

C PROGRAMMING

PROJECT PROPOSAL SEMESTER

1ST

# BANK MANAGEMENT SYSTEM

BY:

ROHAN BALAMI

BACHELOR OF INFORMATION & COMMUNICATION TECHNOLOGY

SCHOOL OF SCIENCE & TECHNOLOGY

VIRINCHI COLLEGE

Table of Contents

[BANK MANAGEMENT SYSTEM 1](#_Toc129727286)

[1. Introduction 1](#_Toc129727287)

[2. Purpose 2](#_Toc129727288)

[3. Scope of the Project 3](#_Toc129727289)

[3. Features 4](#_Toc129727290)

[4. Theory 5](#_Toc129727291)

[7. Algorithm 8](#_Toc129727292)

[8. Project scheduling 9](#_Toc129727293)

[9. Conclusion 10](#_Toc129727294)

[10. Expected Output 11](#_Toc129727295)

[11. References: 14](#_Toc129727296)

# Introduction

As a first-semester student of BICT, I am currently learning the C programming language. I am excited to introduce my project, the Bank Management System. Through effective use of programming concepts, I am developing this project and strengthening my understanding of the basics of C programming.

The Bank Management System project is a comprehensive solution for managing banking operations. This project aims to automate the various banking operations such as account creation, deposit, withdrawal, balance inquiry, transfer, and transaction history tracking. The system has been developed using the C programming language and is suitable for small-sized banks.

In the present era, banking operations are mostly performed through computers and the internet. A manual banking system requires a lot of paperwork and is prone to errors. The Bank Management System project provides an efficient and accurate solution to the problems of the manual banking system. With the help of this system, customers can easily perform transactions from the comfort of their homes, reducing the need to visit the bank physically.

This project is divided into various modules that enable efficient management of banking operations. Each module is designed to perform a specific task, ensuring a smooth flow of banking operations. The modules are user-friendly and easy to use, even for non-technical users.

The Bank Management System project is a significant step towards modernizing the banking system. It is designed to enhance the efficiency, accuracy, and security of banking operations. By providing an easy-to-use interface and automating the various banking operations, this project ensures a hassle-free banking experience for both customers and bank employees.

# Purpose

The purpose of my Bank Management System project is to develop a user-friendly software application that can efficiently manage the day-to-day operations of a bank. The system will allow customers to open new accounts, deposit and withdraw money, transfer funds between accounts, view their account balances and transaction history, and make payments to other accounts.

The system will provide bank administrators with the ability to manage customer accounts, view financial reports, and monitor employee activity. The software will be developed using C programming language, and will be designed to ensure data security, accuracy, and reliability. The Bank Management System project will help me to enhance my programming skills while also gaining valuable experience in developing software for the banking industry.

The Bank Management System project will involve designing an intuitive user interface that is easy to navigate and provides clear information to users. The software will need to be scalable and flexible to accommodate the evolving needs of the bank and its customers. It will also need to be robust and able to handle large volumes of data securely.

As a first-semester college student, this project will give me the opportunity to apply my knowledge of C programming to a real-world problem. It will help me develop my skills in designing software architectures, implementing algorithms, and testing and debugging code. Additionally, the project will provide me with valuable experience working on a team and collaborating with others to achieve a common goal. Overall, the Bank Management System project will be an excellent learning opportunity that will prepare me for a career in software development or other related fields.

# Scope of the Project

The purpose of my Bank Management System project is to put my knowledge and talents in C programming to use by developing a realistic application for managing client accounts inside a banking system.

By working on this project,

* To demonstrate my ability to put fundamental programming principles like data storage, user input validation, and database administration into practice.
* To give me hands-on experience in planning and implementing a complicated software system from the ground up.
* This project will not only enhance my proficiency in C programming but also prepare me for future software development projects.

# Features

Customers records are managed via the file system by the project Bank management system written in C. This aids in the registration of new account, the display of an customers entire list on the screen, the search for a specific customers record, and the modification and deletion of a customer’s information.

* Improves the management of an organization
* Login portal for admin and User
* Add new user (customers)
* Update and Delete users
* View transactions
* ATM
* Fund Transactions
* Can know the details about any customers and their account.

# Theory

C programming language was created by Dennis Ritchie at Bell Labs in the early 1970s. It was initially designed as a system programming language to develop the UNIX operating system. C was an improvement over the previous programming language called "B," which was also created by Ritchie and Thompson at Bell Labs.

C was designed to be a simple and efficient programming language that would allow programmers to write low-level code while still being portable across different computer architectures. Its syntax is easy to understand and read, which made it popular among programmers. Additionally, C provides access to the computer's hardware, making it useful for developing system-level software.

C quickly became a popular programming language due to its efficiency, flexibility, and low-level programming capabilities. It was used to develop many operating systems, including UNIX, Windows, and MacOS. C is also widely used today in various industries, including software development, systems programming, and embedded systems.

C has gone through several revisions and standardizations over the years. In 1983, the first ANSI C standard was released, and it was later updated in 1989. The ISO/IEC C standard was published in 1990 and revised in 1999, 2011, and 2018. These standards ensure that C is a consistent and portable programming language that can be used across different platforms and systems.

1. **Features of C**

* Simple syntax: C has a simple and consistent syntax that is easy to read and understand.
* Low-level programming: C provides direct access to system-level resources such as memory and CPU, making it useful for developing operating systems and device drivers.
* Structured programming: C supports structured programming constructs like if-else, loops, and functions, which help to write organized and efficient code.
* Modular programming: C supports modular programming, where code can be organized into separate modules that can be compiled separately and linked together.
* Portability: C programs can be written once and run on multiple platforms with minimal changes, making it a highly portable programming language.
* Pointers: C provides pointers that allow programmers to directly manipulate memory, providing more control over the program's execution.
* Recursion: C supports recursion, which is a powerful programming technique that allows a function to call itself.
* Extensibility: C is highly extensible, with the ability to incorporate new features and libraries as needed.
* Large community: C has a large community of developers and users, providing a wealth of resources and support for C programmers.

1. **Flowchart**

Input Username and password

if username & password = customer's

if username & password = admin's

False False

Output " You are not a valid User "

True True

Welcome Customers

Welcome Admin

If press =

1

1

Show Records

Add Records

Transactions

2

Update Records

2

3

3

Press = 1

ATM

Delete Records

If press 1 or 0

4

Exit

4

Check all Records

5

Exit

Press = 0

**Fig:** Flowchart of Bank Management System

# Algorithm

|  |  |
| --- | --- |
| **Steps** | **Work** |
|  Step 1 | Start |
|  Step 2 | Input username and password |
|  Step 3 | Check if username and password is belonging to admin or customers. |
|  Step 4 | If it is belonging to customers then, move to main menu. Else, back to login page. |
|  Step 5 | If it is belonging to admin then, move to main menu. Else, back to login page. |
|  Step 5 | Press the options as you required. |
|  Step 6 | Display the desire output as the user presses the option accordingly. |
|  Step 7 | Exit |

# Project scheduling

To complete this project, I have scheduled a project in which times are managed in a week basis.

|  |  |  |
| --- | --- | --- |
| **Week** |  | **Work** |
| Week 1 (Feb 15) |  | Research for the project |
| Week 2 |  | Prepared final flowchart and algorithm |
| Week 3 |  | Research on login portion and execution |
| Week 4 |  | Coding start |
| Week 5 |  | Coding complete |
| Week 6 & 7 |  | Report starts and project complete |

Diagrammatical representation of Project Schedule:

Week 1:

Research for the

project

Week 2:

Prepared final

flowchart and

algorithm

Week 3:

Research on

login portal and

execution

Week 4: Coding start

Week 6 & 7:

Report starts and project complete

complete

Week 5:

Coding complete

Complete

**Fig**: Project Schedule of Bank Management System

# Conclusion

As a consequence of completing this project, I now understand the workings and functions of C programming. This project's principal purpose is to keep track of a customer's data at any financial institution or workplace. This method can assist in the management and processing of financial transactions in a timely and correct manner, decreasing the risk of errors and delays. It can give more efficient and personalized service to clients by allowing them to access their accounts and conduct transactions online. It can provide increased security measures to safeguard client data and prevent fraud.

# Expected Output

**Admin panel**

Enter Username: Admin

Enter Password: p@ssw0rd

Welcome to the Main Menu

1. **Add User (Create account)**

* Enter date (mm/dd/yyyy): 12/12/1195
* Enter Account Number: 12345787
  + Enter Name: Rohan Balami
  + Enter Date of birth: 12/12/1000
  + Enter Age: 19
  + Enter Address: Pharping, Kathmandu
  + Enter Citizenship Number: 0124
  + Enter Phone Number: 9841252737
  + Enter Email Address: [rohanbalami646@gmail.com](mailto:rohanbalami646@gmail.com)
  + Amount to be deposit: $100000
  + Types of account: Saving

Account has been created successfully.

1. **Show list of customer’s details**:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Age | Address | Citizenship Number | Account Type | Phone Number | Account Number | DOB | Email Address |
| Rohan Balami | 19 | Pharping, Kathmandu | 0124 | Saving | 9841252737 | 12345787 | 12/12/1000 | rohanbalami646  @gmail.com |

1. **Delete records**

Enter an Account Number: 12345787

Do you want to delete the details of a User (Y/N)? Y

The record has been deleted successfully!!

1. **Update records**

Enter an Account Number: 12345787

Please Enter the updated details:

* + Enter Name: Sanom Baju Vakdo
  + Enter Date of birth: 12/12/1200
  + Enter Age: 19
  + Enter Address: Bhutaule, Jhapa
  + Enter Citizenship Number: 0124
  + Enter Phone Number: 98454552737
  + Enter Email Address: [Sohanvaklami646@gmail.com](mailto:Sohanvaklami646@gmail.com)

1. **Quit**

Exit

Else log out without saving the details.

**User Panel**

Enter username: Demo Enter Password: Test123

Welcome User

* 1. **Show details**

Enter an Account Number: 12345787

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Age | Account Number | Account Type | Address |
| Rohan Balami | 19 | 12345787 | Saving | Bhautaule |

* 1. **Show ATM services**

# References:

GeeksforGeeks. (2022, November 26). *Bank account system in C using file handling*. GeeksforGeeks. Retrieved March 14, 2023, from <https://www.geeksforgeeks.org/bank-account-system-in-c-using-file-handling/>

*C file handling*. Programiz. (n.d.). Retrieved March 14, 2023, from https://www.programiz.com/c-programming/c-file-input-output