

Banat Banking – C++ Project

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1. Student Tasks

1.1 Duca Lorenzo Cristian

Task: User Management System

- Create and manage the user database.
- Implement user registration and login functionalities.
- Associate and manage wallet addresses for each user.
- Handle wallet balance tracking and update on transactions.

1.2 Hilani Ahmad

Task: Banking Features and Utilities

- Add money to user wallet balances.
- Enable peer-to-peer transactions between users.
- Generate and display transaction notifications.
- Create a bonus mini-feature: a random number guessing game.

2. Data Structures Used by the Team

The following classes will be used:

- **User:** `std::string username, std::string password, std::string walletAddress, double balance`
- **Transaction:** `std::string senderAddress, std::string receiverAddress, double amount, std::string message, Date timestamp`
- **Date:** `int day, int month, int year`

3. File Structure

The following files will be used:

- `users.txt`
A file where registered user data will be stored in the format:
`<username> <password> <walletAddress> <balance>`
- `transactions.txt`
A file where all transaction records will be stored:
`<senderAddress> <receiverAddress> <amount> <message> <date>`
- `notifications.txt`
A file where notifications for users will be stored:
`<walletAddress> <notification_message>`

4. Interacting with Executables

Two applications will be available for this system:

Application 1 – User Management (Cristian)

- `./user_app.exe register <username> <password>`
- `./user_app.exe login <username> <password>`
- `./user_app.exe view_balance <username>`

Application 2 – Banking Features (Ahmad)

- `./banking_app.exe add_money <username> <amount>`
- `./banking_app.exe send <senderUsername> <receiverWallet> <amount> <message>`
- `./banking_app.exe view_notifications <username>`
- `./banking_app.exe guess_game <username>`

To be continued...