PROJECT: <u>WALLET</u>

DATABASE MANAGEMENT SYSTEM

GROUP # 11

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Objective:

This project is about an app "WALLET" with which you can conduct transactions with friends and family by simply attaching a valid bank account to it. We have implemented many functions for the users so that they can easily keep track of their current balance in their account. Users are also able to see the amount of money they send individually to each user or they have options to see the total and average amount they send to people overall for each month of the year. Through the use of these functions, users are better able to visualize their spendings and keep track so that they don't over or under pay. This app makes it easier to pay your friends and family and helps avoid any transaction feed which most banks charge.

Problems Faced:

Some problems we faced initially were about choosing the proper tools and platforms to create our front-end, middleware, and back-end on. After numerous trial and error with different platforms, we decided to use myphpadmin to connect our database with our front-end which contained our html and php code.

Features:

- Users can keep track of their current balance, which gets updated instantly every time the user sends and receives money.
- Users can keep track of the total amount of money they send and receive.
- Users can also keep track of the average and total amount of money they send and receive based on each month.
- Users can also search for transactions based on email, phone number, the type of transaction and ssn.
-

(None of the tasks listed on the deliverable 3 document were missed)

SQL Commands to create tables:

- Table structure for table `bank_account`-

  CREATE TABLE `bank_account` (
   `BankID` double NOT NULL,
   `BANumber` double NOT NULL)

- Table structure for table `elec_address`-

  CREATE TABLE `elec_address` (
   `Identifier` varchar(30) NOT NULL,
   `Verified` int(1) NOT NULL)

- Table structure for table `email`-

  CREATE TABLE `email` (
   `EmailAdd` varchar(30) NOT NULL,
   `SSN` int NOT NULL)

- Table structure for table `from_table`-

  CREATE TABLE `from_table` (
   `RTid` int NOT NULL,
   `Identifier` varchar(30) NOT NULL,
   `Percentage` int NOT NULL)

- Table structure for table `has_additional`-

  CREATE TABLE `has_additional` (
   `SSN` int NOT NULL,
   `BankID` double NOT NULL,
   `BANumber` double NOT NULL,
   `Verified` int(1) NOT NULL)

- Table structure for table `phone`-

  CREATE TABLE `phone` (
   `PhoneNo` varchar(30) NOT NULL)

- Table structure for table `request_transaction`-

  CREATE TABLE `request_transaction` (
   `RTid` int NOT NULL,
   `Amount` int NOT NULL,
   `DATE_TIME` datetime NOT NULL,
   `Memo` varchar(30) NOT NULL,
   `SSN` int NOT NULL)

- Table structure for table `send_transaction`-

  ```
  CREATE TABLE `send_transaction` (
   `STid` int NOT NULL,
   `Amount` int NOT NULL,
   `DATE_TIME` datetime NOT NULL,
   `Memo` varchar(30) NOT NULL,
   `Cancel_Reason` varchar(30) DEFAULT NULL,
   `Identifier` varchar(30) DEFAULT NULL,
   `SSN` int NOT NULL)
  ```

- Table structure for table `user_account`-

  ```
  CREATE TABLE `user_account` (
   `SSN` int NOT NULL,
   `Name` varchar(20) NOT NULL,
   `PhoneNo` varchar(30) DEFAULT NULL,
   `Balance` int NOT NULL,
   `BankID` double DEFAULT NULL,
   `BANumber` double DEFAULT NULL,
   `PBAVerified` int(1) NOT NULL)
  ```

- Indexes for table `bank_account`-

  ```
  ALTER TABLE `bank_account`
   ADD PRIMARY KEY (`BankID`,`BANumber`),
   ADD KEY `BANumber` (`BANumber`) USING BTREE;
  ```

- Indexes for table `elec_address`-

  ```
  ALTER TABLE `elec_address`
   ADD PRIMARY KEY (`Identifier`);
  ```

- Indexes for table `email`-

  ALTER TABLE `email`
   ADD PRIMARY KEY (`EmailAdd`),
   ADD UNIQUE KEY `EmailAdd` (`EmailAdd`),
   ADD KEY `SSN_EM_FK` (`SSN`);

- Indexes for table `from_table`-

  ALTER TABLE `from_table`
   ADD PRIMARY KEY (`RTid`,`Identifier`),
   ADD KEY `IDENTIFIER_FROM` (`Identifier`);

- Indexes for table `has_additional`-

   ALTER TABLE `has_additional`
   ADD PRIMARY KEY (`SSN`,`BankID`,`BANumber`),
   ADD KEY `BANumber_HA_FK` (`BANumber`),
   ADD KEY `BID_BNO_HA_FK` (`BankID`,`BANumber`);

- Indexes for table `phone`-

  ALTER TABLE `phone`
   ADD PRIMARY KEY (`PhoneNo`);

- Indexes for table `request_transaction`-

  ALTER TABLE `request_transaction`
   ADD PRIMARY KEY (`RTid`),
   ADD KEY `SSN_RT_FK` (`SSN`);

- Indexes for table `send_transaction`-

  ```
  ALTER TABLE `send_transaction`
   ADD PRIMARY KEY (`STid`),
   ADD KEY `IDENT_ST_FK` (`Identifier`),
   ADD KEY `SSN_ST_FK` (`SSN`);
  ```

- Indexes for table `user_account`-

  ```
  ALTER TABLE `user_account`
   ADD PRIMARY KEY (`SSN`),
   ADD KEY `BANO_FK` (`BANumber`),
   ADD KEY `USER_PHONE_FK` (`PhoneNo`),
   ADD KEY `BID_BNO_UA_FK` (`BankID`,`BANumber`);
  ```

- Constraints for table `email`-

  ```
  ALTER TABLE `email`
   ADD CONSTRAINT `EMAIL_FK` FOREIGN KEY (`EmailAdd`)
  REFERENCES `elec_address` (`Identifier`) ON DELETE CASCADE
  ON UPDATE CASCADE,
   ADD CONSTRAINT `SSN_EM_FK` FOREIGN KEY (`SSN`)
  REFERENCES `user_account` (`SSN`)
  ON DELETE CASCADE ON UPDATE CASCADE;
  ```

- Constraints for table `from_table`-

  ALTER TABLE `from_table`
   ADD CONSTRAINT `IDENTIFIER_FROM` FOREIGN KEY (`Identifier`) REFERENCES `elec_address` (`Identifier`) ON UPDATE CASCADE,
   ADD CONSTRAINT `RTID_FROM` FOREIGN KEY (`RTid`) REFERENCES `request_transaction` (`RTid`) ON DELETE CASCADE ON UPDATE CASCADE;

- Constraints for table `has_additional`-

  ALTER TABLE `has_additional`
   ADD CONSTRAINT `BID_BNO_HA_FK` FOREIGN KEY (`BankID`,`BANumber`) REFERENCES `bank_account` (`BankID`, `BANumber`) ON DELETE CASCADE ON UPDATE CASCADE,
   ADD CONSTRAINT `SSN_HA_FK` FOREIGN KEY (`SSN`) REFERENCES `user_account` (`SSN`) ON DELETE CASCADE ON UPDATE CASCADE;

- Constraints for table `phone`-

   ALTER TABLE `phone`
   ADD CONSTRAINT `PHONE_FK` FOREIGN KEY (`PhoneNo`) REFERENCES `elec_address` (`Identifier`) ON DELETE CASCADE ON UPDATE CASCADE;

- Constraints for table `request_transaction`-

  ALTER TABLE `request_transaction`
   ADD CONSTRAINT `SSN_RT_FK` FOREIGN KEY (`SSN`) REFERENCES `user_account` (`SSN`) ON DELETE CASCADE ON UPDATE CASCADE;

- Constraints for table `send_transaction`-

  ALTER TABLE `send_transaction`
   ADD CONSTRAINT `IDENT_ST_FK` FOREIGN KEY (`Identifier`) REFERENCES `elec_address` (`Identifier`) ON DELETE SET NULL ON UPDATE CASCADE,
   ADD CONSTRAINT `SSN_ST_FK` FOREIGN KEY (`SSN`) REFERENCES `user_account` (`SSN`) ON DELETE CASCADE ON UPDATE CASCADE;

- Constraints for table `user_account`-

  ALTER TABLE `user_account`
   ADD CONSTRAINT `BID_BNO_UA_FK` FOREIGN KEY (`BankID`,`BANumber`) REFERENCES `bank_account` (`BankID`, `BANumber`) ON DELETE SET NULL ON UPDATE CASCADE,
   ADD CONSTRAINT `USER_PHONE_FK` FOREIGN KEY (`PhoneNo`) REFERENCES `phone` (`PhoneNo`) ON DELETE SET NULL ON UPDATE CASCADE;

SQL Commands to populate tables:

- Dumping data for table `bank_account`-

  INSERT INTO `bank_account` (`BankID`, `BANumber`)
  VALUES
  (1111, 1212),
  (3333, 2121),
  (4444, 2121),
  (5555, 3131),
  (4455, 3311);

- Dumping data for table `elec_address`

  INSERT INTO `elec_address` (`Identifier`, `Verified`)
  VALUES
  ('51515151', 0),
  ('57575757', 0),
  ('83838383', 0),
  ('97979797', 0),
  ('dmsd@njit.edu', 0),
  ('oj33@njit.edu', 0),
  ('ss4354@njit.edu', 1);

- Dumping data for table `email`-

  INSERT INTO `email` (`EmailAdd`, `SSN`)
  VALUES
  ('ss4354@njit.edu', 123456789),
  ('oj33@njit.edu', 987456321);

- Dumping data for table `from_table`-

  INSERT INTO `from_table` (`RTid`, `Identifier`, `Percentage`)
  VALUES
  (2222, '51515151', 100),
  (9762, 'ss4354@njit.edu', 100),
  (34667, '51515151', 100),
  (49189, 'oj33@njit.edu', 100),
  (56828, '51515151', 100),
  (85458, 'ss4354@njit.edu', 20);

- Dumping data for table `has_additional`-

  INSERT INTO `has_additional` (`SSN`, `BankID`, `BANumber`,
  `Verified`) VALUES
  (123456789, 1111, 1212, 0),
  (987456321, 4455, 3311, 0);

- Dumping data for table `phone`-

  INSERT INTO `phone` (`PhoneNo`)
  VALUES
  ('51515151'),
  ('57575757'),
  ('83838383'),
  ('97979797');

- Dumping data for table `request_transaction`-

  INSERT INTO `request_transaction` (`RTid`, `Amount`, `DATE_TIME`, `Memo`, `SSN`)
  VALUES
  (1111, 2500, '2020-04-02 10:38:02', 'REQUEST 3', 987456321),
  (2222, 3500, '2020-02-11 10:38:45', 'REQUEST 4', 123456789),
  (9762, 500, '2020-05-05 02:47:30', 'EMAIL REQUEST 2', 987456321),
  (16145, 500, '2020-05-05 02:47:04', 'NEW REQUEST 2', 987456321),
  (21169, 20000, '2020-05-05 03:15:59', 'REQUEST MAJOR ', 987456321),
  (34667, 2000, '2020-05-03 01:04:01', 'TEST REQUEST 1', 123456789),
  (49189, 100, '2020-05-03 01:13:23', 'EMAIL REQUEST 1', 123456789),
  (56828, 2000, '2020-05-02 04:02:41', 'REQUEST 1', 123456789),
  (70773, 200, '2020-05-02 02:25:28', 'REQUEST 1', 987456321),
  (79429, 500, '2020-05-05 02:46:49', 'NEW REQUEST 1', 987456321),
  (85458, 200, '2020-05-05 02:47:44', 'EMAIL REQUEST 3', 987456321);

- Dumping data for table `send_transaction`-

  ```sql
  INSERT INTO `send_transaction` (`STid`, `Amount`, `DATE_TIME`,
  `Memo`, `Cancel_Reason`, `Identifier`, `SSN`)
  VALUES
  (570, 100, '2020-05-05 02:41:51', 'NEW SEND 1', NULL, '97979797',
  987456321),
  (2242, 200, '2020-01-09 07:43:12', 'Test', NULL, '51515151',
  123456789),
  (28285, 200, '2020-05-03 01:09:47', 'TEST SEND 2', NULL,
  '51515151', 123456789),
  (54410, 2000, '2020-05-02 12:23:08', 'SEND 3', NULL, '57575757',
  123456789),
  (92353, 1000, '2020-05-05 02:46:29', 'NEW SEND 3', NULL,
  '97979797', 987456321),
  (96032, 100, '2020-05-05 02:44:35', 'EMAIL SEND 1', NULL,
  'ss4354@njit.edu', 987456321),
  (98184, 100, '2020-05-03 01:13:06', 'EMAIL SEND 1', '',
  'oj33@njit.edu', 123456789);
  ```

- Dumping data for table `user_account`-

  ```sql
  INSERT INTO `user_account` (`SSN`, `Name`, `PhoneNo`,
  `Balance`, `BankID`, `BANumber`, `PBAVerified`)
  VALUES
  (123456789, 'Shivam Sharma', NULL, 105899, 1111, 1212, 1),
  (987456321, 'Ojas Jain', '51515151', 89099, 4455, 3311, 1);
  ```

Screenshots of our program:

1. LOGIN PAGE

Login ID : Please Enter Login ID

Password : Please Enter Password

LOGIN

2. MAIN PAGE

Main Page

Name: Ojas Jain
Balance: 89099
BANK ID: 4455
BANK NUMBER: 3311

Account Info

Send Money

Request Money

Statements

Search Transactions

Sign Out

3. ACCOUNT INFO

ACCOUNT INFO

Name: Ojas Jain
SSN: 987456321
Balance: 89099
Phone Number: 51515151
BANK ID: 4455
BANK NUMBER: 3311
Email: oj33@njit.edu

CHANGE NAME	NAME	UPDATE NAME

CHANGE SSN	SSN	UPDATE SSN

ADD EMAIL	Email	ADD EMAIL

OR

REMOVE EMAIL	Email	REMOVE EMAIL

ADD PHONE NUMBER	Phone Number	ADD NUMBER

OR

REMOVE PHONE NUMBER	Phone Number	REMOVE NUMBER

ADD BANK ACCOUNT	Bank Account Number	Bank Number	ADD ACCOUNT

OR

REMOVE BANK ACCOUNT	Bank Account Number	Bank Number	REMOVE ACCOUNT

4. SEND MONEY

Send Money To:

RECEIVER EMAIL	Receiver Email	AMOUNT	Amount To Send	Memo	Write Memo	SEND

OR (--Please use only one--)

RECEIVER PHONE NUMBER	Receiver PhoneNumber	AMOUNT	Amount To Send	Memo	Write Memo	SEND

5. REQUEST MONEY

Request Money From:

SENDER EMAIL [Receiver Email]   AMOUNT [Amount To Receive]   Memo [Write Memo]   PERCENTAGE [Percentage]   [SEND]

OR (--Please use only one--)

SENDER PHONE NUMBER [Receiver PhoneNumber]   AMOUNT [Amount To Receive]   Memo [Write Memo]   PERCENTAGE [Percentage]   [SEND]

6. STATEMENTS

Statements

[BY DATES]

[BY MONTH]

BEST USER:

SENT: [Shivam Sharma]   REQUESTED: [Ojas Jain]

MAX AMOUNT SENT PER MONTH

Month	Amount
January	No Entry For This Month
February	No Entry For This Month
March	No Entry For This Month
April	No Entry For This Month
May	$1000

MAX AMOUNT REQUESTED PER MONTH

Month	Amount
January	No Entry For This Month
February	No Entry For This Month
March	No Entry For This Month
April	$2500
May	$20000

a. STATEMENTS BY DATE

By Dates

Range of Dates:	Total Money Sent
01 / 01 / 2020 ⊗ To 01 / 01 / 2020 ⊗ GET TOTAL	$$
Range of Dates:	**Total Money Requested**
01 / 01 / 2020 ⊗ To 01 / 01 / 2020 ⊗ GET TOTAL	$$

b. STATEMENT BY MONTH

By Month

Choose A Month: January ⌄   SELECT MONTH

Back To Previous Page

Sign Out

Total Money Sent	Average Money Sent
$$	$$

Total Money Received	Average Money Received
$$	$$

7. SEARCH TRANSACTIONS

Search

Stid	Amount	Date And Time	Memo	Cancel Reason	Contact Info
570	100	2020-05-05 02:41:51	NEW SEND 1		97979797
92353	1000	2020-05-05 02:46:29	NEW SEND 3		97979797
96032	100	2020-05-05 02:44:35	EMAIL SEND 1		ss4354@njit.edu

Rtid	Amount	Date And Time	Memo
1111	2500	2020-04-02 10:38:02	REQUEST 3
9762	500	2020-05-05 02:47:30	EMAIL REQUEST 2
13931	500	2020-05-05 09:50:35	EMAIL SEND 3
16145	500	2020-05-05 02:47:04	NEW REQUEST 2
21169	20000	2020-05-05 03:15:59	REQUEST MAJOR
70773	200	2020-05-02 02:25:28	REQUEST 1
79429	500	2020-05-05 02:46:49	NEW REQUEST 1
85458	200	2020-05-05 02:47:44	EMAIL REQUEST 3

Email ID [Enter the Email_Id]   [Proceed]

PhoneNo [Enter the Phone #]   [Proceed]

Date [01 / 01 / 2020 ⊗]   [Proceed]

PHP and HTML Code:

You may find all the code for our project on this LINK.