

AUST CSE 4126 fall 2017 - Project Report

Sudo Bank Management System

With Remote Branches Facilities

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1. Introduction

Our project is about a sudo bank which has two branches along with a head office. Our aim is to make a management system for the bank. As we all know bank is very useful for our day to day life but all of our banks in Bangladesh are not automated. So, there is huge opportunity in this sector to improve. That's why we decided to make this project. Before doing our project we make a study on the management system of "Pubali Bank Ltd." & "Brac Bank Ltd."

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2. Sites and Tables

There are three different sites in our project. "Dhaka", "Chittagong" & "Sylhet". We assume that "Dhaka" site is our main branch and "Chittagong" & "Sylhet" branches are our sub branches. Relational schemas for each site are given below

2.1. "Dhaka" Site

- accTable_dhk(anum, amount, interest, acctype, withnum, atmno)*
- userTable_dhk(unum, unname, uaddress, uphone, unid, upass, uaccno, region)*
- empTable_dhk(enum, eaccno, salary)*

2.2. "Chittagong" Site

- accTable_ctg(anum, amount, interest, acctype, withnum, atmno)*

- userTable_ctg(unum, unname, uaddress, uphone, unid, upass, uaccno, region)*
- empTable_ctg(enum, eaccno, salary)*

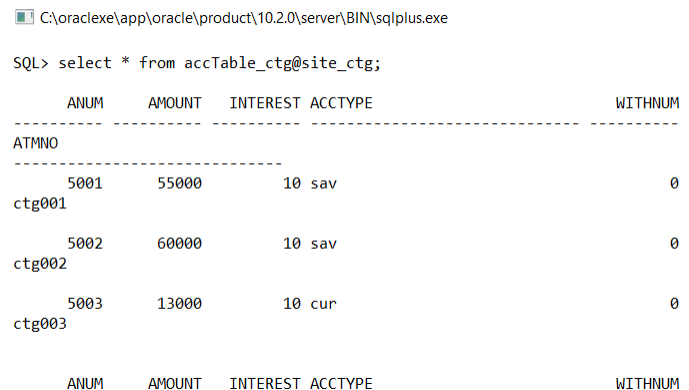
2.3. "Sylhet" Site

- accTable_syl(anum, amount, interest, acctype, withnum, atmno)*
- userTable_syl(unum, unname, uaddress, uphone, unid, upass, uaccno, region)*
- empTable_syl(enum, eaccno, salary)*

3. Database links

Here we use three links for our project. They are given below

- "site_dhk" for connecting with "Dhaka"
- "site_ctg" for connecting with "Chittagong"
- "site_syl" for connecting with "Sylhet"



```
C:\oracle\app\oracle\product\10.2.0\server\BIN\sqlplus.exe
SQL> select * from accTable_ctg@site_ctg;
  ANUM      AMOUNT  INTEREST ACCTYPE      WITHNUM
-----
ATMNO
-----
      5001      55000        10 sav              0
ctg001
      5002      60000        10 sav              0
ctg002
      5003      13000        10 cur              0
ctg003
```

ANUM	AMOUNT	INTEREST	ACCTYPE	WITHNUM
5001	55000	10	sav	0
5002	60000	10	sav	0
5003	13000	10	cur	0

Figure 1. Example of accessing remote site database

At first we created some link for each site from each host such as "site_xxx".

```
create database link site_syl
connect to system identified by "redo125679"
using ' (DESCRIPTION =
        (ADDRESS_LIST =
          (ADDRESS = (PROTOCOL = TCP)
                    (HOST = 192.168.0.105)
                    (PORT = 1521))
        )
        (CONNECT_DATA =
          (SID = XE)
        )
      ) '
;
```

Figure 2. Code for the link "site_syl"

Then we used those links for accessing datas from one site to another.

```
drop database link site_ctg;

create database link site_ctg
connect to system identified by "12345"
using ' (DESCRIPTION =
        (ADDRESS_LIST =
          (ADDRESS = (PROTOCOL = TCP)
                    (HOST = 192.168.0.106)
                    (PORT = 1521))
        )
        (CONNECT_DATA =
          (SID = XE)
        )
      ) '
;
```

Figure 3. Code for the link "site_ctg"

4. Overview of the System

This is a sudo bank management system. It will be helpful to keep track of every little details about the activity in the bank. Here we are implementing a bank having 3 different branches one of which is the main branch. We are dividing the data into 3 parts according to the locality of the owner of the bank accounts. In this system there can be two types of accounts. One is current and the other one is savings. The owners of the accounts can deposit money and withdraw as well. But there should be at least 500 taka credit after withdrawing some amount from the account otherwise s/he cannot withdraw the requested money. There will be some trigger tables also for tracking the activities of any account.

The users also can use the account for Bkash, Uber and Pathao payment. They can transfer money from one account to another account. They can also withdraw money using the ATM card provided to them. No matter how they spend the money or where they deposit the money, their bank account information will be kept in a single site where they have opened the account.

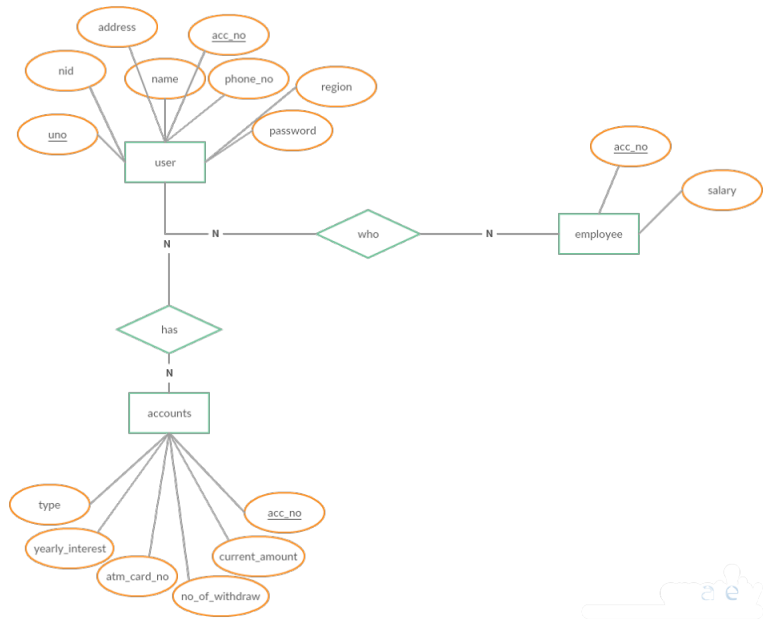


Figure 4. ERD diagram

5. Packages, Functions, Procedures

5.1. Dhaka Site

5.1.1. Package.

- **userTableAccessAtDhk**
 - Description: Contains two procedures to read the information of the users.
- **loginControlAtDhk**
 - Description: Contains two procedures to read the information of the users.
- **TransactionsAtDhk**
 - Description: Contains three procedures to perform the regular transactions of Banking System.
- **UtilityDhk**
 - Description: Contains three procedures to pay the bills of uber, pathao and to send money via bkash.

5.1.2. Procedure.

- **openAccAtDhk**

- Parameter: accNum, amount, interest, acctype, atmnum, un-ame,uaddress,upone,uid,upass
 - Description: Takes all the information of the user and the account to open a new account. First opens a account and then adds the user to the user table with the corresponding account holder.
 - Exception: ErrorAmount, negAmount
- **accStat**
 - Parameter: accno
 - Description: Gets user account number as parameter and reads all the information about the corresponding user account.
 - Exception: notFoundex
- **accStatatm**
 - Parameter: atmno
 - Description: Gets number of the atm card as parameter and reads all the information about the corresponding atm card.
 - Exception: notFoundex
- **loginAcc**
 - Parameter: uaccno, upass
 - Description: Gets user account number and user password as parameter to login.
 - Exception: noUser, wrongPass
- **loginAccATM**
 - Parameter: atmno, upass
 - Description: Gets number of the atm card and user password as parameter .
 - Exception: noUser, wrongPass
- **withdraw**
 - Parameter: ano, amoun
 - Description: Gets user account number and amount for withdrawal money.
 - Exception: neg, Credit, nouser
- **deposit**
 - Parameter: ano,amoun
 - Description: Gets account number and amount for depositing any amount of money .
 - Exception: neg, nouser
- **Transfer**
 - Parameter: senano, amoun, recano

- Description: Gets sender account number, amount and receiver account number for completing transfer procedure .
- Exception: neg, nouser, nosenuser, norecuser

- **bkashDhk**

- Parameter: uphone, ano, amount
- Description: It takes senders account number receivers mobile number and amount to pay the bill of bkash if there is any account corresponding to the phone number .
- Exception: neg, Credit, nouser

5.2. Chittagong Site

5.2.1. Package.

- **userTableAccessAtCtg**

- Description: Contains two procedures to read the information of the users.

- **loginControlAtCtg**

- Description: Contains two procedures to read the information of the users.

- **TransactionsAtCtg**

- Description: Contains three procedures to perform the regular transactions of Banking System.

- **UtilityCtg**

- Description: Contains three procedures to pay the bills of uber, pathao and to send money via bkash.

5.2.2. Procedure.

- **openAccAtCtg**

- Parameter: accNum, amount, interest, acctype, atmnum, un-ame,uaddress,upone,uid,upass
- Description: Takes all the information of the user and the account to open a new account. First opens a account and then adds the user to the user table with the corresponding account holder.
- Exception: ErrorAmount, negAmount

- **accStat**

- Parameter: accno

- Description: Gets user account number as parameter and reads all the information about the corresponding user account.
 - Exception: notFoundex
- **accStatatm**
 - Parameter: atmno
 - Description: Gets number of the atm card as parameter and reads all the information about the corresponding atm card.
 - Exception: notFoundex
- **loginAcc**
 - Parameter: uaccno, upass
 - Description: Gets user account number and user password as parameter to login.
 - Exception: noUser, wrongPass
- **loginAccATM**
 - Parameter: atmno, upass
 - Description: Gets number of the atm card and user password as parameter .
 - Exception: noUser, wrongPass
- **withdraw**
 - Parameter: ano, amoun
 - Description: Gets user account number and amount for withdrawal money.
 - Exception: neg, Credit, nouser
- **deposit**
 - Parameter: ano, amoun
 - Description: Gets account number and amount for depositing any amount of money .
 - Exception: neg, nouser
- **Transfer**
 - Parameter: senano, amoun, recano
 - Description: Gets sender account number, amount and receiver account number for completing transfer procedure .
 - Exception: neg, nouser, nosenuser, norecuser
- **bkashCtg**
 - Parameter: uphone, ano, amount
 - Description: It takes senders account number receivers mobile number and amount to pay the bill of bkash if there is any account corresponding to the phone number .
 - Exception: neg, Credit, nouser

5.3. Sylhet Site

5.3.1. Package.

- **userTableAccessAtSyl**
 - Description: Contains two procedures to read the information of the users.
- **loginControlAtSyl**
 - Description: Contains two procedures to read the information of the users.
- **TransactionsAtSyl**
 - Description: Contains three procedures to perform the regular transactions of Banking System.
- **UtilitySyl**
 - Description: Contains three procedures to pay the bills of uber, pathao and to send money via bkash.

5.3.2. Procedure.

- **openAccAtSyl**
 - Parameter: accNum, amount, interest, acctype, atmnum, un-ame,uaddress,upone,uid,upass
 - Description: Takes all the information of the user and the account to open a new account. First opens a account and then adds the user to the user table with the corresponding account holder.
 - Exception: ErrorAmount, negAmount
- **accStat**
 - Parameter: accno
 - Description: Gets user account number as parameter and reads all the information about the corresponding user account.
 - Exception: notFoundex
- **accStatatm**
 - Parameter: atmno
 - Description: Gets number of the atm card as parameter and reads all the information about the corresponding atm card.
 - Exception: notFoundex
- **loginAcc**

- Parameter: uaccno, upass
 - Description: Gets user account number and user password as parameter to login.
 - Exception: noUser, wrongPass
- **loginAccATM**
 - Parameter: atmno, upass
 - Description: Gets number of the atm card and user password as parameter .
 - Exception: noUser, wrongPass
- **withdraw**
 - Parameter: ano, amoun
 - Description: Gets user account number and amount for withdrawal money.
 - Exception: neg, Credit, nouser
- **deposit**
 - Parameter: ano,amoun
 - Description: Gets account number and amount for depositing any amount of money .
 - Exception: neg, nouser
- **Transfer**
 - Parameter: senano, amoun, recano
 - Description: Gets sender account number, amount and receiver account number for completing transfer procedure .
 - Exception: neg, nouser, nosenuser, norecuser
- **bkashSyl**
 - Parameter: uphone, ano, amount
 - Description: It takes senders account number receivers mobile number and amount to pay the bill of bkash if there is any account corresponding to the phone number .
 - Exception: neg, Credit, nouser

6. Triggers

6.1. trigger_new_acc

- Description: Saves the account number and the time and date of creation of the account

6.2. trigger_new_user

- Description: Saves the user id and the time and date of register of the new user