B. My final project is to develop an item selling website like amazon for USC community. Users are able to view and buy item from the website. In addition, users can view the transaction history and store item in their shopping carts for later. And there is a admin account, which serves as the organizer of the website who can upload, edit and delete item information on the website.
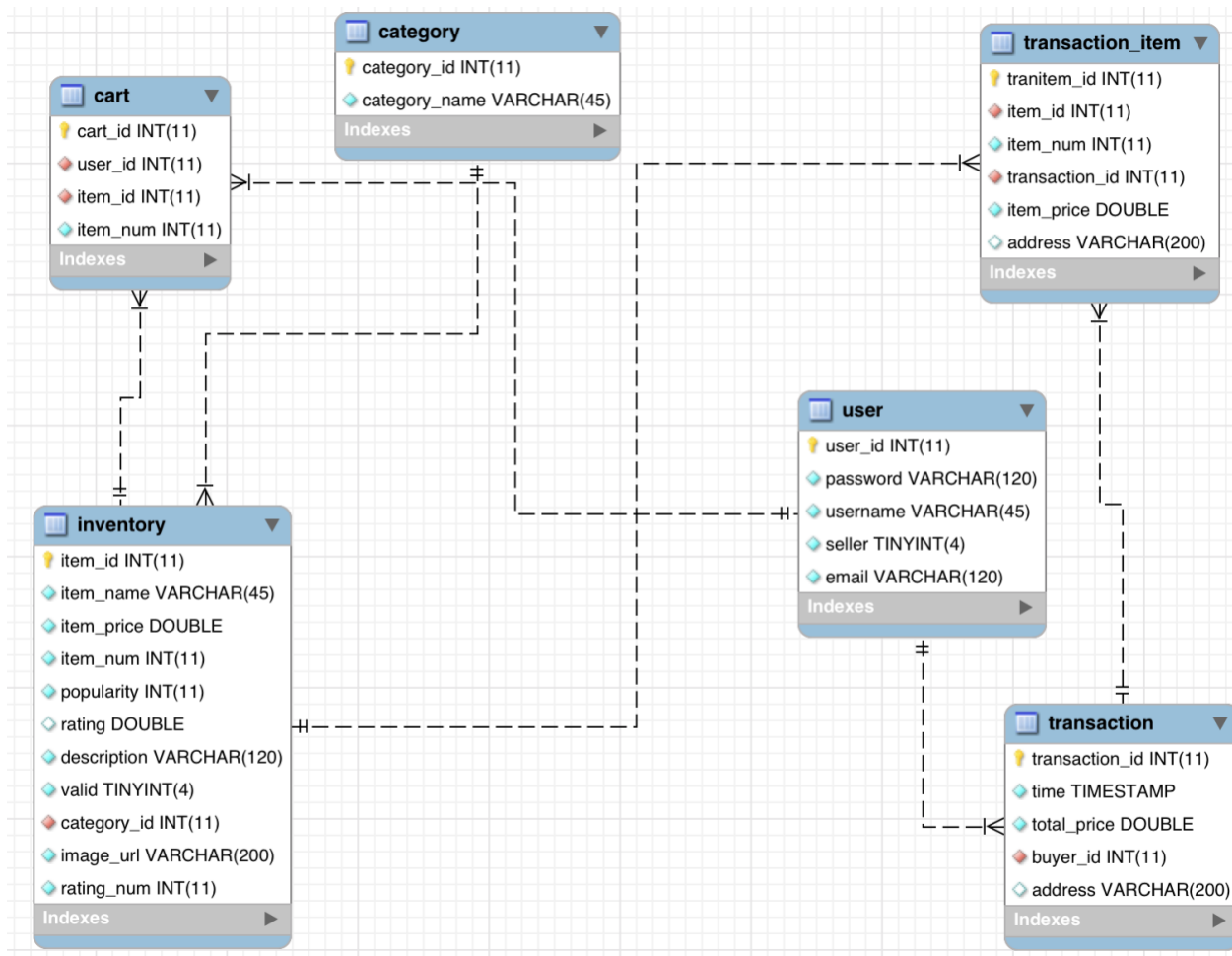
C. user need to login to buy items and view their carts and transaction histories. But browsing items and search do not require login. Register only gives you a user account. Admin account can only be created using database. The admin account is follows:

username: admin

password: admin

user can go to each category and check the product and add them to the cart. They can also search the item they want. The cart stores the items added to the carts until item being deleted or checking out. To check out, user need to fill out all the required payment information. After successfully checking out, user can click on their user name in navigation bar to view all the pass transaction. The admin can add, edit or delete item. To add an item, admin need to fill out all the required info after pressing the add an item button in the home page. To edit, a page to edit will pop up and just change whatever the admin wants to change. To delete, just press delete button under each item.

D.

category
- 🔑 category_id INT(11)
- ◇ category_name VARCHAR(45)
- Indexes

cart
- 🔑 cart_id INT(11)
- 🔴 user_id INT(11)
- 🔴 item_id INT(11)
- ◇ item_num INT(11)
- Indexes

transaction_item
- 🔑 tranitem_id INT(11)
- 🔴 item_id INT(11)
- ◇ item_num INT(11)
- 🔴 transaction_id INT(11)
- ◇ item_price DOUBLE
- ◇ address VARCHAR(200)
- Indexes

user
- 🔑 user_id INT(11)
- ◇ password VARCHAR(120)
- ◇ username VARCHAR(45)
- ◇ seller TINYINT(4)
- ◇ email VARCHAR(120)
- Indexes

inventory
- 🔑 item_id INT(11)
- ◇ item_name VARCHAR(45)
- ◇ item_price DOUBLE
- ◇ item_num INT(11)
- ◇ popularity INT(11)
- ◇ rating DOUBLE
- ◇ description VARCHAR(120)
- ◇ valid TINYINT(4)
- 🔴 category_id INT(11)
- ◇ image_url VARCHAR(200)
- ◇ rating_num INT(11)
- Indexes

transaction
- 🔑 transaction_id INT(11)
- ◇ time TIMESTAMP
- ◇ total_price DOUBLE
- 🔴 buyer_id INT(11)
- ◇ address VARCHAR(200)
- Indexes

E. the item data is uploaded by the admin using admin account. The category is selected by admin as well. The login/register info is stored in the user table. The item information will be stored in the inventory table. Once users add something to their carts, the item information will be added to the cart table. And after the users check out the items in their carts, the information stores in the cart will be deleted and transaction information will be stored in transaction and transaction item tables. Transaction table logs the total value and the owner of the transaction and the transaction item table logs what items are contained in each of the transaction. The trending item is calculated by counting the number of sell number of each item and load the 8 most popular ones to the page. All the data is uploaded by the admin and then the user page will load all those information from the database.

F. For the extra, Stripe, a third-party API is used to implement the checkout feature and the card validation feature. Pagination is used in home page and search

result pages to display the goods. At last, only logged in user can use shopping cart and checkout and only admin account can edit the item information on the website.