

# Bank Management System

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# 1 Introduction

Banking is an essential part of our daily lives, and as the number of customers increases, managing their accounts and transactions becomes increasingly challenging. To simplify the process and provide better services, banks use computer systems to manage customer data, transactions, and other activities. A bank management system in C++ is a software application that can manage banking operations and provide various services to customers. The bank management system in C++ is designed for banking operations, such as opening new accounts, managing existing accounts, and processing transactions. The system provides a user-friendly interface that allows customers to perform various activities such as depositing and withdrawing money, transferring funds between accounts, and checking account balances. The system is designed to handle multiple accounts and transactions efficiently, ensuring the accuracy of customer data. The program also generates various reports, such as account summaries, to help banks make better business decisions. Overall, a bank management system in C++ is a critical tool for banks to manage customer accounts, transactions, and activities efficiently.

## 1.1 Objective

Bank management system aims to achieve several objectives that collectively enhance the overall functioning of a bank. One of its primary objectives is efficient customer management, encompassing customer onboarding, account management, transaction history, and customer relationship management. By facilitating seamless storage, retrieval, and analysis of customer data, the system enables personalized services and improved customer satisfaction.

## 1.2 Problem Statement

Our aim is to create and manage a user friendly banking system which is easy to use by everyone. With the increasing number of customers, managing their accounts and transactions become more complex, leading to operational inefficiencies and errors. To overcome these challenges and provide better services, a bank management system in C++ is needed.

## 1.3 Scope

**Customer Relationship Management:** The system handles customer data management, including account information, contact details, transaction history, and customer interactions.

**Transaction Processing:** The system facilitates smooth and secure processing of various financial transactions, including deposits, withdrawals and fund transfers. It ensures accuracy, reliability, and timely updates of transaction records.

Security and Data Protection: The system ensures the security and confidentiality of customer data and sensitive bank information.

## **1.4 Background**

To develop a bank management system in C++, you would need to have a good understanding of the principles of Computer Programming Concepts. The system would typically have a user interface for bank employees to perform various functions, such as opening and closing accounts, processing transactions, and generating reports. The system would also need to have robust security features to prevent unauthorized access and ensure the integrity of the bank's data. Overall, a bank management system is an essential tool for any modern bank, helping to streamline operations, reduce errors, and improve customer satisfaction.

# **2 Requirement specification**

All computer program requires the presence of certain hardware components or other software resources in order to function properly. These requirements are referred to as (computer) system requirements.

## **2.1 Hardware requirement**

Physical computer resources, commonly known as hardware, are the most frequent set of requirements given by any operating system or software program. A hardware compatibility list (HCL) is frequently included with a hardware requirements list, especially in the case of operating systems.

- 1) Processor: Intel Core i5 to Intel Core i7 10th generation used as a processor because it provides reliable and stable working and run our pc for long time.
- 2) Ram: Ram 4 GB up to 16 GB is used, as it will provide fast calculations and performance.
- 3) Hard Disk: Hard disk from 80 GB up to 1 TB is used.

## **2.2 Software requirement**

- 1) Operating System: Window 8 to 11 is used as OS as it is stable and supports more features.
- 2) Development Tools: C++ support Visual Studio provided by Microsoft is used as it provides stable working.

### 3 System design

The Design phase's goal is to devise a solution to the problem defined by the requirements. The goal of system design is to determine which modules should be included in the system, their specifications, and how they interact to create the desired outputs.

This is the system design of our project.

Module	Description
Create account	Open a new account for the user by accepting inputs by user
Deposit	Provide option to deposit amount from the given account number
Withdraw	Provide option to withdraw amount from the given account number
Report	Display account details comprising of account number, name, and balance amount
Zakat	It calculates zakat

### 4 Functional requirement

Functional requirements of bank management system are

#### 4.1 Customer Management:

- 1) The system should allow customer registration and account creation.
- 2) It should enable the storage and retrieval of customer information, such as personal details, contact information, and identification documents.
- 3) The system should provide functionality for managing customer accounts, including opening, closing, and updating account information.

#### 4.2 Account Management

- 1) The system should support various types of accounts, such as savings accounts, checking accounts.
- 2) It should allow account creation, closure, and maintenance, including updating account balances and zakat calculations.
- 3) Should support account-related operations, such as deposits, withdrawals, and fund transfers.

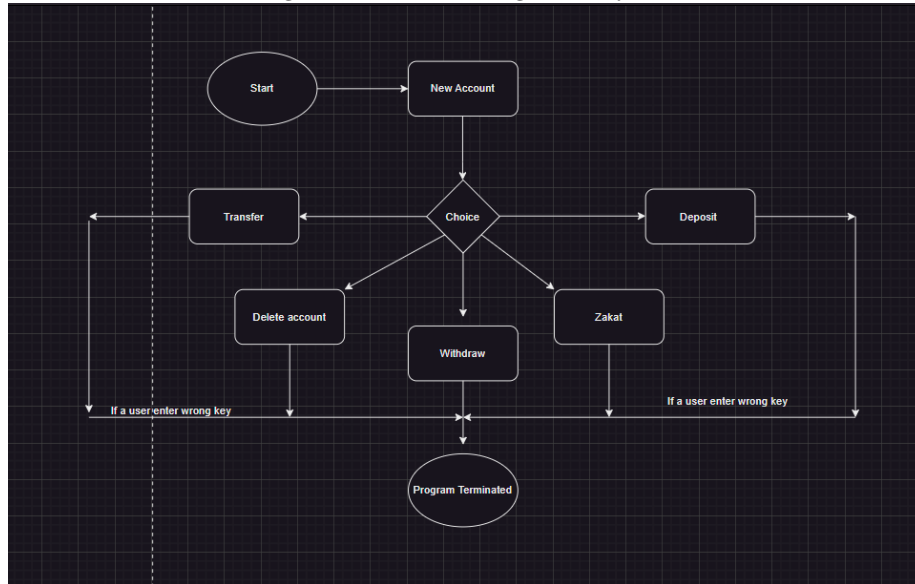
#### 4.3 Transaction Processing

- 1) The system should facilitate secure and efficient transaction processing.

- 2) The system should ensure accurate and real-time updates of account balances and transaction records.

## 5 Diagram

Diagram of Bank management system.



## 6 Group members

- 1) Muhammad Hammad, Enrollment 01-134231-048
- 2) Ammar Jamil, Enrollment 01-134231-010
- 3) Syed Muhammad Rafay Ali, Enrollment 01-134231-089

## 7 Outputs

Main output

```
C:\Users\Ammar Jami\source >
All Citizens Bank
-----|
Bank Management System |
-----|
1. Create Account      |
2. Deposit Funds       |
3. Withdraw Funds     |
4. Balance Enquiry    |
5. Transfer Funds     |
6. Delete Account     |
7. Zakat              |
-----|
Press 1,2,3,4,5,6 or 7 for performing any of the above operation . Press any other key to discontinue
|
```

Account creation

```
1
Create Account
Enter Customer Name:
Ali
Enter Customer Address:
h24st20
Enter Customer Contact:
0323512676
Enter Account Balance:
3500

New Account Created Successfully!
Customer Name: Ali
Customer Address: h24st20
Customer Contact: 0323512676
Account Balance: 3500

Press 1,2,3,4,5,6 or 7 for performing any of the above operation . Press any other key to discontinue
```

Deposit and withdrawal

```
2
Deposit Funds
Enter your account number: 123
Enter the amount to deposit: 5500
Deposit successful!
New account balance: 6500

Press 1,2,3,4,5,6 or 7 for performing any of the above operation . Press any other key to discontinue

3
Withdraw Funds
Enter your account number: 123
Enter the amount to withdraw: 2000
Withdrawal successful!
New account balance: 4500
```

Zakat

```
7
Calculating Zakat
Enter your account number: 123
Zakat Calculated!
The zakat calculated is:25
```

## 8 Conclusion

In conclusion, a bank management system plays a crucial role in enhancing the efficiency, accuracy, and security of banking operations. By effectively managing customer information, accounts, transactions, and regulatory compliance, the system empowers banks to deliver superior customer service while mitigating risks.