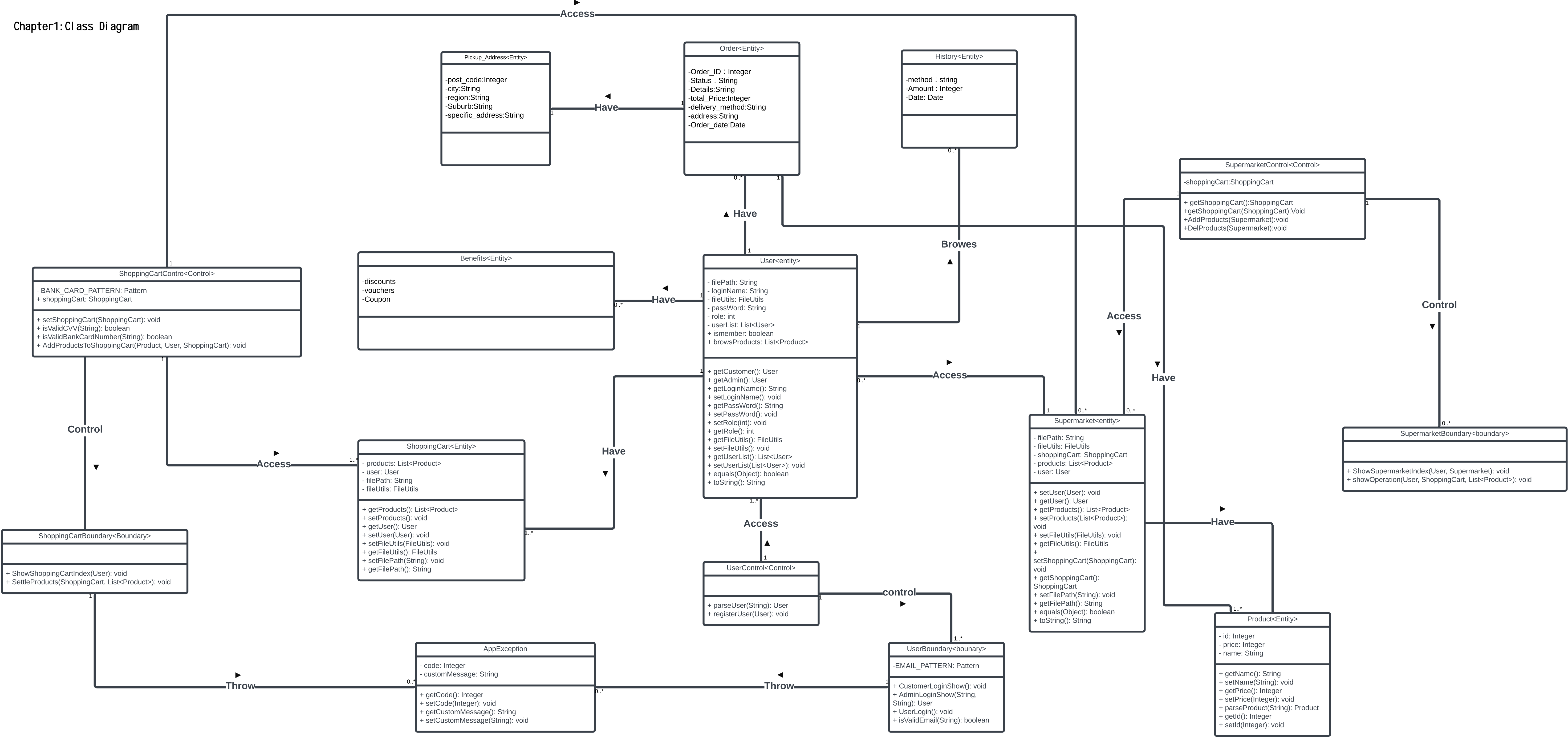FIT 5136 Software Engineering 2024 S1

Assignment 3: Development Process and Artifact

Group Number: Thursday,2-4, Group1

Tutor:Mux Wang

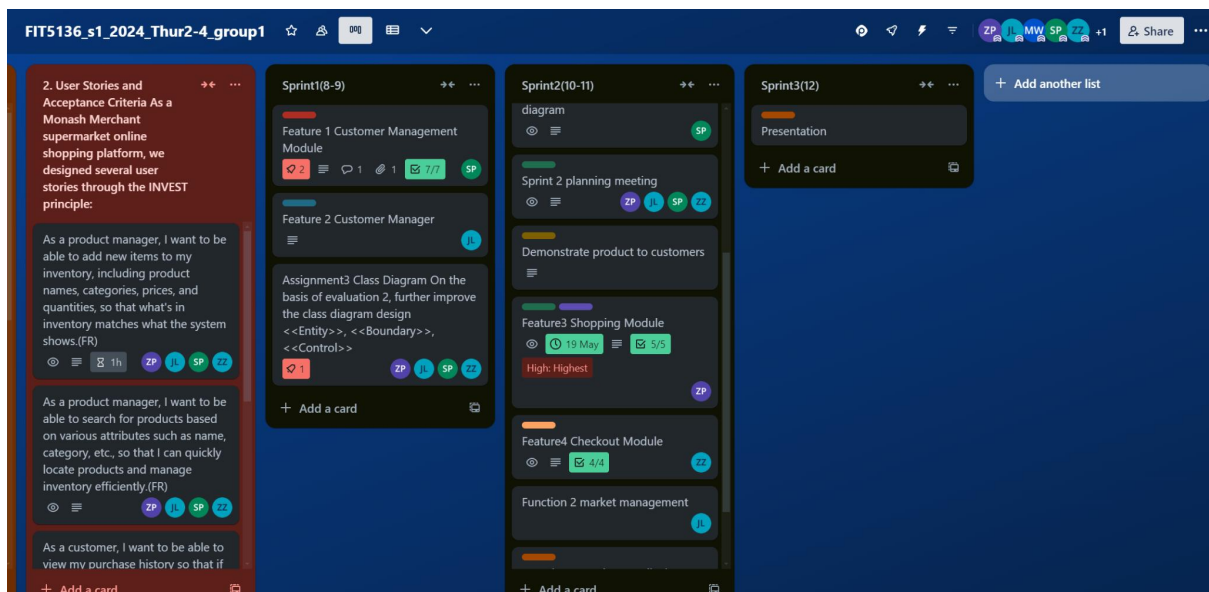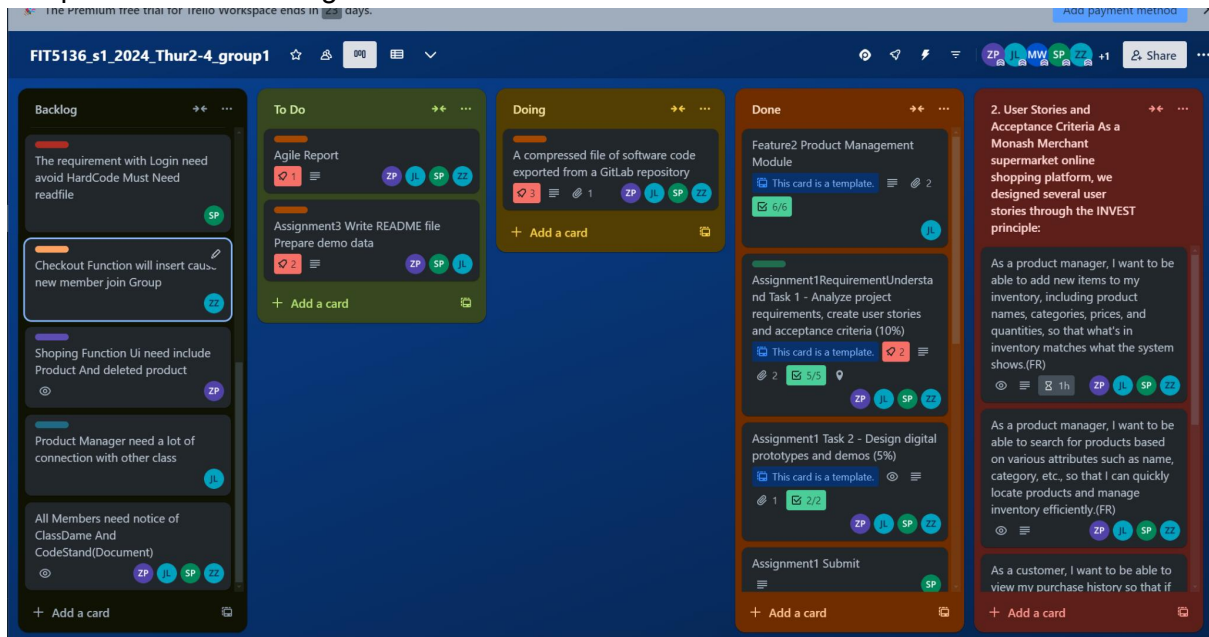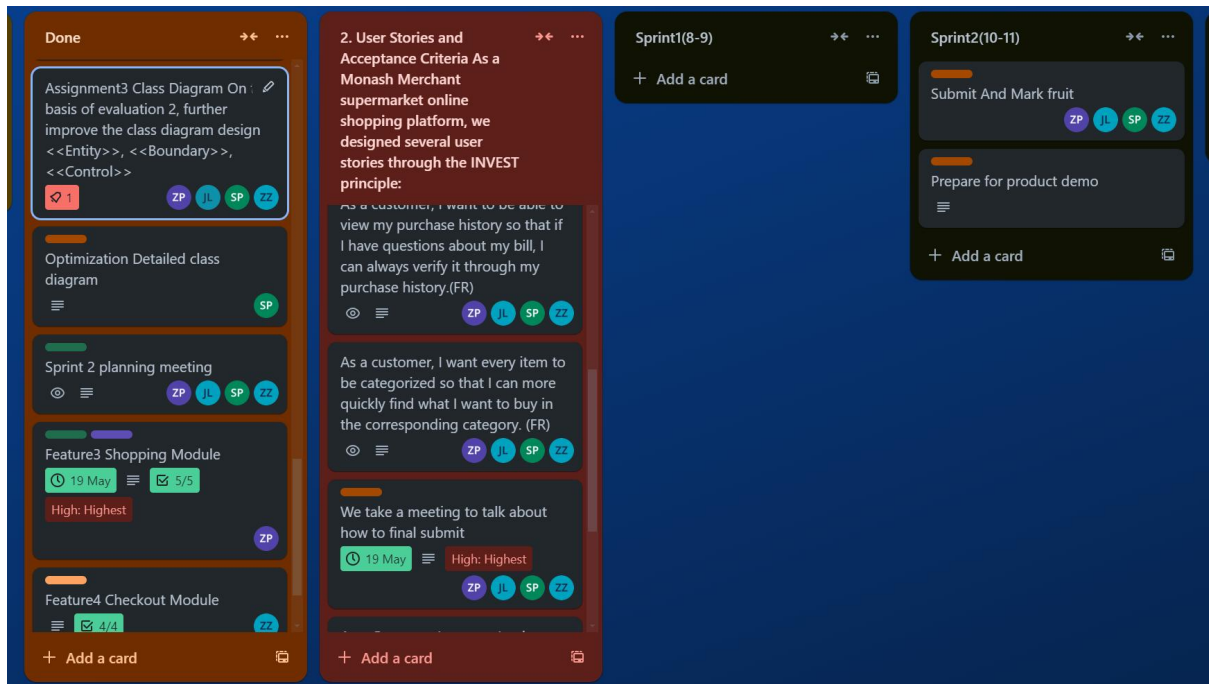Group Member:Shaohong Pan,Ziqi Pei,Jiabao Li,Zhengbang Zhao

Chapter1: Class Diagram

Pickup_Address<Entity>
- -post_code:Integer
- -city:String
- -region:String
- -Suburb:String
- -specific_address:String

Order<Entity>
- -Order_ID : Integer
- -Status : String
- -Details:Srring
- -total_Price:Integer
- -delivery_method:String
- -address:String
- -Order_date:Date

History<Entity>
- -method : string
- -Amount : Integer
- -Date: Date

SupermarketControl<Control>
- -shoppingCart:ShoppingCart
- + getShoppingCart():ShoppingCart
- +getShoppingCart(ShoppingCart):Void
- +AddProducts(Supermarket):void
- +DelProducts(Supermarket):void

ShoppingCartContro<Control>
- - BANK_CARD_PATTERN: Pattern
- + shoppingCart: ShoppingCart
- + setShoppingCart(ShoppingCart): void
- + isValidCVV(String): boolean
- + isValidBankCardNumber(String): boolean
- + AddProductsToShoppingCart(Product, User, ShoppingCart): void

Benefits<Entity>
- -discounts
- -vouchers
- -Coupon

User<entity>
- - filePath: String
- - loginName: String
- - fileUtils: FileUtils
- - passWord: String
- - role: int
- - userList: List<User>
- + ismember: boolean
- + browsProducts: List<Product>
- + getCustomer(): User
- + getAdmin(): User
- + getLoginName(): String
- + setLoginName(): void
- + getPassWord(): String
- + setPassWord(): void
- + setRole(int): void
- + getRole(): int
- + getFileUtils(): FileUtils
- + setFileUtils(): void
- + getUserList(): List<User>
- + setUserList(List<User>): void
- + equals(Object): boolean
- + toString(): String

ShoppingCart<Entity>
- - products: List<Product>
- - user: User
- - filePath: String
- - fileUtils: FileUtils
- + getProducts(): List<Product>
- + setProducts(): void
- + getUser(): User
- + setUser(User): void
- + setFileUtils(FileUtils): void
- + getFileUtils(): FileUtils
- + setFilePath(String): void
- + getFilePath(): String

Supermarket<entity>
- - filePath: String
- - fileUtils: FileUtils
- - shoppingCart: ShoppingCart
- - products: List<Product>
- - user: User
- + setUser(User): void
- + getUser(): User
- + getProducts(): List<Product>
- + setProducts(List<Product>): void
- + setFileUtils(FileUtils): void
- + getFileUtils(): FileUtils
- + setShoppingCart(ShoppingCart): void
- + getShoppingCart(): ShoppingCart
- + setFilePath(String): void
- + getFilePath(): String
- + equals(Object): boolean
- + toString(): String

SupermarketBoundary<boundary>
- + ShowSupermarketIndex(User, Supermarket): void
- + showOperation(User, ShoppingCart, List<Product>): void

ShoppingCartBoundary<Boundary>
- + ShowShoppingCartIndex(User): void
- + SettleProducts(ShoppingCart, List<Product>): void

UserControl<Control>
- + parseUser(String): User
- + registerUser(User): void

AppException
- - code: Integer
- - customMessage: String
- + getCode(): Integer
- + setCode(Integer): void
- + getCustomMessage(): String
- + setCustomMessage(String): void

UserBoundary<bounary>
- -EMAIL_PATTERN: Pattern
- + CustomerLoginShow(): void
- + AdminLoginShow(String, String): User
- + UserLogin(): void
- + isValidEmail(String): boolean

Product<Entity>
- - id: Integer
- - price: Integer
- - name: String
- + getName(): String
- + setName(String): void
- + getPrice(): Integer
- + setPrice(Integer): void
- + parseProduct(String): Product
- + getId(): Integer
- + setId(Integer): void

Access
Have
Browes
Access
Control
Have
Have
Control
Access
Have
Access
Throw
Throw
control

Appendix url:
https://lucid.app/lucidchart/a03711ed-8b46-4f68-b1eb-aa8ee613495c/edit?viewport_loc=-2304%
2C-910%2C5729%2C3261%2C0_0&invitationId=inv_276428f0-5c16-46b5-b2de-ee6512f9c0d0

Chapter 2: Trello Url

https://trello.com/b/Niavayf6

Chapter 3:GitLab Url

https://git.infotech.monash.edu/fit5136/fit5136-s1-2024/thursday-2-4-1.git

Chapter 4: Trello Backlog

Done

Assignment3 Class Diagram On basis of evaluation 2, further improve the class diagram design <<Entity>>, <<Boundary>>, <<Control>>

📌 1 — ZP JL SP ZZ

Optimization Detailed class diagram

SP

Sprint 2 planning meeting

ZP JL SP ZZ

Feature3 Shopping Module

🕐 19 May — ☑ 5/5

High: Highest

ZP

Feature4 Checkout Module

☑ 4/4 — ZZ

+ Add a card

2. User Stories and Acceptance Criteria As a Monash Merchant supermarket online shopping platform, we designed several user stories through the INVEST principle:

As a customer, I want to be able to view my purchase history so that if I have questions about my bill, I can always verify it through my purchase history.(FR)

👁 📄 — ZP JL SP ZZ

As a customer, I want every item to be categorized so that I can more quickly find what I want to buy in the corresponding category. (FR)

👁 📄 — ZP JL SP ZZ

We take a meeting to talk about how to final submit

🕐 19 May — High: Highest

ZP JL SP ZZ

+ Add a card

Sprint1(8-9)

+ Add a card

Sprint2(10-11)

Submit And Mark fruit

ZP JL SP ZZ

Prepare for product demo

📄

+ Add a card

Chapter 5: Agile
Agile Development Process Report

Our team has adopted Agile development methods in the past 5 weeks (weeks 8-12), focusing on delivering the most valuable features and products according to customer needs. The entire development process is based on 3 sprints (1-2 weeks each), all software products are completed in week 11, and demonstrated to customers in week 12.

Our team actively uses and maintains the Trello board. The board contains the following columns: Backlog, Sprint 1, Sprint 2, Sprint 3, Todo and Done. We held frequent meetings to brainstorm, discuss sprint planning, task estimation, task priority, and task allocation.

For each sprint, we performed the following activities:

1. Start sprint planning
a. Identify the highest priority tasks and features in this sprint
b. Identify the tasks that need to be performed
c. Identify the features that need to be implemented and delivered at the end of the sprint
d. Estimate the required effort
e. Take a screenshot of the Trello board at the beginning of the sprint planning meeting

2. Develop the product
Our team actively uses FIT's GitLab version control system to deliver working software products. We do not use other platforms for version control. Any contributions outside of GitLab will not be recognized, considered, and scored.

3. End the sprint
a. At the end of the sprint, we demonstrate working software in the review meeting (practical class)
b. We show the new features that have been completed and merged into the main branch to the product owner/customer

We followed the following sprint goals and timeline:

Sprint 1 (week 8-9):
- Complete the detailed class diagram design, further refine the initial class diagram, add boundary classes, control classes, assign access modifiers, data types, parameters and return values   to properties and methods, add class stereotypes, modify multiplicity and association direction, etc., to form a detailed class diagram for the complete system.
- Delivery function 1: Customer management, allowing customers and administrators to log in with a given email password, without registration and other functions.
- Delivery function 2: Inventory management, allowing supermarket administrators to add, update, delete items, and generate sample data.

Sprint 2 (week 10-11):

- Delivery function 3: Shopping cart, allowing users to add items to the shopping cart and check out, only basic functions are required.
- Delivery function 4 (if it is a 4-person team): Checkout function, only basic checkout process is required.
- Test the implemented functions, improve the readme file, organize the code and ensure it is demonstrable.

Sprint 3 (week 12):
- Demonstrate all the completed functions to the customer (teaching assistant) in class, run the software and show the procurement process. The demonstration uses pre-prepared test data.
- Update the local code based on GitLab before the demonstration and ensure it is consistent with the latest version.

By following agile practices, we can focus on delivering the most valuable functions to customers, actively communicate and collaborate, and flexibly adapt to changes and feedback during the development process. The use of Trello Kanban and GitLab helps us effectively manage and track development progress, and frequent sprint reviews allow us to get feedback in time and continuously improve our products. Throughout the process, we completed a detailed class diagram design, implemented major functions such as customer management, product management, shopping cart, checkout, and successfully demonstrated our results to customers in the end.

Appendix:Task Allocation Form

Task Name and Description	Team Members
Development	Shaohong Pan(40%), Ziqi Pei(25%),Jiabao Li(20%), Zhenbang Zhao(15%)
Class Diagram	ShaoHongPan(30%),Ziqi Pei(25%),Jiabao Li(25%),Zhenbang Zhao(20%)
Test	ShaoHongPan(35%),Ziqi Pei(27%),Jiabao Li(23%),Zhenbang Zhao(15%)
Trello	Ziqi Pei(40%),Jiabao Li (25%),ShaoHongPan(20%),Zhenbang Zhao(15%)
Process And Agile practice	Ziqi Pei(30%),Jiabao Li (25%),ShaoHongPan(25%),Zhenbang Zhao(15%)
Readme	Jiabao Li(30%),Ziqi Pei(25%),Shaohong Pan(25%),ZhenBang Zhao(20%)
Java Document	ShaoHongPan(35%),Zhenbang Zhao(25%),Ziqi Pei(23%),Jiabao Li(17%)
Git Management	Shaohong Pan(30%),Ziqi Pei(30%),Jiabao Li(25%),Zhenbang Zhao(15%)

Deliver Feature1(Customer Management)	ShaoHong Pan(100%)
Deliver Feature2(Product Management)	Jiabao Li(100%)
Deliver Feature3(Shopping Cart)	Ziqi Pei(100%)
Deliver Feature4(Check our/ Settle)	Zhenbang Zhao(100%)
Demo	Shaohong Pan(25%),Ziqi Pei(25%),Jibao Li(25%),Zhenbang Zhao(25%)
Requirement Analysis(for Assignment1)	Shaohong Pan(30%),Ziqi Pei(30%),Jiabao Li(25%),Zhenbang Zhao(15%)
Software Design(for Assignment2)	Shaohong Pan(30%),Ziqi Pei(27%),Jiabao Li(25%), Zhenbang Zhao(18%)

Read me:

This project build in IntelliJ IDEAWhen First Step Should Git pull Git Rup

https://git.infotech.monash.edu/fit5136/fit5136-s1-2024/thursday-2-4-1.git

Then Should Download SDK，The problem will be fixed then run, Supermarket will print

Supermarket System

This is a command-line application that simulates a supermarket system. It allows merchants (admins) to manage products, including viewing, adding, and deleting products.

Getting Started

To run the application, ensure you have Java installed on your system. Then, navigate to the project directory and run the application.

Usage

Upon starting the application, you will be presented with the following options:

Customer login (Not implemented)

Merchant login

Exit

Merchant Login

As a merchant (admin), you can log in using the following credentials:

Username: admin@merchant.monash.edu

Password: 12345678

Once logged in, you will have the following options:

View goods

Return to the previous step

View Goods

This option displays a list of all available products in the supermarket, along with their IDs, names, and prices.

Add Goods

After viewing the goods, you can choose to add a new product by providing the product name and price.

Delete Goods

You can also delete an existing product by providing its ID.

----------Welcome to the supermarket system.----------

1:Customer login

2:Merchant login

3:Exit

Please enter your choice:

2

Please enter a user name(Enter your email address):

admin@merchant.monash.edu

Please enter a user Password:

12345678

Login is in progress.

login success.

----------Welcome to the supermarket system.----------

1:View goods

2:Return to the previous step

Please enter your choice:

1

Id Name Price
7 water 3
8 cat 60
9 Voost Drink20
----------Welcome to the supermarket admin system.----------
1:Add goods
2:Del goods
3:Return to the previous step
Please enter your choice:
1
Please enter a Product name:
ESSE Menthol
Please enter a Product price:
22
AddProducts is in progress.
----------Welcome to the supermarket admin system.----------
1:Add goods
2:Del goods
3:Return to the previous step
Please enter your choice:
3
Return to the previous step
----------Welcome to the supermarket system.----------
1:View goods
2:Return to the previous step
Please enter your choice:
1
Id Name Price
7 water 3
8 cat 60
9 Voost Drink20
10 ESSE Menthol22
----------Welcome to the supermarket admin system.----------
1:Add goods
2:Del goods
3:Return to the previous step
Please enter your choice:
2
Please enter a Product Id:
9
DelProducts is in progress.
----------Welcome to the supermarket admin system.----------
1:Add goods
2:Del goods
3:Return to the previous step
Please enter your choice:
3
Return to the previous step

----------Welcome to the supermarket system.----------
1:View goods
2:Return to the previous step
Please enter your choice:
1
Id Name Price
7 water 3
8 cat 60
10 ESSE Menthol22
----------Welcome to the supermarket admin system.----------
1:Add goods
2:Del goods
3:Return to the previous step
Please enter your choice:
2
Please enter a Product Id:
8
DelProducts is in progress.
----------Welcome to the supermarket admin system.----------
1:Add goods
2:Del goods
3:Return to the previous step
Please enter your choice:
3
Return to the previous step
----------Welcome to the supermarket system.----------
1:View goods
2:Return to the previous step
Please enter your choice:
1
Id Name Price
7 water 3
10 ESSE Menthol22
----------Welcome to the supermarket admin system.----------
1:Add goods
2:Del goods
3:Return to the previous step
Please enter your choice:
3
Return to the previous step
----------Welcome to the supermarket system.----------
1:View goods
2:Return to the previous step
Please enter your choice:
2
3:Return to the previous step
----------Welcome to the supermarket system.----------
1:Customer login

2:Merchant login
3:Exit
Please enter your choice:
1

 First, you can enter option 1 for customer login.
You will be asked to provide your user name and your password.
Username:member@student.monash.edu
Password: Monash1234
When you successfully log in, you will also be provided with 3 options:
1view products,
2. view shopping cart
3. return to the previous interface. When you choose input option 1, the system will display a product list, which includes
product id, name and price.
We have two options on this page.
1First, you can add the items in the list to the shopping cart by entering the item ID.
2. Another option is to return to the previous page.
When you choose to enter the product ID, the product can be successfully added to the shopping cart. You can also continue to enter other product IDs to add or you can return to the main interface by entering option 2.
On the main interface, you can view the items you just added to the shopping cart by entering option 2. When you enter this interface you can see the list of items you added to the shopping cart, and you can continue checkout by selecting option 2.
 At the checkout interface we will ask you to provide your username,
1.card number (16 digits)
2. cvv (3 digits).
 After you provide this information we will display settlement success and display the total price.

----------Welcome to the supermarket system.----------
1:Customer login
2:Merchant login
3:Exit
Please enter your choice:
1
Please enter a user name(Enter your email address):
member@student.monash.edu
Please enter a user Password:
Monash1234
 login success.
----------Welcome to the supermarket system.----------
1:View goods
2:View ShoppingCart
3:Return to the previous step
Please enter your choice:
1
Id   Name   Price

7   water   3
10   ESSE Menthol22
----------Welcome to the supermarket admin system.----------
1:Add goods to the shopping cart
2:Return to the previous step
Please enter your choice:
1
1:Enter the goods Id
2
Your choice goods doesn't exist.
----------Welcome to the supermarket admin system.----------
1:Add goods to the shopping cart
2:Return to the previous step
Please enter your choice:
2
Return to the previous step
----------Welcome to the supermarket system.----------
1:View goods
2:View ShoppingCart
3:Return to the previous step
Please enter your choice:
1
Id   Name   Price
7   water   3
10   ESSE Menthol22
----------Welcome to the supermarket admin system.----------
1:Add goods to the shopping cart
2:Return to the previous step
Please enter your choice:
1
1:Enter the goods Id
10
Add goods to the shopping cart
----------Welcome to the supermarket admin system.----------
1:Add goods to the shopping cart
2:Return to the previous step
Please enter your choice:
2
Return to the previous step
----------Welcome to the supermarket system.----------
1:View goods
2:View ShoppingCart
3:Return to the previous step
Please enter your choice:
2
Id   Name   Price
10   ESSE Menthol22
----------Welcome to the supermarket system.----------

1:View shoppingCart goods
2:checkout
3:Return to the previous step
Please enter your choice:
2
checking out.
Please enter user name(Card holder name):
Jeck
Please enter card number(16 digits):
1234123412341234
Please enter card cvv(3 digits):
277
Settle success , Order amount : $22
----------Welcome to the supermarket system.----------
1:View shoppingCart goods
2:checkout
3:Return to the previous step
Please enter your choice:
1
Perform view goods operation
Id   Name   Price
----------Welcome to the supermarket system.----------
1:View shoppingCart goods
2:checkout
3:Return to the previous step
Please enter your choice:
3
Return to the previous step
----------Welcome to the supermarket system.----------
1:View goods
2:View ShoppingCart
3:Return to the previous step
Please enter your choice:
1
Id   Name   Price
7   water   3
----------Welcome to the supermarket admin system.----------
1:Add goods to the shopping cart
2:Return to the previous step
Please enter your choice:
1
1:Enter the goods Id
7
Add goods to the shopping cart
----------Welcome to the supermarket admin system.----------
1:Add goods to the shopping cart
2:Return to the previous step
Please enter your choice:

2

Return to the previous step

----------Welcome to the supermarket system.----------

1:View goods

2:View ShoppingCart

3:Return to the previous step

Please enter your choice:

2

Id   Name   Price

7   water   3

----------Welcome to the supermarket system.----------

1:View shoppingCart goods

2:checkout

3:Return to the previous step

Please enter your choice:

2

checking out.

Please enter user name(Card holder name):

Jeck

Please enter card number(16 digits):

123412341234

card number invalid.Please reenter card number:

277

card number invalid.Please reenter card number:

123412341234

card number invalid.Please reenter card number:

1234123412341234

Please enter card cvv(3 digits):

277

Settle success , Order amount : $3

----------Welcome to the supermarket system.----------

1:View shoppingCart goods

2:checkout

3:Return to the previous step

Please enter your choice:

3

Return to the previous step

----------Welcome to the supermarket system.----------

1:View goods

2:View ShoppingCart

3:Return to the previous step

Please enter your choice:

3

3:Return to the previous step

----------Welcome to the supermarket system.----------

1:Customer login

2:Merchant login

3:Exit

Please enter your choice:
3
Exit program