Banking Interface

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Abstract

This project proposal is about the requirements and the design used for planning a banking interface that allows bank account holders to access their account(s) using a system that provides security and allows common banking transactions along with certain added features all made available through a simple and clearly presented visual screen interface that is easy to read and to understand by the user. This provides account holders a way to do business at when it is most convenient to their busy schedule.

1. Introduction

The banking interface is designed to give users a secure, fast, convenient, and easy way to access their bank account(s) at any given time using a unique user name and password to help insure only an authorized user can conduct transactions. The planning of this system will have security and protection of the user's monetary assets and privacy as a top priority.

The screen interface gives the user the ability to do withdrawals, deposits, transfers from one account to another, and it provides a fast and easy way to check and print the available balance for any account that the user has access to.

This interface will provide an easy-to-understand visual screen presentation with the goal of giving the user an easy-to-understand presentation to provide a positive experience for conducting banking transactions.

1.1. Background

The system will be implemented as a Windows Presentation Foundation (WPF) (.NET Framework) console application using the C# programming language. The design of the banking interface will provide easy access to banking transactions that will function through a user interface (UI) screen. For security the system will provide access to users (bank account holders) that will require a user provided user name and password. This project choice is based upon the real-world functionality and practical application of such a project.

1.2. Impacts

A well thought out banking interface system can offer a means of saving users time and provides the added convenience of anytime access to their cash assets and allowing users to make banking transactions.

1.3. Challenges

How to best implement allowing users to change their password if needed and also allowing multiple users to access the same account.

2. Scope

The banking interface has an attractive, easy to understand appearance that provides a simple and straightforward screen clearly showing the available transaction options. The system has a way to set user passwords, set up accounts, close accounts, make deposits, withdrawals, transfer between accounts, adjust the account balance according to any given transaction as well as the ability to check and print the balance of any account. It also prints a receipt for any transaction. The system provides security and safety that protects the user's information and account assets.

2.1. Requirements

The banking interface needs to have an aesthetically appealing screen interface that is simple, easy to understand, and provides the following capabilities and features: The ability to open an account, close an account, make a deposit, make a withdrawal, transfer between accounts, adjust each account balance per user transaction, check available account balance, and the ability to set a secure password. The system will provide security for the user's privacy, user account information, and account holdings.

Use Case ID	Use Case Name	Primary Actor	Complexity	Priority
1	Withdraw amount from bank account	Account holder	Med	1
2	Deposit amount into account	Account holder	Med	1
3	Transfer amount from one account to another	Account holder	Med	1

TABLE 1. USE CASE TABLE

2.1.1. Functional.

- System will allow user to set up user account with user name and password.
- System will prompt user for user name and password.
- System will verify the the user name and password for secure login.
- System will present any available accounts to the user.
- System will allow user to open an account.
- System will allow user to close an account.
- System will allow user to deposit to an account.
- System will allow user to withdraw from an account.
- System will allow user to transfer between accounts.
- System will adjust account balance per each transaction.
- System will print receipt showing any and all transactions.
- System will print available account balance.
- System will allow user to cancel a transaction at any time before completion.
- System will allow user to log out of user account.

2.1.2. Non-Functional.

- Security – user password will be encrypted.
- System will have text boxes for data entry.
- Screen interface will be attractive, easy to read, and easy to understand.
- System will be maintainable.
- System will be testable.
- System will be reliable.

2.2. Use Cases

Use Case Number: 1
Use Case Name: Withdraw from account
Description: A user logs into their user account, withdraws an amount from their bank account, views a receipt printed for the transaction, and logs out of their user account.

1) User logs in to user account with user name and password.
2) User select option to withdraw from an account.
3) User selects account to withdraw from.
4) User enters amount to withdraw.
5) User confirms transaction.
6) User selects to view receipt showing transaction and updated account balance.
7) User selects to log out of user account.

Termination Outcome: The user now has withdrawn the selected amount from their account.

Use Case Number: 2
Use Case Name: Deposit to account
Description: A user logs into their user account, deposits an amount into their bank account, views a receipt printed for the transaction, and logs out of their user account.

1) User logs in to user account with user name and password.
2) User select option to deposit to an account.
3) User selects account to deposit to.
4) User enters amount to deposit.
5) User confirms transaction.
6) User selects to view receipt showing transaction and updated account balance.
7) User selects to log out of user account.

Termination Outcome: The user now has deposited the selected amount to their account.

Use Case Number: 3

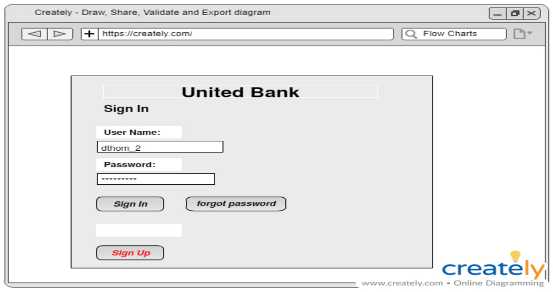
Use Case Name: Transfer from one account to another

Description: A user logs into their user account, transfers an amount from bank account to another account, views a receipt printed for the transaction, and logs out of their user account.

1) User logs in to user account with user name and password.
2) User select option to transfer from one account to another account.
3) User selects account to transfer from.
4) User selects account to transfer to.
5) User enters amount to transfer.
6) User confirms transaction.
7) User selects to view receipt showing transaction and updated account balance.
8) User selects to log out of user account.

Termination Outcome: The user now has transferred the selected amount from one account to another account.

2.3. Interface Mockups



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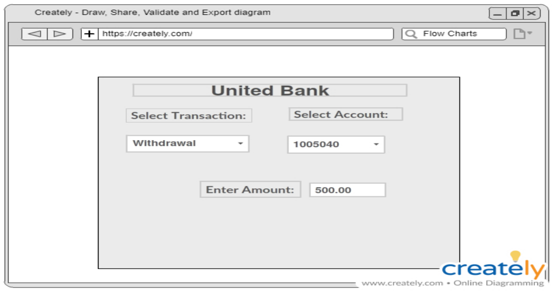
United Bank

Sign In

User Name: dthom_2

Password: ---------

Figure 1. Bank Interface Login



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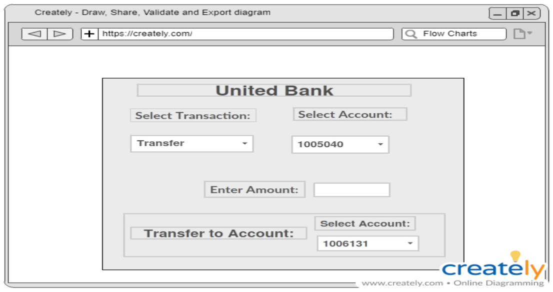
Select Transaction: Withdrawal

Select Account: 1005040

Enter Amount: 500.00

Figure 2. Bank Interface Withdrawal



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Select Transaction: Transfer

Select Account: 1005040

Enter Amount:

Transfer to Account:

Select Account: 1006131

Figure 3. Bank Interface Transfer

3. Project Timeline

Go back to your notes and look up a typical project development life cycle for the Waterfall approach. How will you follow this life cycle over the remainder of this semester? This will usually involve a chart showing your proposed timeline, with specific milestones plotted out. Make sure you have deliverable dates from the course schedule listed, with a plan to meet them (NOTE: these are generally optimistic deadlines).

4. Project Structure

At first, this will be a little empty (it will need to be filled in by the time you turn in your final report). This is your chance to discuss all of your design decisions (consider this the README's big brother).

4.1. UML Outline

Show the full structure of your program. Make sure to keep on updating this section as your project evolves (you often start out with one plan, but end up modifying things as you move along). As a note, while Dia fails miserably at generating pdfs (probably my fault), I have had much success with png files. Make sure to wrap your images in a `figure` environment, and to reference with the `ref` command. For example, see Figure **??**.

4.2. Design Patterns Used

Make sure to actually use at least 2 design patterns from this class. This is not normally part of such documentation, but largely just specific to this class – I want to see you use the patterns!

5. Results

This section will start out a little vague, but it should grow as your project evolves. With each deliverable you hand in, give me a final summary of where your project stands. By the end, this should be a reflective section discussing how many of your original goals you managed to attain/how many desired use cases you implemented/how many extra features you added.

5.1. Future Work

Where are you going next with your project? For early deliverables, what are your next steps? (HINT: you will typically want to look back at your timeline and evaluate: did you meet your expected goals? Are you ahead of schedule? Did you decide to shift gears and implement a new feature?) By the end, what do you plan on doing with this project? Will you try to sell it? Set it on fire? Link to it on your resume and forget it exists?