

ArthaGyan-Banking literacy App



Bipin Kumar Marasini

Bijesh Man Shrestha

Bisham Raj Pandey

Suyog Sitaula

ABSTRACT

Arthagyan is an innovative mobile application designed to address the pervasive issue of financial illiteracy. By focusing on basic banking operations and introductory stock market concepts, the app aims to equip users with the essential knowledge to navigate financial systems confidently. The app features interactive banking simulations, such as check-filling and transaction management, alongside a comprehensive knowledge hub offering lessons on banking and investment basics. Additionally, it includes quizzes and assessments that evaluate user progress, offering personalized feedback and tracking learning outcomes. Developed using an agile methodology, the project ensures an efficient, modular approach with each team member contributing to specific areas of functionality. By empowering users with practical financial skills, *Arthagyan* seeks to foster economic inclusion and promote informed decision-making, contributing to improved financial literacy in both developed and developing regions. Through its user-centric design, *Arthagyan* aims to create lasting value by enhancing individuals' ability to make sound financial choices.

Keywords:

Financial Literacy

Banking Education

Interactive Learning,

Financial Simulations

Stock Market

List of Abbreviations/Acronyms

API	Application Programming Interface
DB	Database
UI	User Interface
MCQ	Multiple Choice Questions
IQ	Intelligence Quotient
EMI	Equated Monthly Installment

CHAPTER 1

INTRODUCTION

Financial illiteracy, widespread ignorance, and general confusion about banking systems have long hindered individuals from effectively managing their finances. Many struggle with basic tasks like filling out checks, understanding account operations, or making informed decisions about savings and investments. This lack of knowledge often leads to costly mistakes, missed opportunities, and financial insecurity. Recognizing these challenges, *Arthagyan* was developed to bridge the knowledge gap, providing a comprehensive and practical platform to empower users with the skills and confidence to navigate the complexities of banking and foundational stock investments.

Arthagyan is a comprehensive application designed to enhance financial literacy by teaching users the fundamentals of banking and providing a foundational understanding of stock investments. With an interactive and user-friendly interface, *Arthagyan* equips users with essential skills and knowledge to navigate the financial landscape confidently. *Arthagyan* offers practical simulations where users can engage in tasks such as filling out checks, managing basic transactions, and understanding account operations. Users can access structured lessons covering a wide range of banking concepts and stock market basics, ensuring a holistic learning experience. The app includes quizzes to evaluate the user's understanding. Each quiz is graded, and detailed feedback is provided to guide improvements and reinforce learning. *Arthagyan* aims to bridge the gap between theoretical knowledge and practical application, empowering users to make informed financial decisions.

1.1 Background

Financial literacy is increasingly recognized as a critical skill for personal and societal economic well-being. Studies indicate that a significant portion of the global population struggles with understanding basic financial concepts. For instance, only one-third of adults worldwide are financially literate, with even lower rates observed in developing regions. This lack of knowledge about savings, investments, and credit management often leads to poor financial decisions, personal economic instability, and missed opportunities

for wealth generation. The banking sector, a cornerstone of financial systems, is particularly affected by low financial literacy. Many individuals find routine banking activities, such as filling out checks, managing accounts, or understanding loan terms, confusing or intimidating. This gap in understanding prevents individuals from fully utilizing available financial services, further exacerbating economic inequalities. Additionally, the increasing integration of technology in financial systems, while improving accessibility, has created new challenges for those unfamiliar with digital banking or stock market principles. Research highlights the need for accessible, engaging, and practical educational tools to bridge this gap and empower individuals with the confidence and skills to manage their finances effectively. This project builds on the growing body of literature that emphasizes the importance of improving financial literacy as a means to enhance financial inclusion and stability. It aligns with the broader goal of creating tools that are both educational and practical, addressing the real-world challenges faced by individuals in understanding and navigating financial systems.

1.2 Statement of the Problem

Financial illiteracy remains a pervasive issue globally, affecting individuals' ability to make informed decisions about their finances. According to a study by McGraw Hill, only about 33% of adults worldwide are considered financially literate, with rates as low as 13% in some developing nations. Inadequate knowledge about banking operations, such as understanding savings accounts, loans, or credit systems, exacerbates this issue. Moreover, confusion about these basic systems leads to poor financial management and decision-making, which, in turn, impacts economic stability at both individual and societal levels. Despite the increasing accessibility of banking services through technology, the lack of corresponding education creates a gap in financial inclusion. This research addresses the necessity of financial literacy interventions, particularly tools that combine education with practical application, to empower individuals to navigate the complexities of the banking system confidently. The urgency to address this problem is reinforced by the growing evidence linking financial knowledge to improved personal financial outcomes and broader economic resilience.

1.3 Project objective

General Objective

To develop *Arthagyan*, an interactive and educational platform that enhances financial literacy by teaching users essential banking knowledge and introducing foundational concepts of stock investments.

Specific Objectives

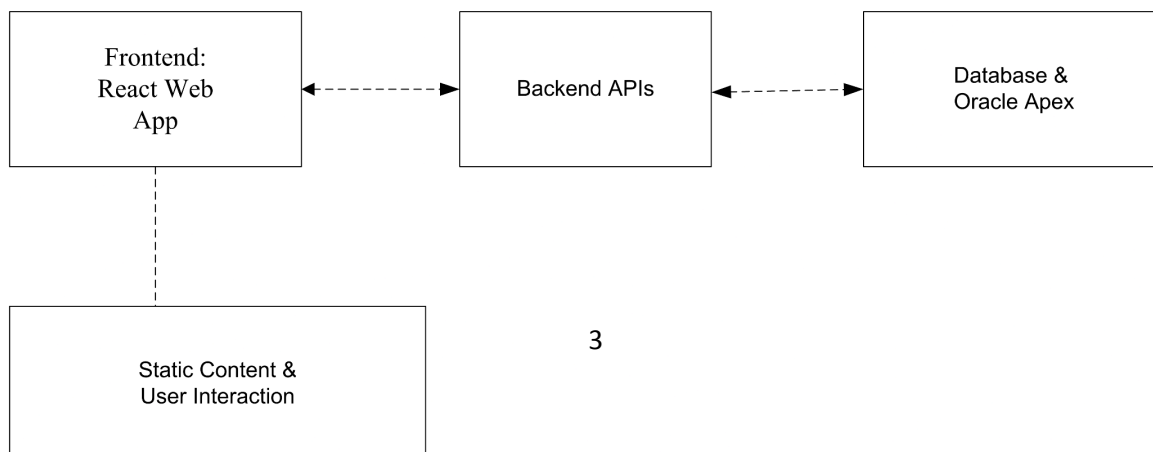
1. To create a practical learning module where users can simulate real-world banking activities such as filling out checks and managing transactions.
2. To design and integrate a comprehensive knowledge hub covering basic banking and stock market principles.
3. To implement an assessment system that evaluates users' understanding through quizzes, provides grades, and offers constructive feedback for improvement.
4. To increase awareness about the importance of financial literacy and its impact on personal and societal economic well-being.

CHAPTER 2

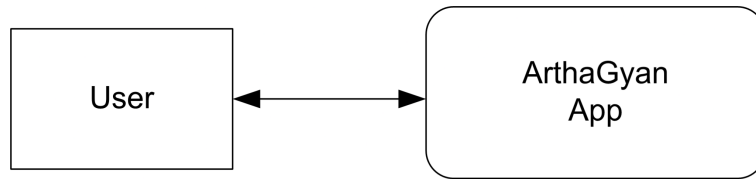
SYSTEM DESIGN AND ARCHITECTURE

The development of *Arthagyan* follows a modular approach, with each team member responsible for a specific part of the project, ensuring smooth integration of all components into a cohesive system. The system architecture is designed to meet the objectives outlined earlier, focusing on usability, scalability, and functionality .

High Level Design



Data Flow Diagram (DFD)



Level 0: Context Diagram

Level 1: Functional Break down

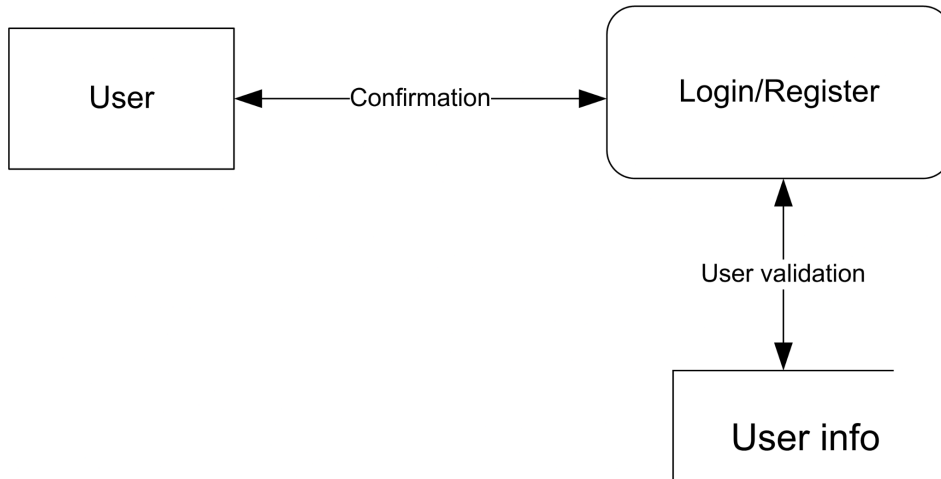


Fig: User login/Register

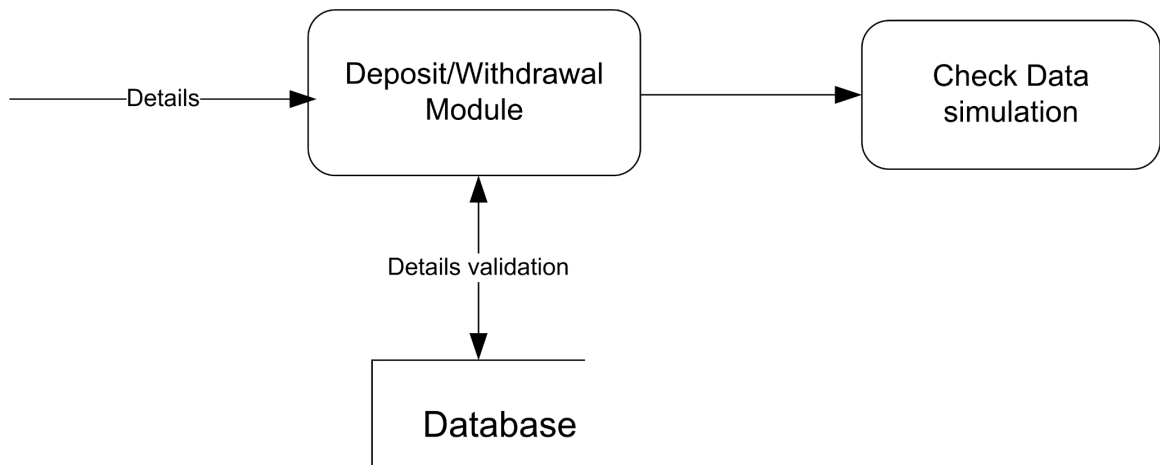


Fig: Deposit/Withdrawal Module

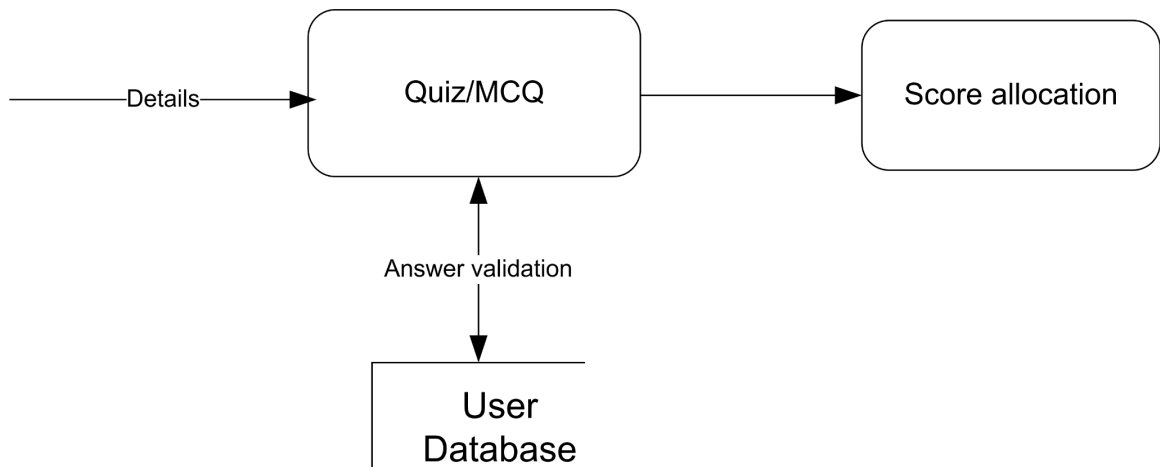


Fig: Quiz module

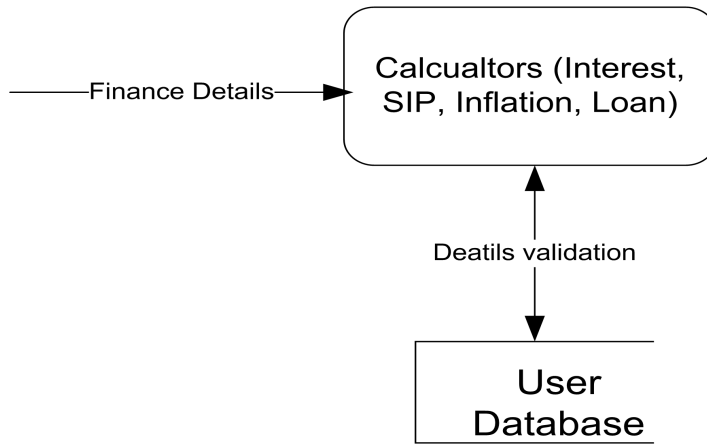


Fig: Amount calculation

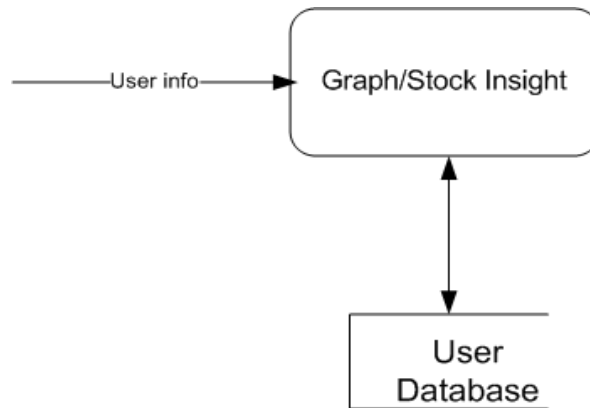
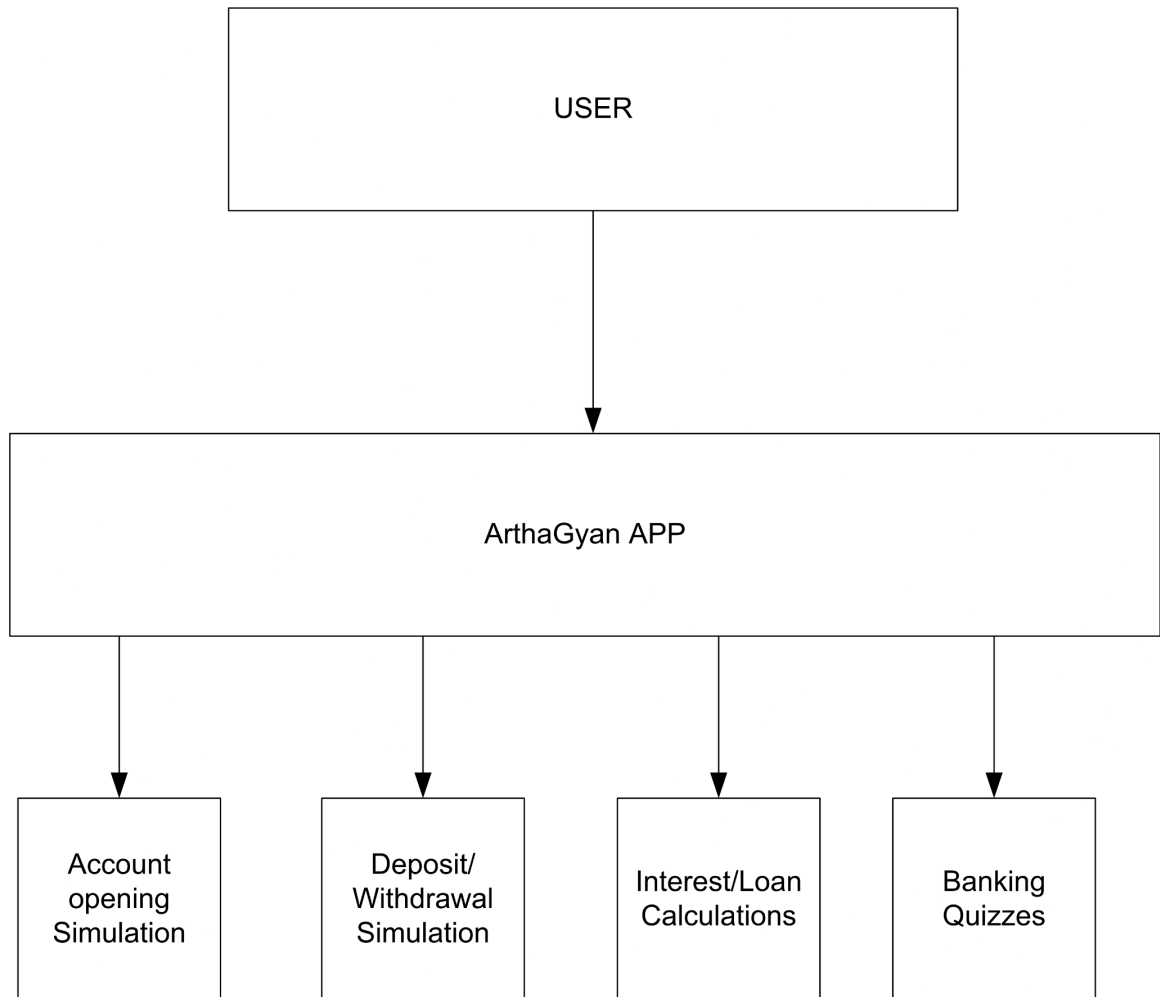
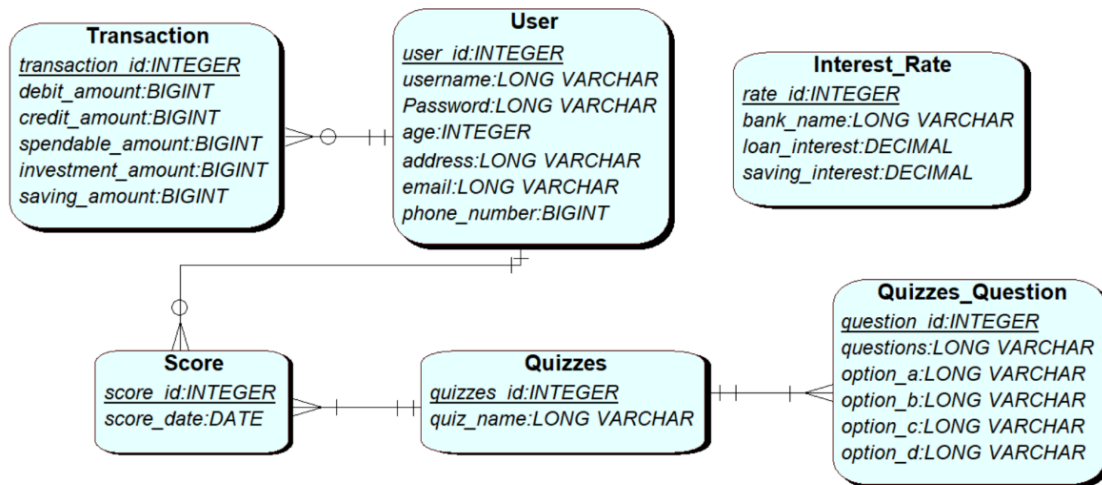


Fig: Insight Module

Use Case Diagram



EERD



CHAPTER 3

EXPECTED OUTPUT

Arthagyan is an educational mobile application designed to enhance financial literacy by providing interactive learning modules on basic banking operations and stock market principles. The app will produce the following key outputs:

1. **Interactive Banking Simulations:** Users will be able to practice real-world banking tasks such as filling out checks, understanding account balances, and processing transactions, providing them with hands-on experience.
2. **Knowledge Hub:** A comprehensive resource center offering easy-to-understand lessons on various banking concepts, such as savings, loans, interest rates, and stock market basics. This hub will guide users through essential financial concepts in a structured format.
3. **Quizzes and Assessments:** Users will be able to take quizzes that assess their understanding of the material covered. The app will instantly grade the quizzes and provide personalized feedback, allowing users to track their learning progress.

4. **User Progress Tracking:** The app will monitor and record users' performance, tracking their learning journey and offering tailored recommendations based on quiz results and progress.

By the end of the project, *Arthagyan* aims to provide users with a comprehensive understanding of banking systems, empowering them with the tools needed to make informed financial decisions.

CHAPTER 4

CONCLUSION

Arthagyan aims to address the growing issue of financial illiteracy by providing users with a practical, interactive platform to learn and apply essential banking concepts. By focusing on user-friendly simulations, a comprehensive knowledge hub, and personalized assessments, the app empowers individuals to take control of their financial decisions with confidence. Through the project, we have created a tool that not only educates but also actively engages users, helping bridge the knowledge gap in banking and financial systems.

The development of *Arthagyan* demonstrates the importance of financial education in fostering economic inclusion, as it equips users with the necessary skills to navigate the complexities of modern financial systems. Ultimately, this project has the potential to make a significant impact on improving financial literacy and, by extension, enhancing personal financial management, contributing to more informed and economically resilient individuals.