

ATM Project Report

Submission Date: Friday, September 6th 2024

Instructor: Ivor Cizmok

Developed by: Justin Verville

Table of Contents

- I. Project Requirements
- II. User Guide
- III. Project Diagram
- IV. Changelog

Project Requirements

Client has requested a banking app with the following features

- An administrator login with the provided credentials
- Administrative menu with the options to Add a new user, Delete a user, Plot account balances and Exit to the login menu
- A menu with options to Check Account Balance, Deposit, Withdrawal, Deposit, Change PIN and Exit
 - When withdrawing cash, maximum of \$1,000 per Tx and only in multiples of 10
 - Transactions must be validated to make sure the account balances are insufficient
 - Error codes must be produced when errors are encountered.

User Guide

When you run the application, please ensure that you have the document "accounts.txt" in the same file as the python script, this is where the Usernames, PINS, Balances and Roles will be stored.

When you press the run button you will be presented with the login screen, log in with your desired credentials. I have included the accounts you requested in the project sheet.

When you login to the program with the administrative account you will be presented with a menu with the options to View all accounts, Create an account, Delete an account, Plot account balances and Exit

View all accounts: Displays the account information listed in accounts.txt

Create an account: Allows you to create an account, you must provide a username, a 4 digit pin the amount of the initial deposit and specify the role you want them to have access to in your system, I highly suggest creating a new Admin account and deleting the default Admin account for security purposes.

****NOTE:** Entries are case sensitive. ex: AdminOne is not the same as adminone**

Delete Account: Enter the username of you wish to delete and it will remove it from accounts.txt

Plot Account Balances: Provides a bar chart displaying the values in each users account side by side.

Exit: Exits the administrative menu and re-opens the login screen to switch to a different account.

Regular User Menu

When you log in to the application as a regular user you are presented with the following menu options

Check Balance: Allows you to check your current account balance

Deposit Money: Allows you to deposit your money into your account

Withdrawal Money: Allows you to withdrawal a maximum of \$1,000 per transaction in multiples of \$10
ex: you can withdrawal \$100 but not \$102

Change PIN: Allows you to change your four digit PIN number

NOTE - This requires your original PIN your new PIN and confirmation of your new PIN.

Exit: Closes the program

1. Created a login window

- login window checks against list of usernames and PIN's
- Unsuccessful login returns error message, successful login kills the login window and passes off to the menu function

2. Created a main menu

- created a main menu with various functions required on the app when a regular user logs in.

**** Updated accounts.txt data structure****

format is now USERNAME,PIN,BALANCE to store account balances as the last value, added .00 to store data as a float instead of an int since we are messing with currency

- completed check balance function

- updated validate login function to accept the balance value

- Added global variable to store the logged in user, encountered error once the user was logged in it got rid of which user was logged in so had to update

- updated functions to check global username

In data structure was using , in my .split function to differentiate different values. I updated it to use * instead of , to avoid errors*

- updated check balance to accept balances with commas instead of returning an error also had to update deposit function to handle commas

- Created withdrawal function

- Created change PIN function

- Updated PIN function to ask for current pin and confirm new pin before updating.

2024-09-04

Implementing administrative features today

- added a role system to accounts.txt format is now USERNAME*PIN*BALANCE*ROLE

- updated the login validation function to flag accounts as admin if they have the role

- added view active accounts function and UI

- added account creation function and UI

- added account delete function and UI

- added plot account balances function

- changed withdraw money function to include the \$1,000 limit and the stipulation of only taking out multiples of 10 and added error messages if conditions not met

- added nested function to pop the login window back up when the admin clicks exit

ATM MACHINE

Files

I - File for `USERNAMES` and `PINS`

II - Administrator Login feature

Features

Menu Options

- I. Account Balance
- II. Withdraw
- III. Deposit
- IV. Change PIN
- V. Exit

Administrative Options

- I. Add new user
- II. Delete user
- III. Plot account balances
- IV. Exit

Rules

- User must enter their `USERNAME` and `PIN` to log into their account before performing a tx
- Must include error messages and checks to ensure values entered are numbers and not letters
- Validate Tx to make sure the account balances are sufficient
- Max withdrawal is \$1,000 per transaction. message if attempted withdrawal over 10k
Can only transact in multiples of 10, no daily maximum amount

Day I:

Create Log in UI

Create Log in function

Create UI and function for:

Account Balance

Deposit

Withdrawal

Change PIN

Exit

Day II:

Implement Admin Account

Create UI and function for:

Add user

Delete User

Plot account balances

Exit

Implement withdrawal limits and multiples of 10