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INSTITUTE OF ENGINEERING

PURWANCHAL CAMPUS

DHARAN

BANKING SYSTEM

A COURSE PROJECT SUBMITTED TO THE DEPARTMENT OF ELECTRONICS AND COMPUTER ENGINEERING IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE PRACTICAL COURSE ON C PROGRAMMING

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Abstract

This project presents the development of a robust banking system using the C programming language. The primary goal is to design a secure and efficient platform that manages various banking operations through file handling, structures, and user-defined functions. Key functionalities include the creation and management of admin and customer profiles with secure login systems. The system supports essential banking activities such as account creation, deletion, money transfer, withdrawal, and deposit transactions. Additionally, it provides features for changing usernames and passwords, as well as viewing detailed customer information. This project demonstrates the application of core programming concepts and techniques to build a comprehensive banking solution. Future enhancements may focus on integrating advanced security measures and improving user interface design for enhanced usability.

Acknowledgment

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1. Introduction

We propose to develop a **Banking System** using **C programming**. This project aims to create a secure and efficient platform for managing banking operations, including account creation, balance management, fund transfers, and user authentication. By leveraging the simplicity and power of C, we intend to build a robust system that simulates real-world banking operations, providing users with a seamless experience for managing their finances.

1.1 Objective

1. To create a banking system that allows users to securely manage their accounts and perform financial transactions.
2. To use C programming to build a fast, reliable, and efficient banking application.
3. To provide a user-friendly interface for account holders and administrators.
4. To implement secure login and password management for user accounts.

2. Existing System

Several banking systems currently exist, both in the real world and as software applications. These systems offer features such as account management, fund transfers, and transaction history. However, many existing systems are complex, require internet connectivity, and lack simplicity in user interaction. Our proposed banking system aims to address these limitations by providing a **simple, offline, and secure banking solution** that can be easily managed through a command-line interface(CLI).

3. Proposed System

Our proposed **Banking System** is designed to provide a secure and efficient platform for managing financial transactions and user accounts. Key features of our system include:

- **Account Management**: Users can create, update, and delete accounts.
- **Fund Transfers**: Secure transfer of funds between accounts.
- **Deposit and Withdrawal**: Users can deposit and withdraw money from their accounts.
- **Admin Panel**: Administrators can manage user accounts, view transaction history, and perform system maintenance.
- **Secure Authentication**: Password-protected login system for both users and administrators.
- **Offline Access**: The system operates without the need for internet connectivity, making it accessible in areas with limited network access.

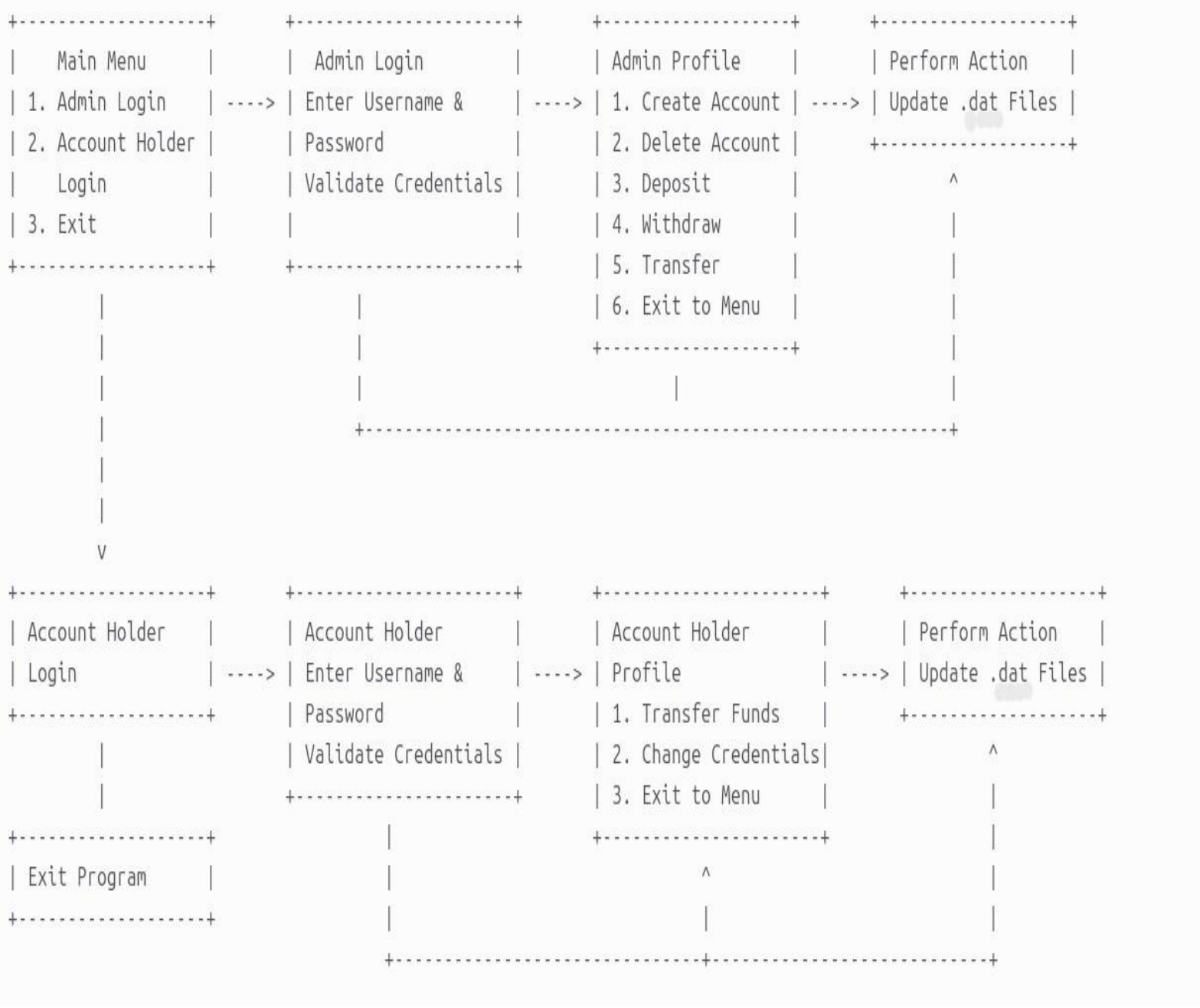

Figure 1: Block diagram

4. Methodology

4.1 Development Tools:

- **Programming Language**: C Programming Language
- **IDE and Tools**: Visual Studio Code, Git, GitHub
- **File Handling**: For storing user credentials, account details, and transaction history.

4.2 Development Process:

1. **Requirement Analysis**: Identify key functionalities like account management and fund transfers.
2. **System Design**: Create flowcharts and data structures for accounts and transactions.
3. **Implementation**: Develop account creation, fund transfers, and secure login.
4. **Testing**: Conduct unit, integration, and system testing.
5. **Deployment**: Prepare documentation and user manuals.
6. **Maintenance**: Provide updates and bug fixes.

5. Project Scope

Modified Content:

Core Features:

1. Account creation and management.
2. Fund transfers between accounts.
3. Deposit and withdrawal of funds.
4. Admin panel for managing accounts and transactions.
5. Secure authentication for users and admins.

Technical Features:

1. Command-line interface for user interaction.
2. File handling for storing data.
3. Password encryption for secure login.

Assumptions:

1. Developed using C programming.
2. Users have basic computer literacy.
3. The system is a desktop application with a command-line interface.

References

- W3 school - https://www.w3schools.com/c/
- Programmiz - https://www.programiz.com/c-programming
- GitHub Copilot - https://github.com/features/copilot