



Department of Electrical Engineering and Computer Science

Object Oriented Programming – ECCE 230

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Project

Banking Accounts Management System



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I. Introduction

Due to the increase of the demands on opening bank accounts, many banks offered a variety of features that people can experience using the applications that the bank offers to its customers such as: paying their fees, transferring to utilities and many other interesting things that they can do. Our team offered a fully functional object-oriented banking system that works along with the aims of the banks.

The project aims to create an easy way to enable the customer to see all his details and transactions in a single application. Which contains a system that gathers all the features that the user needs in a single application.

The paper outlines the methods used to organize, administer, and display our application. This report details the challenges encountered throughout the application's development. The report starts off with describing the project's goal in accordance with the guidelines. Problem analysis is then presented. After a thorough explanation of the procedure, the source code is then displayed. Additionally, the document contains screenshots of the code and the findings of the testing.

II. Objective

The aim of this project is to build a piece of software that enhances the level of customer service provided by ABBank to each individual customer. This application complements existing Bank procedures rather than replacing them to improve user experience.

III. Problem Statement

Nowadays, people's time is not managed well and with their jobs and daily tasks they can't even find time of their selves. Many banks now provide their customers with services using their phones. Instead of bringing the customer all the way to the branch and wasting his time, our application offers a variety of services to their customers in a single application.

IV. Proposal Approach

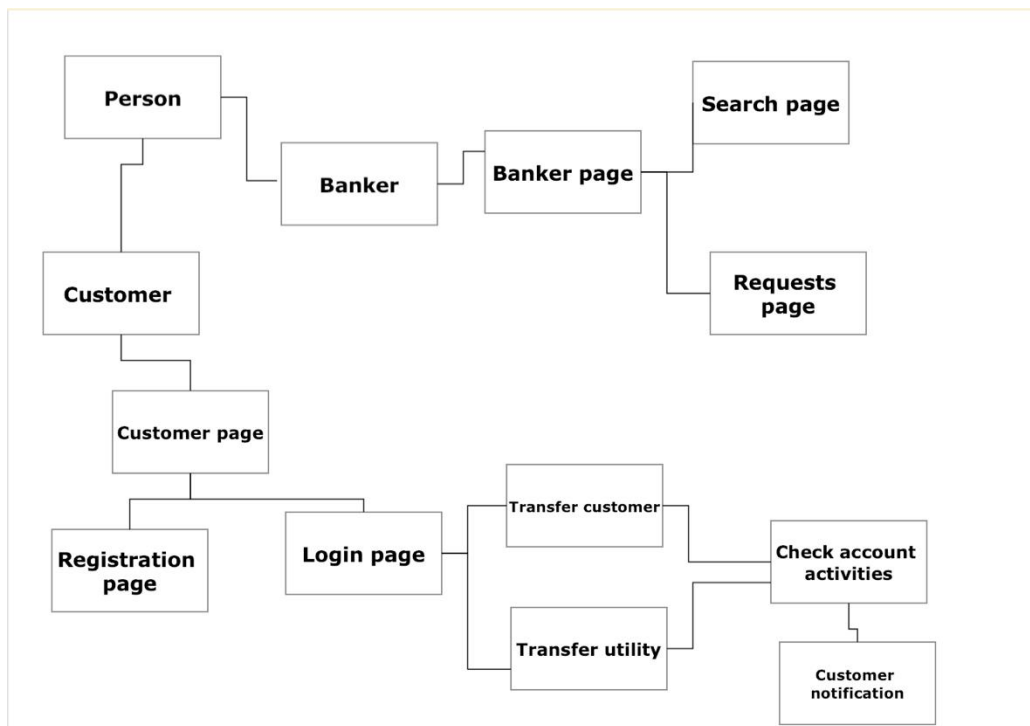
I. Planning

Before we started coding, we met as a group and discussed the ways that we will use to achieve the best results. Our main goal is to perform a complete convenience to the customer, we ensured that our application is very simple and easy to manage which helps all the people no matter whether they are expert in using such applications or systems.

II. Communication

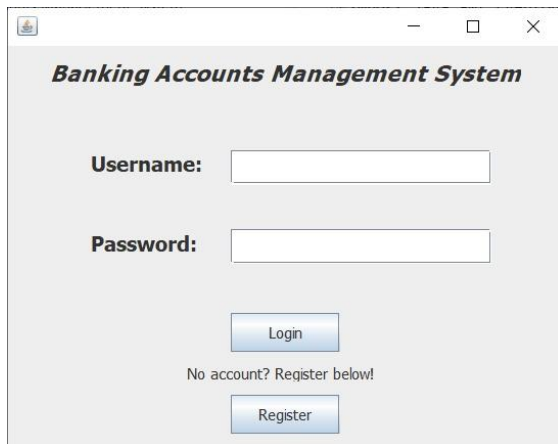
To work more productively as a team on the project, the team utilized a variety of tools and programs. Our preferred method of communication was WhatsApp because it made for quick and effective interactions. We distributed files and documents via university email as well. We additionally hold regular meetings on campus and via the Zoom app to keep track of all the work. By enabling us to collaborate and support one another in all our tasks, not just one, these communication techniques helped us raise the caliber of our output.

V. Implementation and Class Diagram



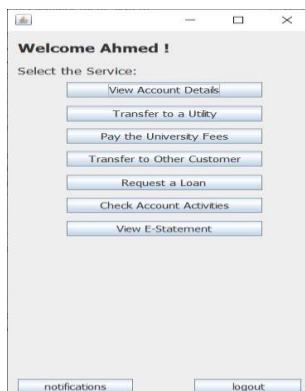
VI. Testing Results

We assured that our Banking System works smoothly by going through the debugging and running our program. As for running the program, first a login page shows up that can be used by the banker and the customer. If any of the credentials were incorrect a message shows up and instructs the user to re-enter the credentials and delete the already written username and password.



The image shows a web application window titled "Banking Accounts Management System". It features a login form with two input fields: "Username:" and "Password:". Below these fields is a "Login" button. Underneath the "Login" button is the text "No account? Register below!" followed by a "Register" button. The window has standard Windows-style window controls (minimize, maximize, close) in the top right corner.

When the login details of a customer are put in correctly, the customer page shows up welcoming the user and offering a variety of services. The services are as follows:

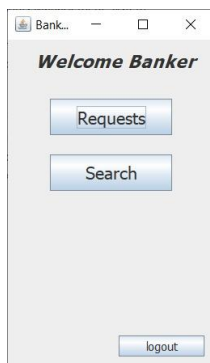


The image shows a web application window titled "Welcome Ahmed !". Below the title is the text "Select the Service:". There are seven buttons stacked vertically: "View Account Details", "Transfer to a Utility", "Pay the University Fees", "Transfer to Other Customer", "Request a Loan", "Check Account Activities", and "View E-Statement". At the bottom of the window, there are two buttons: "notifications" and "logout". The window has standard Windows-style window controls in the top right corner.

- **View Account Details:** The customer gets to view all their personal details and balance etc.
- **Transfer to a Utility:** This option gives the customer a way of transferring money to known utilities such as Electricity and Water, Etisalat, Du etc.
- **Pay the University Fees:** This service allows the user to pay depending on what's needed since the amount is specified by the user.
- **Transfer to Other Customer:** The user gets to choose another customer's ID they know and sends them an amount of choice.
- **Request a Loan:** This service allows the user to request a loan from the bank which is then approved or declined by the banker.
- **Check Account Activities:** This option allows the user to check past activities by having the option to choose a start and end date.

- View E-Statement: A monthly electronic bank statement that shows the user their account details and summary of what has happened in the past 1, 2, or 3 months.
- Notifications: Read and unread notifications to give the user awareness of any activities that could have occurred in his absence.
- Logout: This function allows the user to log out of his account.

However, should the user input the correct credentials of the banker, the banker page shows up and offers three options which are:



- Requests: The banker gets to view pending requests by the customers and registration requests gets the choice of approving or declining them.
- Search: The banker gets to enter a customer ID of choice and either view their transaction history or their account details.
- Logout: An option used to log out of the banker account.

If the user was neither a banker nor a customer a register button is there to allow the user to create an account using the following details:

Registration Form

Account Registration

Name:

Username:

Password:

Date of Birth:

Salary:

Balance:

Account Type:

Email Address:

Phone Number: + -

- Name
- Date of Birth: The date of birth works by a calendar button to ensure correct order.
- Email Address: The user must use an email that contains “@” and a dot otherwise an error message dialog will show stating that the email is incorrect and to try again.
- Phone Number: The phone number must be of 7 digits otherwise an error message box shows up instructing the user to re-enter the correct phone number.
- Salary
- Account Type
- Username: The username must be unique otherwise a message box shows up instructing the user to use a unique username.
- Password
- Balance
- Customer ID

After all fields are filled the customer the register button is available to click, and the request is sent to the banker for approval.