project

7. The system may also implement security measures such as account lockout after multiple failed login attempts to prevent unauthorized access.
8. Upon successful login, the user gains access to their account and can utilize the system's functionalities based on their role and permissions.

In this chapter, we have shown the Login form of this project in Figure 4.1. The login process is critical for ensuring the security and integrity of the system. It verifies the user's identity and allows them to access their personalized information and perform actions within the system. Implementing proper security measures, such as password hashing and account lockout mechanisms, helps protect user accounts from unauthorized access.

MultiPanel Test

Enter Your Project Name  
werfy

Enter the number of Flat  
2

Enter The Name  
dfgh

Enter The Share(%)  
545

Add

Name	Sum(%)
dfg	10
Total	10

Figure 4.2: Create Project Image Of The Project

## 4.2 Create Project

The "Create Project" functionality allows users to create new projects within the system. Here is a discussion of the process

1. The user initiates the "Create Project" process by selecting the option to create a new project from the system's interface or menu.
2. The system presents a form or a set of fields for the user to enter relevant information about the project. This may include the project name, description, start date, end date, and other details.
3. The user fills in the required information in the provided fields.
4. The system validates the entered information to ensure it meets any specified criteria or constraints. This may include checking for the uniqueness of the project name or validating the dates.
5. If the entered information passes the validation, the system creates a new project entity in the database, assigning it a unique identifier.

6. The system associates the user who initiated the project creation process as the project owner or manager.
7. Additional functionalities related to the project creation process may include assigning team members, setting project goals or objectives, defining milestones, or configuring project settings.
8. Once the project is successfully created, the system may display a confirmation message to the user, indicating the successful creation of the project.
9. The user can then proceed to access and manage the newly created project, including adding tasks, tracking progress, and collaborating with team members.

In this chapter, we have shown the Create Project form of this project in Figure 4.2. The "Create Project" functionality provides users with the ability to initiate new projects within the system, enabling effective project management and organization. It allows for the centralized management of project-related information and facilitates collaboration among team members. By capturing essential project details, the system can provide valuable insights and support the monitoring and tracking of project progress.

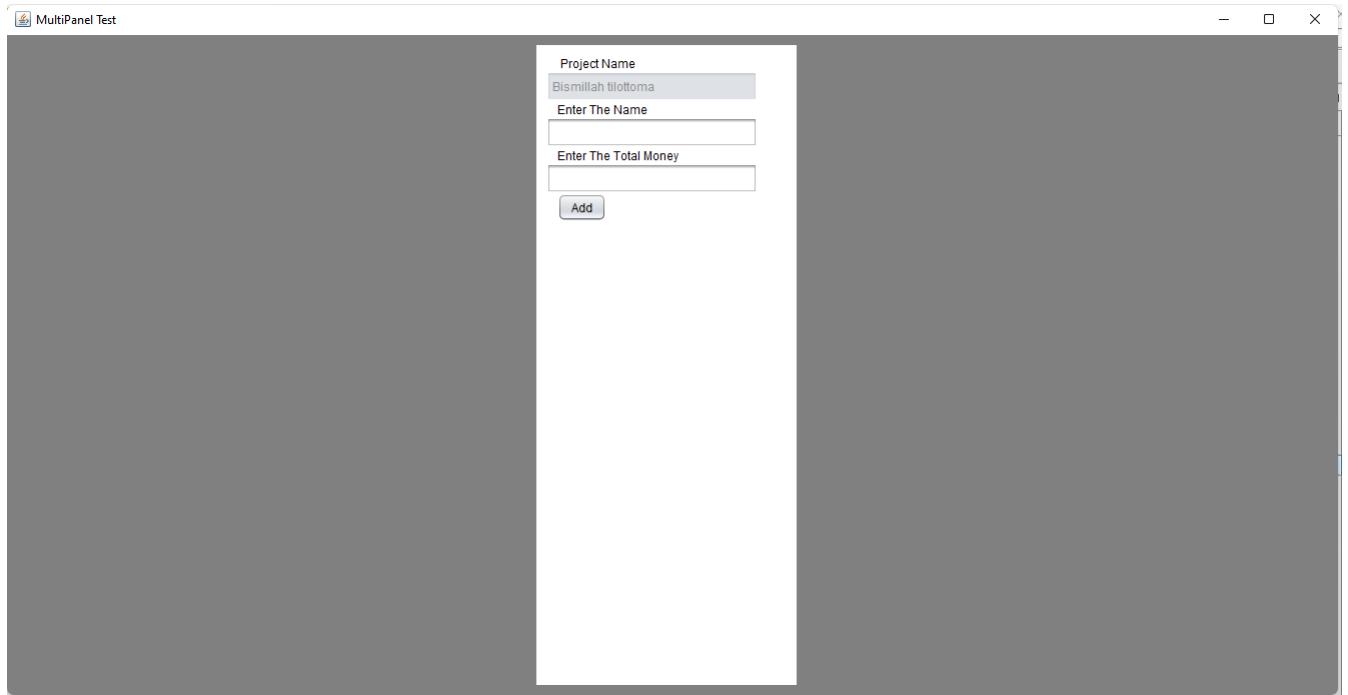


Figure 4.3: Add Credit Image Of The Project

## 4.3 Add Credit

The "Add Credit" functionality allows users to record credit transactions in the system. Here is a discussion of the process:

1. The user initiates the "Add Credit" process by accessing the appropriate functionality within the system. This may involve navigating to a specific section or selecting an option from a menu.
2. The system presents a form or fields for the user to enter the details of the credit transaction. This typically includes information such as the amount, date, description, and any relevant account or project associated with the credit.
3. The user fills in the required information in the provided fields.
4. The system may perform validations on the entered data to ensure its accuracy and completeness. This may include checking for any inconsistencies or errors in the entered amount or verifying the account or project details.

5. If the entered information passes the validation, the system records the credit transaction in the appropriate account or ledger.
6. The system updates the account balance or relevant financial records to reflect the added credit amount.
7. Depending on the system's configuration, it may generate a notification or confirmation message to the user, indicating the successful addition of the credit transaction.
8. The user can then view the updated account balance or transaction history to verify the recorded credit.

In this chapter, we have shown the Add Credit form of this project in Figure 4.2. The "Add Credit" functionality is crucial for maintaining accurate financial records and tracking the inflow of funds into the system. It allows users to record incoming credits, such as payments received, investments made, or other sources of income. By capturing these transactions, the system can generate financial reports, perform calculations, and provide insights into the overall financial health of the organization or project. It supports financial analysis, budgeting, and decision-making processes by providing up-to-date and reliable credit information.



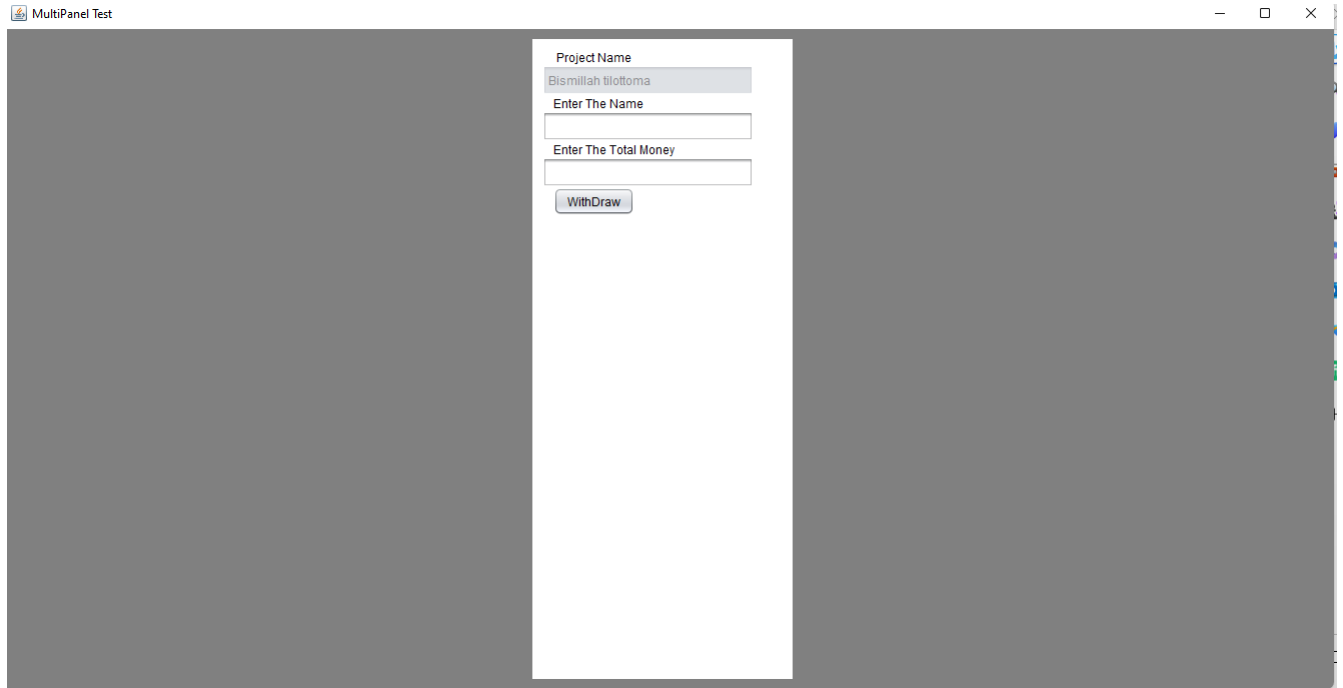


Figure 4.4: Add Debit Image Of The Project

## 4.4 Add Debit

The "Add Debit" functionality allows users to record debit transactions in the system. Here is a discussion of the process:

1. The user initiates the "Add Debit" process by accessing the appropriate functionality within the system. This may involve navigating to a specific section or selecting an option from a menu.
2. The system presents a form or fields for the user to enter the details of the debit transaction. This typically includes information such as the amount, date, description, and any relevant account or project associated with the debit.
3. The user fills in the required information in the provided fields.
4. The system may perform validations on the entered data to ensure its accuracy and completeness. This may include checking for any inconsistencies or errors in the entered amount or verifying the account or project details.

5. If the entered information passes the validation, the system records the debit transaction in the appropriate account or ledger.
6. The system updates the account balance or relevant financial records to reflect the deducted debit amount.
7. Depending on the system's configuration, it may generate a notification or confirmation message to the user, indicating the successful addition of the debit transaction.
8. The user can then view the updated account balance or transaction history to verify the recorded debit.

In this chapter, we have shown the Add Debit form of this project in Figure 4.4. The "Add Debit" functionality is essential for accurately tracking and managing financial transactions that involve expenses, withdrawals, or any outflow of funds. It allows users to record outgoing debits, such as payments made, expenses incurred, or other financial obligations. By capturing these transactions, the system can maintain a comprehensive and up-to-date financial record, enabling users to track their expenses, monitor cash flow, and analyze financial performance. Additionally, the recorded debits provide essential data for generating financial reports, budgeting, and making informed financial decisions.

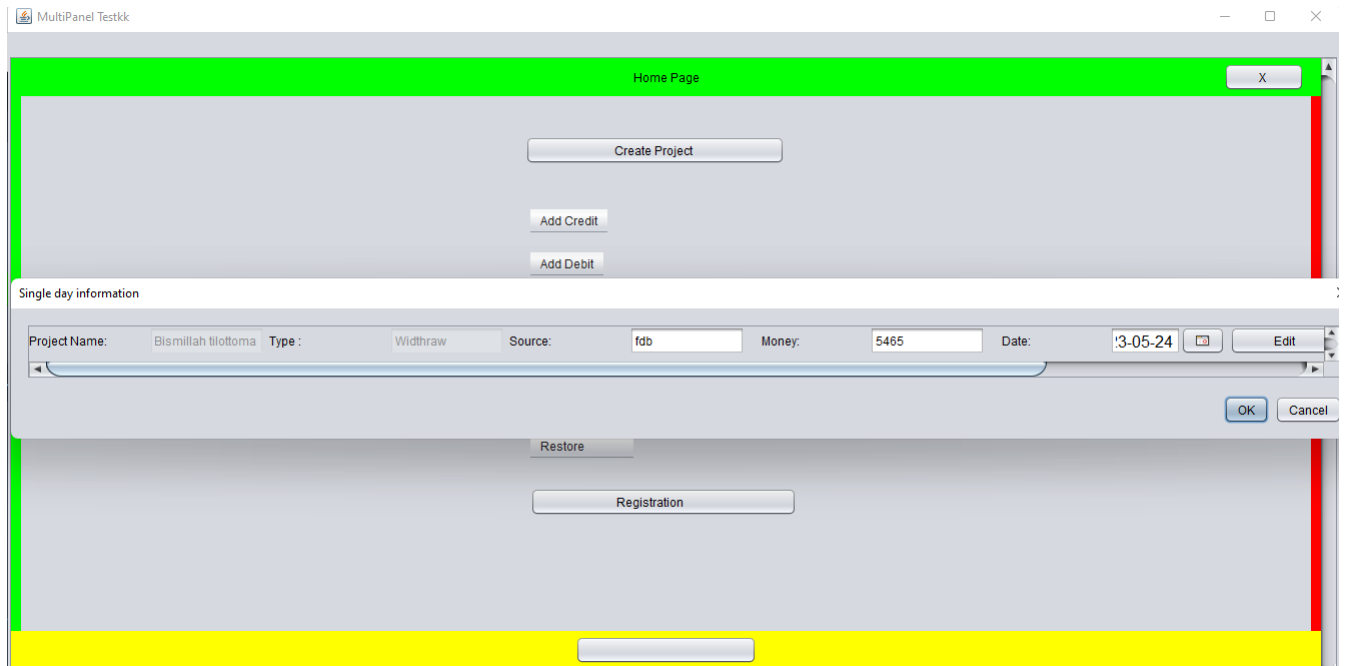


Figure 4.5: Edit Image Of The Project

## 4.5 Edit

The "Edit" functionality allows users to modify existing data or information within the system. Here is a discussion of the process:

1. The user identifies the data or information they want to edit within the system. This could be a specific record, entry, or entity.
2. The user initiates the "Edit" process by accessing the appropriate functionality within the system. This may involve selecting an edit option, clicking on an edit icon, or navigating to an edit screen.
3. The system retrieves the selected data or information and presents it in an editable format. This could be a form or a set of fields where the user can make changes.
4. The user modifies the desired fields or attributes according to their requirements. They can update text, numbers, dates, or any other relevant data.
5. The system may perform validations on the edited data to ensure its integrity and adherence to any defined rules or constraints. This could include checks for data consistency, format, or any business-specific validation rules.

6. If the edited data passes the validation, the system updates the corresponding record or entity with the new information.
7. The system may generate a notification or confirmation message to indicate the successful update of the data.
8. Depending on the system's design, the updated information may be immediately reflected throughout the system, including related screens, reports, or calculations.
9. The user can review the updated data to verify that the changes have been applied correctly.

In this chapter, we have shown the Edit form of this project in Figure 4.5. The "Edit" functionality is crucial for maintaining accurate and up-to-date data within the system. It allows users to correct errors, update outdated information, or modify records as needed. By providing the ability to edit data, the system ensures data integrity, improves data quality, and enables users to have control over the information they manage. Additionally, the edit feature enhances usability and flexibility, as users can adapt the system to changing requirements or circumstances.

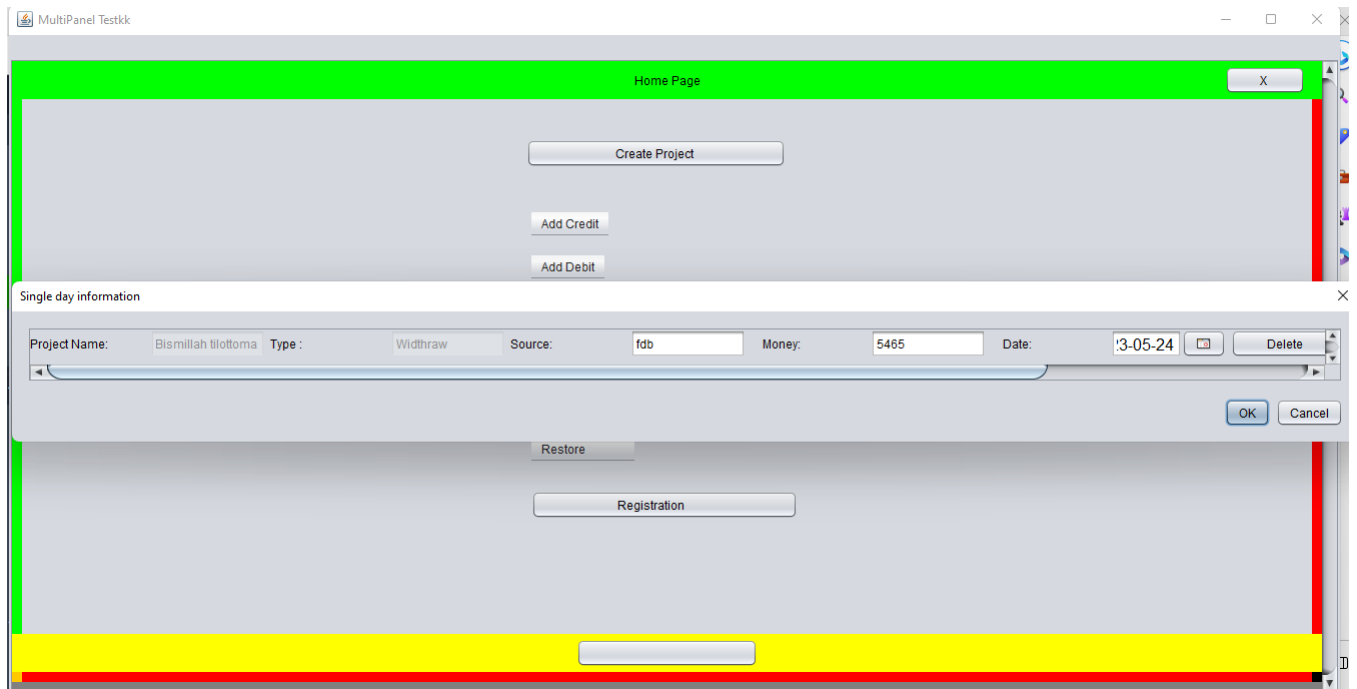


Figure 4.6: Delete Image Of The Project

## 4.6 Delete

The "Delete" functionality allows users to remove or delete specific data or records from the system. Here is a discussion of the delete process:

1. The user identifies the data or record they want to delete within the system. This could be a specific entry, file, document, or any other entity.
2. The user initiates the "Delete" process by accessing the appropriate functionality within the system. This may involve selecting a delete option, clicking on a delete icon, or navigating to a delete screen.
3. The system may prompt the user for confirmation before proceeding with the deletion. This confirmation step ensures that the user intends to delete the selected data and helps prevent accidental deletion.

4. If the user confirms the deletion, the system proceeds to remove the selected data from the system permanently. This could involve deleting the record from a database, removing a file from storage, or any other appropriate action.
5. The system may perform additional checks or validations to ensure that the delete operation is valid and allowed. For example, it may verify user permissions or check if the data being deleted is associated with other related data that may need to be handled appropriately.
6. Once the delete operation is successfully completed, the system may generate a notification or confirmation message to inform the user about the successful deletion.
7. Depending on the system's design, the deleted data may no longer be accessible or visible within the system. It is permanently removed from the system's data storage or archive.
8. The system may perform any necessary clean-up or related actions after the deletion, such as updating related records, recalculating totals, or triggering other processes.

In this chapter, we have shown the Delete form of this project in Figure 4.6. The "Delete" functionality is essential for managing data and maintaining data integrity within the system. It allows users to remove unwanted or obsolete information, correct mistakes, or comply with data retention policies. By providing the ability to delete data, the system ensures that the information stored remains accurate, relevant, and up-to-date. However, it is important to implement appropriate safeguards and permissions to prevent unauthorized or unintentional deletions and to maintain data security.

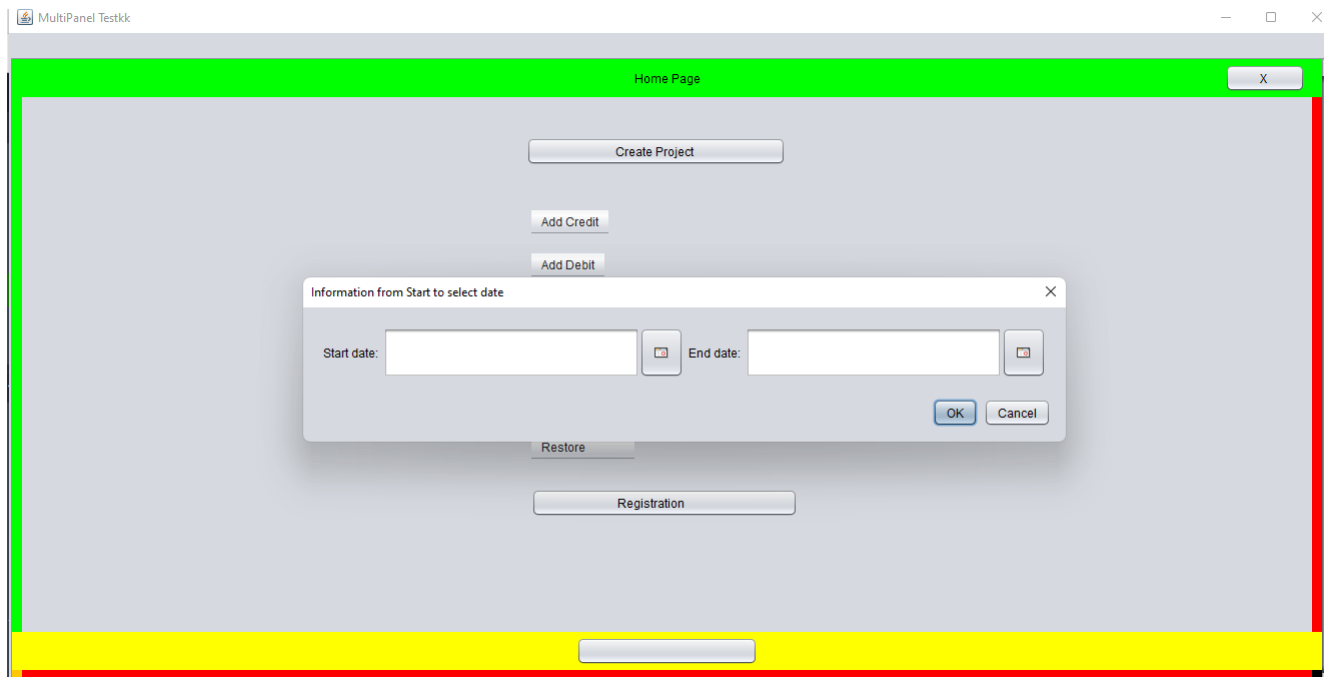


Figure 4.7: Download Image Of The Project

## 4.7 Download

The "Download" functionality allows users to obtain a downloadable file, typically in PDF format, from the system. Here is a discussion of the download process, specifically for downloading a PDF file:

1. The user identifies the specific content or data they want to download as a PDF file. This could be a document, report, generated output, or any other information that is available for download.
2. The user initiates the "Download" process by accessing the appropriate functionality within the system. This could involve clicking on a download button, selecting a download option, or choosing the desired content from a list of downloadable items.
3. The system prepares the requested content for download and generates a PDF file. This process may involve retrieving the relevant data, formatting it into a PDF document, and packaging it for download.
4. Once the PDF file is ready, the system provides the user with a link or prompt to

download the file. This could be a download button, a hyperlink, or a dialog box with options to save or open the file.

5. The user clicks on the provided link or follows the instructions to download the PDF file. This triggers the file transfer process from the system to the user's device.
6. The system delivers the PDF file to the user's device. Depending on the user's browser settings and preferences, the file may be automatically saved to a default location or prompt the user to choose a save location.
7. The user confirms the download location or provides a specific directory where the PDF file should be saved.
8. The system transfers the PDF file to the designated location on the user's device.
9. Once the download is complete, the system may provide a confirmation message or notification to inform the user about the successful download.
10. The user can now access and open the downloaded PDF file using a PDF reader application on their device.

In this chapter, we have shown the Download form of this project in Figure 4.7. The "Download" functionality is useful for enabling users to obtain PDF files from the system, allowing them to save and view the content offline or share it with others. It provides a convenient way to retrieve and store information in a portable and widely supported format. The system should ensure that the downloaded PDF files are accurate, complete, and properly formatted to meet the user's expectations.



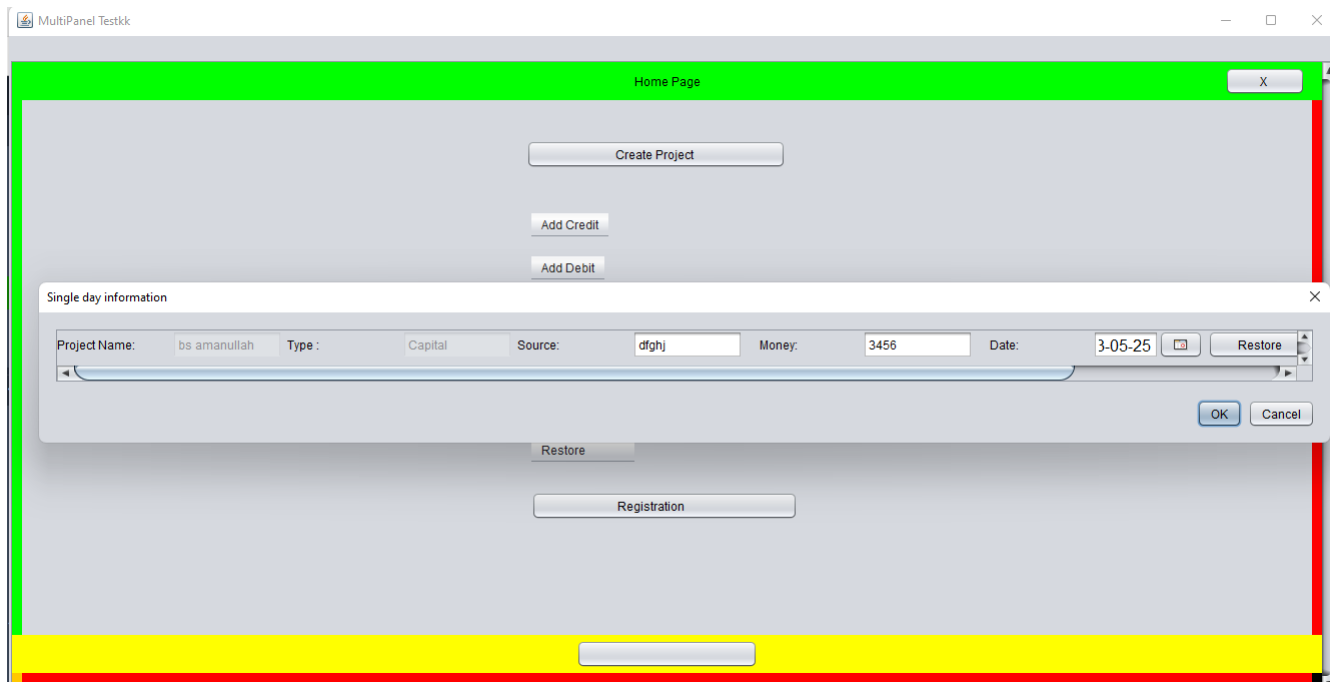


Figure 4.8: Restore Image Of The Project

## 4.8 Restore

The "Restore" functionality typically refers to the process of recovering or restoring deleted or archived data or objects within a system. Here is a discussion of the "Restore" process:

1. The user identifies the data or object that needs to be restored. This could be a deleted project, a deleted file, or any other item that was previously removed from the system.
2. The user initiates the "Restore" process by accessing the appropriate functionality within the system. This could involve selecting the specific item from a list of deleted or archived items, clicking on a "Restore" button, or following a restoration workflow.
3. The system verifies the user's permissions and access rights to ensure they have the necessary privileges to restore the item. If the user does not have the required permissions, the system may deny the restoration request and notify the user.

4. Once the user's permissions are confirmed, the system retrieves the deleted or archived item from its storage or backup location. This could involve accessing a backup database, retrieving the item from an archive folder, or restoring it from a designated storage system.
5. The system reinstates the item in its original location or in a specified location based on the user's instructions. This may involve updating the metadata, file paths, or references associated with the item to ensure its proper integration within the system.
6. If there are any dependencies or related data associated with the restored item, the system ensures that they are also properly restored and linked to maintain data integrity and consistency.
7. Once the restoration process is complete, the system notifies the user about the successful restoration and provides relevant details or instructions on accessing the restored item.
8. The user can now access the restored item within the system and continue working with it as needed.

In this chapter, we have shown the Restore form of this project in Figure 4.8. The "Restore" functionality is important for data recovery and ensuring that accidentally deleted or archived items can be retrieved and reintegrated into the system. It helps prevent data loss and provides users with a safety net in case they mistakenly delete important data. The system should have proper backup mechanisms, storage policies, and access controls to facilitate effective restoration processes and maintain data availability.

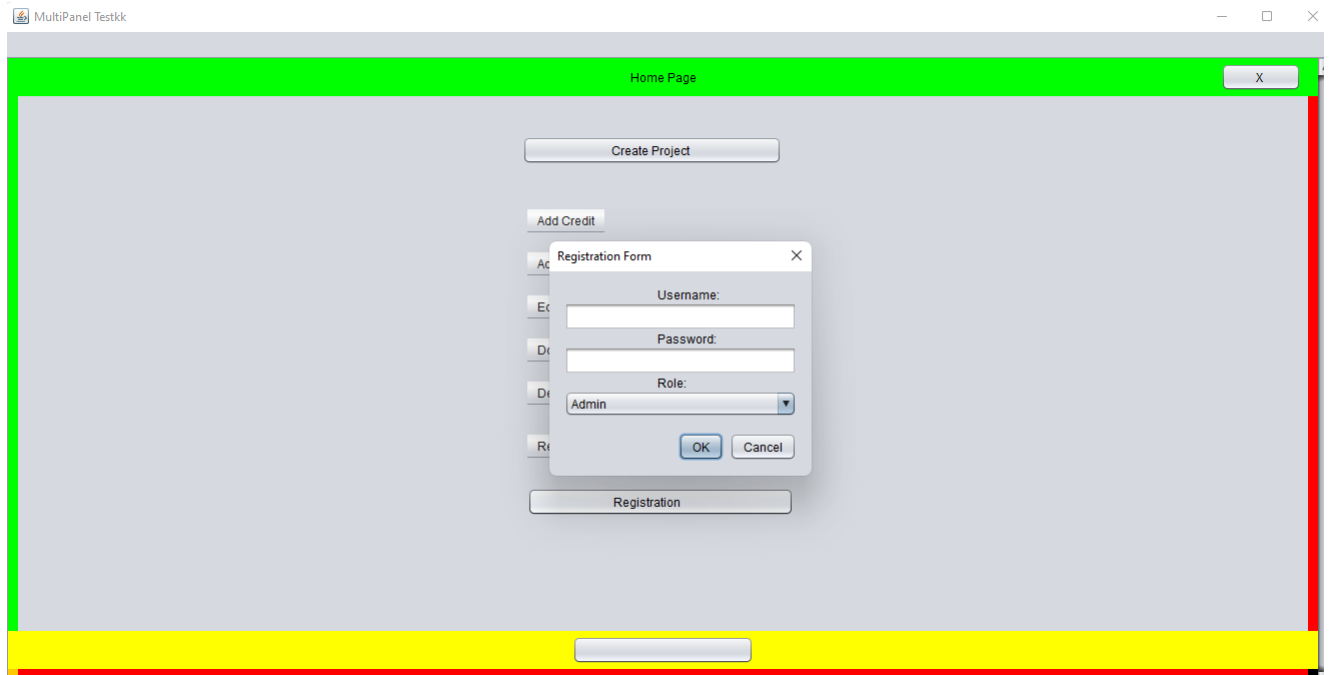


Figure 4.9: Registration Image Of The Project

## 4.9 Registration

The "Registration" process allows users to create accounts within the system with different roles, such as admin, co admin, and user. Here is a discussion of the "Registration" process considering the roles and the presence of username and password fields:

1. The user initiates the registration process by accessing the registration page or functionality within the system.
2. The system presents a registration form that includes fields for username, password, and any additional required information.
3. The user fills out the registration form, providing a desired username and password, along with any other necessary details.
4. The system validates the user's inputs, checking for errors or missing information. If there are any validation errors, the system displays appropriate error messages to the user, highlighting the fields that require correction.

5. Once the user's inputs are validated successfully, the system checks the provided username for uniqueness to ensure that no other user has already registered with the same username.
6. If the provided username is unique, the system securely stores the username and password in the user database, associating them with a unique identifier.
7. The system assigns a default role, such as "User," to the newly registered user.
7. If the user registering is an admin or coadmin, the system assigns the corresponding role to the user account, granting them additional privileges and access rights within the system.
8. Once the registration process is complete, the system confirms the successful registration to the user and provides any additional instructions or requirements.
9. The user can now log in to the system using the registered username and password and access the system features and functionalities based on their assigned role.

In this chapter, we have shown the Rest form of this project in Figure 4.8. The presence of username and password fields in the registration form allows users to create unique login credentials. The system ensures that the provided username is unique to avoid conflicts with other users. The password is securely stored in the user database, preferably using encryption techniques, to protect user accounts from unauthorized access.

Admin and coadmin roles typically have elevated access rights and administrative capabilities within the system, while user roles have limited permissions. By assigning different roles during registration, the system can control the level of access and functionality available to each user.

It is essential to implement proper security measures, such as password encryption and secure communication protocols, to protect user information during the registration process and subsequent logins. Additionally, incorporating measures like CAPTCHA verification or email confirmation can help prevent automated or fraudulent registrations.

# **Chapter 5**

## **Result Discussion**

## Chapter 5

# Result Discussion

### 5.1 Flat Information

In this chapter, we have shown the Flat Information of this project in Figure 5.1. The output of flat information divide into two parts. The first part is credit where income source name, money, date given. The second part is debit where one column exist which indicate the flat selling price. Using this figure we can know any flat information about the difference between income and selling price. [9]

### 5.2 Any Day Information Of Project

In this chapter, we have shown the Any Day Information of this project in Figure 5.2. The output of Any Day Information Of Project divide into two parts. The first part is credit where income source name, income source type money, date given. The second part is debit where debit source name, date, money exist which indicate the different type project spent. Using this figure we can know any Any Day Information Of Project about the difference between income and spent.

### 5.3 Start To Any Day Information Of Project

In this chapter, we have shown the Start To Any Day Information Of Project in Figure 5.3. The output of Any Day Information Of Project divide into two parts. The first part is credit where income source name, income source type money, date given. The second



**SaddamNvn Company Limited ,Tangail, Bangladesh**

Income Expenditure Account

27/05/2023 06:18:54 PM

Project Name: Bismillah tilottoma Flat name: A1

PrintTime: 27/05/2023 06:18:54 PM

**Credit:**

**Debit:**

Name	Date	Money	Flat Selling Price
www	2023-05-24	3333/=	500000/=
Total		3333/=	

**Loss is: -496667/=**

Figure 5.1: Flat Information Of The Project



**SaddamNvn Company Limited ,Tangail, Bangladesh**  
Income Expenditure Account  
(2023-05-24)

Project Name: Bismillah tilottoma

PrintTime: 27/05/2023 06:20:37 PM

**Credit:**

**Debit:**

Description	Reciever	Date	Money	Description	Date	Money
A1(project)	www	2023-05-24	3333/=	fdb(capital)	2023-05-24	5465/=
Bismillah tilottoma(Others)	yyyyyyyyyy	2023-05-24	423424/=	Total		5465/=
Total			426757/=			

**Profit is: 421292/=**

Figure 5.2: Any Day Information Of Project





**SaddamNvn Company Limited ,Tangail, Bangladesh**  
Income Expenditure Account  
(Start To2024-05-15)

Project Name: Bismillah tilottoma

PrintTime: 27/05/2023 06:21:56 PM

**Credit:**

**Debit:**

Description	Reciever	Date	Money	Description	Date	Money
A1(project)	www	2023-05-24	3333/=	dgvs(capital)	2023-05-27	354/=
Bismillah tilottoma(Others)	yyyyyyyyyy	2023-05-24	423424/=	fdb(capital)	2023-05-24	5465/=
Bismillah tilottoma(Others)	gasdasd	2023-05-25	437764/=	Total		5819/=
Total			864521/=			

**Profit is: 858702/=**

Figure 5.3: Start To Any Day Information Of Project



**SaddamNvn Company Limited ,Tangail, Bangladesh**  
 Income Expenditure Account  
 (2021-05-13 To 2024-05-08 )

Project Name: Bismillah tilottoma

PrintTime: 27/05/2023 06:22:55 PM

Credit:				Debit:		
Description	Reciever	Date	Money	Description	Date	Money
A1(project)	www	2023-05-24	3333/=	dgvhs(capital)	2023-05-27	354/=
Bismillah tilottoma(Others)	yyyyyyyyyy	2023-05-24	423424/=	fdb(capital)	2023-05-24	5465/=
Bismillah tilottoma(Others)	gasdasd	2023-05-25	437764/=	Total		5819/=
Total			864521/=			

**Profit is: 858702/=**

Figure 5.4: Between Any Two Days Information Of Project

part is debit where debit source name, date, money exist which indicate the different type project spent.Using this figure we can know any Start To Any Day Information Of Project about the difference between income and spent.

## 5.4 Between Any Two Days Information Of Project

In this chapter, we have shown the Between Any Two Days Information Of Project in Figure 5.4. The output of Any Day Information Of Project divide into two parts.The first part is credit where income source name, income source type money, date given. The second part is debit where debit source name, date, money exist which indicate the different type project spent.Using this figure we can know any Between Any Two Days Information Of Project about the difference between income and spent.



SaddamNvn Company Limited ,Tangail, Bangladesh  
Project Account  
27/05/2023 06:19:24 PM

Project Name: Bismillah tilottoma  
Flat name: A1

PrintTime: 27/05/2023 06:19:24 PM

Credit:

Debit:

Name	Date	Money	Flat Selling Price
www	2023-05-24	3333/=	500000/=
Total		3333/=	

Loss is: -496667/=

Flat name: B1

Credit:

Debit:

Name	Date	Money	Flat Selling Price
Total		0/=	100000/=

Loss is: -100000/=

Others Income:

Name	Date	Money
yyyyyyyyyy(OthersIncome)	2023-05-24	423424/=
gasdasd(OthersIncome)	2023-05-25	437764/=
Total		861188/=

Page 1

Figure 5.5: Project Overview

## 5.5 Project Overview

In this chapter, we have shown the Project Overview in Figure 5.5. The output of flat information divide into two parts. The first part is credit where income source name, money, date given. The second part is debit where one column exist which indicate the flat selling price. All flat information and others income will show by separate table with loss or profit calculation. At the end of flat and others information will have shown the project total income and spent and lost or profit situation.



**SaddamNvn Company Limited ,Tangail, Bangladesh**

Project Account

27/05/2023 06:25:04 PM

**Others Debit:**

PrintTime: 27/05/2023 06:25:04 PM

Name	Date	Money
hjew(OthersIncome)	2023-05-18	3932/=
sadin bala(OthersIncome)	2023-05-17	678/=
fghj(OthersIncome)	2023-05-23	456/=
defgth(OthersIncome)	2023-05-25	3456/=
Total		8522/=

**Others Debit: 8522/=**

Figure 5.6: Others All Overview



Others Debit:

PrintTime: 27/05/2023 06:25:56 PM

Name	Date	Money
hjew(OthersIncome)	2023-05-18	3932/=
sadin bala(OthersIncome)	2023-05-17	678/=
fghi(OthersIncome)	2023-05-23	456/=
defgth(OthersIncome)	2023-05-25	3456/=
Total		8522/=

Others Debit: 8522/=

Figure 5.7: Others Periodic Overview

## 5.6 Others All Overview

In this chapter, we have shown Others All Overview in Figure 5.6. The output of Others All Overview will show the spent where others spent name, date, money column exist. Using this figure we can know the total extra spent of the company from start to today.

## 5.7 Others Periodic Overview

In this chapter, we have shown Others Periodic Overview in Figure 5.7. The output of Others Others Periodic Overview will show the spent where others spent name, date, money column exist. Using this figure we can know the total extra spent of the company



All Project Information:

PrintTime: 27/05/2023 06:23:46 PM

Credit:

Debit:

Project Name	Capital	Income	Others	WithDraw	Debit	+/-
fgb	0/=	0/=	0/=	0/=	0/=	0/=
bhl	0/=	53426/=	0/=	0/=	0/=	53426/=
hfd	0/=	0/=	0/=	0/=	0/=	0/=
sdfg	0/=	0/=	0/=	0/=	0/=	0/=
jhcsdv	0/=	0/=	0/=	0/=	0/=	0/=
hdfd	0/=	0/=	0/=	0/=	0/=	0/=
dfgh	456/=	45/=	656/=	456/=	76/=	625/=
hdsds	0/=	0/=	0/=	0/=	0/=	-76/=
pr1	73038/=	0/=	0/=	7545/=	353/=	65140/=
fdgh	0/=	0/=	0/=	0/=	0/=	-353/=
Bismillah tilottoma	0/=	3333/=	861188/=	5819/=	0/=	858349/=
Saddamnv	0/=	0/=	0/=	0/=	0/=	-353/=
xyz	0/=	0/=	0/=	56566/=	65712/=	-122278/=
bs amanullah	0/=	4356/=	3456/=	0/=	344/=	7468/=
Total	73494/=	61160/=	865300/=	70386/=	66485/=	861948/=

Figure 5.8: All Project Overview

from any between two days.

## 5.8 All Project Overview

In this chapter, we have shown All Project Overview in Figure 5.8. The output of All Project Overview divide into two parts. The first part is credit where project name, capital, income, others column exist which indicate the different type of income such as capital, flat, others. The second part is debit where the withdraw, debit column exist which indicate project withdraw and project spent. In the end of table right column have shown the difference for every project income and spent. At the end have shown total overview of the company all project which indicate the company situation mean loss or profit.



All Project Information:

PrintTime: 27/05/2023 06:24:35 PM

Credit:

Debit:

Project Name	Capital	Income	Others	WithDraw	Debit	+/-
fgh	0/=	0/=	0/=	0/=	0/=	0/=
bhl	0/=	53426/=	0/=	0/=	0/=	53426/=
hfd	0/=	0/=	0/=	0/=	0/=	0/=
sdfg	0/=	0/=	0/=	0/=	0/=	0/=
jhcsdv	0/=	0/=	0/=	0/=	0/=	0/=
hdfd	0/=	0/=	0/=	0/=	0/=	0/=
dfgh	456/=	45/=	656/=	456/=	76/=	625/=
hdsds	0/=	0/=	0/=	0/=	0/=	-76/=
pr1	73038/=	0/=	0/=	7545/=	353/=	65140/=
fdgh	0/=	0/=	0/=	0/=	0/=	-353/=
Bismillah tilottoma	0/=	3333/=	861188/=	5819/=	0/=	858349/=
Saddamvn	0/=	0/=	0/=	0/=	0/=	-353/=
xyz	0/=	0/=	0/=	0/=	0/=	-353/=
bs amanullah	0/=	4356/=	3456/=	0/=	344/=	7468/=
Total	73494/=	61160/=	865300/=	13820/=	773/=	983873/=

Figure 5.9: All Project Periodic Overview

## 5.9 All Project Periodic Overview

In this chapter, we have shown All Project Periodic Overview in Figure 5.9. The output of All Project Periodic Overview divide into two parts. The first part is credit where project name, capital, income, others column exist which indicate the different type of income such as capital, flat, others. The second part is debit where the withdraw, debit column exist which indicate project withdraw and project spent. In the end of table right column have shown the difference for every project income and spent. At the end have shown total overview of the company all project which indicate the company situation mean loss or profit. using this figure can know the information between any two days.

## **Chapter 6**

# **Conclusion and Future Work**



# Chapter 6

## Conclusion and Future Work

### 6.1 Introduction

This chapter discusses the conclusion of our research. Furthermore, it conveys the completion of proposed technologies. This section provides the future direction of the next study as well.

### 6.2 Conclusion

the project aims to provide a comprehensive solution for automating financial calculations in the construction industry. Through the use of Java Swing in Apache NetBeans, the project offers a user-friendly interface for users to input credit and debit information and obtain accurate and timely calculations.

Throughout the project, various components were designed and implemented, including login functionality, project creation, credit and debit management, editing capabilities, document generation, and user registration with role-based access. These features enable users to efficiently manage their construction projects' financial aspects and generate detailed reports in the form of PDF documents.

The motivation behind this project was to address the challenges faced by construction professionals in manual financial calculations, which are time-consuming, error-prone, and often lack standardization. By automating these calculations, the project contributes to increased accuracy, improved efficiency, and enhanced decision-making in the construction industry.

The significance of the project lies in its ability to streamline financial processes, reduce human error, and provide a centralized platform for managing construction project finances. It empowers users to track project incomes, expenses, credits, and debits, ensuring transparency and accountability throughout the project lifecycle.

The project's contributions include the development of a robust and user-friendly software solution that simplifies financial calculations and reporting in the construction domain. By leveraging industry standards, best practices, and relevant technologies and frameworks, the project ensures reliability, scalability, and ease of use.

The organization of the project follows a systematic approach, including system analysis and design, implementation, and testing phases. Extensive research was conducted to understand existing approaches, tools, and related research in the field of financial calculations in construction.

Overall, the project aims to revolutionize financial management in the construction industry, empowering professionals with accurate, automated, and standardized calculations. It has the potential to enhance productivity, reduce costs, and improve decision-making processes for construction projects of varying scales and complexities.

## **6.3 Limitations and Future Work**

A desktop software has been developed. Nine type of Pdf Exist. Single user and offline application. The design and outlook of the application will be furnished more. An online application for multiple users will be developed.

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