

CS 6314 Final Project Report

Food Product

Team 6

| Member | Net ID | Section | Responsibilities |
|------------|-----------|---------|--|
| Yiqun Lu | yxl190059 | 001 | <p>Take responsible for the style design and aesthetic guarantee of the entire website.</p> <p>Mainly work on front-end design and implement for main page (search, filter), administrator interface, favorite, shopping cart, check out.</p> <p>Responsible for the connection and debugging for front-end and back-end.</p> <p>Took part in database design.</p> |
| Chaoran Li | cxl190012 | 002 | <p>Responsible for back-end coding and desing.</p> <p>Mainly work on fetching data from database and providing api for front-end.</p> <p>Cooperate with team mates to connect our code in the whole project.</p> <p>Took part in group meeting and debugging for front-end and back-end.</p> |
| Yifan Zhao | yxz190029 | 002 | <p>Database design and implement.</p> <p>Front-end design and implement for user sign up and sign in, user information, order history.</p> <p>Responsible for project report writing and product information editing.</p> <p>Took part in database design.</p> |

December 6, 2020

1. Project Title

Food Products

2. Name for the Website

Food Products

3. Project Description

This website is designed for a dessert shop. We provide fresh desserts and drinks for customers. We have three kinds of users, guest, customer and admin.

For all three kinds users, they can browse the products in main page, click the product to enter the product details page to browse the product information. We use paging strategy to make our interface simple and elegant.

Users can complete the partial search on product name and filter product by category. Also, we achieve keyword and category combined filters for searching result. The searching result show dynamically on page. They can also use favorite to mark their ideal product even for guests.

We save all purchase related functions including shopcart only for registered customers. For signup, we will ensure the username and email unique for every customer by AJAX. We use JQuery Validator to ensure the validation of input. For example, the password should be strong enough and the email should be valid email address. Customers can also view their purchasing history.

When users need to complete the purchase, they need register an account and complete login. Users can modify user information after logging in, including basic account information, payment method, and mailing address. Customers start the purchase from their shopcart and they should fill their necessary information for purchase before payment issued.

Only admins can edit products. Admins can view products like customers, but we implement list, add, edit and remove API for them. to the shopping cart and modify the type and quantity of items in the shopping cart. If the required product inventory is insufficient or there is no purchase demand temporarily, users can add the required product to the favorite.

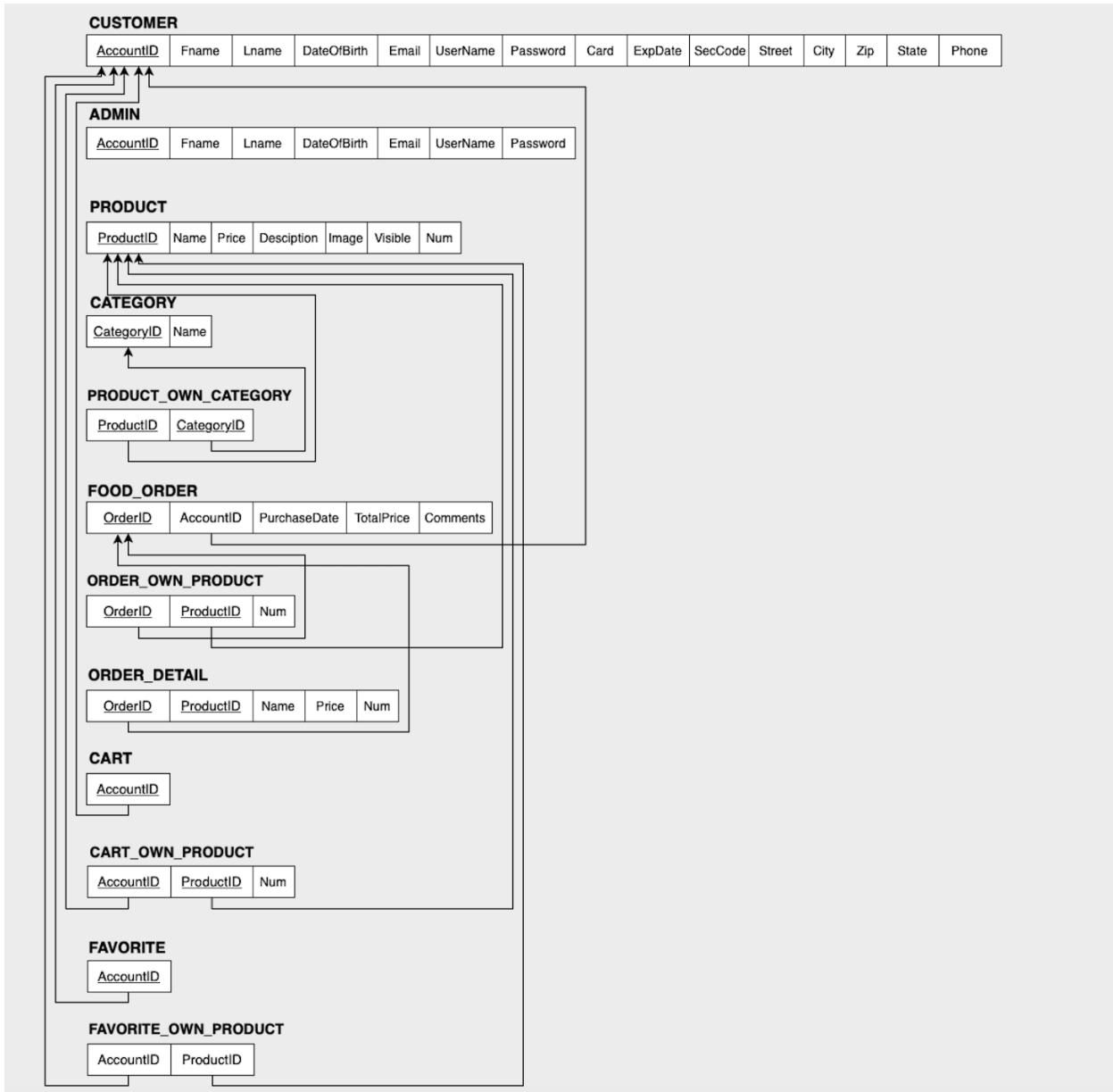
For the project requirement, we implement soft delete for remove. While removing, we clear its store and make it invisible. Besides, Admins can also upload and change the image for products. We provide preview function before save the change.

All passwords store in database are hashed with bcrypt, admin users can not directly see the password information of user. This technology is widely used in blockchain. Below is our hashed passwords.

```
INSERT INTO CUSTOMER (AccountID, Fname, Lname, DateOfBirth, Email, UserName, Password, Card, ExpDate, SecCode, Street, City, Zip, State, Phone)
VALUES (100, 'Medhurst', 'Tess', '01/29/1991', 'medtes@gmail.com', 'medtes', '$2b$10$0evNVIaABJZn/n9FN0lEiu.Urct5C50suBjai1sx4GMHVNUnQ1IZQ',
INSERT INTO CUSTOMER (AccountID, Fname, Lname, DateOfBirth, Email, UserName, Password, Card, ExpDate, SecCode, Street, City, Zip, State, Phone)
VALUES (101, 'Hayes', 'Mitchel', '07/17/1972', 'haymit@gmail.com', 'haymit', '$2b$10$0evNVIaABJZn/n9FN0lEiuPFRtMIMll4ntHan9H9C2XbhkbSn/Yu',
```

4. Database Design

We use MySQL as database. Below is the relational schema for our database.



The whole database design is strictly followed by the 3NF standard. Information will be stored accordingly and separately to achieve the robustness and completeness.

For the delete product function of admin users, we implemented the soft delete in accordance with the project requirements. As long as a product is decided to be removed, we just clear the

product inventory and change the visible attribute of the product to false, instead of directly deleting this record.

Below is the SQL statement we used to create database.

```
CREATE TABLE CUSTOMER (
```

```
    AccountID  INT,  
    Fname      VARCHAR(25),  
    Lname      VARCHAR(25),  
    DateOfBirth VARCHAR(10),  
    Email      VARCHAR(40) NOT NULL,  
    UserName   VARCHAR(30) NOT NULL,  
    Password   CHAR(60) NOT NULL,  
    Card       VARCHAR(24),  
    ExpDate   VARCHAR(5),  
    SecCode   CHAR(3),  
    Street     VARCHAR(100),  
    City       VARCHAR(20),  
    Zip        CHAR(5),  
    State      CHAR(2),  
    Phone      CHAR(10),  
    PRIMARY KEY (AccountID)
```

```
);
```

```
CREATE TABLE ADMIN (
```

```
    AccountID  INT,  
    Fname      VARCHAR(25),  
    Lname      VARCHAR(25),  
    DateOfBirth VARCHAR(10),  
    Email      VARCHAR(40) NOT NULL,  
    UserName   VARCHAR(30) NOT NULL,  
    Password   CHAR(60) NOT NULL,  
    Phone      CHAR(10),  
    PRIMARY KEY (AccountID)
```

```
);
```

```
CREATE TABLE PRODUCT (
```

```
    ProductID  INT,  
    Name       VARCHAR(50) NOT NULL,  
    Price      DECIMAL(10, 2) NOT NULL,  
    Description VARCHAR(200),  
    Image      VARCHAR(50),  
    Visible    TINYINT(1),  
    Num        INT NOT NULL,  
    PRIMARY KEY (ProductID)
```

```
);
```

```
CREATE TABLE CATEGORY (
```

```
    CategoryID  INT,
```

```

        Name      VARCHAR(30),
        PRIMARY KEY (CategoryID)
);

CREATE TABLE PRODUCT_OWN_CATEGORY (
    ProductID  INT,
    CategoryID  INT,
    PRIMARY KEY (ProductID, CategoryID),
    FOREIGN KEY (ProductID) REFERENCES PRODUCT(ProductID) ON DELETE CASCADE,
    FOREIGN KEY (CategoryID) REFERENCES CATEGORY(CategoryID) ON DELETE CASCADE
);

CREATE TABLE FOOD_ORDER (
    OrderID      INT,
    AccountID    INT NOT NULL,
    PurchaseDate  VARCHAR(10) NOT NULL,
    TotalPrice   DECIMAL(10, 2) NOT NULL,
    Comments     VARCHAR(200),
    PRIMARY KEY (OrderID),
    FOREIGN KEY (AccountID) REFERENCES CUSTOMER(AccountID) ON DELETE CASCADE
);

CREATE TABLE ORDER_OWN_PRODUCT (
    OrderID      INT,
    ProductID    INT,
    Num          INT NOT NULL,
    PRIMARY KEY (OrderID, ProductID),
    FOREIGN KEY (OrderID) REFERENCES FOOD_ORDER(OrderID) ON DELETE CASCADE,
    FOREIGN KEY (ProductID) REFERENCES PRODUCT(ProductID) ON DELETE CASCADE
);

CREATE TABLE ORDER_DETAIL (
    OrderID      INT,
    ProductID    INT,
    Name         VARCHAR(50) NOT NULL,
    Price        DECIMAL(10, 2) NOT NULL,
    Num          INT NOT NULL,
    PRIMARY KEY (OrderID, ProductID),
    FOREIGN KEY (OrderID) REFERENCES FOOD_ORDER(OrderID) ON DELETE CASCADE
);

CREATE TABLE CART (
    AccountID    INT NOT NULL,
    PRIMARY KEY (AccountID),
    FOREIGN KEY (AccountID) REFERENCES CUSTOMER(AccountID) ON DELETE CASCADE
);

CREATE TABLE CART_OWN_PRODUCT (

```

```

        AccountID  INT,
        ProductID  INT,
        Num        INT NOT NULL,
        PRIMARY KEY (AccountID, ProductID),
        FOREIGN KEY (AccountID) REFERENCES CUSTOMER(AccountID) ON DELETE CASCADE,
        FOREIGN KEY (ProductID) REFERENCES PRODUCT(ProductID) ON DELETE CASCADE
    );

CREATE TABLE FAVORITE (
    AccountID  INT NOT NULL,
    PRIMARY KEY (AccountID),
    FOREIGN KEY (AccountID) REFERENCES CUSTOMER(AccountID) ON DELETE CASCADE
);

CREATE TABLE FAVORITE_OWN_PRODUCT (
    AccountID  INT,
    ProductID  INT,
    PRIMARY KEY (AccountID, ProductID),
    FOREIGN KEY (AccountID) REFERENCES CUSTOMER(AccountID) ON DELETE CASCADE,
    FOREIGN KEY (ProductID) REFERENCES PRODUCT(ProductID) ON DELETE CASCADE
);

```

5. Languages and Frameworks for Implementation

For the front-end, CSS, HTML and JavaScript is used to build up the general layout and appearance of the website. To make the website presented in a more beautiful and professional way, Bootstrap is used.

For the easiness of frontend and backend communication, we utilize the functions brought by jQuery and mainly its element selection and ajax function.

Back-end is heavily relied on the Node.js and it is used to connect front-end with database and process the requested data.

Relational database design is used for the reason that it could better present the relations and make it easier for storing data and information.

6. Screenshots for main functionalities

(1) The main page

 Food Products

[Sign In](#) [Favorite](#) [Shop Cart](#)



All Categories [Search](#)

| | | | |
|---|---|---|---|
|  |  |  |  |
| Coconut Bread A soft bread with coconut and cheese filling, topped... | Garlic Cheese A soft bread topped with special garlic spread... | Whole Milk Bread A soft, moist Japanese style bread with buttery and milk... | Berry Fairy Sweet bread with fresh strawberry and special cream. |
|  \$3.5 |  \$2.8 |  \$5.2 |  \$3.4 |
| Add | Add | Add | Add |
|  |  |  |  |
| Taro Taro Sweet bread made with mixed grains and filled with... | Butter Bread Golden bread baked with salted butter. Sprinkled with... | Blueberry Cheesecake Moist and rich cheesecake with blueberry jam based wi... | Black Forest Slice Chocolate sponge cake with sweet cherries and fresh... |
|  \$3.7 |  \$2.8 |  \$4.3 |  \$3.6 |
| Add | Add | Add | Add |

[◀ Prev](#) [1](#) [2](#) [Next ▶](#)



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(2) Results of search and filtering (combine keywords and categories)

 Food Products

Admin



All Categories ▾ All Bread: c Search

| | |
|--|---|
|  <p>Coconut Bread A soft bread with coconut and cheese filling, topped...</p> <p>\$3.5</p> <p>Edit</p> |  <p>Garlic Cheese A soft bread topped with special garlic spread,...</p> <p>\$2.8</p> <p>Edit</p> |
|--|---|

< Prev 1 Next >



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(3) Administrator create new product



Add New Product

Product Name

Description

Product Price

Store Number

Categories

Please separate by comma, eg. category1, category2 ...

Image



Choose File Americano.jpg



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(4) User Sign up / Sign in

The image shows a screenshot of a food products website. A central modal window is displayed, prompting the user to "Sign in" or "Sign up". The "Sign in" button is highlighted in yellow. Below the buttons are input fields for "Email" (containing "customer@test.com") and "Password" (containing "****"). At the bottom of the modal is a large yellow "Sign In" button. The background of the page features a wooden surface with various ingredients like eggs and flour, and a close-up image of bread.

Food Products

Sign In Sign up

Email
customer@test.com

Password

Sign In

All Categories

Search the name of your ideal product here.

Search

| | | | |
|---|--|--|--|
| Coconut Bread A soft bread with coconut and cheese filling, topped... ♥ \$3.5 Add | Garlic Cheese A soft bread topped with special garlic spread.... ♥ \$2.8 Add | Whole Milk Bread A soft, moist Japanese style bread with buttery and milk... ♥ \$5.2 Add | Berry Fairy Sweet bread with fresh strawberry and special cream. ♥ \$3.4 Add |
| | | | |

(5) Favorite



Home / Favorite



Coconut Bread

A soft bread with coconut and cheese filling, topped...

\$3.5

Add



Garlic Cheese

A soft bread topped with special garlic spread,...

\$2.8

Add



Whole Milk Bread

A soft, moist Japanese style bread with buttery and milk...

\$5.2

Add



Butter Bread

Golden bread baked with salted butter. Sprinkled with...

\$2.8

Add



Blueberry Cheesecake

Moist and rich cheesecake with blueberry jam based wi...

\$4.3

Add



Black Forest Slice

Chocolate sponge cake with sweet cherries and fresh...

\$3.6

Add

< Prev

1

Next >



Home / Account Settings

Account Details

Payment Methods

Delivery Addresses

Account Details

Email

customer@test.com

Username

testc

Edit

Password

Password

Edit

Details

First Name

Customers

Last Name

Tes

Phone Number

1112223333

Date Of Birth

01/01/2000

Save



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(7) Shop cart



Food Products

My Account Favorite Shop Cart



Home / Shop Cart



Coconut Bread
A soft bread with coconut and cheese filling, topped with sliced cashew.

- 3 + \$3.5



Red Velvet Slice
3-layered red velvet cake with vanilla cream cheese and red velvet crumbs. Decorated with white chocolate shavings and cherries.

- 1 + \$3.7



Caramel Macchiato
Espresso with steamed milk and caramel sauce.

- 2 + \$3.2

Order Summary

| | |
|----------------------|----------------|
| Subtotal | \$20.60 |
| Shipping | Free |
| Discount | 0% |
| No Discount Applied. | |
| Tax | \$1.70 |
| Total | \$22.30 |

Check Out



(8) Checkout



Food Products

My Account Favorite Shop Cart

Home / Checkout

Payment Info

Card Number
1111222233334444

Expiration Date
12/2048

Security Code
124

Shipping Info

Street Address
1234 Test Street

City
Plano

Zip
75080

State
Texas

Purchase

Order Summary

| | |
|----------------------|----------------|
| Subtotal | \$20.60 |
| Shipping | Free |
| Discount | 0% |
| No Discount Applied. | |
| Tax | \$1.70 |
| Total | \$22.30 |



(9) Order history

A horizontal banner at the bottom of the page featuring a variety of food items. From left to right, it includes a whole egg, a cracked egg showing the yolk, a wooden spoon filled with flour, and three different types of bread (croissants and a loaf) on a rustic wooden surface.

Home / Order History

Order History

