Client-Server Banking System

ITIDA-FINAL PROJECT REPORT

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Table of Contents

Introduction

In the ever-evolving landscape of the financial industry, technological advancements play a pivotal role in enhancing the efficiency, security, and accessibility of banking systems. This report delves into the design and implementation of a client-server banking system, leveraging the power of TCP sockets and the Qt framework. The goal of this project is to develop a robust and scalable solution that facilitates secure communication between clients and servers, fostering a seamless and responsive banking experience.

As financial institutions continue to embrace digital transformation, the importance of reliable and secure banking systems cannot be overstated. The utilization of Transmission Control Protocol (TCP) for communication ensures a dependable and error-free data exchange between clients and servers. This report explores how TCP sockets provide a foundation for establishing a stable connection infrastructure, allowing for the secure transmission of sensitive financial data.

Furthermore, the integration of the Qt framework adds a layer of versatility and user-friendly features to the client-server banking system. Qt's cross-platform capabilities and intuitive development tools empower developers to create dynamic and visually appealing user interfaces, enhancing the overall user experience for both clients and bank personnel.

CLIENT APPLICATION

The Client Application is responsible for user or admin interface for sending a specific request , which means Sending a specific order to the server to do something . These orders are the User and Admin class functions Intended to perform a specific functionality then sending the request to the socket file and wait for a response from the Server to fulfill client needs .

SERVER APPLICATION

The Server Application is responsible for responding to client requests whether user or admin by sending the response to the socket file and receiving it in the client section with the returned data from each request given . The JsonHandler Class contains methods which will be called by the server Application for the right response for each request , it writes to and reads from the two data base files created to perform the functionality of each request . Two database files has been created , the BANK_DB file which contains all user information and the Login file which contains User and Admin login information . The server class receives the Client application requests and then check for login credentials by each client to be able to access the System database to send the right response . the JsonHandler class methods will be called specifically based on each request to make changes on the two database files .

DRIVE LINK

Drive link contains video of the Project

https://drive.google.com/drive/folders/1L-goK4h2JP94V1GEQRSuUoqcdjc6ciag?usp=drive_link

SEQUENCE DIAGRAM