B.Sc. Engg. Project

RAIN Bank Management

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Abstract

The Bank Account Management System is a program that keeps track of a person's bank account. I attempted to demonstrate the operation of a banking account system and to cover the fundamental functions of a Bank Account Management System in this project. Develop a project for resolving a customer's financial applications in a banking environment in order to meet the demands of an end banking user by giving many ways to complete banking chores. Additionally, to give extra features to the user's work environment that are not available in a traditional banking project. In the economic world, the bank management system might be considered the most significant factor. In today's world, the banking sector is a necessary component of daily life. In our daily lives, we encounter challenges and then discover that something is missing in this sector. For example, if we want to change the location (branch) of our account, we must first fill out an application and then wait for the bank procedure to be completed. This procedure takes longer, and there is more physical labor involved, which adds manpower. Also, in the present context, connecting an rain bank card to a bank account is required, and this may be done using an ATM. However, if we need to link an rain bank card urgently and there are no ATM accessible, we can provide this service through our project, the Bank Management System.extra functions that aren't available in a typical banking project The project's Bank Account Management System is built on cutting-edge technology. This project's main goal is to create software for a bank account management system. This project was created to make it simple and quick to complete procedures that were previously impossible with manual systems and are now achievable with this software.

Declaration

We hereby declare that the Thesis on Comparison Based studies to Secure Data for Numerical Network Prediction using Blockchain submitted in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering of Bangladesh University of Business and Technology (BUBT) is our own work and that it contains no material which has been accepted for the award to the candidate(s) of any other degree or diploma, except where due reference is made in the text of the project. To the best of our knowledge, it contains no materials previously published or written by any other person except where due reference is made in the project. () () (

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Chapter 1

Introduction

1.1 Introduction

The "Bank management system" project is a computerized telecommunications equipment that allows clients of a financial institution to make financial transactions in public spaces without the assistance of a human clerk or bank teller (manpower). Every day, rain of banks process millions of transactions, and thousands of people utilize the financial system on a daily basis. If we all know, as the number of users grows, we'll need more banks and employees, which means more manual labor. We'll also deposit more money in the bank, which is riskier and less safe. There would be no need to create new branches or increase employees if we built superior computerized based financial systems. If a system offers these fundamental logic, we may design a new system that authenticates and validates the user, allowing the user to conduct any form of virtual transaction at any time and from any location in the shortest amount of time. The customer account number is one of the most reliable numbers for recognizing somebody. It is constantly on and allows you to credit, withdraw, transfer money, link your Bank card to your account, and move your account from one branch to another within the same bank. In everyday life, the banking system is the most helpful and significant item in the economic world, and it is extremely beneficial to the development of a country as well as its economic strength.[1]

1.2 The Concept of Online Bank Management System

This Online Bank Management System is a web-based application written in the Java programming language for use in an efficient online banking system. It primarily seeks to make the banking system accessible from anywhere, as well as to improve and enhance the current banking process. Customers don't need to go to the bank to inquire about their amount, transfer their balance to another account, or utilize any other banking services because of this online program.[2]

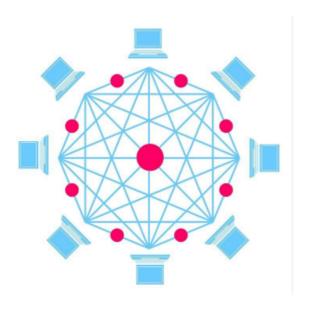


Figure 1.1: Basic Diagram of Process

A computer-based management system is designed to handle all of the basic data required to create monthly client account statements, which can include any month's statement. A separate database is used to store all of the information needed to calculate and generate the right statement.[1]

1.3 working system of Bank Management System

The Bank Account Management System is a program that keeps track of a person's bank account. I attempted to demonstrate the operation of a banking account system and to cover the fundamental functions of a Bank Account Management System in this project. Develop a project for resolving a customer's financial applications in a banking environment in order to meet the demands of an end banking user by giving many ways to complete banking chores. Additionally, to give extra features to the user's work environment that are not available in a traditional banking project. The project's Bank Account Management System is built on cutting-edge technology. The main aim of this project is to develop software for Bank Account Management System. This project was created to make it simple and quick to complete procedures that were previously impossible with manual systems and are now achievable with this software. This project was created with PHP, HTML, and MY-SQL for database connectivity. Creating and maintaining requirements is a difficulty for IT, systems, and product development projects, as well as any other activity involving a contractual agreement. Organizations must successfully design and manage requirements to ensure that they are satisfying client expectations while also demonstrating compliance, remaining on schedule, and staying within budget. A badly expressed requirement might force a company out of compliance or possibly result in damage or death. The definition and management of requirements is a task that can yield a high and quick return on investment. The project examines the system requirements before producing requirements specifications. It investigates other relevant systems before formulating system requirements. The system is then designed to meet the needs in compliance with the specifications. MY-SQL, PHP, and HTML are used to implement the system design. The system is intended to be both interactive and content management. The content management system is in charge of data entry, validation, and updating, whereas the interactive system is in charge of system interaction with administrators and users. As a result, the project's aforementioned characteristics will reduce transaction time and hence improve the system's efficiency. In our project, we also give the ability to link an account with a number, as well as the ability to modify the location of an account with a branch, allowing the user to choose the branch that is most convenient for them. They will also use the online banking system to edit or update data such as their address and phone number. [3]

1.4 Existing System of Banking Management System

The current banking system is slow because every work is carried out by a person, therefore comparing the pace of a computer task to that of a computer is unfair. The complexity of this system increases as the number of clients grows, and with it, the number of transactions grows. Now, everything must be logged into a file for future reference, which is simply not the scenario we want at this moment. [4]

Chapter 2

Literature Review

2.1 Introduction

Banks are critical in mobilizing and allocating savings in an economy, and by monitoring and screening borrowers and depositors, they may address significant moral hazard and adverse selection concerns. Banks are also significant. In efficiently allocating money to where they are most needed and have obvious consequences for capital allocation, industrial expansion, and economic growth. The purpose of the survey was to learn about Indian clients' intentions for using mobile banking. The amount of the influence of the antecedents on the behavioral intentions of mobile banking usage was determined using research methodologies such as factor analysis and multiple regression analysis. The study's findings revealed that, in addition to traditional characteristics like as perceived usefulness and ease of use, perceptions of image, value, self-efficacy, perceived credibility, and tradition all had a substantial impact on Behavioral Intentions toward mobile banking usage. In our project, we ask security questions when customers log in to their accounts in order to avoid fraud and provide the highest level of security in the bank management system.

2.2 Conclusions

The banking system is the economic backbone, and information technology (IT) has become the backbone of financial operations. With the ever-increasing obstacles and expectations, technology, which had previously played a supporting role in banking, has risen to the fore. Technology began as a business facilitator and has since evolved into a business driver. Banks are unable to introduce a financial product without the assistance of IT. Whether it's customer service, transactions, remittances, audit, marketing, pricing, or any other activity in a bank, IT plays a critical role in not only completing the activity efficiently, but also in innovating and meeting future needs. The project's goal is to investigate and compare consumer perceptions of value in online and mobile banking. Customers' views of value in banking acts varied across the internet and mobile channels, according to the findings. According to the research, efficiency, convenience, and safety are important factors in shaping consumer value assessments of online and mobile banking. Service providers are better able to design measures to increase internet and mobile banking usage by knowing how and what sort of value different service channels give for clients. The paper's contribution is to gain a more in-depth understanding of customer value views. The contribution of the paper lies in achieving a more profound understanding on consumer value perceptions to internet and mobile banking.

Chapter 3

Proposed Model

3.1 Introduction

The aim of proposed system is to develop a system of improved facilities. The proposed system can overcome all the limitations of the existing system. The system provides proper security and reduces the manual work. The system is very simple in design and to implement. The system requires very low system resources and the system will work in almost all configurations. It has got following features Security of data.

- Ensure data accuracy's.
- Proper control of the higher officials.
- Reduce the damages of the machines.
- Minimize manual data entry.
- Minimum time needed for the various processing.
- Greater efficiency.
- Better service.
- User friendliness and interactive.
- Minimum time required.

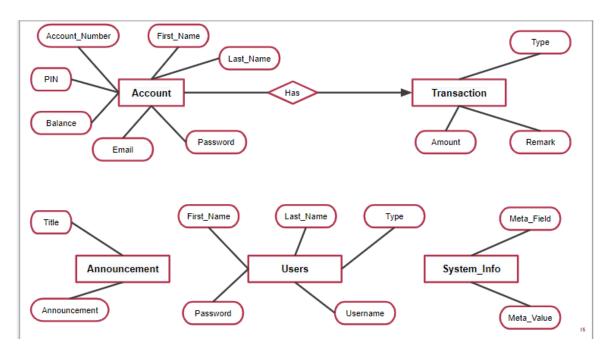


Figure 3.1: Online Banking Process

The proposed system is highly computerized in which the data related to user accounts will be secured high with high accuracy that even reduced the machine damage and human made errors and this existing system is highly efficient to offer best services to the customers as well as bank because it has user friendly access that customers less time when compare with a normal banking system. It will validate the data after it has been input. Appropriate massages are provided as when needed so that the user will not be in a maize of instant. The data entering page is set up in such a manner that all data manipulations are possible, as well as record viewing options. Our project is progressing as shown in the diagrams below. This project is used for an online banking system, and the user must first register before logging in. When a user successfully logs in, they may execute operations such as money withdrawal, money transfer, deposit, Rain bank connection with own account, account transfer from one place to another, and so on.

Costumer can update his data like address, contact number etc. as well as they link Rain Bank number with own account number using online banking system. User can transfer money, deposit money, withdraw and check account balance through online banking system.

3.2 Conclusions

Consumer banking is similar to other sorts of consumer activity in many respects. Banking clients, on the other hand, are seeking for more than just a good range of goods; they want great customer experiences that meet their fundamental needs while also adding value. Customers ranked "the way I'm treated" as the second most significant reason for trusting their bank in our poll, following only their bank's predicted "financial stability." More than fees, rates, locations, or convenience, the most prevalent reason for creating and cancelling accounts is the customer experience.

Customers are transformed into supporters for their banks as a result of this concept of trust. Customers who trust their bank will drive the most recommendations and be more ready to consolidate their banking requirements with a single financial services provider in an era where social and digital media enable consumers to rapidly share their experiences. As a result, they are the bank's growth engines.

Chapter 4

Implementation of Our System

4.1 Introduction

System analysis is the process of acquiring and evaluating data, diagnosing issues, and using the data to provide recommendations for system changes. It's a problem-solving activity that necessitates a lot of interaction between system users and developers. Any system development process must include a phase of system analysis or research. The system is thoroughly investigated and assessed. The system analyst assumes the role of interrogator and delves deeply into the current system's operation. The system is seen as a whole, and the system's input is identified. The different processes are tracked back to the organization's outputs. The goal of system analysis is to help you become a better person. The goal of system analysis is to become aware of the problem, identify the important and delusional variables, analyze and synthesize the numerous aspects, and come up with an optimal or at least adequate solution or plan of action. A detailed study of the process must be made by various techniques like interviews, questionnaires etc. To reach a conclusion, the data acquired by various sources must be evaluated. The end result is a better grasp of how the system works. The current system is the name given to this system. Now that the present system has been thoroughly examined, trouble areas have been identified. The designer now takes on the role of problem solver, attempting to resolve the company's issues. The solutions are presented as suggestions. The idea is then compared to the existing system and the best option is chosen. The user is presented with the suggestion for his or her approval.

4.2 Modules Description

The Modules description of Bank Account Management System project. These modules will be developed in PHP source code and MYSQL database.

- Create New Account: A customer who having the account in the world can create a virtual account through this module. This module receives the customer profile details and the bank account details with the proof of the ownership of the bank account.
- Login: Virtual account holders can login in to the system using this module. Thus this is the secured login page for the customers in the website.
- Virtual Account: After the approval of new virtual account creation, the customer assigned a unique virtual account number to make the online money transactions. This module views the details of the logged customer's virtual account.
- Bank Accounts: A customer may have more than one bank account in various banks, in this case, the customer prompted to decide which bank account should reflect in the account debit or amount credit. For these operations customers can add their owned bank accounts here and it will be approved by the administrations of the system.
- Fund Transfer: This is the module to make fund transfer to the virtual bank account holders or the usual bank account holders from the customer's specified bank account.
- Beneficiary: Beneficiary is a person who receives money. Here the customer can add the beneficiaries to make fund transfer in the future.
- Transactions: This module displays the transactions made by the customer in the particular date with the transaction details.
- Transactions: Administrative Control: This module contains the administrative functions such as view all virtual account, transactions, approve bank accounts, approve virtual accounts etc.

Other features and operations may be performed on a back account, but we will not look at bank accounts in their totality; instead, we will focus on the essentials to prevent over complicating the process. The goal of this exercise is to demonstrate the utility of object-oriented programming rather than to really develop a banking system.

4.3 Methods

- 1. We need to be able to generate an account number
- 2. Account types: Savings or Current Account
- 3. Maintain/update Balance
- 4. Open/Close Account
- 5. Withdraw/Deposit

The next thing we need to look at is where to store the information about the account. Obviously, the best place to store information relating to bank accounts is in a database. To work with a database will require the following methods:

- i. Connecting to the database
- ii. Inserting account details

Our class will then be called Accounts and we will have a constructor method with the same name that will help us initialize some variables.

4.4 Administrative Modules

Here in my project there are two types of modules. This module is the main module which performs all the main operations in the system.

4.4.1 Admin Module

There is a permission process in place before admin may access this project. If you log in as an administrator, you'll be taken to the Admin Home Page; if you log in as a regular user, you'll be sent to your Account Home Page. The following functions are performed by this: Individual accounts may be created, existing accounts can be managed, all transactions can be viewed, balance inquiries can be made, and accounts can be deleted or closed.

- 1) Admin login
- 2) Add/delete/update account
- 3) Withdrawal/deposit/statements transaction
- 4) Account Information
- 5) User details list
- 6) Active/Inactive account
- 7) View transaction histories

4.4.2 User Module

A basic user has access to their account and may deposit and withdraw funds. Money can also be transferred from one bank account to another. A user's transaction report and balance inquiry are also available.

- i) User login, use PIN system
- ii) Creating/open new account registration
- iii) Funds transfer (local/domestic)
- iv) View statements transaction
- v) User account details
- vi) Change Password and PIN
- vii) View about developer details

4.5 SOFTWARE REQUIREMENT SPECIFICATION

4.5.1 Hardware Requirements Specification

Processor : AMD Ryzen 3 3250U with Radeon Graphics $2.60~\mathrm{GHz}$

Main Memory(RAM): 4.00 GB

Cache Memory: 512 KB

Monitor: 14 inch Color Monitor

Keyboard: 108 Keys

Mouse: Optical Mouse

Hard Disk: 160 GB

4.5.2 Software Requirements Specification

 $Front\ End/Language:\ HTML, CSS, JAVASCRIPT, BOOTSTRAP$

Back End/Database : PHP,MYSQL

Additional Tools: XAMPP Server

Operating System: Windows 10

Chapter 5

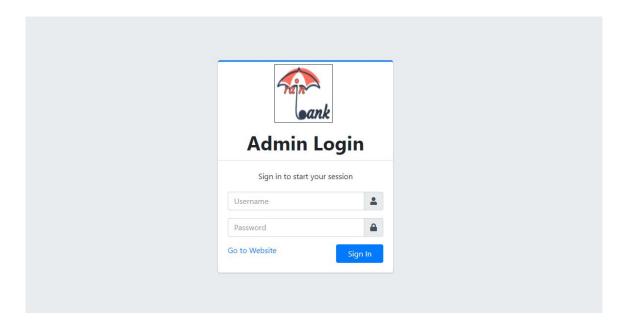
Experimental Results and Evaluation

5.1 Introduction

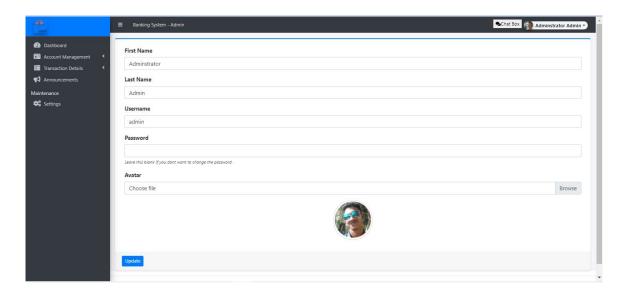
In any software project, testing is critical to success. There are two steps to testing as well. The first stage occurs during the module creation phase of software engineering. After the software has been finished, the second phase begins. This is a type of system testing that ensures that all of the programs are working properly. After constructing the banking management system, this chapter describes the project's result or overall outcome. We also discuss unit testing, which is a type of software testing that involves testing individual program units or components. We also go over white box testing, test scenarios, and test cases in this chapter. We also use other inputs to analyze the results. Through the use of our system's necessary test cases, this section depicts all conceivable better outcomes. This section must demonstrate that our suggested system has been constructed correctly.

5.2 Result Analysis

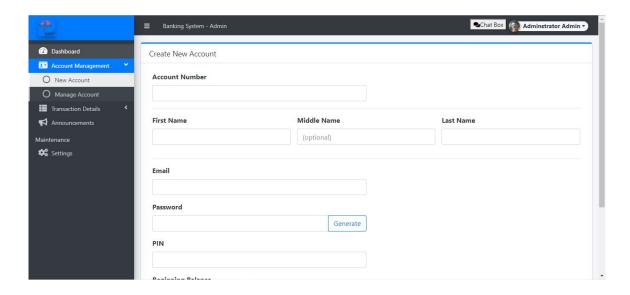
Connection Test: Admin Login Process



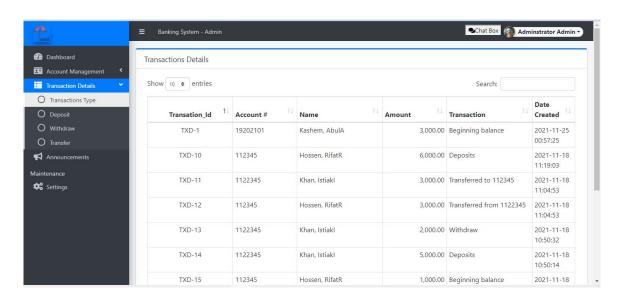
Connection Test: Admin Account Page



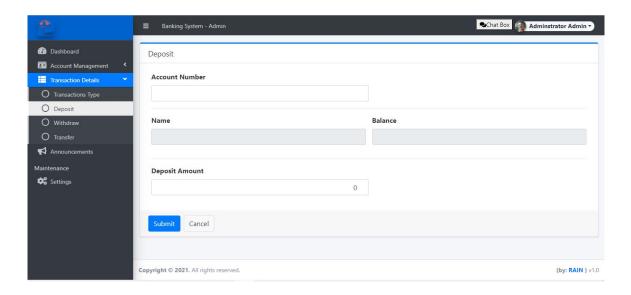
Connection Test: Customer Registration Form



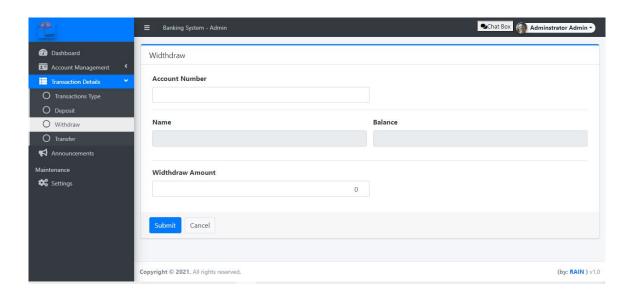
Connection Test: Transaction Details



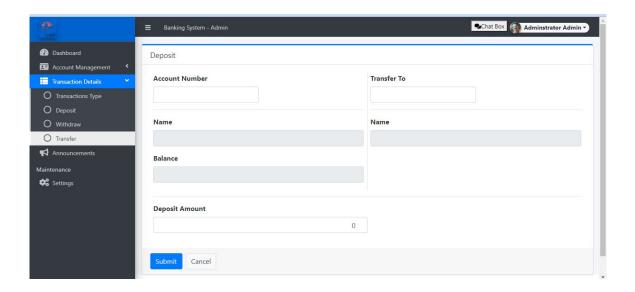
Connection Test: Deposit Page



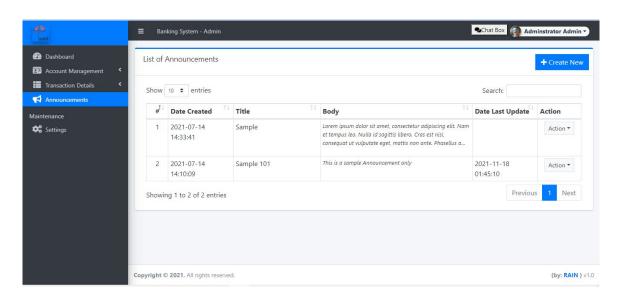
Connection Test: Withdraw Page



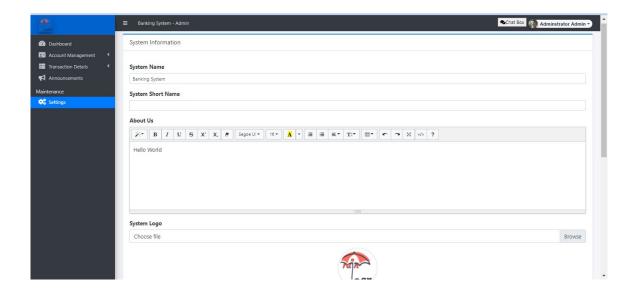
Connection Test: Transfer Page



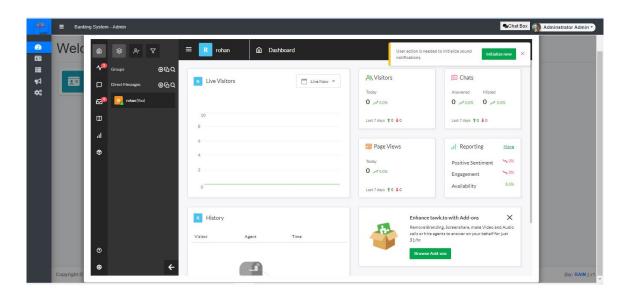
Connection Test: Announcement Page



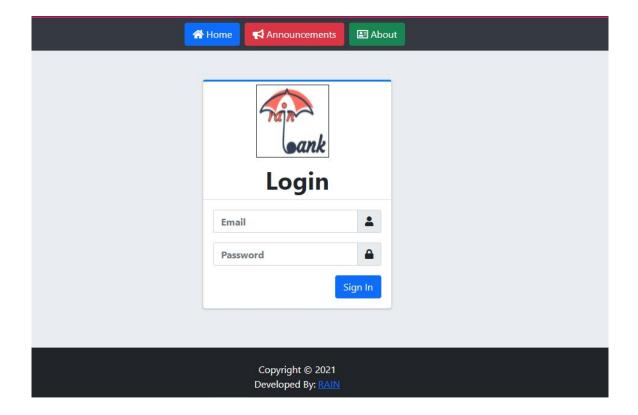
Connection Test: Sitting Page



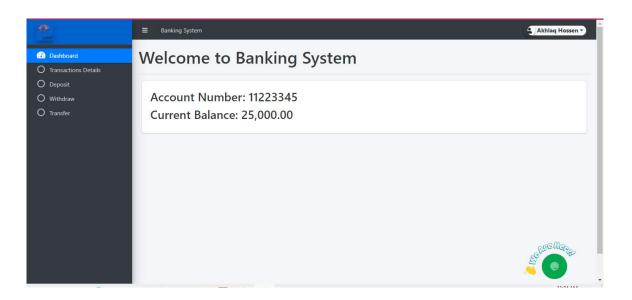
Connection Test: Admin Mailbox Process



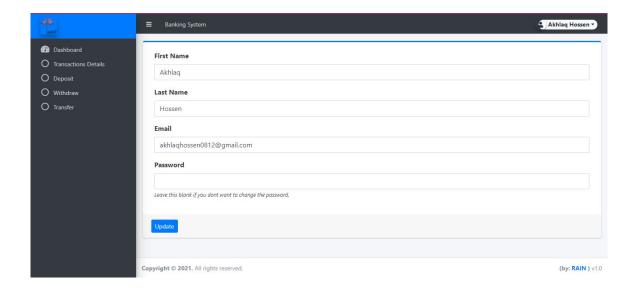
Connection Test: Customer Login Process



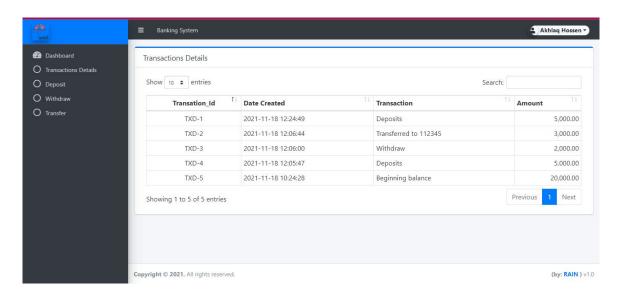
Connection Test: Dashboard Page



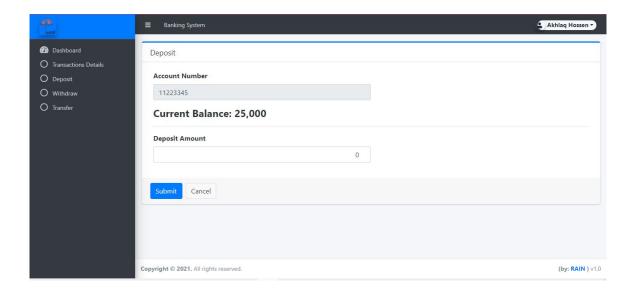
Connection Test: Customer Profile Page



Connection Test: Transaction Page



Connection Test: Deposit Page



Chapter 6

Conclusion and Future Work

6.1 Conclusions

This project is being designed to meet the demands of a user in the banking industry by including all of the tasks that occur in a bank. This project's future versions will continue to be significantly improved over the present version. Writing and depositing checks are the most basic ways to get money into and out of a checking account, but technological improvements have introduced ATM and debit card transactions. Every bank has guidelines on how long it takes to access your deposits, how many debit card transactions you may do each day, and how much cash you can withdraw from an ATM. Businesses that place holds on your money might also limit your access to your checking account balance.

Banks are now offering internet banking services in order to attract clients. We learned from bank employees that the majority of internet bank account holders are young people and business people. Online banking is a cutting-edge technology that is quickly becoming a must. It has proven to be an effective strategic weapon for banks in today's unpredictable and competitive industry. It would be advantageous if bank employees provided sufficient training to consumers in order to establish an account. Second, the website should be made more user-friendly so that first-time customers may immediately make and access their accounts.

6.2 Future Scope of Our Thesis

Our system can be manipulated in various important works and can be implemented easily if we can reach our goal. Although a lot of works are being done each and every day of this world. But use of Restaurant reviews from different websites and with the help of our work, this can be used for far better works which are not done yet with that much efficiency. We thought about our work to be used in future works. Some are given bellow:

- Efficient System: Main future scope of our proposed model is to try it in real world that means we have to implement it with better results. We will also try to improve the security of user identification and the blockchain network to make it more secure.
- Reduce Time and Complexity: We need to improve the data passing time and data processing capacity. So that we can improve the data transection speed, processing capacity and most importantly the security using our system
- Lack of Resources: Our system needs more required nodes to run, old and famous network have enough nodes to run their network, blockchain network need more initial resources to facilitate nodes and take care of other security measures.

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