**Database Systems (CS:4400:0001)**

**Part 1: Project Description**

**Due: 09/14/2017**

**Group 11 - Venmo**

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**All group members contributed equally to this deliverable**

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**- Description of project:**

Venmo Transaction Database: The primary objective of our database will be to keep track of each user transaction, money received and money spent. The database would be able to track information about transactions such as the date or message attached to it. Our Venmo Transaction Database will also allow a user to manage their bank accounts and debit/credit cards.

**- Requirements of the project:**

What is the business purpose or need?

The organization needs to store the basic customer details, quick money transfers, bank details, account balance and transactions.

What is the problem you are trying to solve?

Efficiently coordinating payments between users, managing bank account information, account balances, and transactions.

What questions you will be answering?

What is the total amount of money was spent by a user? How much money has a user requested from their friends? What transactions did a user make in a given month? What users have both a debit/credit card and bank account registered? What is the complete transaction history of a user?

**- Assumptions of the project:**

We assume that there is only one account per customer, and each customer has their own, individual account. We can also assume that people on user's friends list have an account in Venmo. In addition, we'll assume that a Card does not need a cardholder name because users are required to give their bank information when creating an account anyways. Also, we assume a unique username for each user. However, users might have the same first/last name.

**- Scope of the project:**

Things that are in scope include customer and their bank details, list of their friends and also account transactions. We will track who the customer is paying to on their friends list, dates/times of transaction, memo/message (mostly less than 140 characters), and the amount.

For us, the following materials are out of scope and will not be tracked-- merchants, sales data, products, assets, and alerts. We also will not keep track of anything that isn't user facing in the app such as API, server info, usage tracking, and other back-end stuff.

- **Project Design Approach:**

The following groups of data will make up our tables:

User

Holds user information such as user ID, first and last name, email, password, and Venmo account balance. The primary key of this table is the user ID.

Transaction

This relation holds information about a Venmo transaction. It contains the transaction ID, transaction type, amount, date, message, and audience. The primary key is transaction ID.

Bank Card

Contains information related to a debit/credit card. Has a card ID, card number, expiration date, and security code, and zip code. The primary key is the card ID.

Bank Account

Represents a bank account of a user. Has an account ID, login ID, login password, account name, account number, and routing number. The primary key is the account ID.

User Transaction

Represents a transaction of the user. Contains a user ID, transaction ID, the user ID of the recipient, and progress status. The primary keys are the user ID and transaction ID.

User Bank Account

Represents the relationship between the bank account and the user. It contains the user ID and the bank account ID. Both of those are primary keys.

User Bank Card

Represents the relationship between the bank card and the user. It contains the user ID and the bank card ID. Both of those are primary keys.