CS6400: Individual Project Proposal

Online Banking System(Revised)

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1 Application

I tend to work on an online banking system. In the banking system, there are two kinds of users. One is ordinary customers, and the other is operating tellers. Online banking will have functions like transfer between accounts and users, wire transfer, purchase foreign exchange and recommended purchase of wealth management products etc. Some of the functions can be operated by the user, like transfer between accounts and different users. But others need to be approved by the teller, for example, wire transfer and foreign exchange transfer.

I hope to make this banking system look like a real one as much as possible.

2 Functionality

The application serves both ordinary users and operational tellers will be able to perform the following functions:

For ordinary users:

1.**Registration**: Allow ordinary users to create accounts. Creating accounts will require some personal information from users, like passport, residential address, visa. And the application needs to be approved by the teller. One user can register 2 accounts mostly, one is deposit account and the other is credit account.

2.**Login**: Allow users to log in: Users will have to use a username and password to login into their accounts. The username should be unique for each other.

3.**Transfer between accounts**: Make transfer between accounts and users. Users can transfer their money between their accounts, Or transfer money to other users with an account number.

4.**Wire Transfer**: Make Outgoing Wire Transfers. This kind of request needs to be approved by the teller. The user needs to fill in the wire transfer application, including the currency type and quantity, the payee's name and address, the payee's account number at the bank, and the payee's bank name, SWIFT code, or address.

5.**Loan application**: Make loans application. The application needs to be approved by the operator.

6.**Detailed Bank statement**: Users can generate daily/monthly/yearly reports on spending and earnings for ordinary users. Also, every transaction will be recorded and assigned a tag. So users can see the distribution of their various expenses. More specifically, Users can:
View spending distribution
View income sources
Find transactions of a specific genre
View details of their loan
Select date to generate bank statement

7.**Rating**: An account's credit can be rated with account bills.

For operational tellers:

1. Allow account creation. Users will submit account application requests with their personal information. If a teller thinks the account application meets the requirement, the teller will approve and initiate it.

2. Allow wire transfer. Users' wire transfer requests need to be approved by the teller.

3. Review loan application and make operations over the application.

3 Enhanced Entity Relation(EER) Diagram and relational schema

The entity types in my application include *system user*(has subclass *user* and *operator*), *account*, *transactions*, *wire transfers* and *loan*. All the details can be seen in fig1.

The relational schema is shown in fig2.

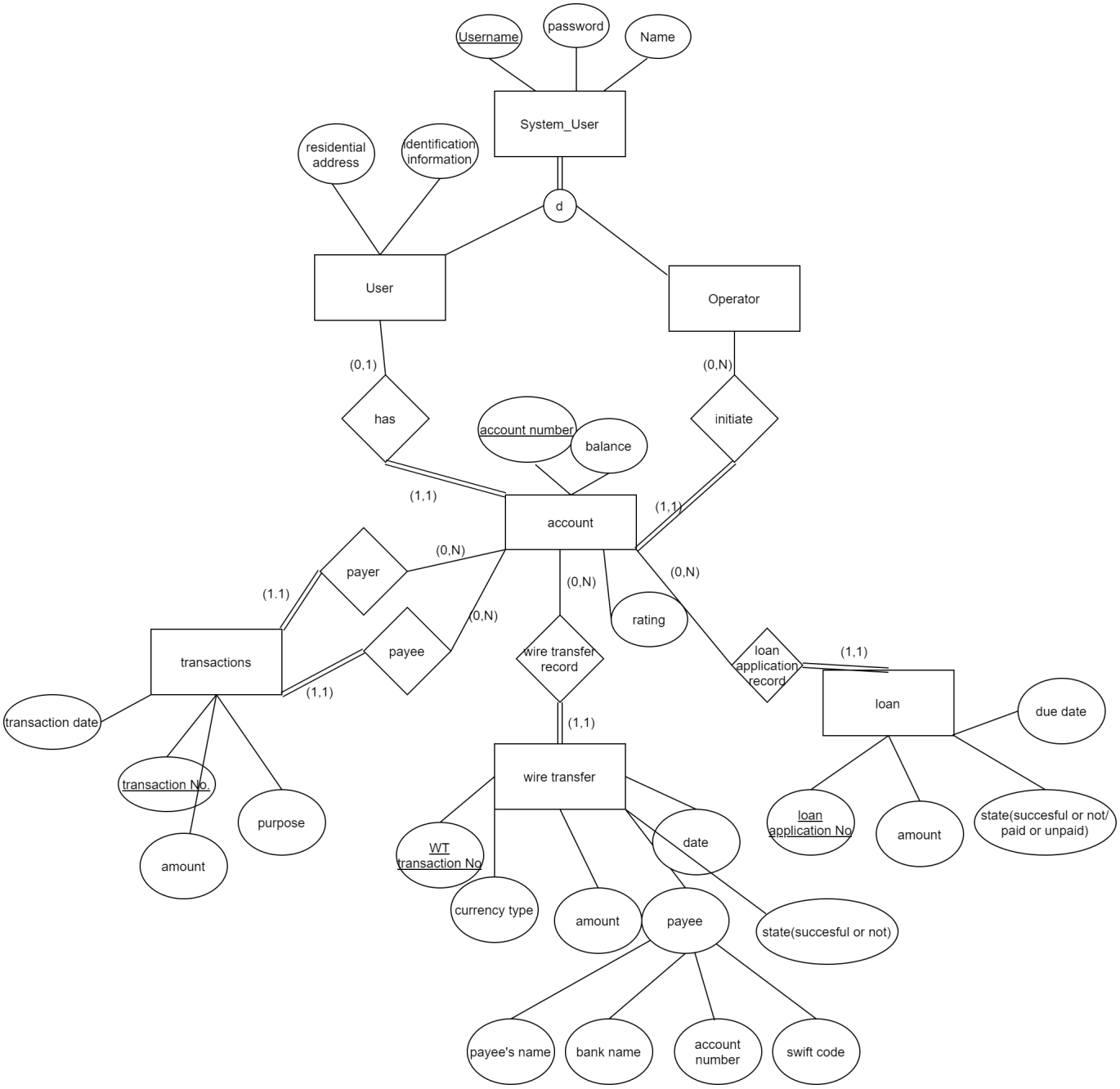

Figure 1: Interface: User log in

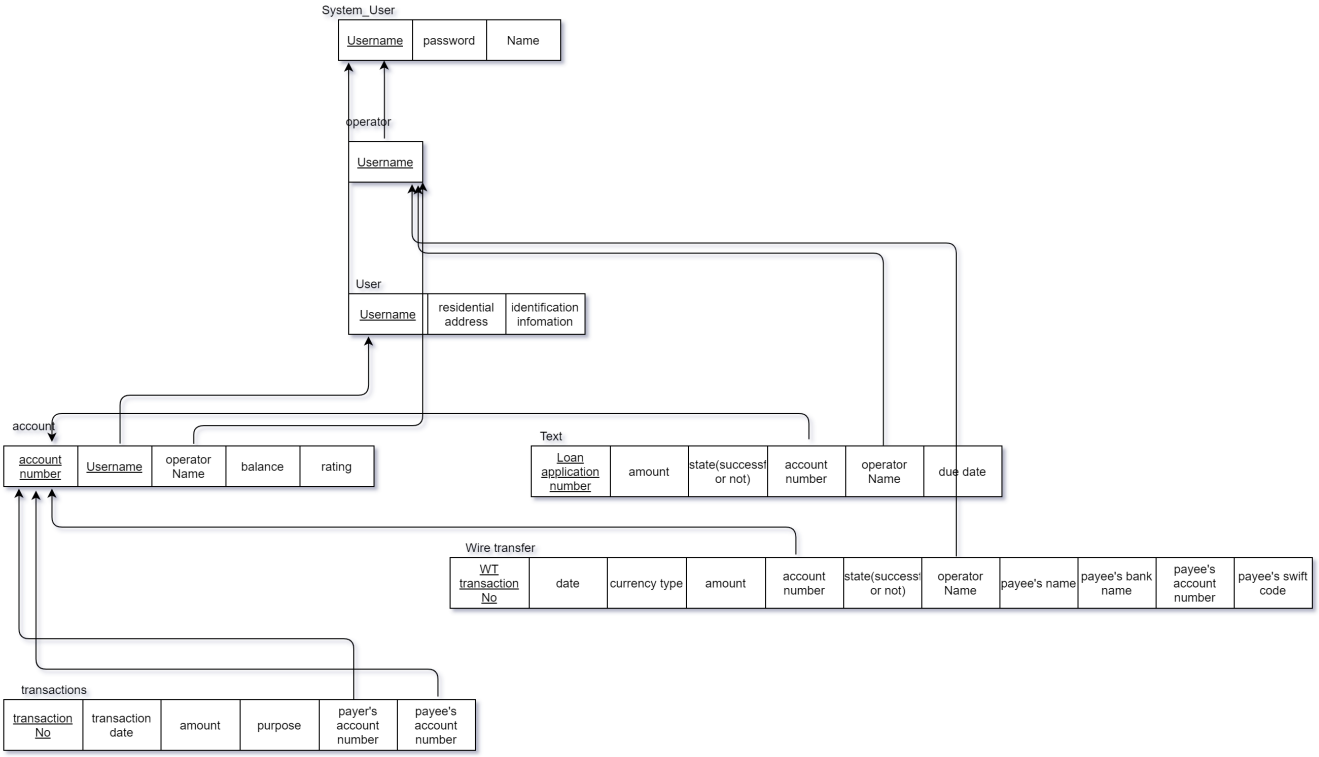

Figure 2: Interface: User log in

4 Implementation

Data: Data will be randomly generated by generators. Attributes such as username and password and deposit amount will be taken from random generators on the internet.

DBMS: MySQL

Language: Python3+Django

5 Interface Design

The interface will consist of a front end HTML web page which generated by Django tool. The page is conceived to look like following figures.

In fig3, Users can login through it(or create an account). Fig4 shows some fundamental functions in an online banking system. And fig5 shows personal banking details of a User.

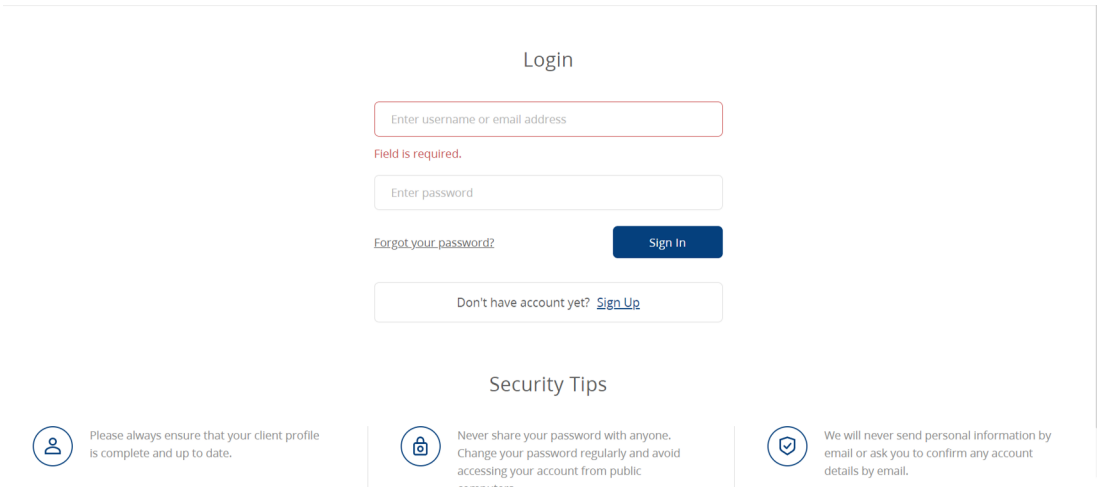

Figure 3: Interface: User log in

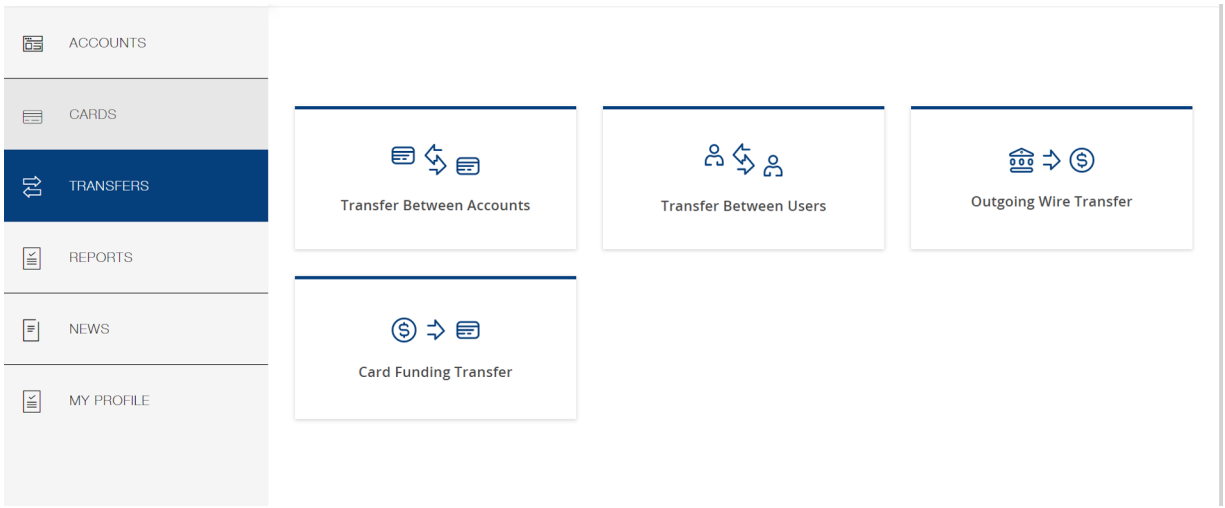

Figure 4: Interface: User Functionality

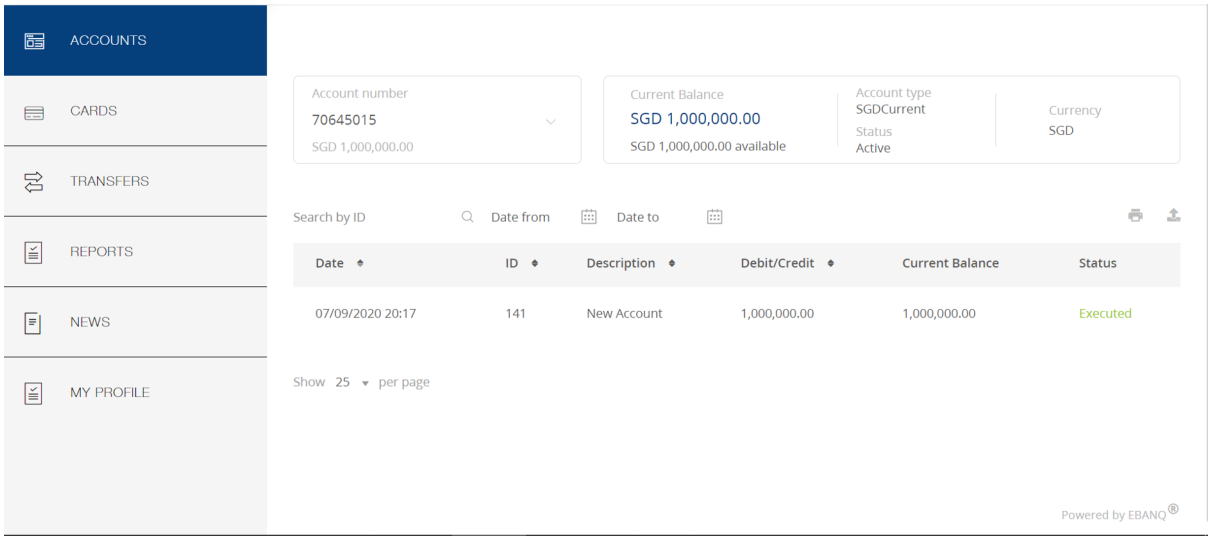

Figure 5: Interface: User's account

6 Scope

The big goal is to make this application looks like a real personal banking system. I will achieve the fundamental functions which have been listed in part two functionality.

Moreover, I hope to improve the interface and make it more comfortable in vision. Also more friendly in human-computer.

By the way, many online banks directly have links to stocks and fund information, and can directly participate in transactions. It can also be considered when I implemented the system.