CPT202 Assignment 1
Group Report for Software Engineering Group Project

2022/2023 Semester 2
<Pizza Ordering System>
<URL of the project website:
http://121.199.161.166:8080/pizzaOrderingSys/login >
<2023.5.5>

Group number: <24>
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Table of Contents

Introduction ***2***

Problem Statement **2**

Aims of The Project **2**

Project Scope **3**

User Characteristics **3**

Assumptions and Dependencies **4**

Project Risks **4**

Architectural Design ***5***

System Architecture **6**

Software Modules **7**

High-level Database Design **9**

Software Design ***9***

High Level Design **9**

Software Support Services **10**

Coding Structure and Convention 10

Software Configuration and Production Environment.....12

Software testing 12

Appendix 14

Introduction

Problem Statement

A pizza shop requires a web-based pizza ordering system to provide online ordering services.

From the managers' perspective, the system should be equipped with a master file to conduct maintenance, maintain pizza selling prices, view customers' orders, outstanding delivery and have access to statistical reports related to the business. From the customers' perspective, they should be able to register as a new user, login to the account, place an order, view their order history and the status of current ongoing orders.

This store is a new shop and its number of orders is surging. The shop would like to provide order reservation on website and meal delivery service to increase sales and optimize customers' experience. At present, it only provides canteen services, and customers usually have to queue up and wait for a long time, which causes complaints. Considering that the system will be accessed both by the managers and large number of customers, it must pay attention to its work of data updating speed and security. To design the system, a centralize database that can store student and company data such as their employees, curriculum and resources is needed.

One of the aims is to make the ordering process smooth and fast so that majority of the target users can benefit from it. Therefore, the interface and operations should be easy even for the young and the elderly to learn.

At last, the system will need to be approved by the software management monitoring center before it is put into practice.

Aims of The Project

Customers and store managers can register on website to obtain different role accounts. Then system distinguishes customers and shop managers through accounts and guide them to separately pages, allowing store managers to manage products and check orders, while customers can purchase pizza online.

For shop manager's specifications:

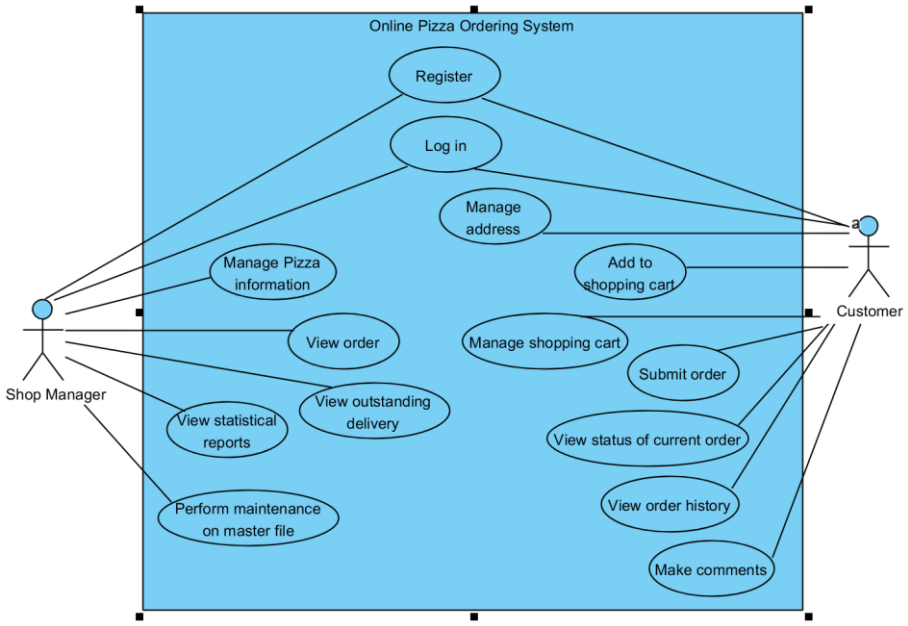
Firstly, shop manager needs to check order's details and status, and outstanding deliveries should be shown as well. Secondly, manager needs to manage pizza's information, add, or delete them, and

modify their sales status. Managing specific size, topping and category is also equipped. Finally, merchants can view data statistics, such as revenue and customer's comments. These will be helpful to analyze issues and change their business strategies in a timely manner.

For customer's specifications:

Customers can register a new user through personal information such as phone number, address. After logging in, customers can choose a pizza if it is on sale, and then choose size and toppings. They can confirm ordered items and total amount in the shopping cart. After selecting the delivery information and payment method, order will be submitted. Meanwhile, they can view status of the current order and relevant their historical orders.

Project Scope



When confirming order details, customers can choose inclined payment methods. However, the actual payment connection is to be done by third party. Also, the project tracks status of order, but the actual delivery process will be taken by delivery service platform. Hence these are out of system's control.

User Characteristics

Primary users are customers who want to order pizza online. They could be any age group, but the system may cater to individuals who enjoy the convenience of takeout service and know how to navigate a website. After investigation and analyses, the target consumers mainly age from 15 to 35, mainly come from first-tier or second-tier cities. About career, employees with regular jobs may be more willing to pay for pizzas. What's more, foreigners are strongly recommended to be included, considering they are likely to choose pizzas as staple food according to cultural habits.

Assumptions and Dependencies

Assumptions:
Group members have necessary skills and experience to build a website for ordering system.
The requirements for the website have been clearly defined and documented.
All required equipment, programming tools, or related learning materials will be in good condition to be continuously used throughout project life-cycle.

Dependencies:
The project timeline depends on the speed of development and testing cycles.
Software libraries and external APIs needed for the website to function may be subject to change or require customization.
Changes in design or requirements may add complexity and increase project's scope.
The availability and reliability of external resources, such as servers or cloud-based storage, may impact development and testing cycles.
Data security, regulations, and compliance requirements may impact the choice of programming languages, frameworks, hosting platforms, or other technical decisions.

Project Risks

Problems:
1. For the coding of the project: Firstly, selection of different operating systems such as Android and Apple by different programmers may lead to differences in software and tools encoded, resulting in errors in subsequent code fusion. Similarly, the configuration of different coding environments, such as selection of Java versions can cause differences in functional implementation. Applied devices and third-party tools and platforms may also encounter situations that cannot be used properly.
2. For group collaboration: Due to multiple iterations of each member's functionality, individual ideas and plans for project may differ and conflict with others. In addition, there may be differences in coding abilities among members, resulting in uneven progress. More importantly, many features are based on the dependency of ‘Finish to Start’. Personal progress falling behind can lead to overall project stagnation.
3. For Legal, Social, Ethical, Professional Issues: Risks related to data privacy, security, and legal compliance, such as failures of the website's security protocols or privacy violations, may harm the website's reputation and result in loss of customers and revenue.

Solutions:
1. Regular sprint meeting can monitor progress and help members who are behind schedule. Web conference can also record members who are not present to watch on their own. After experiencing multiple iterations of functions, team members should promptly negotiate with connected stage.
2. The group shall standardize and unify the software versions and technologies in advance. At the same time, try to understand and master multiple tools to avoid progress stagnation caused by

individual third-party platform issues. Finally, select a more powerful existing devices from team members to uniformly debug the code.
When designing a database, consider protecting important data to ensure that merchant and user information is not maliciously tampered with or used by others.

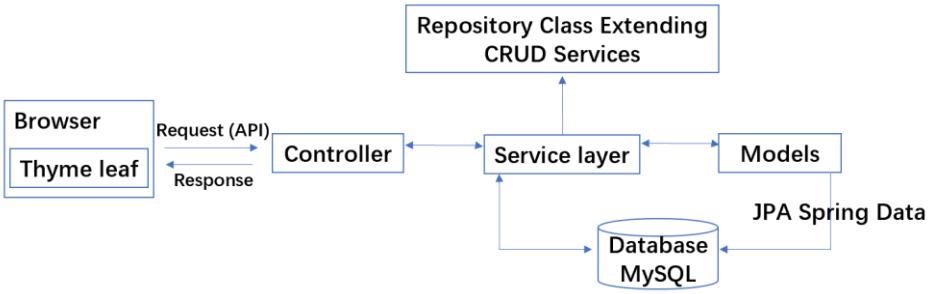
Architectural Design

1) Customization of Pizza Orders:
    - The system should allow customers to customize their pizza orders based on size and toppings.
    - To implement this feature, the system will need to store information about the different types of pizzas, their sizes, and the available toppings. The data will be stored in a MySQL database, and Java Persistence API (JPA) with Java Database Connectivity (JDBC) will be used to connect to the database from the backend. The frontend will use Thymeleaf to create a dynamic interface that allows customers to select their pizza size and toppings.
2) Order Management:
    - Observing orders and tracking the status of each order are available to shop manager while utilizing system.
    - The design here uses the controller layer in spring MVC to process the request sent by the user's endpoint and generate a matching response and return it to achieve this functionality. The system will use a RESTful API to interact with the operating services layer and retrieve order information. The frontend will use Thymeleaf to display the order details and status.
3) User Authentication:
    - The system should implement a secure user authentication system to allow customers to place orders and shop managers to manage orders.
    - To implement this feature, we will use a custom authentication system that uses SMS verification for registration and login. In addition to the configuration of the system, including the authentication and authorization of the logged-in user, each user has different permissions to access the APIs exposed by the Controller layer, while the login and registration functions are available to all. The system will store customer and shop manager information in the MySQL database. Sensitive information such as user passwords are encrypted before being stored
4) Statistical Reports:
    - Acquisition of business-related statistical reports is an essential function for shop managers.
    - The service layer of the Spring MVC pattern in the system architecture is tend to query the data stored in the MySQL database through the data access layer (JpaRepository). The data is then retrieved and presented using the Thymeleaf framework's fetching methods.
5) SMS Verification:
    - The system should implement SMS verification to ensure secure and reliable user authentication.
    - We will use a third-party SMS verification service that sends verification codes to users' phones. However, when we tested this, we found that the third-party server could only send the verification code to 5 authorized mobile numbers. So, we simulated this function as

sending a random 4-digit number to the front-end using a pop-up display, and after input is submitted to determine if the number entered matches the randomly generated number

Overall, these requirements impact the architectural design of the system by requiring the use of specific technologies and tools such as Spring Boot with Spring MVC, Thymeleaf, JPA with JDBC, MySQL database, and third-party SMS verification service. The system must also provide a secure and reliable user authentication system, allow customization of pizza orders, order management, and statistical reporting.

System Architecture



The architectural design of the pizza ordering system incorporates a number of tools and frameworks, including JPA with JDBC, Spring Boot with Spring MVC, and Thymeleaf with frontend page. Each of these components plays a critical role in the overall system, providing a robust and scalable solution that meets the needs of the system's users.

JPA is a Java specification that provides a way to map Java objects to relational database tables. It is a powerful and flexible ORM framework that allows developers to work with databases using an object-oriented approach. With JPA, developers can define entity classes that represent database tables. Additionally, JPA can be used to make the creation of foreign keys in relational databases easier with annotations such as @Many-To-One, @One-To-One.JPA provides a number of benefits, including:

1) Object-Relational Mapping: JPA allows developers to work with databases using an object-oriented approach, which is more natural for most developers than working with raw SQL.
2) Portability: JPA provides a vendor-neutral API that can be used with any relational database that supports JDBC.
3) Productivity: JPA provides a high level of abstraction, allowing developers to focus on the business logic of the application instead of the database.

Spring Boot with Spring MVC is a powerful and flexible web framework that provides a number of features, including support for RESTful web services, which makes it easy to build scalable and flexible web applications. Spring Boot is built on top of Spring MVC, and provides a number of features that make it easy to get started with building web applications, including auto-configuration, which

automatically configures the application based on the dependencies on the class path. Spring MVC provides a number of benefits, including:

1) Flexibility: Spring MVC is a flexible framework that can be used to build a wide range of web applications, from simple CRUD (Create Read Update Delete) applications to complex enterprise applications.
2) Modularity: Spring MVC is a modular framework that allows developers to use only the parts of the framework that they need, making it easy to build lightweight applications.
3) Testability: Spring MVC provides a number of features that make it easy to write unit tests for controllers and other components.

Finally, Thymeleaf with frontend page provides a templating engine that allows for easy integration with Spring MVC. Thymeleaf is a powerful and flexible templating engine that provides a number of features, including support for server-side rendering of HTML templates. Thymeleaf also provides support for a number of other features, including internationalization and localization, form binding and validation, and template layouts and fragments. In an alternative to this we use Jquery Ajax on the customer menu page to send requests and get replies to the server and to load the menu information dynamically.

In summary, the selected architecture for the pizza ordering system provides a powerful and flexible solution that uses modern and powerful tools and frameworks. JPA with JDBC provides a way to store and retrieve data from a MySQL database using an object-oriented approach. Spring Boot with Spring MVC provides a flexible and modular web framework that makes it easy to build scalable and flexible web applications. Finally, Thymeleaf with frontend page provides a powerful and flexible templating engine that allows for easy integration with Spring MVC.

Software Modules

Our website includes the modules follows:

1. User Management Module

Input parameters: user name, password
Output parameters: whether login / registration is successful, send verification code, forget password
Functions: register new account, retrieve password
Dependencies: None

2. Pizza Management Module

Input parameters: pizza id/name/price/discount/state/description/image; size id/inch/price; taste id/name/price; category label_id/label
Output parameters: pizza details, size details, topping details, category details; whether add/edit/delete successfully
Functions: shop manager can add/edit/delete the pizza/size/taste/category database, and customers can view these items' list

Dependencies: None

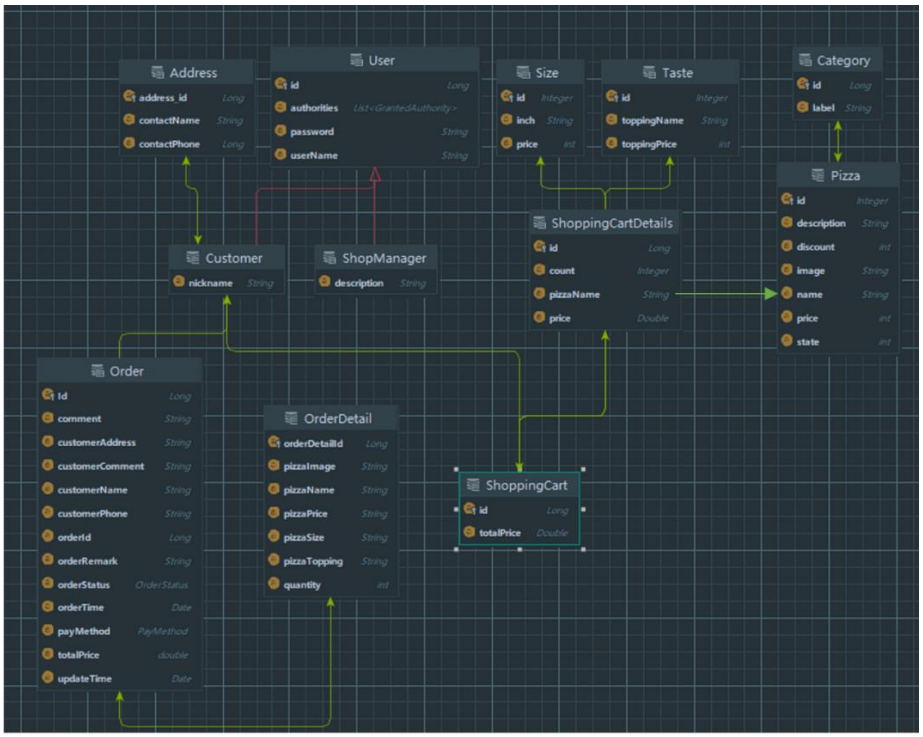
3. Menu Module
Input parameters: pizza and its related information; size_price; taste_price; category
Output parameters: pizza menu list, category list, item's detail information
Functions: view detail information, choose amount/size/topping, add item into shopping cart
Dependencies: Integration with User Management Module to make record into current customer's shopping cart. Integration with Pizza Management Module to demonstrate information of all pizza.

4. Shopping Cart Module
Input parameters: pizza and its related information; amount; size_price; taste_price; username
Output parameters: list item details, subtotal of one certain item, total price
Functions: calculator subtotal/total price, submit order, delete selected item, empty shopping cart
Dependencies: Integration with User Management Module to record into customer's shopping cart. Integration with Pizza Management Module to demonstrate the information of added pizza.

5. Order Management Module
Input parameters: pizza and its related information; amount; size_price; taste_price; address; customer; order_remark; payment method
Output parameters: order generation time, order history, order status, update time
Functions: generate an order, view order details, view order history, comment an order
Dependencies: Integration with Shopping Cart Module to get order details. Integration with User Management Module to generate an order of current order.

6. Statistics Report Module
Input parameters: order list
Output parameters: turnover report
Functions: show total sales report, select sales report by time
Dependencies: Integration with Order Management Module to get order list.

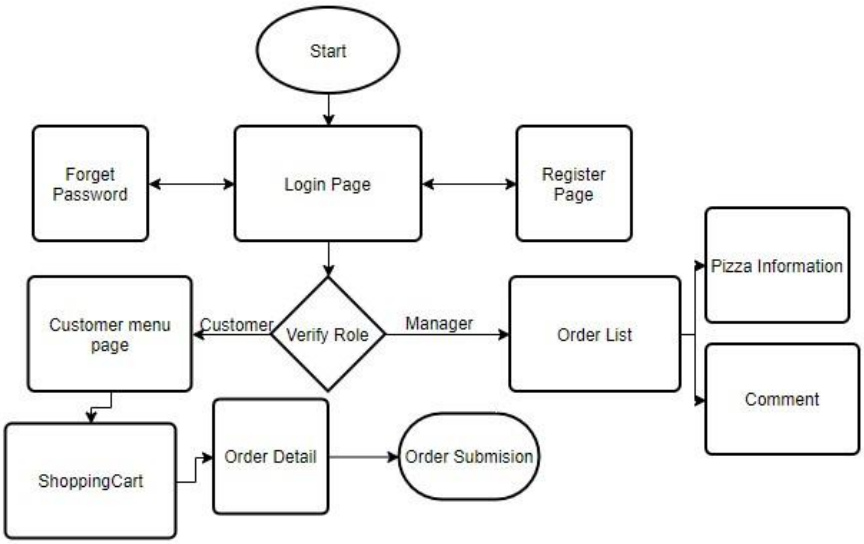
High-level Database Design



Firstly, information in “User” will be inherited by “Customer” and “ShopManager” according to identified authorities. Secondly, the database of Pizza has several attributes such as “size”, “taste” and “category”, which must be existent in corresponding “Size”, “Taste” and “Category” database. Thirdly, “ShoppingCart” can have multiple “ShoppingCartDetails”, also “Order” can have multiple “OrderDetail”.

Software Design

High Level Design



When entering our web page, the login page is shown first. If the user does not have an account, they will need to go to the register page to own one to login. If the password is forgotten, it can be reassigned in the Forget-password page. After entering the account, the system will auto verify its role and display the regarding main page. For customers, they will see the menu page and be able to add dishes to their shopping carts. In the shopping cart page, they will determine the order information and then go to the order-detail page, which shows the details and the payment function. After submission, the purchase ends. While for managers, an order list is shown on the main page. From the order-list page, managers can jump to the product page and the comment page to do relevant operations. Managers can end their shop maintenance at any page.

Software Support Services

Database related services: Through our system, authorized users are able to do the database administration, such as adding, deleting and editing one of the messages in the list, which reduces the risk of data tampering. Since our data is updated and retrieved directly from the database, it is always quick and accurate.

Security related services: Our system provides the verification code in the identity authentication parts, which guarantees users' accounts will not be embezzled. Moreover, the firewall in our system avoids the attack from the third party and protect the security of user information in the database to protect the economic and property safety of users.

Webpage navigation related services: Our system sets search functions or site maps in lists with huge amount of information, which helps users quickly find their ideal information and improve their user experience. In addition, all the titles in our web pages are clearly named, so customers can define the function of the page they are on.

Coding Structure and Convention

For coding structure, we use model to deal with persistent data, repository for connecting database, service for functions and controller for handling the requests from the user.

In addition, the conventions our group use is listed below:

1. File Name Conventions

We follow proper naming convention

All the files have proper suffixes (like .java/ .class/ .html/ .css etc.)

We did not change the auto-generated code object name

2. File Organization Conventions

Different sections in a file should be departed by blank lines

Edit each section with an optional comment

3. File Organization Conventions

Each Java source file contains a single public class or interface.

3.1. Java Source File Conventions:

We put private classes and interfaces and associated public class in same source file as public class.

All public classes are written as the first class or interface in the file.

All java source files are ordering with beginning comments, package and import statements and class and interface declarations.

Beginning comments are formed with c-style.

Class and Interface Declarations are ordering with class/interface documentation comment, class or interface statement, class variables, instance variables, constructors, and methods.

4. Indentation Conventions

The unit of indentation is 4 spaces. Tabs must be set exactly every 8 spaces.

4.1. When an expression is over-length, we break it break after a comma, before an operator, align the new line with the beginning of the expression at the same level on the previous line.

5. Comments Conventions

We use Block Comments, Single-Line Comments and End-Of-Line Comment as implementation comment formats and use Javadoc style as Document Comment.

6. Declarations Conventions

We add only one declaration per line, put the declarations at the beginning of blocks, initialize local variables only at where they’re declared and add a blank line between methods.

7. Statements Conventions

There is only one statement in each line.

If there should be more than one statement with if-else, use “else if” instead of simply “else”.

All the loop statements should follow the standard Java style.

8. White Space Conventions

We use blank lines and blank spaces to improve the readability.

9. Naming Conventions

9.1. Classes & Interfaces & Variables: in mixed case with the first letter of each internal word capitalized.

9.2. Methods: in mixed case with the first letter lowercase and rest first letter of each internal word capitalized.

9.3. Constants: The names of variables declared class constants and of ANSI constants are all uppercase with words separated by underscores.

10. Programming Practices Conventions

With providing access to Instance and Class Variables, referring to Class Variables and Methods, Constants, Variable Assignments and Miscellaneous Practices

Software Configuration and Production Environment

We use Spring Security and do authentication and authorization when login and we configure **passwordEncoder** encapsulated in Spring Security. Moreover, we use **application.properties** to configure info related to database.

Our project software is PC based website written with HTML, JAVA, and CSS.

Most of our group members use IntelliJ IDEA and others choose Visual Studio Code as the source code editor, all group members use JAVA SE 8 (JDK 1.8.0).

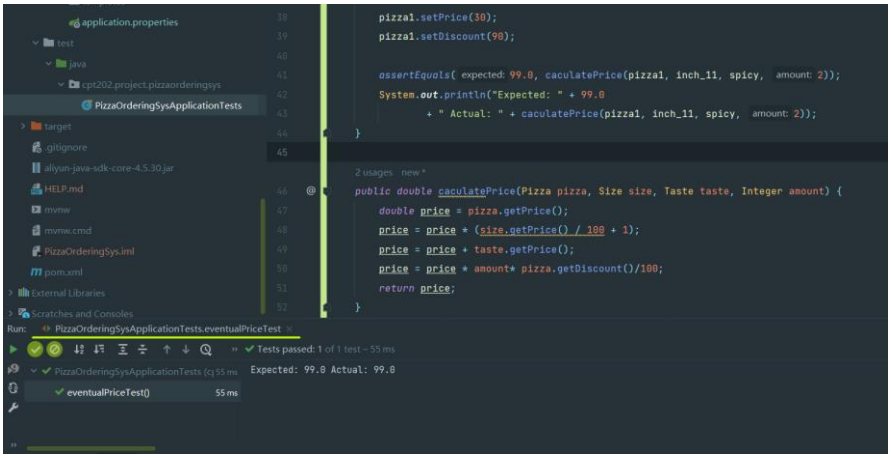
The group project server is Ali ECS Ubuntu 20.04 64 bit and we use MySQL 8.0.32 as the database and Java JDK 1.8.0. We use port 8080 as the service port and set '*/pizzaOrderingSys/login*' as the default authentication page.

Software testing

Unit testing

Unit testing is a process of testing individual components in isolation. A shopping cart calculation process is tested as an illustration:

When adding to the cart, it will calculate the total amount in it, through adding each item's subtotal. Each subtotal is equal to its amount multiplied by a selected quantity.



Integration testing

In integration testing process, several individual units are combined to create composite components. The goal of this stage is to check running correctness when combing different modules.

When unit testing successfully pass independently, we take the part of placing an order as an integration testing. As presets, in shopping cart page, it can grab pizza information from pizza menu and add selected pizza into shopping cart database. Data flow will be further checked between dependent modules as evidence.

Test Name / ID	Place an order
Precondition (if any)	A login authorized customer, select item details
Input	Selected item, its size, topping, category, amount...
Output	Corresponding information in “Order” database
Expected	An order record in “Order” database and its details
Actual Result	Order is successfully submitted
Test Process	Choose certain item in the pizza menu, add it to the shopping cart and click “Confirm” button

Acceptance testing

As acceptance testing, it needs to determine to what degree an application meets end user’s agreements. We consider the process when a shop manager needs to upload an image.

Acceptance Criteria: Given that I am at “Manage Pizza” page, when I choose a picture file and click “Add” button, then a new picture will be uploaded to database of corresponding pizza and can be shown in “Detail Page”.

Test Name / ID	Upload an image
Precondition (if any)	A login authorized shop manager at “addPizza” page
Input	An image file
Output	Upload image to corresponding pizza’s database
Expected	Image of Pizza is shown in corresponding Detail Page
Actual Result	Image is successfully shown in its “Detail Page”
Test Process	Select an image file through “Choose File” button, click “Save” button, then check “Detail Page”

3	Fruit Pizza	35	15	Selling	Pizza covered by fruit	Pizza	Detail Page Edit Delete

Appendix

Sprint Backlog

Sprint # : 1

Period : 2023.3.8 – 2023.3.29

PBI #	SHOP001		
Story	As a shop manager, I can switch the shop's business status so that no more new orders are accepted when the shop is offline or closed. Customers will also not be able to place orders.		
Task #	Task Description	Effort Hours	Assign To
1	Design the front end of shop manager main page	12	Wenbo Wang
2	Consider what data should be changed after switching business status	2	Wenbo Wang

PBI #	SHOP002

Story	As a shop manager, I want to choose to see the list of outstanding deliveries on the main shop management page so that what products the customer has ordered can be quickly checked.		
Task #	Task Description	Effort Hours	Assign To
3	Writing service and repository layers based on the already established relationship tables	5	Wenbo Wang
4	Writing the controller layer of the shop main page	4	Wenbo Wang

PBI #	SHOP003		
Story	As a shop manager, I want to choose to see the list of orders on the main shop management page so that all order information can be traced.		
Task #	Task Description	Effort Hours	Assign To
5	Sending a request using Jquery ajax and displaying all order data from the response on the merchant administrator's main page	18	Wenbo Wang

PBI #	SHOP011		
Story	As a logged-in shop manager, I want to have a “Manage Pizza” page to act as a hub so that all management pages can be consolidated in one location and I can do some operations to pizzas as I want under various situation.		
Task #	Task Description	Effort Hours	Assign To
1	Implement the functional section of listing pizza menu.	4 hours	Xinyi Xu
2	Complete the html page section corresponding to this listing function.	3 hours	Xinyi Xu

PBI #	SHOP012		
Story	As a logged-in shop manager, I want to add new pizza so that (logged in) visitors can view information of added pizza for them to choose.		
Task #	Task Description	Effort Hours	Assign To

1	The functional section of adding an item into corresponding database.	3 hours	Xinyi Xu
2	Complete the html page section corresponding to this adding function.	3 hours	Xinyi Xu

PBI #	LGIN1000 Register user		
Story	User register in one page.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic service and models for users with two identities: Customer and Shop manager.	6	Enhua Kang
2	Write the basic HTML template for the register page.	5	Enhua Kang
3	Write the controller function to get the information filled in the form of the page and pass it to the database.	6	Enhua Kang

PBI #	LGIN1001 Login User		
Story	User login in one page.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template for the login page.	3	Enhua Kang
2	Write the controller function to get the information filled in the form and check the authority of users and direct it to the page he or she can reach.	6	Enhua Kang

PBI #	LGIN1002 Find back password		
Story	User change his password so that he can login his account again.		
Task #	Task Description	Effort Hours	Assign To

1	Write the basic HTML template for the find back password page.	2	Enhua Kang
2	Write the controller function to get the information filled in the form of the page and pass it to the database.	6	Enhua Kang

PBI #	USER1000 Add address		
Story	User add his address in one page.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic service and models for address.	4	Enhua Kang
2	Write the basic HTML template for the address adding page.	1	Enhua Kang
3	Write the controller function to get the information filled in the form of the page and pass it to the database.	4	Enhua Kang

PBI #	USER1001 Delete address		
Story	User delete his address in one page.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template for the address deleting page.	1	Enhua Kang
2	Write the controller function to delete the information in the database according to a particular id		Enhua Kang

PBI #	USER1002 Manage addresses		
Story	User view all his address and make modifications in one page.		
Task #	Task Description	Effort Hours	Assign To

1	Write the basic HTML template for the address listing page.	1	Enhua Kang
2	Write the controller function to list all the address and option for managing addresses.		Enhua Kang

PBI #	SHOP006		
Story	As the store manager, I want to know the turnover of the store so that I can know whether the store is profitable.		
Task #	Task Description	Effort Hours	Assign To
1	Implemented the functional section of viewing revenue.	3	Ke Bai
2	Completed the webpage section corresponding to the function.	2	Ke Bai

PBI #	SHOP008		
Story	As the store manager, I want to know the feedback of customers after purchasing goods, so that I can better improve the goods.		
Task #	Task Description	Effort Hours	Assign To
1	The functional section of viewing customer feedback has been implemented.	2	Ke Bai
2	Completed the webpage section corresponding to the function.	2	Ke Bai

PBI #	SHOP016		
Story	As a website manager, I want “Detail” pages for each product so that I can view the detail information for the item.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template for the product’s detail page.	4	Siyi Pan

2	Catch data which is shown on the webpage from the database	3	Siyi Pan

PBI #	SHOP017		
Story	As a website manager, I want delete product(s) so that I can modify the list of products.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template for the pizza deleting page.	4	Siyi Pan
2	Write the controller function to delete the information in the database according to a particular id	3	Siyi Pan

PBI #	USER1008.1 &USER1008.2(they are done together.)		
Story	As a customer who has ordered, I want to turn from Menu Page to Confirm Page.		
Task #	Task Description	Effort Hours	Assign To
1.	Html design of confirm Page	2	Zihao.li
2.	The Page turning using thymeleaf	1	Zihao.li

PBI #	USER1009		
Story	As a user who has finished the pizza ordering, I want to have an area for address selection so that I can select the address to which I want to receive the delivery.		
Task #	Task Description	Effort Hours	Assign To
1.	Controller coding & trying to connect database.	2.5	Zihao.li
2.	Learning of the basic knowledge of JPA and	2	Zihao.li

PBI #	USER1011
Story	As a user, I want to add some comments for this order like flavor requirements or something else to the restaurant and delivery guy.

Task #	Task Description	Effort Hours	Assign To
1.	Html design and coding	1	Zihao.li
2.	The connection with remark column of the table: order_master.	1.5	Zihao.li

PBI #	USER1012		
Story	As a user who finished order confirmation and delivery time selection, **I want to** select payment **so that** I can pay for the order		
Task #	Task Description	Effort Hours	Assign To
1.	Coding with controller	1.5	Zihao.li
2.	Coding with the frontend Page and Learning of the drop-down column of the Page	3	Zihao.li

PBI #	USER1006 Check Shopping Cart		
Story	As the logged-in customer, I want to check items in the shopping cart so that I can place an order in the Pizza ordering system.		
Task #	Task Description	Effort Hours	Assign To
1	Write the models for shopping cart, create table pocess attributes including basic information of customer and items	4	Changqing Lin
2	Write the repository and service to calculate the subtotal price of one kind of item and total price of all items in the cart	4	Wenbo Wang
3	Design the layout and write the HTML template of shopping cart	2	Changqing Lin
4	Write the controller function of shopping cart to realize the function that customers are able to browse all selected items in the cart	3	Changqing Lin

PBI #	USER1003 Pizza Menu

Story	As a logged in user, I want to view the pizza menu so that I can browse and select the food I want in the Pizza Ordering System.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template of the menu page.	4	Changqing Lin
2	Setting the category selection button on the left side, and realizing the function of jump to certain kind of items.	3	Changqing Lin

PBI #	OH0000		
Story	As the website user I want to visit previous orders so that I can view all order history list on the website.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template of the menu page.	4	Zichao Cong
2	Write the controller function to viewing the information in the database about order history.	3	Zichao Cong

PBI #	VOS0000		
Story	As the website user I want to visit specific order status so that I can view if order is Not Paid/ Delivering/ Arrived/ Finished on the website.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template of the menu page.	4	Zichao Cong
2	Write the controller function to viewing the information in the database about order status with id.	3	Zichao Cong

Sprint # : 2

Period : 2023.3.30 – 2023.4.13

PBI #	SHOP001		
Story	During subsequent development we found that the change order status function had a higher priority than the change business status, so the PBI was changed to switch order status		
Task #	Task Description	Effort Hours	Assign To
6	Change order status Click on a different status to change the status of that order	8	Wenbo Wang

PBI #	SHOP003		
Story	As a shop manager, I want to choose to see the list of orders on the main shop management page so that all order information can be traced.		
Task #	Task Description	Effort Hours	Assign To
7	Once you click on the details button, the details of the order will be displayed at the top of the page	20	Wenbo Wang
8	After the status has been changed from the initial PENDING to something else, it will no longer appear in the list of undelivered orders	40	Wenbo Wang

PBI #	SHOP005		
Story	As a shop manager, I want to maintain the system master file hat contains relatively permanent records about particular items or entries. So that I can validate and correct inconsistent data when it appears		
Task #	Task Description	Effort Hours	Assign To
9	Click on the Master File button on the main page to jump to the Master File display screen	15	Wenbo Wang
10	Each item in the master file list can be deleted	20	Wenbo Wang

PBI #	LGIN1000 Register user
Story	We want to prevent accounts from being registered by bots and improve the art style of the pages.

Task #	Task Description	Effort Hours	Assign To
1	Writing page-side CAPTCHA functions and add checks to the controller.	3	Enhua Kang
2	Further optimization of page layout.	2	Enhua Kang

PBI #	LGIN1001 Login User		
Story	We want to improve user's login experience and improve the art style of the pages.		
Task #	Task Description	Effort Hours	Assign To
1	Change login request data to simplify the login process.	2	Enhua Kang
2	Further optimization of page layout.	1	Enhua Kang

PBI #	LGIN1002 Find back password		
Story	We want to make sure one who wants to reset the password is the user himself and improve the art style of the pages.		
Task #	Task Description	Effort Hours	Assign To
1	Further optimization of page layout.	1	Enhua Kang
2	Writing third-party SMS functions and add checks to the controller.	2	Enhua Kang

PBI #	USER1000 Add address		
Story	We want to reduce unnecessary data input and improve the art style of the pages.		
Task #	Task Description	Effort Hours	Assign To
1	Further optimization of page layout.	1	Enhua Kang
2	Modify the data required to add an address to make the steps logical and privacy conscious.	2	Enhua Kang

PBI #	USER1001 Delete address		
Story	We want to improve the art style of the pages.		
Task #	Task Description	Effort Hours	Assign To
1	Further optimization of page layout.	1	Enhua Kang

PBI #	USER1002 Manage addresses		
Story	We want to give users ability to go back and improve the art style of the pages.		
Task #	Task Description	Effort Hours	Assign To
1	Further optimization of page layout.	1	Enhua Kang
2	Return button added to ensure that the user can undo an error.	1	Enhua Kang

PBI #	SHOP009		
Story	As the store manager, I want to communicate with customers who have feedback, so that I can more specifically understand customers' ideas.		
Task #	Task Description	Effort Hours	Assign To
1	Implemented the code section for replying to customer comments.	4	Ke Bai
2	Completed the webpage section corresponding to the function.	2	Ke Bai

PBI #	SHOP010

Story	As the store manager, I want to delete the customer comments of malicious attacks, so that other customers will not be misled.		
Task #	Task Description	Effort Hours	Assign To
1	Implemented the function of deleting customer comments.	2	Ke Bai

PBI #	SHOP018		
Story	As a website manager, I want to edit the selected product’s information so that I can modify the information for the item.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template for the pizza deleting page.	4	Siyi Pan
2	Write the controller function to delete the old information and add a new one in database according to particular id	3	Siyi Pan

PBI #	SHOP019		
Story	As a website manager, I want to change the label for a pizza so that I can a clear list for customers.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template for the pizza edit page.	4	Siyi Pan
2	Write the controller function to edit the information in the database according to a particular id	3	Siyi Pan

PBI #	USER1008.1 &USER1008.2(they are done together.)		
Story	As a customer who has ordered, I want to turn from Menu Page to Confirm Page.		
Task #	Task Description	Effort Hours	Assign To
1.	When Page changes, a new row of table “order_master” should be build and put some data into the table.	3	Zihao.li

2.	As we are using JPA and set that the main key of the table should be auto generated value. So I faced some problem while inserting the data. So I took some time to learn the @Dynamicupdate	3	Zihao.li
3.	There are bugs in the transaction before,(like data type in Model/repo/service…) fixing bugs..	1	Zihao.li

PBI #	USER1009		
Story	As a user who has finished the pizza ordering, I want to have an area for address selection so that I can select the address to which I want to receive the delivery.		
Task #	Task Description	Effort Hours	Assign To
1.	Learn some knowledge and code about Frontend	1.5	Zihao.li
2.	Try to make a dropdown column which can show the stored address but bugs and coding issues happened.	4	Zihao.li
3.	Try to fix the bugs while inserting	1.5	Zihao.li

PBI #	USER1011 (Finished)		
Story	As a user, I want to add some comments for this order like flavor requirements or something else to the restaurant and delivery guy.		
Task #	Task Description	Effort Hours	Assign To
1.	Beautify the text area	1	Zihao.li
2.	Add words limit for customer’s remark	1	Zihao.li

PBI #	USER1012(Changed)
Story	As a user who finished order confirmation and delivery time selection, **I want to** select payment **so that** I can pay for the order

Task #	Task Description	Effort Hours	Assign To
1.	Coding to let the selection margin be 20 minutes	1	Zihao.li
2.	Cause the transaction will affect database structure and will take more time, after discussion, We decided to cancel it . and add a new one PBI: User1014	2	Zihao.li

PBI #	USER1003 Pizza Menu		
Story	As a logged in user, I want to view the pizza menu so that I can browse and select the food I want in the Pizza Ordering System.		
Task #	Task Description	Effort Hours	Assign To
1	Set hidden element on the menu page to realize the function of displaying shopping cart and items on the menu page at the same time	5	Changqing Lin
2	Loading data from the back-end to show on the menu page through controller	6	Wenbo Wang Changqing Lin
3	Add buttons on menu page for customer to jump to history order page and user information page	1	Changqing Lin

PBI #	USER1004 View Details		
Story	As a logged in user, I want to browse the detail information of selected item to make decision, so that I can choose the quantity and attributes of that item.		
Task #	Task Description	Effort Hours	Assign To
1	Write the HTML template of item detail page	6	Changqing Lin
2	Loading item relevant data form the back-end to show on item detail page	6	Wenbo Wang Changqing Lin

PBI #	USER1005 Select Attributes
Story	As the logged in customer, I want to choose the quantity and attributes of the item, so that I can add it into the shopping cart to place an order.

Task #	Task Description	Effort Hours	Assign To
1	Design and write the HTML and CSS of attributes	3	Changqing Lin
2	Set “Add to Cart” button to add items in to shopping cart	4	Changqing Lin

PBI #	PER0000		
Story	As the website user I want to pay for the order when error occurs and repay to solve the error so that I can make the order on the website.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template of the menu page.	4	Zichao Cong
2	Write the controller function to pay for an order.	3	Zichao Cong

PBI #	FIC0000		
Story	As the website user I want to visit specific food comment so that I can view the marks and others’ comments on the website.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template of the menu page.	4	Zichao Cong
2	Write the controller function to view and edit comments with id.	3	Zichao Cong

PBI #	SHOP013		
Story	As a logged-in shop manager, I want to search the pizza list so that I can locate specific pizza information that I need to check, and make further modification.		
Task #	Task Description	Effort Hours	Assign To
1	The functional section of searching an existing item in database.	4 hours	Xinyi Xu
2	Complete the html page section corresponding to this searching function.	2 hours	Xinyi Xu

PBI #	SHOP014		
Story	As a logged-in shop manager, I want to classify pizza items so that customers can easily jump to a certain category label to view and make choices.		
Task #	Task Description	Effort Hours	Assign To
1	The functional section of adding a category label.	3 hours	Xinyi Xu
2	Complete the html page section corresponding to adding label function.	2 hours	Xinyi Xu

PBI #	SHOP015		
Story	As a shop manager, I want to edit status of a pizza so that I can control which pizza can be sold under various conditions.		
Task #	Task Description	Effort Hours	Assign To
1	The functional section of editing status of corresponding item.	3 hours	Xinyi Xu
2	Complete the html page section corresponding to this editing function.	2 hours	Xinyi Xu

Sprint # : 3

Period : 2023.4.14 – 2023.5.5

PBI #	LGIN1002 Find back password		
Story	Alternative authentication has been changed due to restrictions on the actual operation of the third-party service due to the restriction of permissions.		
Task #	Task Description	Effort Hours	Assign To
1	Remove third party SMS service and replace with page side random captcha functionality	3	Enhua Kang

PBI #	USER1001 Delete address		
Story	We want to give users ability to go back.		
Task #	Task Description	Effort Hours	Assign To
1	Return button added to ensure that the user can undo an error.	1	Enhua Kang

PBI #	USER1002 Manage addresses		
Story	Allowing space for subsequent development and reducing the display of irrelevant information.		
Task #	Task Description	Effort Hours	Assign To
1	Adding a button to return user information increases the scalability of user information content	1	Enhua Kang
2	Modify the customer id information attached to the display address to keep the information simple	1	Enhua Kang

PBI #	SHOP007		
Story	As the store manager, I want to know the turnover of the store for a certain period of time, so that I can formulate a better business plan.		
Task #	Task Description	Effort Hours	Assign To
1	Implemented the function of selecting time and calculating the revenue during that time period.	6	Ke Bai
2	Completed the webpage section corresponding to the function.	4	Ke Bai

PBI #	SHOP020
Story	As a website manager, I want to set prices for customized pizzas so that I can provide customers convenience shopping experience.

Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template for the size and taste page.	4	Siyi Pan
2	Write the controller function to edit the information in the database according to a particular id	3	Siyi Pan

PBI #	USER1008.1 &USER1008.2 (they are done together.)		
Story	As a customer who has ordered, I want to turn from Menu Page to Confirm Page.		
Task #	Task Description	Effort Hours	Assign To
1.	Debug with the html and controller: error:500 / code editing.	3.5	Zihao.li
2.	Beautifying the confirm Page		Enhua kang

PBI #	USER1009		
Story	As a user who has finished the pizza ordering, I want to have an area for address selection so that I can select the address to which I want to receive the delivery.		
Task #	Task Description	Effort Hours	Assign To
1.	As the address service had some bugs that can not access the stored data, and the frontend html of “address” were not completely done. fixing bugs. A back-up plan that let customer just type in address had been done.	3	Zihao.li
2.	The drop-down function of address selection		Wenbo.wang

PBI #	USER1013		
Story	As a customer, I want to turn to the order-finished Page.		
Task #	Task Description	Effort Hours	Assign To
1.	Coding with frontend html and css of Order finished Page	2	Zihao.li

2.	The animation effect of “success” on order finished Page	1.5	Zihao.li
3.	Beautifying of order finished Page	2	Enhua kang

PBI #	USER1003 Pizza Menu		
Story	As a logged in user, I want to view the pizza menu so that I can browse and select the food I want in the Pizza Ordering System.		
Task #	Task Description	Effort Hours	Assign To
1	Write controller for customer to jump to order history page and user information page	2	Changqing Lin
2	Write controller for customer to sign out	1	Changqing Lin
3	Design and implement the style of menu page	5	Changqing Lin Enhua Kang

PBI #	USER1006 Check Shopping Cart		
Story	As the logged-in customer, I want to check items in the shopping cart so that I can place an order in the Pizza ordering system.		
Task #	Task Description	Effort Hours	Assign To
1	Set “check” button in the HTML template to realize the function of placing order	1	Changqing Lin
2	Write the controller of function to list all items	3	Changqing Lin
3	Write the controller of function to add items into the shopping cart	6	Wenbo Wang Changqing Lin

PBI #	USER1007 Delete Item		
Story	As the logged-in customer, I want to delete items in my shopping cart so that I can confirm that the items in my shopping cart are what I want to buy.		
Task #	Task Description	Effort Hours	Assign To

1	Set “delete” and “empty cart” button in the HTML template	3	Changqing Lin
2	Loading total price on the shopping cart when the number of items change from time to time	2	Changqing Lin
3	Write the controller of delete one kind of item in the shopping cart	3	Changqing Lin
4	Write the controller of delete all items in the shopping cart	3	Wenbo Wang Changqing Lin

PBI #	FIC0001		
Story	As the website user I want to add specific food comment so that others can view the marks and comments on the website.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template of the menu page.	4	Zichao Cong
2	Write the controller function to add comments to the database.	3	Zichao Cong

PBI #	FIC0002		
Story	As the website user I want to edit or delete specific food comment so that I can change the previous comments on the website.		
Task #	Task Description	Effort Hours	Assign To
1	Write the basic HTML template of the menu page.	4	Zichao Cong
2	Write the controller function to delete and edit comments with id.	3	Zichao Cong

PBI #	SHOP011		
Story	As a logged-in shop manager, I want to have a “Manage Pizza” page to act as a hub so that all management pages can be consolidated in one location and I can do some operations to pizzas as I want under various situation.		
Task #	Task Description	Effort Hours	Assign To

1	The functional section adding jump links for each item in list, improving “Edit” and “Delete” page.	4 hours	Xinyi Xu
2	Complete the collective html page and design webpage style.	2 hours	Xinyi Xu

PBI #	SHOP014		
Story	As a logged-in shop manager, I want to classify pizza items so that customers can easily jump to a certain category label to view and make choices.		
Task #	Task Description	Effort Hours	Assign To
1	The functional section of extracting menu labels and connecting it to shopping cart module.	5 hours	Xinyi Xu
2	Complete the collective html page and whole unified page integration.	2 hours	Xinyi Xu

PBI #	SHOP004		
Story	As a shop manager, I want to add or edit my shop information so that customers can see some information about my shop when they place an order.		
Task #	Task Description	Effort Hours	Assign To
11	Click on the View Undelivered Orders button to filter the display of undelivered orders	6	Wenbo Wang

CPT202 Assignment 1

Individual Contribution for Group Report and Presentation

Group Number:

Name	ID Number	Contribution (%)
1. Wenbo Wang	2036580	14
2. Zichao Cong	2035606	13
3. Xinyi Xu	2034100	13
4. Enhua Kang	2033981	13
5. Siyi Pan	2033961	12
6. Changqing Lin	2039153	12
7. Ke Bai	2035843	12
8. Zihao Li	2037161	10

Signed by all members: