



MINISTRY OF EDUCATION AND TRAINING

FPT UNIVERSITY

Capstone Project Document

BeanFast - Breakfast ordering and delivery system for students in primary school from nearby cloud kitchen

GSP24SE27	
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Capstone Project code	SP24SE082

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We acknowledge that due to our lack of experience and unfamiliarity with certain technologies used in the project, mistakes were inevitable. We hope that people will overlook and forgive any errors or shortcomings. Thank you for your unwavering support.

Best regards,

BeanFast Team.

Definition and Acronyms

Acronym	Definition
BA	Business Analysis
BR	Business Rule
ERD	Entity Relationship Diagram
GUI	Graphical User Interface
PM	Project Manager
SDD	Software Design Description
SRS	Software Requirement Specification
UAT	User Acceptance Test
UC	Use Case
API	Application Programming Interface
BE	Backend
FE	Frontend

Table 1 - Definition and Acronym

I. Project Introduction

1. Overview

1.1 Project Information

- Project name: BeanFast - Breakfast ordering and delivery system for students in primary school from nearby cloud kitchen.
- Project code: SP24SE082
- Group name: GSP24SE27
- Software type: Web Application, Mobile Application

1.2 Project Team

a. Supervisor

Full Name	Email	Phone Number	Role
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Table 2 - Supervisor

b. Team Members

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Phạm Quốc Thịnh	thinhpqse151077@fpt.edu.vn	0867660719	Member
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Table 3 - Team Members

2. Product Background

Every morning of the week in areas of the city, most primary school students are taken to school by transport by their parents and only a few go to school alone. Preparing to take children to school in just a short period of time each morning will be quite difficult, typically because students wake up late and only have enough time for personal hygiene and changing uniforms and bring school bags to class.

Therefore, letting students have breakfast at home is quite a challenge for parents because the possibility of being late to class is very high. Many parents choose to give their children money every time they take them to school and then let them buy whatever they want to eat. Problems that can occur are that children can eat at street vendors or buy food from fast food carts in front of the school gate and parents are completely unaware of whether those foods are suitable for the child whether or not, whether it is nutritious or not, or whether it provides enough energy for the child to participate in learning activities or not.

Furthermore, many children do not use that money to eat breakfast, but on the contrary, they will fast to save money to buy other things such as cakes, candy, toys,

etc. Therefore, the nutritional issue of breakfast sending children to primary school is not guaranteed and out of control.

Realizing this gap, the idea of BeanFast application was formed. Designed to serve both the Yummy House kitchen and its customers, BeanFast aims to change the way kitchens do business and provide nutritious breakfasts to students by providing a solution integrated management while enhancing customer experience in terms of convenience when using the service.

3. Existing System

3.1 1phut30giay

- **Description:** The main color of 1 Minute 30 Seconds' breakfast cart is yellow. This color is also the main color of the brand logo. The brand's target customer group is mainly students and office workers. Therefore, breakfast carts often appear in areas near schools or office areas. With the criteria of bringing customers a "Safe - Hygienic - Nutrition - Fast" breakfast, 1 Minute 30 Seconds constantly creates, improves and enhances product/service quality. Committed, the breakfast experience at 1 Minute 30 Seconds will be a wonderful culinary experience, meeting both nutritional needs and enjoyment in every meal.
- **Link:**
 - Web: <https://1phut30giay.vn>
- **Pros:**
 - The website interface design is simple and user-friendly.
 - The website has many sections providing information to customers (introduction, activities, products, blog, recruitment, franchising,...).
- **Cons:**
 - Lacks online payment options.
 - Exclusively web-based without support for mobile platforms.
 - Not accepting orders through the website yet, can only order food through Shopeefood, GrabFood, BeFood, Gojek.
 - Missing user authentication feature, potentially affecting user security and personalized experiences.
 - Cannot view order history and warranty information.

3.2 Utop

- **Description:** Utop is a platform that allows users to search for the nearest restaurant location, view menus by session, order food in advance for pickup and pay at the counter to help save time waiting for cooking, whose main outstanding feature is payment at the counter based on Utop points through a number of ways such as QR code scanning right on the app or if you are an employee of the company (for example, you are an employee of FPT Software), you will integrated payment feature on employee card and just swipe the card at the counter for each transaction, the system will automatically change the Utop points in the app, very convenient and does not take much time.
- **Link:**

- Web: <https://order.utop.vn>
 - Android: <https://play.google.com/store/apps/details?id=com.utop>
 - IOS: <https://apps.apple.com/vn/app/utop/id1442447113>
- **Pros:**
 - Both web and mobile app platforms are available for users.
 - The app provides diverse payment options, including online payments, in-store payments.
 - Can pay with Utop points, Momo, VnPay, or ATM card.
 - Suggested stores and dishes based on current location.
 - There are also many other outstanding features such as many E-vouchers, UtopBACK refunds when transactions arise at partners such as Shoppee, Lazada, Tiki, Agoda, Traveloka,...
 - **Cons:**
 - The website is still accessible but is only running in a test environment.
 - Mobile apps are mostly operated internally at the company.

4. Business Opportunity

In the hustle and bustle of life in the city, parents are always busy every morning after waking up, not only preparing themselves to go to work but also preparing their children for school. It seems that preparing breakfast for children is simple, but it takes a lot of time and effort, especially for elementary school students, it is even more difficult. Although there are currently many restaurants selling breakfast to serve elementary school students, criteria such as service time, food quality, and price are also considered by parents. Parents want to find a place that meets the above criteria is not everywhere and is almost difficult to find. Understanding that difficulty, BeanFast has launched a comprehensive platform, allowing users to choose dishes, order food, and choose delivery locations seamlessly. Food will be provided by a kitchen affiliated with the platform, ensuring food quality, as well as ensuring food safety and hygiene. For places that provide food like kitchens, it changes the way of operations, improves business efficiency and the connection between customers and the kitchen will be better. In line with the global trend towards digitalization and bringing breakfast with the criteria of full nutrition, fast and convenient, BeanFast is ready to become a place that brings the best service to customers.

5. Software Product Vision

For parents who want their children to have a quick, convenient and nutritious breakfast to fuel them for effective learning, BeanFast is a comprehensive digital platform that simplifies and enhances the experience for your child's breakfast. By using BeanFast, users, from those who are busy every morning preparing for school or work to those who just want to have delicious breakfasts, can easily see the dishes updated by the kitchen. Make a menu every day. At the same time, kitchen managers get powerful tools to support business management. In the future, with BeanFast's service, the journey from discovering nutritious breakfasts for elementary school

students to managing the kitchen business becomes effective. BeanFast provides a unified platform that makes breakfast no longer a problem for parents.

6. Project Scope & Limitations

6.1 Major Features

6.1.1 Admin Website

- FE-01: Manage accounts:
 - Create new account (Kitchen manager, Deliverer)
 - View list of accounts
 - Update account status (Active/Inactive)
- FE-02: Manage kitchens:
 - Add new kitchen
 - View list of kitchens
 - Search kitchen

6.1.2 Kitchen Manager Website

- FE-01: Manage menus:
 - Create new menu
 - View list of menus
- FE-02: Manage foods:
 - Add new food
 - View list of foods
 - View food detail
 - Search food
- FE-03: Manage orders:
 - View list of orders
 - View order detail
 - Update order status
- FE-04: Manage places:
 - Add new place
 - View list of places
 - View place detail
- FE-05: Manage sessions:
 - Add new session
 - View list of sessions
 - View session detail
- FE-06: Manage gifts:

- Add new gift
 - View list of gifts
 - View gift detail
 - Search gift
- FE-07: View dashboard

6.1.3 Mobile Application For Customer

- FE-01: View menus
- FE-02: Manage foods:
 - View food detail
 - Add food to cart
- FE-03: Manage orders:
 - Create order
 - View order detail
 - Cancel order
- FE-04: Topup
- FE-05: View transactions
- FE-06: Manage childrens:
 - Add new children
 - View children profile
 - Update children profile
- FE-07: Manage gifts:
 - View gift detail
 - Exchange gift(s)
- FE-08: Play event games

6.1.4 Mobile Application For Deliverer

- FE-01: View delivery schedule
- FE-02: Update completed order status when delivered

6.1.5 Authorized User

- FE-01: Login
- FE-02: Logout
- FE-03: Manage profile:
 - View profile detail
 - Update profile information

6.2 Limitations & Exclusions

- **LI-01:** BeanFast app on IOS is not available.
- **LI-02:** Limited Payment Gateways: with prepayment options, BeanFast only supports VNPay.
- **LI-03:** Geographic Restriction - BeanFast was developed with the main goal of serving customers at a number of elementary schools in District 9 of Ho Chi Minh city and currently has only one kitchen. It will not accommodate requests or deliver outside this area.

II. Project Management Plan

1. Overview

1.1 Scope & Estimation

#	WBS Item	Complexity	Est. Effort (man-days)
1	Project Initiating		
1.1	Requirement Analysis	Medium	2
1.2	Problem Analysis	Complex	3
1.3	Determine Project Scope	Complex	2
1.4	Listing Requirements	Medium	1
2	Project Planning		
2.1	Featural List	Medium	1
2.2	User Stories	Medium	2
2.3	Use Case Diagram	Medium	2
2.4	Conceptual Diagram	Medium	1
2.5	Entity Relation Diagram	Medium	1
2.6	Physical Diagram	Medium	1
2.7	Team Meeting	Simple	1
2.8	Supervisor Meeting	Simple	1
2.9	Create Source Code Base	Complex	6
3	Project Executing		
3.1	Iteration 1		
3.1.1	Weekly Meeting	Simple	1
3.1.2	Requirement & Design	Medium	2
3.1.3	Code & Implementation		
	Backend Development		
3.1.3.1	Configuration and set up environment	Medium	1

3.1.3.2	Create entities and DTO, Mapping DTOs	Simple	2
3.1.3.3	Repository, Service layers	Medium	3
3.1.3.4	Authorization service	Simple	1
3.1.3.5	Validation	Complex	3
3.1.3.6	Set up SMS OTP service	Medium	2
3.1.3.7	Create CRUD function for selected entities	Medium	7
3.1.3.8	Middleware layer (try catch exception, error)	Medium	1
3.1.3.9	Configure Azure	Medium	1
3.1.3.10	Review code with supervisor	Medium	1
3.1.3.11	Fix review code	Medium	3
3.1.3.12	Code review before merging main branch	Medium	0.5
	Frontend Development		
3.1.3.13	Configuration and set up environment	Medium	2
	Admin Website		
3.1.3.14	Login screen	Simple	1
3.1.3.15	Dashboard	Medium	3
3.1.3.16	User management screen	Medium	2
	Customer Mobile App		
3.1.3.17	Configuration and set up environment	Medium	1
3.1.3.18	Login, Sign up screen	Simple	0.5
3.1.3.19	Splash screen	Simple	0.5
3.1.3.20	OTP Authentication screen	Simple	0.5
3.1.3.21	Customer profile screen	Medium	2
3.1.3.22	Children profile screen	Medium	2

3.1.3.23	Home screen	Complex	4
3.1.3.24	Menu screen	Complex	4
3.1.3.25	Order screen	Medium	2
3.1.3.26	Cart screen	Medium	2
3.1.3.27	Top up screen	Medium	2
3.1.3.28	Transaction Screen	Medium	2
3.1.4	Test		
3.1.4.1	Create test case iteration 1	Medium	2
3.1.4.2	Test iteration 1	Medium	2
3.1.4.3	Verify test iteration 1	Medium	2
3.1.4.4	Fix bug iteration 1	Medium	3
3.1.5	Set up		
	Setup env deploy (CI-CD)	Complex	3
	Setup domain	Simple	1
	Move source code to CI-CD	Medium	2
3.1.6	Summary & Evaluation iteration 1	Medium	2
3.2	Iteration 2		
3.2.1	Weekly meeting	Simple	1
3.2.2	Requirement & Design	Medium	2
3.2.3	Code & Implementation		
	Backend Development		
3.2.3.1	Write code for admin features	Medium	4
3.2.3.2	Connect FireBase service	Medium	0.5
3.2.3.3	Deployment database with Azure	Medium	1
	Frontend Development		
3.2.3.4	Connect project service API	Simple	0.5

3.2.3.5	Call API for web admin	Medium	4
3.2.3.6	Fix bug	Medium	2
	Customer App		
3.2.3.7	Order confirmation screen	Simple	1
3.2.3.8	Payment screen	Medium	2
3.2.3.9	Customer dashboard	Simple	1
3.2.3.10	Integrated game	Medium	3
	Deliverer App		
3.2.3.11	View delivery schedule screen	Medium	3
3.2.3.12	QR Scan screen	Medium	2
3.2.3.13	View order screen	Medium	2
3.2.4	Test		
3.2.4.1	Create test case iteration 2	Medium	2
3.2.4.2	Test iteration 2	Medium	2
3.2.4.3	Verify test iteration 2	Medium	2
3.2.4.4	Fix bug iteration 2	Medium	3
3.2.5	Summary & Evaluation Iteration 2	Medium	2
3.3	Iteration 3		
3.3.1	Weekly meeting	Simple	1
3.3.2	Requirement & Design	Medium	2
3.3.3	Code & Implementation		
	Backend Development		
3.3.3.1	Update code for admin features	Medium	3
3.3.3.2	Write code for customer features	Medium	6
3.3.3.3	Write code for deliverer features	Medium	4
	Frontend Development		

3.3.3.4	Call API for customer app	Medium	7
3.3.3.5	Call API for deliverer app	Medium	4
3.3.3.5	Fix bug	Medium	5
3.3.4	Test		
3.3.4.1	Create test case iteration 3	Medium	2
3.3.4.2	Test iteration 3	Medium	2
3.3.4.3	Verify test iteration 3	Medium	2
3.3.4.4	Fix bug iteration 3	Medium	3
3.3.5	Summary & Evaluation Iteration 3	Medium	2
3.4	Iteration 4		
3.4.1	Weekly meeting	Simple	1
3.4.2	Requirement & Design	Medium	2
3.4.3	Code & Implementation		
	Backend Development		
3.4.3.1	Update code for customer features	Medium	3
3.4.3.2	Update code for deliverer features	Medium	3
3.4.3.3	Write code for kitchen manager features	Medium	5
	Frontend Development		
	Kitchen Manager Web		
3.4.3.4	Login screen	Simple	1
3.4.3.5	Dashboard screen	Medium	2
3.4.3.6	Profile screen	Simple	1
3.4.3.7	Kitchen screen	Medium	2
3.4.3.8	School screen	Medium	2
3.4.3.9	Customer screen	Medium	2
3.4.3.10	Food screen	Medium	3

3.4.3.11	Menu screen	Medium	3
3.4.3.12	Order screen	Medium	2
3.4.3.13	Exchange gift screen	Medium	2
3.4.3.14	Delivery management screen	Medium	2
3.4.3.15	Session screen	Medium	2
3.4.4	Test		
3.4.4.1	Create test case iteration 4	Medium	2
3.4.4.2	Test iteration 4	Medium	2
3.4.4.3	Verify test iteration 4	Medium	2
3.4.4.4	Fix bug iteration 4	Medium	3
3.4.5	Summary & Evaluation Iteration 4	Medium	2
3.5	Iteration 5		
3.5.1	Weekly meeting	Simple	1
3.5.2	Requirement & Design	Medium	2
3.5.3	Code & Implementation		
	Backend Development		
3.5.3.1	Update code for kitchen manager features	Medium	4
3.5.3.2	Deployment with Azure	Medium	1
	Frontend Development		
3.5.3.3	Call API for kitchen manager web	Medium	6
3.5.3.4	Fix bug	Medium	4
3.5.3.6	Build APK	Simple	0.5
3.5.4	Test		
3.5.4.1	Create test case iteration 5	Medium	2
3.5.4.2	Test iteration 5	Medium	2
3.5.4.3	Verify test iteration 5	Medium	2

3.5.4.4	Fix bug iteration 5	Medium	3
3.5.5	Summary & Evaluation Iteration 5	Medium	2
4	Project Finishing		
4.1	Collect & prepare Documents for project closure	Medium	5
4.2	Supervisor meeting	Simple	1
4.3	Team meeting	Simple	1
4.4	Close project	Simple	0.5
Total Estimated Effort (man-days)			279

Table 4 - Scope & Estimation

1.2 Project Objectives

#	Testing Stage	No .of Defeats	% of Defeat	Note
1	Reviewing	9	29.03%	Focus on code quality and standards.
2	Unit Test	6	19.35%	Test individual components / functions for correctness.
3	Integration Test	4	12.90%	Test the interaction between integrated units.
4	System Test	7	22.58%	Validate the complete system's functionality.
5	Acceptance Test	5	16.14%	Ensure the application meets user / business needs.
Total		31	100%	

Table 5 - Project Objectives

1.3 Project Risks

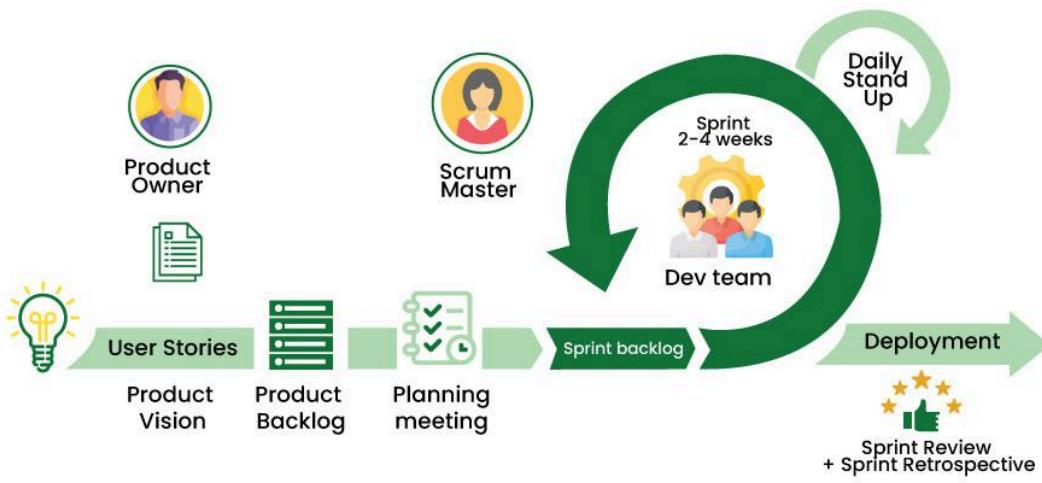
#	Risk Description	Impact	Possibility	Response Plans
1	Technical complexities or unforeseen technical issues.	Delays in delivery	Medium	Allocate buffer time in the project timeline. Schedule regular technical reviews.
2	Data breaches or security threats.	Damage to reputation, legal consequences	High	Implement rigorous security protocols and regular vulnerability assessments.
3	Changes in project requirements or scope.	Increased time, delays	Medium	Implement a change management protocol. Prioritize changes based on their urgency.
4	Insufficient testing leading to undetected bugs.	Reduced product quality	Medium	Allocate adequate time for thorough testing. Implement automated testing.
5	Communication gaps among team members.	Misunderstandings, delays	Low	Schedule regular team meetings. Use efficient communication tools.
6	Inaccurate estimation of time and costs.	Overrunning budget or timeline	Medium	Regularly review and adjust estimates based on actuals. Use experienced estimators.
7	Low user adoption after deployment.	ROI not met	Medium	Conduct beta testing with actual users. Gather feedback and refine the product.
8	Server downtimes or crashes.	Service disruption	Low	Opt for reliable hosting services. Implement

				real-time monitoring.
9	Regulatory or compliance changes.	Legal implications	Low	Stay updated with local regulations. Seek legal counsel for compliance checks.

Table 6 - Project Risks

2. Management Approach

2.1 Project Process



This project was developed using the Scrum model, which is part of the Agile framework for project development, for the following reasons:

- The planning and documentation phases in advance allow large or changing teams to stay informed and work towards a common goal.
- The process is structured and disciplined.
- Is simple to understand, follow and organize the tasks.
- Allows for easy implementation of early specification or design changes.
- Clearly define milestones and deadlines.
- Face to face meeting, online meeting.
- Work together to define and unify solutions.

2.2 Quality Management

Approach	Description	When	Waiver Criteria
Defect Prevention	Implement best practices during development to prevent defects from arising in the first place. This includes proper training, use of established coding standards, and automated tools to catch common errors.	From the start of the coding phase and throughout the project lifecycle.	Mandatory
Reviewing	Conduct regular code and design reviews to ensure adherence to standards and catch potential issues early. Peer reviews can identify areas that need improvement.	After every major module or feature development.	Mandatory
Unit Testing	Test individual components or units of the software to ensure they function as intended. Automated unit tests can rapidly verify that small, isolated parts of the system work correctly.	After completing each module or functionality.	Mandatory
Integration Testing	Test the interactions between integrated units or components to ensure they work seamlessly together. This checks if data is flowing correctly between modules and if integrated parts produce the expected outcomes.	After integrating two or more units/modules.	Mandatory
System Testing	Test the entire system as a whole to ensure it meets the specified requirements. This is a high-level testing where the system's overall functionality and compatibility are checked.	After all modules are integrated and before UAT (User Acceptance Testing).	Mandatory

Table 7 - Quality Management

2.3 Training Plan

Training Area	Participants	When / Duration	Waiver Criteria
ASP.NET Web API	ThanhDD, PhuongNH	3 days	Mandatory
Flutter	ThinhPQ, PhiNH	1 weeks	Mandatory
Microsoft Azure	ThanhDD	3 days	Mandatory
Research Third-party	ThanhDD, PhuongNH	4 days	Mandatory
Unit Test	All members	1 weeks	Mandatory
GitHub	All members	1 day	Mandatory

Table 8 - Training Plan

3. Project Deliverables

#	Deliverable	Due Date	Note
1	Project Plan Document	15/01/2024	Overall project plan
2	SRS Document	22/02/2024	Software requirements
3	SDD Document	22/02/2024	Architecture Design, Detailed design, Database, UI design
4	Software Testing Document	20/04/2024	Testing reports
5	User Guides Document	26/04/2024	Installation guides, User manual guides
6	Code frontend (web and mobile) package	24/05/2024	Code, System test cases
7	Code backend package	24/05/2024	Code, System test cases
8	Final project package	24/05/2024	Final resources & documents

Table 9 - Project Deliverables

4. Responsibility Assignments

Full name	Role	Responsibility
Lâm Hữu Khánh Phương	Supervisor	<ul style="list-style-type: none"> Instruct project team Supervise project status Review deliverables Answer questions about the project
Nguyễn Hoài Phương	Leader & Backend Developer	<ul style="list-style-type: none"> Plan projects/tasks Determine impediments and provide solutions to complete tasks Track member's progress Resolve conflicts impact on the team Write capstone project documents Gather and analyzed requirements Implement API Test API Review code
Đào Đức Thành	Backend Developer	<ul style="list-style-type: none"> Gather and analyzed requirements Implement API Test API Review code DevOps
Phạm Quốc Thịnh	Frontend Developer	<ul style="list-style-type: none"> Gather and analyzed requirements Design UI for web and mobile application Implement code for the web and mobile application Test the web and mobile application
Nguyễn Huỳnh Phi	Frontend Developer	<ul style="list-style-type: none"> Gather and analyzed requirements Design UI for web and mobile application Implement code for the web and mobile application Test the web and mobile application

Table 10 - Responsibility Assignments

5. Project Communications

Communication Item	Target / Who	Purpose	Frequency	Type / Tool / Method(s)
Weekly report	Supervisor & All members	Discuss project's status, problems and solutions	Weekly	Offline meeting
Daily meeting	All members	Discuss, solve problems, write code together	Always	Discord

Table 11 - Project Communications

6. Configuration Management

6.1 Document Management

- Using Google Drive to save documents, diagrams, etc.
- Google Drive: all project documents will need to upload on the general project drive, and every addition or change with version will need to be updated inside of the documents.
- Trello: used to list all tasks and assign specific team members to track work.

6.2 Source Code Management

- Use GitHub to store source code.
- The source code local must be updated (fetch/pull) when starting to work.
- When working on new features / fixing bugs, the new changes must be in a separate branch based on the main branch.
- The separate branch needs to create a pull request and needs to be reviewed by at least one team member and pass the CI/CD process before merging into the main branch.
- When committing code, you need to follow the prescribed rules when writing commit messages. At least it must be in the form <type>:<description>, written concisely and easy to understand.

6.3 Tools & Infrastructures

Category	Tools / Infrastructures
Technology	Backend: C# (.NET 7), Frontend: Dart (Flutter)
Database	SQL Server, FireBase
IDEs/Editors	Visual Studio Code, Visual Studio 2022, Android Studio
Diagramming	StarUML, Draw.io

Documentation	Google Docs, Google Sheets
Version Control	GitHub (Source code), Google Drive (Documents)
Deployment server	Microsoft Azure
Project management	Trello

Table 12 - Tools & Infrastructures

III. Software Requirements Specification

1. Product Overview

BeanFast is a digital platform designed to become a bridge between Yummy House kitchens and customers, especially elementary school students, providing quality, nutritious breakfasts. BeanFast provides a streamlined approach to product management, order processing, and feedback collection. It aims to improve customers' ordering experience quickly and save time while providing digital transformation solutions for kitchens to optimize business efficiency.

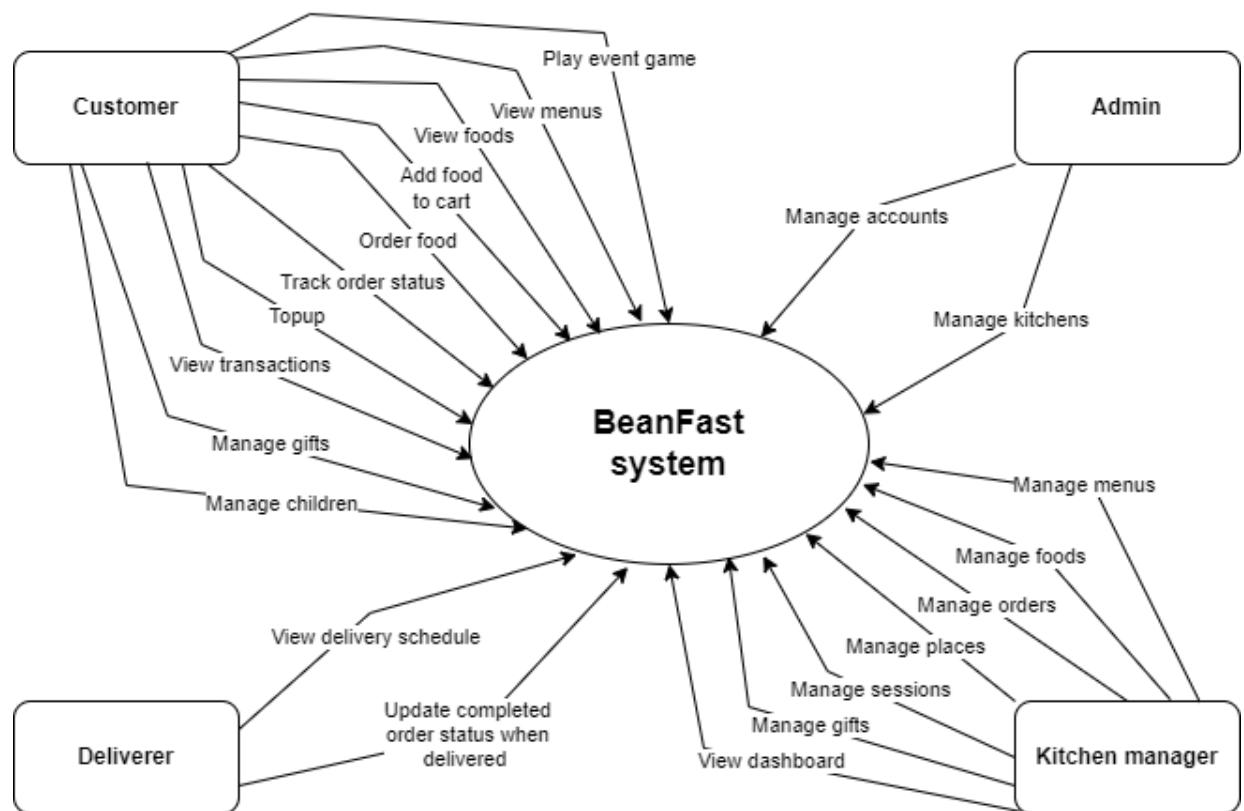


Figure 1 - Product Overview Diagram

2. User Requirements

2.1 Actors

#	Actor	Description
1	Administrator	The administrators who are responsible for managing the system. Concretely, they can manage account and manage the kitchen.
2	Customer	Customers can use various features in the app. First, they can view the menu by day, view food details and add food to cart. Next, they can order foods, view order details, and track order status. In addition, customers can pay with the app, top up the e-wallet in the app and play event games. Child management features, such as add child, view child profile, and update child profile. In addition, they can manage gifts by viewing gift details and redeem gifts.
3	Deliverer	The deliverer who is responsible for viewing the delivery schedule and updating completed order status when delivered.
4	Kitchen Manager	The kitchen manager who is responsible for managing foods like search food, add new food and view food detail. Next, they can manage menus like create menus, view menus. In addition, they can manage orders like view orders and update order status. Furthermore, they can manage locations for delivery such as view locations, add new locations. As well, they can manage gifts.

Table 13 - Actors

2.2 Use Cases

2.2.1 Diagram(s)

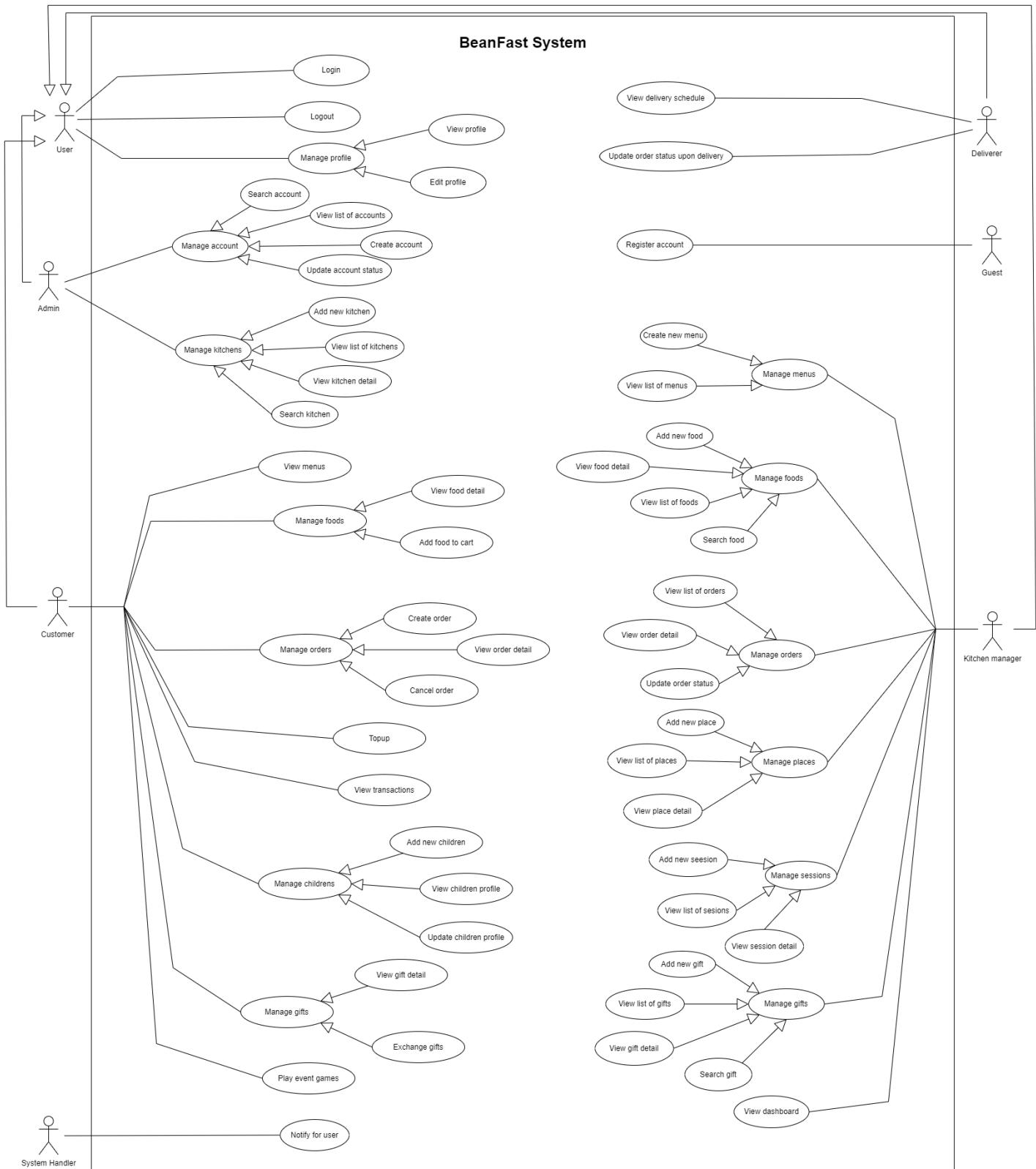


Figure 2 - Use Case

2.2.2 Use Case Description

ID	Use Case	Actors	are
UC-01	Login	User	Unauthenticated user login to BeanFast to verify role, and give them access to more features in the system
UC-02	Logout	User	Authenticated user Logout
UC-03	View profile	User	This feature allows user View profile
UC-04	Edit profile	User	This feature allows user Edit profile
UC-05	Search account	Admin	This feature allows admin Search account
UC-06	View account	Admin	This feature allows admin view account
UC-07	Create account	Admin	This feature allows admin Create account
UC-08	Update account status	Admin	This feature allows admin Update account status
UC-09	Add new kitchen	Admin	This feature allows admin Create new kitchen
UC-10	View list of kitchen	Admin	This feature allows admin view list of kitchen
UC-11	View kitchen detail	Admin	This feature allows admin view kitchen detail
UC-12	Search kitchen	Admin	This feature allows admin Search kitchen
UC-13	View menus	Customer	This feature allows customer View menus
UC-14	View food detail	Customer	This feature allows customer View food detail
UC-15	Add foods to cart	Customer	This feature allows customer Add foods to cart

UC-16	Create order	Customer	This feature allows customer Create order
UC-17	View order detail	Customer	This feature allows customer View order detailed information
UC-18	Cancel order	Customer	This feature allows customer can be Cancel order
UC-19	Topup	Customer	This feature allows customer Topup
UC-20	View transaction	Customer	This feature allows customer view transaction
UC-21	Add new children	Customer	This feature allows customer can be Add new children
UC-22	View children profile	Customer	This feature allows customer can View children profile
UC-23	Update children profile	Customer	This feature allows customer can Update children profile
UC-24	View gift detail	Customer	This feature allows customer View gift detail
UC-25	Exchange gifts	Customer	This feature allows customer can Exchange gifts
UC-26	Play event game	Customer	This feature allows customer can Play event game
UC-28	View dashboard	Kitchen manager	This feature allows kitchen manager can View dashboard
UC-29	Search gift	Kitchen manager	This feature allows kitchen manager can Search gift
UC-30	View list of gift	Kitchen manager	This feature allows kitchen manager can View list of gift
UC-31	Add new gift	Kitchen manager	This feature allows kitchen manager can Add new gift
UC-32	View gift detail	Kitchen manager	This feature allows kitchen manager View gift detail
UC-33	View list of places	Kitchen manager	This feature allows kitchen manager View list of places

UC-34	Add new place	Kitchen manager	This feature allows kitchen manager can Add new place
UC-35	View place detail	Kitchen manager	This feature allows kitchen manager View place detail
UC-36	Update order status	Kitchen manager	This feature allows kitchen manager can Update order status
UC-37	View list of orders	Kitchen manager	This feature allows kitchen manager can View list of orders
UC-38	View order detail	Kitchen manager	This feature allows kitchen manager View order detail
UC-39	Search food	Kitchen manager	This feature allows kitchen manager can Search food
UC-40	View food detail	Kitchen manager	This feature allows kitchen manager View food detail
UC-41	View list of foods	Kitchen manager	This feature allows kitchen manager can View list of foods
UC-42	Add new foods	Kitchen manager	This feature allows kitchen manager can Add new foods
UC-43	View list of menus	Kitchen manager	This feature allows kitchen manager can View list of menus
UC-44	Create new menu	Kitchen manager	This feature allows kitchen manager can Create new menu
UC-45	Add new sessions	Kitchen manager	This feature allows kitchen manager can Add new sessions
UC-46	View list of session	Kitchen manager	This feature allows kitchen manager can View list of sessions
UC-47	View session detail	Kitchen manager	This feature allows kitchen manager View session detail
UC-48	Update order status upon delivery	Deliverer	This feature allows deliverer can Update order status upon

			delivery
UC-49	View delivery schedule	Deliverer	This feature allows deliverer can View delivery schedule
UC-50	Register account	Guest	This feature allows guest can be Register account
UC-51	Notify for user	System Handler	This feature allows system handler can Notify for user

Table 14 - Use Case Description

3. Functional Requirements

3.1 System Functional Overview

3.1.1. Screens Flow

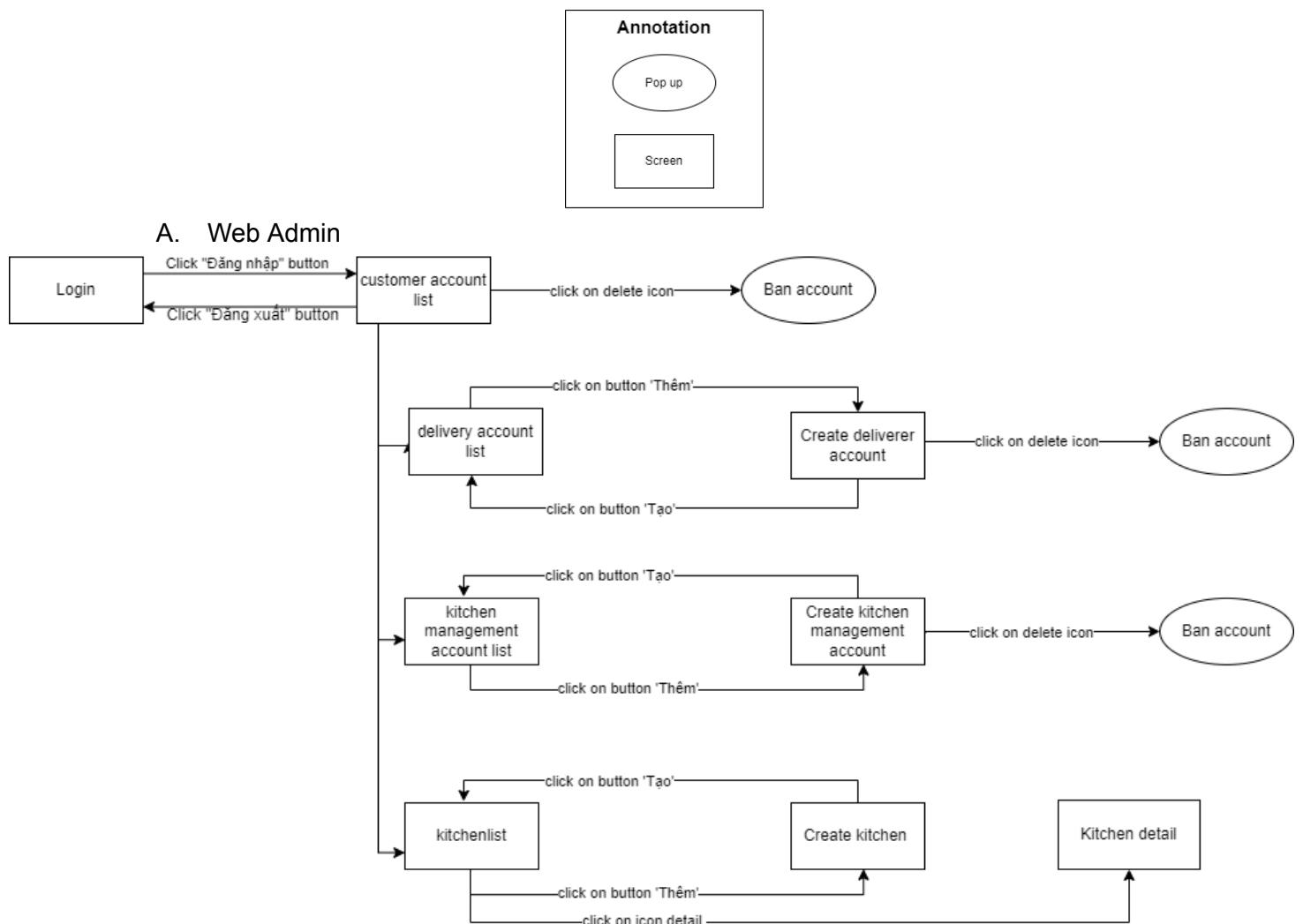


Figure 3 - Screen flow web admin

B. Web Kitchen Manager

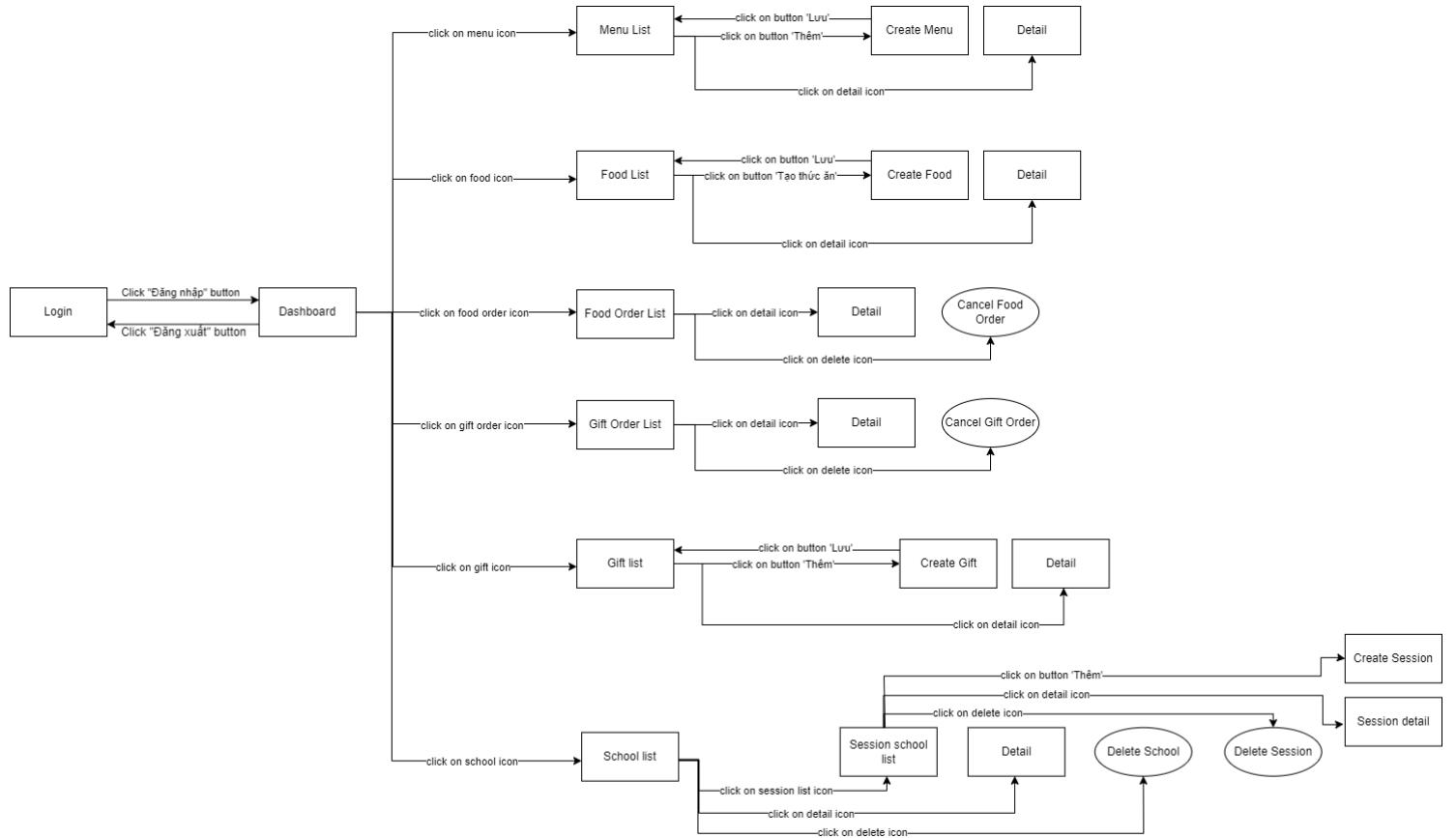


Figure 4 - Screen flow web kitchen manager

C. Customer App

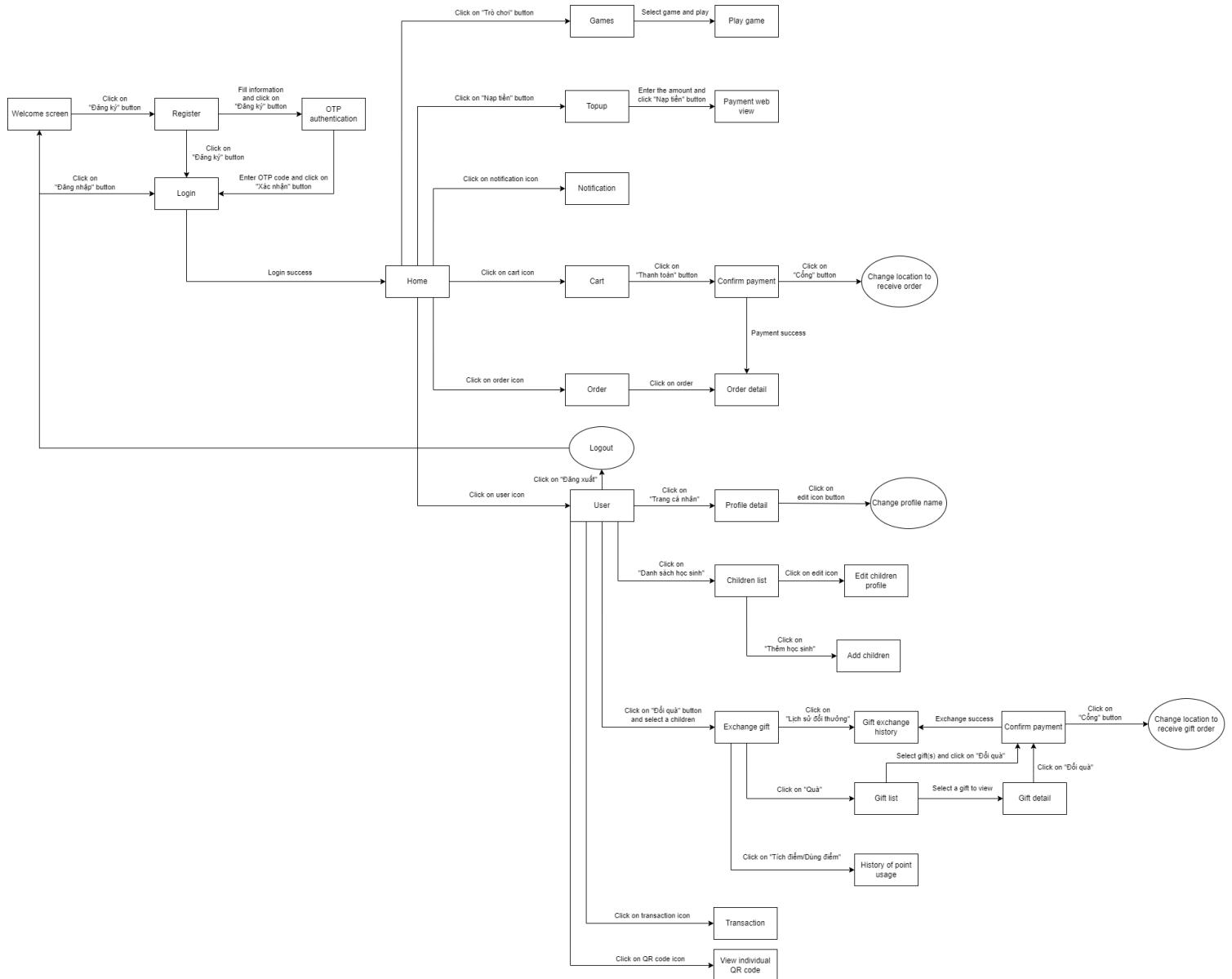


Figure 5 - Screen flow customer app

D. Deliverer App

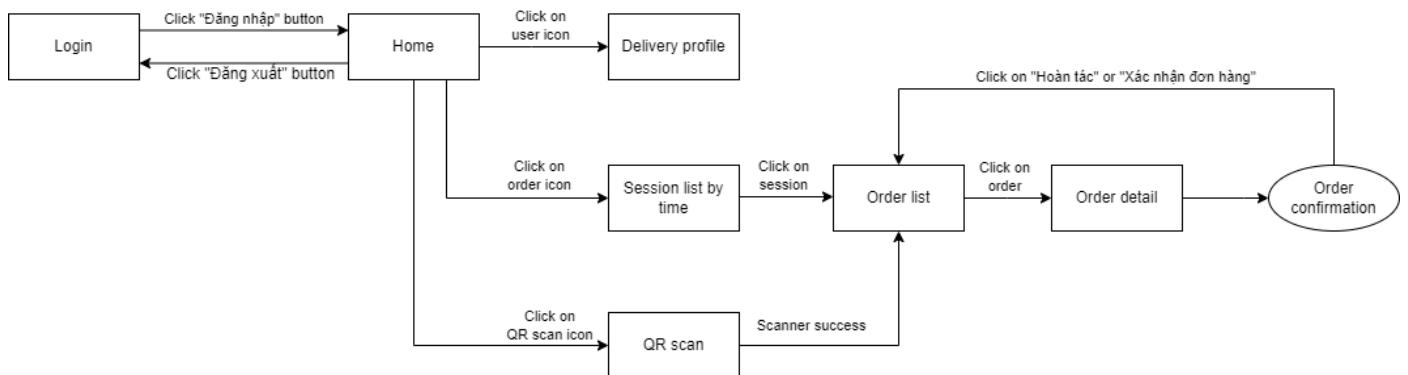


Figure 6 - Screen flow deliverer app

3.1.2. Functional Requirements

A. Admin functional requirements

No.	Actor	Function Name	Data Requirement	Data Validation	Business Rule
1	Admin	View list of accounts	RoleId. FullName, Phone, Email, AvatarPath	RoleId: Guid, FullName: Text Field (string), Phone:Text Field (string) Email: Text Field (string), AvatarPath: Text Field (string)	BR-01, BR-02, BR-03, BR-04, BR-07
2	Admin	Create new account	RoleId, FullName, Password, Email, Image	RoleId: Guid, FullName: Text Field (string), Password: Text Field (string), Email: Text Field (string), Image: File	BR-01, BR-02, BR-03, BR-04, BR-07, BR-58
3	Admin	Update account status(Active/In active)	UserId, Status	UserId: Guid, Status: Number (int)	BR-01, BR-02, BR-03, BR-04, BR-07
4	Admin	Add new kitchen	AreaId, Name, Image, Address	AreaId: Guid, Name: Text Field (string), Image: File, Address: Text Field (string)	BR-01, BR-11, BR-12
5	Admin	View kitchen detail	KitchenId	KitchenId: Guid	BR-01
6	Admin	View list of kitchen	Page, Size	Page: int, Size: int	BR-01
7	Admin	Search account	SearchKey	SearchKey: string	BR-01

8	Admin	Search kitchen	SearchKey	SearchKey: string	BR-01
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Table 15 - Admin functional requirements

B. Kitchen manager functional requirements

No.	Actor	Function Name	Data Requirement	Data Validation	Business Rule
1	Kitchen manager	View list of menus	Page, Size	Page: int, Size: int	BR-10, BR-57
2	Kitchen manager	Create new menus	kitchenId, foodId, price	kitchenId: Guid, foodId: Guid, price: int	BR-10, BR-30, BR-57
3	Kitchen manager	View list of foods	Page, Size	Page: int, Size: int	BR-10, BR-57
4	Kitchen manager	Add new food	Name, Description, Price, Image, Combos	Name: string, Description: string, Image: IFormFile, Combos: IList	BR-10, BR-18, BR-19, BR-20, BR-57
5	Kitchen manager	Search food	SearchKey	SearchKey: string	BR-10, BR-57
6	Kitchen manager	View food detail	FoodId	FoodId: Guid	BR-10, BR-57
7	Kitchen manager	View list of orders	Page, Size	Page: int, Size: int	BR-10, BR-57
8	Kitchen manager	View order detail	OrderId	OrderId: Guid	BR-10, BR-57
9	Kitchen manager	Update order status	OrderId, Status	OrderId: Guid, Status: int	BR-10, BR-22, BR-23, BR-24, BR-25, BR-57

10	Kitchen manager	View list of places	Page, Size	Page: int, Size: int	BR-10, BR-57
11	Kitchen manager	View places detail	LocationId	LocationId: Guid	BR-10, BR-57
12	Kitchen manager	Add new place	SchoolId, Name, Description, Image	SchoolId: Guid, Name: string, Description: string, Image: IFromFile	BR-10, BR-16, BR-57
13	Kitchen manager	View list of gifts	Page, Size	Page: int, Size: int	BR-10, BR-57
14	Kitchen manager	Add new gift	Name, Points, InStock, Image	Name: string, Points: int, InStock: int, Image: IFormFile	BR-10, BR-29, BR-57
15	Kitchen manager	Search gift	GiftName	GiftName: string	BR-10, BR-57
16	Kitchen manager	View gift detail	GiftId	GiftId: Guid	BR-10, BR-57
17	Kitchen manager	View dashboard	startDate, endDate	startDate: DateTime, endDate: DateTime	BR-10, BR-57
18	Kitchen manager	Create session	MenuId, OrderStartTime, OrderEndTime, DeliveryStartTime, DeliveryEndTime, LocationId, DelivererId	MenuId: Guid, OrderStartT ime: DateTime, OrderEndTi me: DateTime, DeliverySta rtTime: DateTime, DeliveryEn dTime: DateTime,	BR-10, BR-28, BR-51, BR-57

				LocationId: Guid, DelivererId: Guid	
19	Kitchen manager	View session list	Page, Size	Page: int, Size: int	BR-10, BR-57
20	Kitchen manager	View session detail	SessionId	SessionId: Guid	BR-10, BR-57

Table 16 - Kitchen manager functional requirements

C. Customer functional requirements

No.	Actor	Function Name	Data Requirement	Data Validation	Business Rule
1	Customer	View menus	Orderable, schoolId, DeliveryTime	Orderable: bool, schoolId: Guid, DeliveryTime: datetime	BR-31, BR-36, BR-35, BR-47, BR-55
2	Customer	View food detail	FoodId	FoodId: Guid	BR-31, BR-36, BR-35, BR-47, BR-55
3	Customer	Create order	sessionDetailId, profileId, quantity, note, menuDetailId	sessionDetailId: Guid, profileId: Guid, quantity: int, note: String, menuDetailId: Guid	BR-31, BR-35, BR-36, BR-40, BR-43, BR-48, BR-44, BR-45, BR-46, BR-40, BR-49, BR-50, BR-55
4	Customer	View order detail	OrderId	OrderId: Guid	BR-31, BR-35,

					BR-36, BR-49, BR-55
5	Customer	Cancel order	OrderId	OrderId: Guid	BR-31, BR-35, BR-36, BR-44, BR-45, BR-46, BR-24
6	Customer	Topup	amount	amount: int	BR-31, BR-35, BR-36, BR-47, BR-42, BR-43, BR-41, BR-55
7	Customer	View transactions	Page, Size	Page: int, Size: int	BR-31, BR-35, BR-36,
8	Customer	Add new children	FullName, Class, Image, Gender, NickName, SchoolId, Dob, Bmi.Height, Bmi.Weight, Bmi.Age.	FullName: String, Class: String, Image: File, Gender: bool, NickName : String, SchoolId: Guid, Dob: Date, Bmi.Height: double, Bmi.Weight: double, Bmi.Age: int.	BR-31, BR-35, BR-36, BR-47, BR-37, BR-38, BR-39
9	Customer	View children profile	ProfileId	ProfileId: Guid	BR-31, BR-35, BR-36, BR-47,
10	Customer	Update	FullName, Class,	FullName:	BR-31,

		children profile	Image, Gender, NickName, Schoold, Dob, Bmi.Height, Bmi.Weight, Bmi.Age.	String, Class: String, Image: File, Gender: bool, NickName : String, Schoold: Guid, Dob: Date, Bmi.Height: double, Bmi.Weight: double, Bmi.Age: int.	BR-35, BR-36, BR-47, BR-37, BR-38, BR-39
11	Customer	View gift detail	GiftId.	GiftId : Guid.	BR-31, BR-35, BR-36, BR-44, BR-46
12	Customer	Exchange gift(s)	GiftId, ProfileId, SessionDetailId.	GiftId : Guid, ProfileId : Guid, SessionDetailId : Guid.	BR-31, BR-35, BR-36, BR-44, BR-46, BR-49
13	Customer	Play event game	gamelId, points, profileId	gamelId: Guid, points: int, profileId: Guid	BR-31, BR-35, BR-36, BR-54

Table 17 - Customer functional requirements

D. Deliverer functional requirements

No.	Actor	Function Name	Data Requirement	Data Validation	Business Rule
1	Deliverer	View delivery schedule			BR-53, BR-56
2	Deliverer	Update completed	OrderId.	OrderId: Guid	BR-53, BR-48,

		order status when delivered			BR-56
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Table 18 - Deliverer functional requirements

3.1.3. Screens Authorization

A. Web Application Screen Authorization

Screen	Kitchen Manager	Admin
Login	x	x
Dashboard	x	
User		x
School	x	
Menu	x	
Food	x	
Order	x	
Gift	x	
Kitchen		x

Table 19 - Web Application Screen Authorization

B. Mobile Application Screen Authorization

Screen	Customer	Deliverer
Login	x	x
View menu by session	x	
Cart	x	
Order history	x	
Transaction	x	
Topup	x	
Exchange gift	x	
Game	x	
Profile	x	
Children	x	
QR code	x	
Notification	x	
Delivery schedule		x

List of orders being delivered		x
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Table 20 - Mobile Application Screen Authorization

3.1.4. Non-Screen Functions

No.	System function	Description
1	Push notification	System push notification to Customer.
2	Check order status	The system checks whether the order's delivery time is still within the delivery session or not. If the delivery session is closed, undelivered orders will move to the canceled status or orders that have not been scheduled by the kitchen manager for delivery on time will be changed to canceled status. If orders have been scheduled for delivery, the specific delivery person will move from cooking to delivering status
3	Check cart	The system checks whether the customer's foods added to the cart are still available during the ordering time. If the ordering time is closed, the items in the cart will be deleted.

Table 21 - Non-Screen Functions

3.2 Entity Relationship Diagram

3.2.1. Conceptual entity relationship diagram

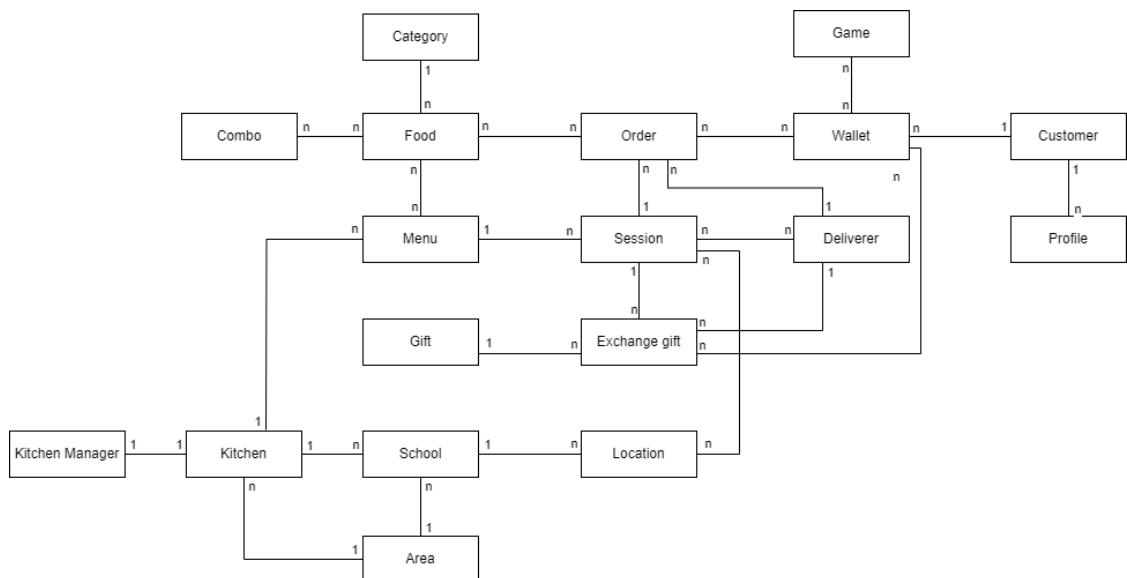


Figure 7 - Conceptual ERD

3.2.2. Logical entity relationship diagram

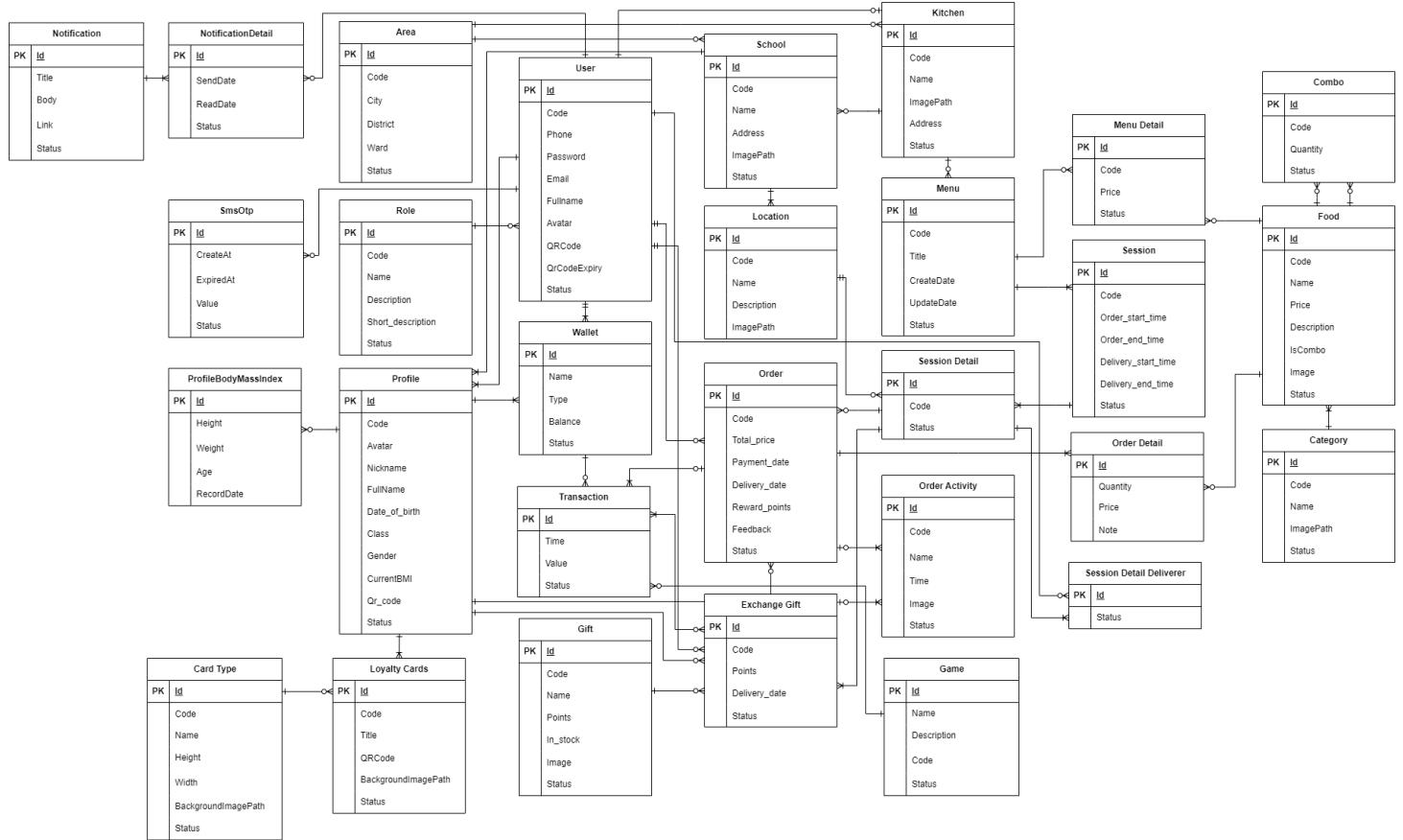


Figure 8 - Logical ERD

4. Non-Functional Requirements

4.1 External Interfaces

4.1.1 User Interface

- UI-1: The language used in the application is Vietnamese.
- UI-2: GUI must be simple, friendly.
- UI-3: Icons used must be easy to recognize.

4.1.2 Software interface

- SI-1: Web application: Google Chrome browser and CocCoc browser.
- SI-2: Mobile application: Android version 10.0 or higher.

4.1.3 Hardware interface

- HI-1: Mobile use should support full-time internet connectivity.

4.1.4 Communication interface

- CI-1: Mobile sends requests to the server through the HTTPs protocol.
- CI-2: Web application sends request to server through HTTPs protocol.

4.2 Quality Attributes

4.2.1 Usability

- The application should be friendly and easy for users to use.
- Administrators and Kitchen Managers can use the web with less than a day's instruction.

4.2.2 Reliability

- System failure is less than 5% and system availability is above 85%.
- Several critical bugs less than 10 per year.

4.2.3 Performance

- All typical response times are under 15 seconds.

4.2.4 Security

- The system always checks authorization before executing a function.
- The system is divided into 4 roles of users: admin, kitchen manager, customer and deliverer.
- Each role can only access its own set of functions.

4.2.5 Support Document

- **Documentation Clarity:** All provided documents should be written in clear, concise language, free from jargon unless terms are defined. Diagrams, flowcharts, and other visual aids should be incorporated where appropriate to further illustrate complex concepts.
- **Technical Documentation:** This will provide a deep dive into the system's architecture, database schemas, and codebase, meant for IT professionals and system administrators. It should include detailed information on system requirements, installation processes, and API references.

5. Requirement Appendix

5.1 Business Rules

ID	Rule Definition
BR-01	Account admin can only login in a web admin page
BR-02	Admin, Kitchen Manager login by email and password
BR-03	Email must be true format Ex: name@gmail.com
BR-04	Email must be unique for admin and kitchen manager
BR-05	Password length of account must be 8 - 20 characters, A combination of uppercase letters, lowercase letters, numbers
BR-06	Confirm password obligatory like password
BR-07	Only the admin can manage the user account

BR-08	The admin can only create kitchen manager and deliverer account
BR-09	When adding a new kitchen manager or deliverer, full name, role, image, email and password field is required
BR-10	Account kitchen manager can only login in a web kitchen page
BR-11	When the admin adding new kitchen all fields are required
BR-12	When the admin adding new kitchen must be of an existing area
BR-13	When the kitchen manager adding new school all fields are required
BR-14	When the kitchen manager adding new school must be of an existing area
BR-15	A school must have at least one location
BR-16	When the kitchen manager adding new location (place of delivery) all fields are required
BR-17	The delivery end time must be after the delivery start time. Additionally, the order end time must also be after the delivery start time. The delivery start time should be 6 hours after the order end time.
BR-18	When the kitchen manager adding new food must be of an existing category
BR-19	When the kitchen manager adding new food all fields are required
BR-20	When the kitchen manager adding new combo food, the food quantity is more than 0 and all fields are required
BR-21	The foods in the system will not be updated or deleted
BR-22	In case the order is canceled by the kitchen manager, the customer will receive a refund corresponding to the value of that order
BR-23	Kitchen managers can change the customer order status into cancel in all statuses except completed status
BR-24	In case the order is canceled because the customer is still within the order time frame, the customer will receive a refund corresponding to the value of that order. If the order is canceled after the end of the order time, the money will not be refunded.

BR-25	When an order is canceled by the customer or kitchen manager, the reason for cancellation must be clearly stated.
BR-26	Kitchen managers can change the customer exchange gift status into cancel in all statuses except completed status
BR-27	In case the customer has redeemed a gift, but cancels, if the cancellation time is before the delivery time, the corresponding points will be refunded, but after the delivery time there will be no refund.
BR-28	Established delivery hours can only range from 4am to 11am
BR-29	When the kitchen manager adding new gift all fields are required
BR-30	When the kitchen manager adding new menu all fields are required
BR-31	Customers use their phone and password to login in to the mobile app
BR-32	Phone must be unique for customer
BR-33	Phone number must be 10 digits
BR-34	Password will not be shown directly in profile's page
BR-35	When user press confirm with app rule, they must have responsibility for their decision
BR-36	Banned account cannot interact with the system until it is unbanned
BR-37	Customers can update their profile and their child profiles
BR-38	When customer adding their child profiles, full name, gender, birthdate, school, height, weight, image, nickname, class are required
BR-39	When customer adding their child profiles, school must be of an existing in system
BR-40	Customers need to deposit funds into their application wallet before placing an order. The wallet balance must equal or greater than the order total to complete the transaction successfully.
BR-41	Money after depositing into the app will only be used to pay for orders and will not be withdrawn
BR-42	The minimum amount to deposit into the wallet on the app is

	10,000VND and maximum is 50,000,000VND
BR-43	Transaction history and transaction status will be saved
BR-44	Customer has a points wallet and is credited based on the amount after the order belonging to that customer enters the completed state and plays event games.
BR-45	The number of accumulated points will be calculated based on the amount of each successful order of 0.1%.
BR-46	Points will only be used to redeem gifts on the system and will only be successfully exchanged when the number of points in the wallet is equal to or greater than the specified number of gift points.
BR-47	Each student will only be able to view the menu and order food corresponding to the kitchen menu provided to the school where the student has been registered on the system.
BR-48	Students can only receive goods at the predetermined time and location to receive goods
BR-49	Delivery time will be updated after the order status changes to complete
BR-50	Payment date will be recorded after the customer confirms successful payment and creates the order
BR-51	A session is created with a required location. There should be a minimum of one deliverer transporting the goods to that place
BR-52	Foods added to the cart by the customer will be automatically deleted when the menu ends the ordering time
BR-53	Deliverer use their email and password to login in to the mobile app
BR-54	Students can play the games up to five times a day at most
BR-55	Type of money must be valid with format : ₫ (ex: 1.000.000đ)
BR-56	One order cannot be delivered to multiple people
BR-57	A kitchen is managed by only one kitchen manager
BR-58	When an administrator sets up a kitchen manager account, it needs to be linked to a specific kitchen that is currently unmanaged.

Table 22 - Business Rules

5.2 Common Requirements

- **CR-01** Login: User can log in to the system
- **CR-02** Logout: User can sign out of system
- **CR-03** View profile: User can view information of profile
- **CR-04** Update profile: User can update the information of profile

5.3 Application Messages List

#	Message Code	Message Type	Context	Content
1	MSG01	EntityNotFoundException	Area with id not found	Khu vực với id: {guid} không tồn tại
2	MSG02	EntityNotFoundException	Card type with id not found	Loại thẻ với id: {guid} không tồn tại
3	MSG03	EntityNotFoundException	Food with id not found	Đồ ăn với id: {guid} không tồn tại
4	MSG04	EntityNotFoundException	Gift with id not found	Quà tặng với id: {guid} không tồn tại
5	MSG05	EntityNotFoundException	Game with id not found	Game với id: {id} không tồn tại
6	MSG06	EntityNotFoundException	Kitchen with id not found	Bếp ăn với id: {guid} không tồn tại
7	MSG07	EntityNotFoundException	Location with id not found	Địa điểm với id: {guid} không tồn tại
8	MSG08	EntityNotFoundException	Loyalty card with id not found	Thẻ thành viên với id: {guid} không tồn tại
9	MSG09	EntityNotFoundException	Menu with id not found	Menu với id: {guid} không tồn tại

				tại
10	MSG10	EntityNotFoundException	Order with id not found	<i>Đơn hàng với id: {guid} không tồn tại</i>
11	MSG11	EntityNotFoundException	School with id not found	<i>Trường học với id: {guid} không tồn tại</i>
12	MSG12	EntityNotFoundException	Session with id not found	<i>Buổi với id: {guid} không tồn tại</i>
13	MSG13	EntityNotFoundException	Profile not found	<i>Không tìm thấy thông tin cá nhân</i>
14	MSG14	EntityNotFoundException	Category not found	<i>Danh mục không tồn tại</i>
15	MSG15	EntityNotFoundException	Role not found	<i>Không tìm thấy role này</i>
16	MSG16	InvalidRequestException	Category Name Existed	<i>Danh mục đã tồn tại</i>
17	MSG17	InvalidRequestException	Session Order Closed	<i>Thời gian đặt hàng đã đóng, không thể thực hiện thao tác này</i>
18	MSG18	InvalidRequestException	Session Order Not Started	<i>Thời gian đặt hàng chưa đến, không thể thực hiện thao tác này</i>
19	MSG19	InvalidRequestException	Invalid School Location	<i>Địa điểm không thuộc trường học mà bạn đã đăng ký</i>
20	MSG20	InvalidRequestException	Location Already Exists	<i>Địa điểm này đã tồn tại</i>
21	MSG21	InvalidRequestException	QR Code Not Found	<i>Không tìm thấy mã QR</i>
22	MSG22	InvalidRequestException	Menu Already On Sell	<i>Thực đơn này đang được mở bán, không thể xóa</i>

23	MSG23	InvalidRequestException	Profile Does Not Belong To User	<i>Thông tin đứa trẻ không thuộc về người dùng này</i>
24	MSG24	InvalidRequestException	School Already Exists	<i>Đã tồn tại trường học ở địa chỉ này</i>
25	MSG25	InvalidRequestException	Duplicate Location In Session	<i>Địa điểm đã tồn tại trong buổi này</i>
26	MSG26	InvalidRequestException	Session Delivery Still Available	<i>Đơn hàng vẫn còn nằm trong thời hạn giao, không thể thực hiện thao tác này</i>
27	MSG27	InvalidRequestException	Qr Code Expired	<i>Mã QR này đã hết hạn, vui lòng sử dụng mã QR mới</i>
28	MSG28	InvalidRequestException	User Not Found By Qr Code	<i>Không tìm thấy người dùng với mã QR này</i>
29	MSG29	InvalidRequestException	Duplicate Location In Session	<i>Địa điểm đã tồn tại trong buổi này</i>
30	MSG30	InvalidRequestException	* existed in database	<i>* đã tồn tại</i>
31	MSG31	InvalidRequestException	API call failed	<i>Có lỗi xảy ra</i>
32	MSG32	InvalidRoleException	User access to not permitted function	<i>Bạn không được phép sử dụng tính năng này</i>
33	MSG33	InvalidRequestException	User is not logged in or using invalid token	<i>Bạn chưa đăng nhập hoặc access token không hợp lệ</i>
34	MSG34	InvalidRequestException	User logged in a banned account	<i>Tài khoản của bạn đã bị khóa!</i>
35	MSG35	InvalidRequestException	User fill duplicated phone while registering	<i>Số điện thoại đã tồn tại</i>

36	MSG36	InvalidRequestException	User fill in invalid otp	<i>Mã xác nhận OTP không hợp lệ</i>
37	MSG37	InvalidRequestException	User fill in invalid credentials	<i>Tài khoản hoặc mật khẩu không đúng</i>
38	MSG38	InvalidRequestException	User fill in invalid password	<i>Mật khẩu phải từ 8-20 ký tự</i>
39	MSG39	InvalidRequestException	User fill in invalid email	<i>Email không hợp lệ</i>
40	MSG40	InvalidRequestException	User fill in invalid phone	<i>Số điện thoại không hợp lệ</i>
41	MSG41	InvalidRequestException	User does not fill in phone while registration	<i>Số điện thoại là bắt buộc</i>
42	MSG42	InvalidRequestException	User does not fill in full name	<i>Họ và tên là bắt buộc</i>
43	MSG43	InvalidRequestException	User does not fill in full name in length x to y	<i>Họ và tên phải từ {x} đến {y} ký tự</i>
44	MSG44	InvalidRequestException	User does not fill in address	<i>Địa chỉ là bắt buộc</i>
45	MSG45	InvalidRequestException	User does not fill in address in length x to y	<i>Địa chỉ phải từ {x} đến {y} ký tự</i>
46	MSG46	InvalidRequestException	User does not fill in city when create a new area	<i>Thành phố là bắt buộc</i>
47	MSG47	InvalidRequestException	User does not fill in city when create a new area in length x to y	<i>Tên thành phố phải từ {x} đến {y} ký tự"</i>
48	MSG48	InvalidRequestException	User does not fill in ward when create a new area	<i>Phường/Xã là bắt buộc</i>

49	MSG49	InvalidRequestException	User does not fill in ward when create a new area in length x to y	Tên phường/xã phải từ {x} đến {y} ký tự
50	MSG50	InvalidRequestException	The number of times the game has been played exceeds the allowed number	Số lượt chơi game đã vượt quá {TransactionConstraint.MaxGame TransactionPerDay} lượt trong một ngày
51	MSG51	InvalidRequestException	TopUp Money Must Be Greater Than Ten Thousand	Số tiền cần nạp phải tối thiểu là 10000 VND
52	MSG52	InvalidWalletBalanceException	Not Enough Money	Quý khách không có đủ tiền để thực hiện giao dịch này!
53	MSG53	InvalidWalletBalanceException	Not Enough Points	Quý khách không có đủ số điểm để đổi món quà này!

Table 23 - Application Messages List

IV. Software Design Description

1. System Design

1.1 System Architecture

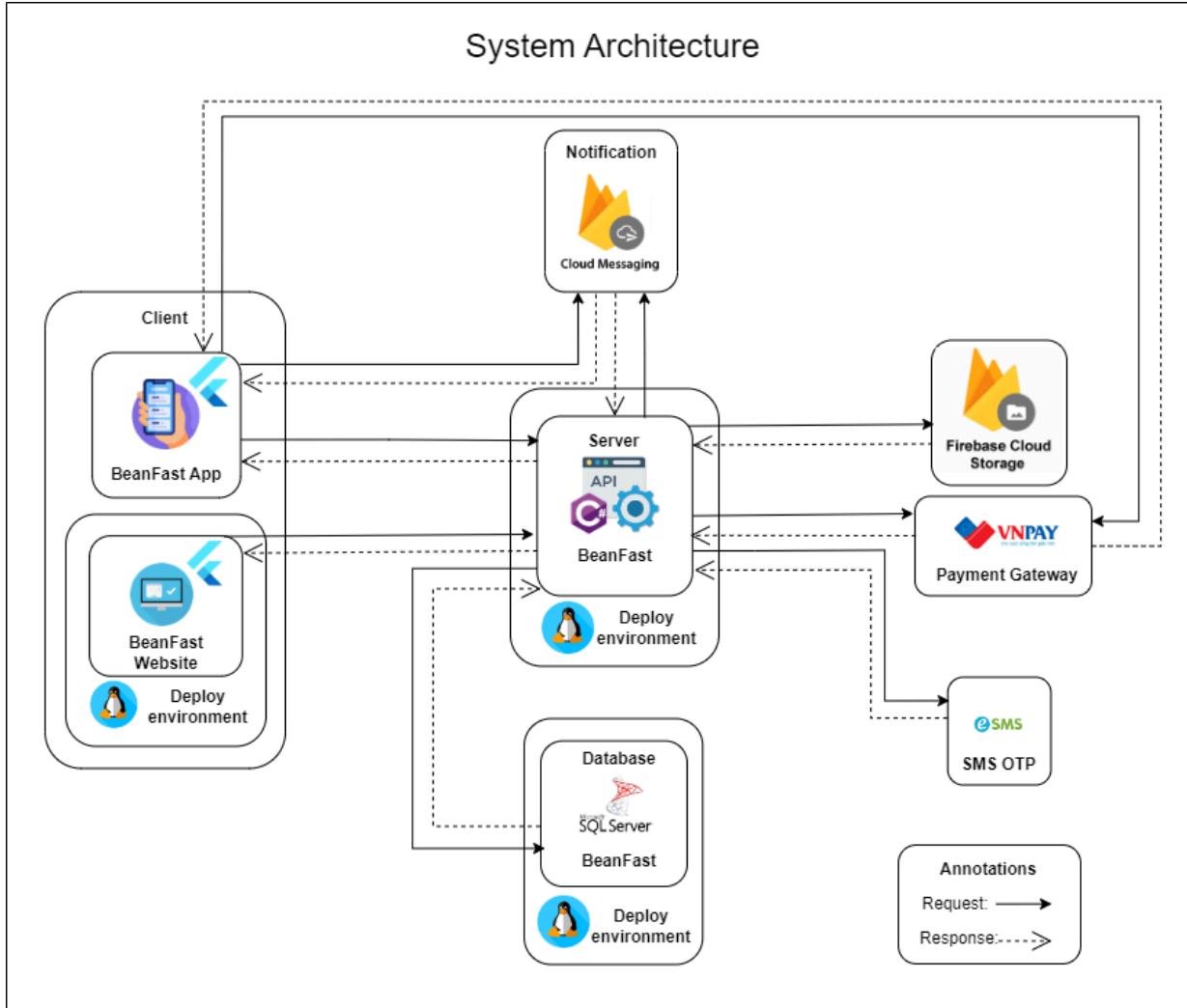


Figure 9 - System architecture

1.2 Package Diagram

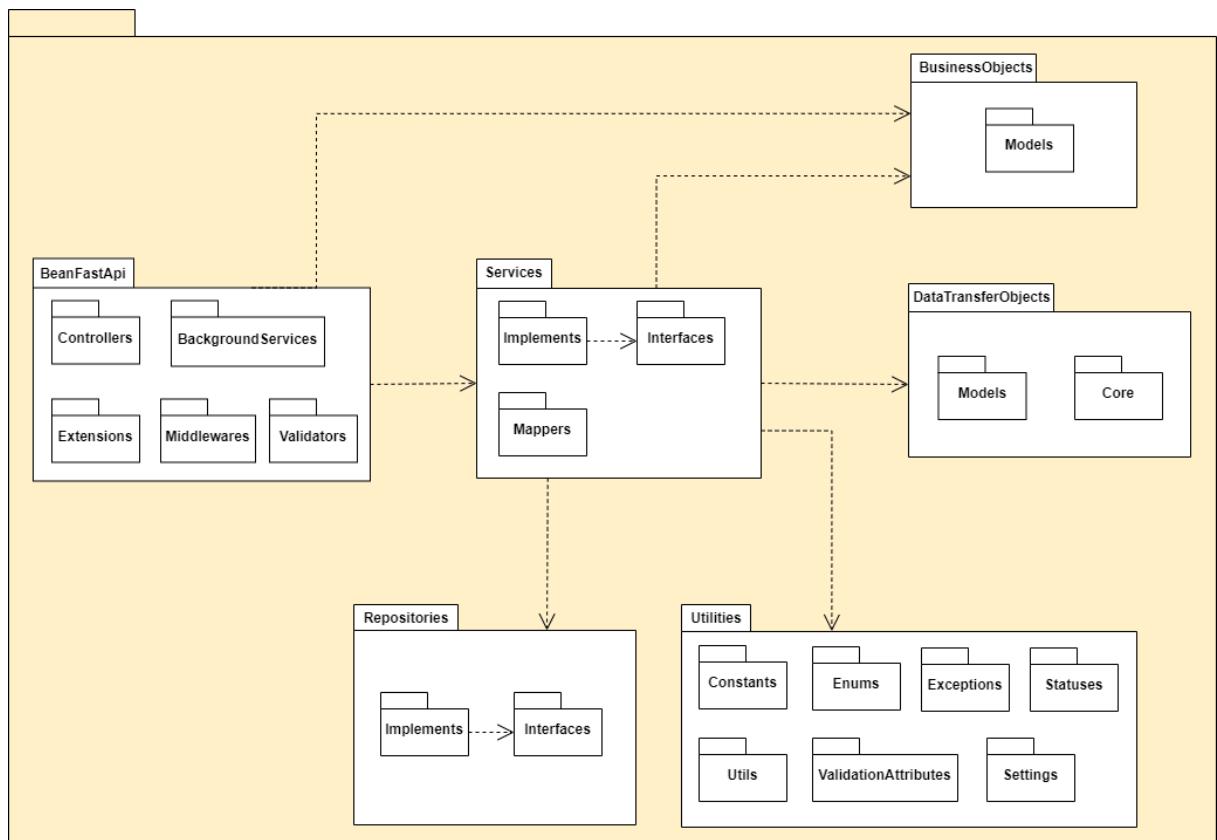


Figure 10 - Package Diagram

2. Database Design

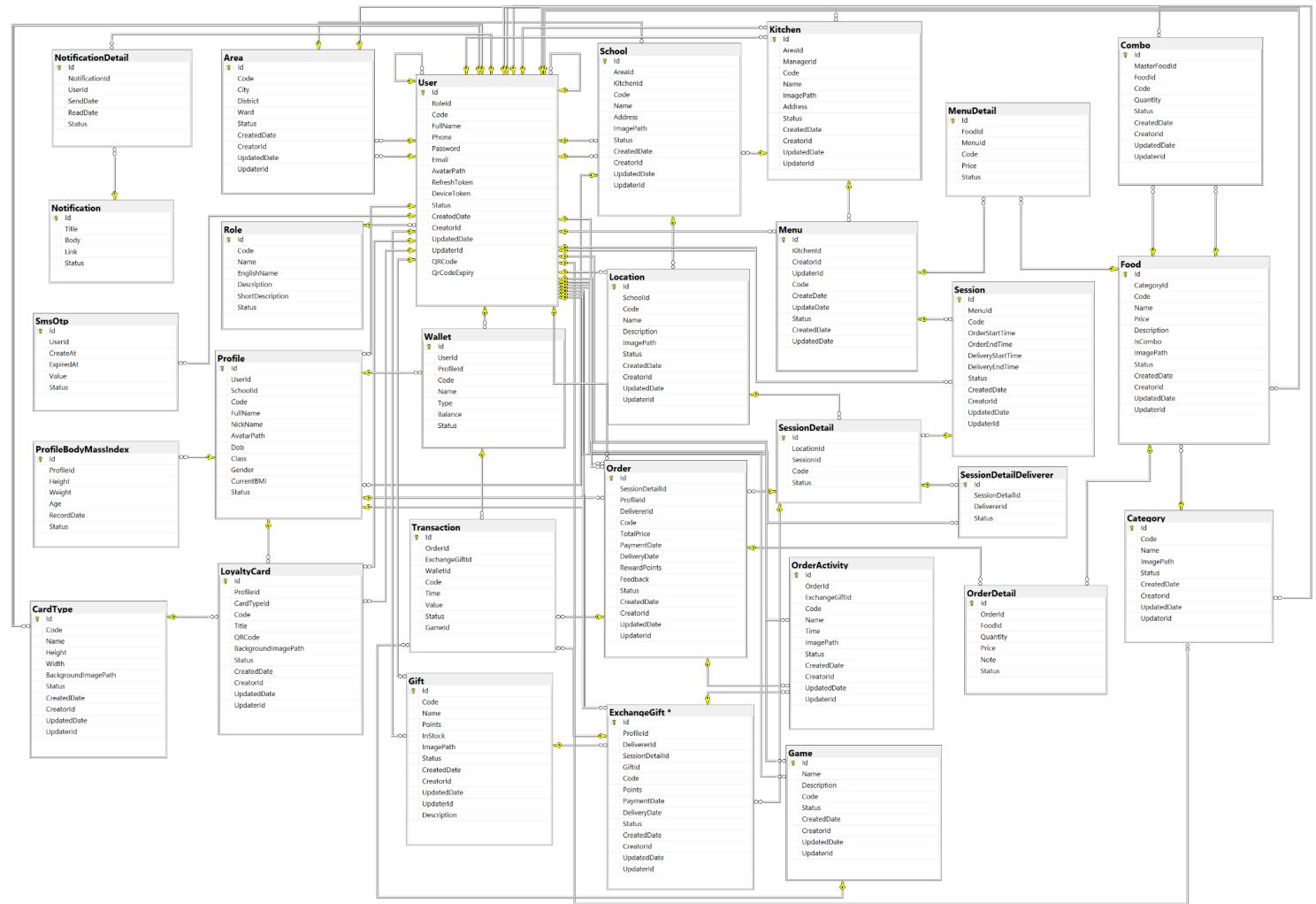


Figure 11 - Database Diagram

Table Descriptions

No	Table	Description
01	User	Stores user information including unique identifier, role, code, avatar, phone number for login, password hash for security, status,...
02	Role	Defines the different roles that an user can have, such as Admin, Kitchen Manager, Deliverer and Customer, with a unique identifier and role name.
03	Profile	Store the child's information including full name, nickname, avatar, date of birth, school,...
04	ProfileBodyMassIndex	Collect information such as height, weight, age of the child to calculate BMI, with time recording for easy tracking.

05	LoyaltyCard	Loyalty cards are used for identification when picking up orders
06	CardType	Classify loyalty cards by design and size so customers can choose to register
07	Wallet	Store information about customers' wallets on the app containing some important information such as balance, wallet classification based on money wallet or point wallet
08	Area	Contains regional information such as city, district, ward
09	School	Store some basic school information such as name, address, school image,...
10	Kitchen	Store some basic information about the kitchen such as name, address,...
11	Location	Location is where the goods can be delivered as well as where customers can pick up the goods, including information such as name, description, and images.
12	Menu	The menu contains identifying information such as the creator, date of creation, and which kitchen's menu
13	MenuDetail	Menu details include the foods posted by the kitchen and prices
14	Food	Contains food information such as name, price, image, description,... for customers to order food
15	Combo	Combo stores information about multiple foods sold together, containing quantities
16	Category	Contains information about the type of food, helping to classify foods easily for customers to choose
17	Session	Stores information such as the start and end time of an order session or the start and end time of a delivery session
18	SessionDetail	Contains information about the delivery location and session
19	SessionDetailDeliverer	Contains information about the delivery location and session and also the delivery person

20	Order	Store information related to orders such as total price, payment time, delivery time, points accumulated for each order,...
21	OrderDetail	Specifies the foods within each order, including quantities, prices, notes
22	OrderActivity	Track order status by recording the time the order status changes
23	Transaction	Store important transaction information such as time, value,...
24	Gift	Lists the products available for gifts, including details such as name, current points, in stocks, description, status, and timestamps.
25	ExhangeGift	Store information when customers redeem gifts such as number of points, time of order, time of delivery,...
26	Game	Contains information related to the game such as name, description and timestamps
27	Notification	Sends notifications to the user, including title, body, link.
28	NotificationDetail	Record when notifications are sent to users, including read date and send date.
29	SmsOtp	Contains information about one time password such as creation time, expiration time, OTP code

Table 24 - Table Descriptions

Attribute Data Dictionary

Entity Name	Attributes	Description	Domain	Null
User	Id	Unique identifier of the user	uniqueidentifier	No
	RoleId	Foreign key, role identifier	uniqueidentifier	No
	Code	Unique identifier of the code	nvarchar(200)	No
	FullName	Full name of the User	nvarchar(200)	Yes
	Phone	Phone number associated with the	nvarchar(30)	No

		user		
	Password	Password for user security	nvarchar(max)	No
	Email	Email associated with the user	nvarchar(300)	Yes
	AvatarPath	URL of the user avatar image	nvarchar(max)	No
	RefreshToken	Token string for the refresh	nvarchar(max)	Yes
	DeviceToken	Token string for the device	nvarchar(max)	Yes
	Status	Current status of the user	int	No
	CreatedDate	Timestamp when the user was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the Updater	uniqueidentifier	Yes
	QRCode	Identify user orders	nvarchar(max)	Yes
	QrCodeExpiry	Expired time of QR code	datetime2(7)	Yes
Transaction	Id	Unique identifier of transaction	uniqueidentifier	No
	OrderId	Foreign key to the order of transaction	uniqueidentifier	Yes
	ExchangeGiftId	Foreign key to the exchange gift of transaction	uniqueidentifier	Yes
	WalletId	Foreign key to the wallet of transaction	uniqueidentifier	No
	Code	Unique identifier of the	nvarchar(100)	No

		transaction		
	Time	Transaction execution time	datetime2(7)	No
	Value	Value of the transaction	float	No
	Status	Current status of the transaction	int	No
	Gameld	Foreign key to the game transaction	uniqueidentifier	Yes
Wallet	Id	Unique identifier of wallet	uniqueidentifier	No
	UserId	Foreign key to the user wallet	uniqueidentifier	No
	ProfileId	Foreign key to the profile wallet	uniqueidentifier	Yes
	Code	Unique identifier of the wallet	nvarchar(100)	No
	Name	Name of the wallet	nvarchar(100)	No
	Type	Type of wallet	nvarchar(20)	No
	Balance	Balance of wallet	float	No
	Status	Current status of the wallet	int	No
SmsOtp	Id	Unique identifier of sms otp	uniqueidentifier	No
	UserId	Foreign key to the user sms otp	uniqueidentifier	No
	CreateAt	The time the OTP was generated	datetime2(7)	No
	ExpiredAt	The time the OTP will expire	datetime2(7)	No
	Value	OTP code digits	nvarchar(Max)	No
	Status	Current status of the sms otp	int	No

SessionDetailDeliverer	Id	Unique identifier of session detail	uniqueidentifier	No
	SessionDetailId	Foreign key to the session detail	uniqueidentifier	No
	DelivererId	Foreign key to the user	uniqueidentifier	Yes
	Status	Current status of the session detail	int	No
SessionDetail	Id	Unique identifier of session detail	uniqueidentifier	No
	LocationId	Foreign key to the location of session detail	uniqueidentifier	No
	SessionId	Foreign key to the session of session detail	uniqueidentifier	No
	Code	Unique identifier of the session detail	nvarchar(100)	No
	Status	Current status of the session detail	int	No
Session	Id	Unique identifier of session	uniqueidentifier	No
	MenuId	Foreign key to the menu session	uniqueidentifier	No
	Code	Unique identifier of the session	nvarchar(100)	No
	OrderStartTime	Time allowed for customers to orders	datetime2(7)	No
	OrderEndTime	Order session closing time	datetime2(7)	No
	DeliveryStartTime	The time that orders are delivered	datetime2(7)	No
	DeliveryEndTime	Delivery session end time	datetime2(7)	No
	Status	Current status of the session	int	No

	CreatedDate	Timestamp when the session was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
School	Id	Unique identifier of school	uniqueidentifier	No
	AreaId	Foreign key to the area school	uniqueidentifier	No
	KitchenId	Foreign key to the kitchen school	uniqueidentifier	Yes
	Code	Unique identifier of the school	nvarchar(100)	No
	Name	Name of the school	nvarchar(200)	No
	Address	Physical address of school	nvarchar(500)	No
	ImagePath	URL of the school image	nvarchar(max)	No
	Status	Current status of the school	int	No
	CreatedDate	Timestamp when the school was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
Role	Id	Unique identifier of role	uniqueidentifier	No
	Code	Unique identifier of the role	nvarchar(100)	No

	Name	Name of the role	nvarchar(40)	No
	EnglishName	The translated name of the role	nvarchar(max)	No
	Description	Detailed description of the role	nvarchar(max)	No
	ShortDescription	Brief description of the role	nvarchar(max)	No
	Status	Current status of the role	int	No
ProfileBodyMassIndex	Id	Unique identifier of profile body mass index	uniqueidentifier	No
	ProfileId	Foreign key to the profile of profile body mass index	uniqueidentifier	No
	Height	Height measurements	float	No
	Weight	Weight number	float	No
	Age	The child's age	int	No
	RecordDate	Date of most recent BMI update	datetime2(7)	No
	Status	Current status of the profile body mass index	Int	No
Profile	Id	Unique identifier of profile	uniqueidentifier	No
	UserId	Foreign key to the user profile	uniqueidentifier	No
	SchoolId	Foreign key to the school profile	uniqueidentifier	No
	Code	Unique identifier of the profile	nvarchar(100)	No
	FullName	Full name of the profile	nvarchar(200)	No
	NickName	Nick name of the profile	nvarchar(50)	Yes

	AvatarPath	Link to the avatar image of the profile	nvarchar(max)	No
	Dob	Dob of the profile	datetime2(7)	No
	Class	Class of the profile	nvarchar(20)	Yes
	Gender	Gender of the profile	bit	No
	CurrentBMI	Current BMI of the profile	float	Yes
	Status	Current status of the profile	int	No
OrderDetail	Id	Unique identifier of order detail	uniqueidentifier	No
	OrderId	Foreign key to the order of order detail	uniqueidentifier	No
	FoodId	Foreign key to the food of the order detail	uniqueidentifier	No
	Quantity	Number of items of the product	int	No
	Price	Price of product	float	No
	Note	Additional notes for orders	nvarchar(max)	Yes
	Status	Current status of the order detail	int	No
OrderActivity	Id	Unique identifier of order activity	uniqueidentifier	No
	OrderId	Foreign key to the order of order activity	uniqueidentifier	Yes
	ExchangeGiftId	Foreign key to the exchange gift	uniqueidentifier	Yes
	Code	Unique identifier of the order activity	nvarchar(100)	No
	Name	Name of the order activity	nvarchar(200)	No
	Time	Recorded time when order status changes	datetime2(7)	No

	ImagePath	URL of the image	nvarchar(max)	Yes
	Status	Current status of the order activity	int	No
	CreatedDate	Timestamp when the order activity was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
Order	Id	Unique identifier of order	uniqueidentifier	No
	SessionDetailId	Foreign key to the sessiondetail of order	uniqueidentifier	No
	ProfileId	Foreign key to the profile of order	uniqueidentifier	No
	DelivererId	Foreign key to the user of order	uniqueidentifier	No
	Code	Unique identifier of the order	nvarchar(100)	No
	TotalPrice	Total price of the order	float	No
	PaymentDate	Payment execution time	datetime2(7)	No
	DeliveryDate	Time the order is successfully delivered	datetime2(7)	Yes
	RewardPoints	Time the order is successfully delivered	int	No
	Feedback	Customer feedback about orders	nvarchar(max)	Yes
	Status	Current status of the order	int	No
	CreatedDate	Timestamp when the	datetime2(7)	Yes

		order was created		
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
NotificationDetail	Id	Unique identifier of notification detail	uniqueidentifier	No
	NotificationId	Foreign key to the notification of notification detail	uniqueidentifier	No
	UserId	Foreign key to the user of notification detail	uniqueidentifier	No
	SendDate	Time for notification to be sent	datetime2(7)	No
	ReadDate	The time the notification was marked as read	datetime2(7)	No
	Status	Current status of the notification detail	int	No
Notification	Id	Unique identifier of notification	uniqueidentifier	No
	Title	Title of the notification	nvarchar(max)	No
	Body	Content of notification	nvarchar(max)	No
	Link	Link of notification	nvarchar(max)	Yes
	Status	Current status of the notification	int	No
MenuDetail	Id	Unique identifier of menu detail	uniqueidentifier	No
	FoodId	Foreign key to the food of menu detail	uniqueidentifier	No

	Menuld	Foreign key to the menu of menu detail	uniqueidentifier	No
	Code	Unique identifier of the menu detail	nvarchar(100)	No
	Price	Price of food in menu	float	No
	Status	Current status of the menu detail	int	No
Menu	Id	Unique identifier of menu	uniqueidentifier	No
	KitchenId	Foreign key to the kitchen menu	uniqueidentifier	No
	CreaterId	Foreign key to the creator menu	uniqueidentifier	Yes
	Updateld	Foreign key to the update menu	uniqueidentifier	Yes
	Code	Unique identifier of the menu	nvarchar(100)	No
	CreateDate	Date when the user create	datetime2(7)	Yes
	UpdateDate	Date when the user update	datetime2(7)	Yes
	Status	Current status of the menu	int	No
	CreatedDate	Date when the user created	datetime2(7)	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
LoyaltyCard	Id	Unique identifier of loyalty card	uniqueidentifier	No
	ProfileId	Foreign key to the profile of loyalty card	uniqueidentifier	No
	CardTypeld	Foreign key to the card type of loyalty card	uniqueidentifier	No
	Code	Unique identifier of the	nvarchar(100)	No

		loyalty card		
	Title	Title of loyalty card	nvarchar(200)	No
	QRCode	Identify loyalty card	nvarchar(max)	No
	BackgroundImagePath	URL of the background image	nvarchar(max)	No
	Status	Current status of the loyalty card	int	No
	CreatedDate	Timestamp when the loyalty card was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
Location	Id	Unique identifier of location	uniqueidentifier	No
	SchoolId	Foreign key to the school of location	uniqueidentifier	No
	Code	Unique identifier of the location	nvarchar(100)	No
	Name	Name of the location	nvarchar(100)	No
	Description	Description of location	nvarchar(max)	No
	ImagePath	URL of the location image	nvarchar(max)	No
	Status	Current status of the location	int	No
	CreatedDate	Timestamp when the location was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes

	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
Kitchen	Id	Unique identifier of kitchen	uniqueidentifier	No
	AreaId	Foreign key to the area kitchen	uniqueidentifier	No
	ManagerId	Foreign key to the user of kitchen	uniqueidentifier	No
	Code	Unique identifier of the kitchen	nvarchar(100)	No
	Name	Name of the kitchen	nvarchar(200)	No
	ImagePath	URL of the kitchen image	nvarchar(max)	No
	Address	Address of kitchen	nvarchar(500)	No
	Status	Current status of the kitchen	int	No
	CreatedDate	Timestamp when the kitchen was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
Gift	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
	Id	Unique identifier of gift	uniqueidentifier	No
	Code	Unique identifier of the gift	nvarchar(100)	No
	Name	Name of the gift	nvarchar(200)	No
Points	Points	The number of points for the gift	int	No
	InStock	Quantity of gifts in	int	No

		stock		
	ImagePath	URL of the gift image	nvarchar(max)	No
	Status	Current status of the gift	int	No
	CreatedDate	Timestamp when the gift was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
	Description	Gift description	nvarchar(max)	No
Game	Id	Unique identifier of game	uniqueidentifier	No
	Name	Name of the game	nvarchar(200)	No
	Description	Game description	nvarchar(500)	No
	Code	Unique identifier of the game	nvarchar(100)	No
	Status	Current status of the game	int	No
	CreatedDate	Timestamp when the game was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
Food	Id	Unique identifier of food	uniqueidentifier	No
	CategoryId	Foreign key to the	uniqueidentifi	No

		category for food	er	
	Code	Unique identifier of the food	nvarchar(100)	No
	Name	Name of the food	nvarchar(200)	No
	Price	Price of food	float	No
	Description	Food description	nvarchar(max)	No
	IsCombo	Check if this is a combo	bit	No
	ImagePath	URL of the food image	nvarchar(max)	No
	Status	Current status of the food	int	No
	CreatedDate	Timestamp when the food was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
ExchangeGift	Id	Unique identifier of exchange gift	uniqueidentifier	No
	ProfileId	Foreign key to the profile for exchange gift	uniqueidentifier	No
	SessionDetailId	Foreign key to the session detail for exchange gift	uniqueidentifier	No
	DelivererId	Foreign key to the user of exchange gift	uniqueidentifier	No
	GiftId	Foreign key to the gift for exchange gift	uniqueidentifier	No
	Code	Unique identifier of the exchange gift	nvarchar(100)	No

	Points	Points used to redeem gifts	int	No
	PaymentDate	The time the gift is paid	datetime2(7)	No
	DeliveryDate	The time the gift is delivered	datetime2(7)	Yes
	Status	Current status of the exchange gift	int	No
	CreatedDate	Timestamp when the exchange gift was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
Combo	Id	Unique identifier of combo	uniqueidentifier	No
	MasterFoodId	Foreign key to the masterfood for combo	uniqueidentifier	No
	FoodId	Foreign key to the food for combo	uniqueidentifier	No
	Code	Unique identifier of the combo	nvarchar(100)	No
	Quantity	Quantity of food in combo	int	No
	Status	Current status of the combo	int	No
	CreatedDate	Timestamp when the combo was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes

	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
Category	Id	Unique identifier of category	uniqueidentifier	No
	Code	Unique identifier of the category	nvarchar(100)	No
	Name	Name of the category	nvarchar(200)	No
	ImagePath	URL of the category image	nvarchar(max)	No
	Status	Current status of the category	int	No
	CreatedDate	Timestamp when the category was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
CardType	Id	Unique identifier of card type	uniqueidentifier	No
	Code	Unique identifier of the card type	nvarchar(100)	No
	Name	Name of the card type	nvarchar(200)	No
	Height	Card height	float	No
	Width	Card width	float	No
	BackgroundImagePath	URL of the background image	nvarchar(max)	No
	Status	Current status of the card type	int	No
	CreatedDate	Timestamp when the card type was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes

	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes
Area	Id	Unique identifier of area	uniqueidentifier	No
	Code	Unique identifier of the area	nvarchar(100)	No
	City	City of an area	nvarchar(100)	No
	District	District of an area	nvarchar(100)	No
	Ward	Ward of an area	nvarchar(100)	No
	Status	Current status of the area	int	No
	CreatedDate	Timestamp when the area was created	datetime2(7)	Yes
	CreatorId	Unique identifier of the creator	uniqueidentifier	Yes
	UpdatedDate	Date when the user updated	datetime2(7)	Yes
	UpdaterId	Unique identifier of the updater	uniqueidentifier	Yes

Table 25 - Attribute Data Dictionary

3. Detailed Design

3.1 Authentication feature

3.1.1 Class Diagram

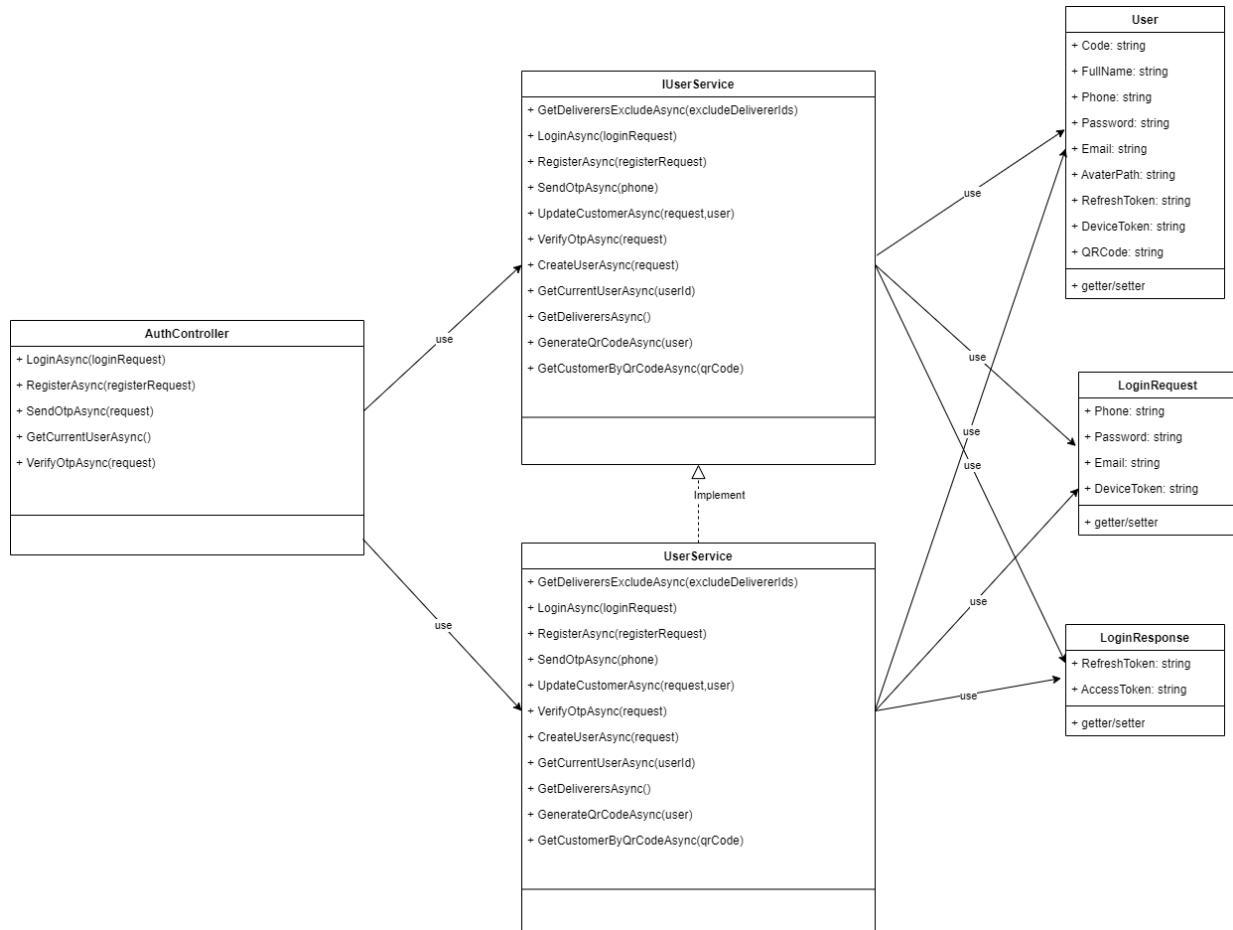


Figure 12 - Class Diagram Authentication feature

- Class Diagram Specification:

No	Method	Description
1	LoginAsync(loginRequest)	Login
2	RegisterAsync(registerRequest)	Register
3	SendOtpAsync(request)	Send Otp
4	GetCurrentUserAsync()	Get Current User
5	VerifyOtpAsync(request)	Verify Otp

Table 26 - Class Diagram Specification - Authentication

3.1.2 Sequence Diagram

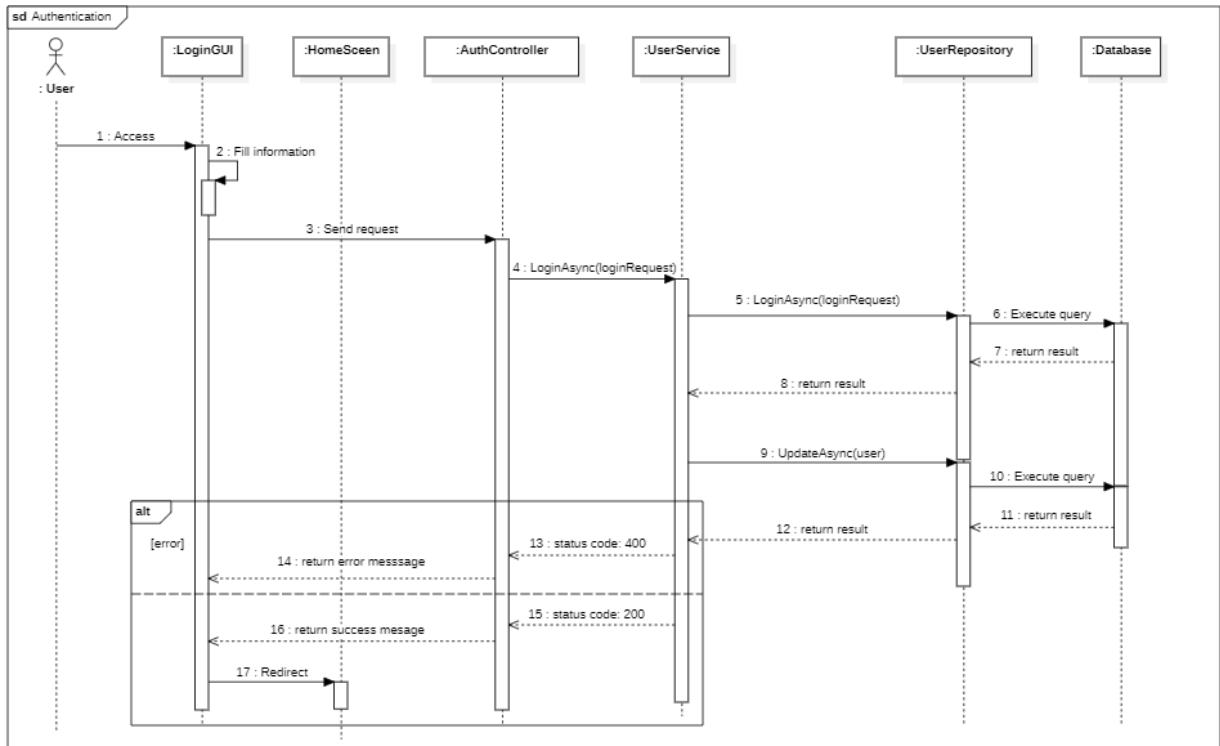


Figure 13 - Sequence Diagram Authentication feature

3.2 Kitchen manager create menu

3.2.1 Class Diagram

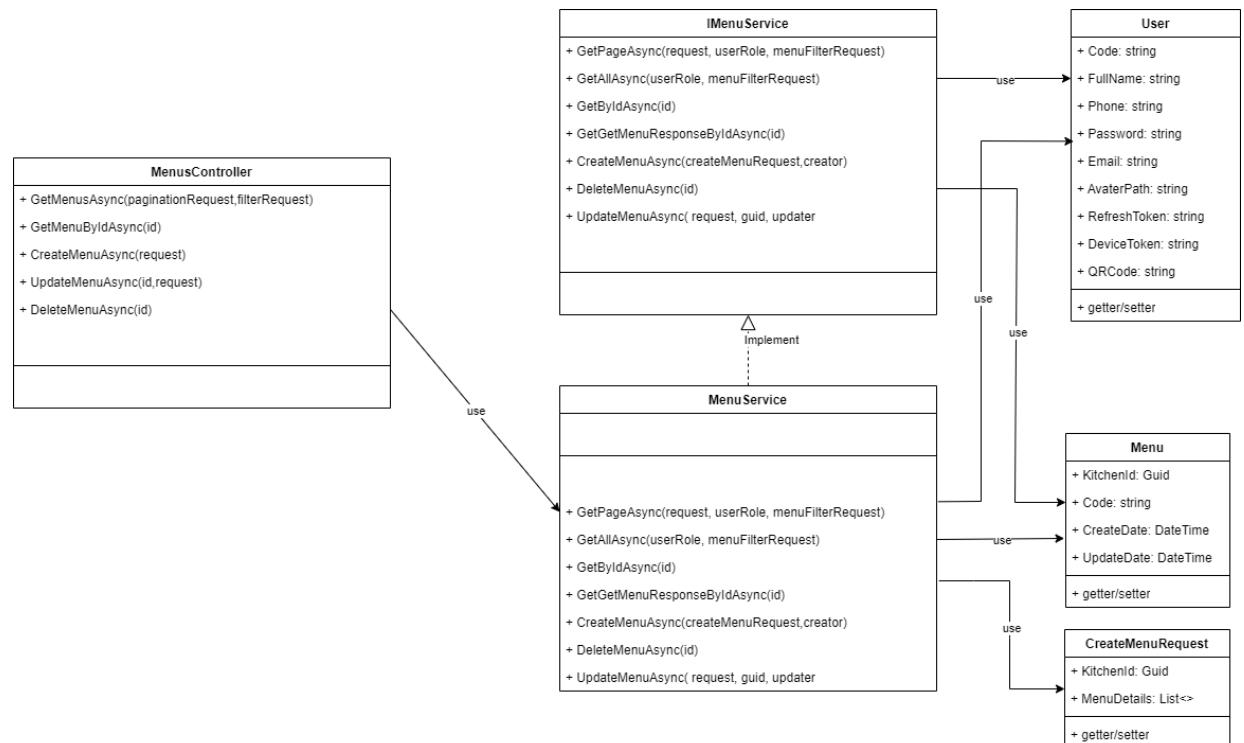


Figure 14 - Class Diagram Kitchen manager create menu

- Class Diagram Specification:

No	Method	Description
1	GetMenusAsync(paginationRequest,filterRequest)	Get Menus
2	GetMenuByIdAsync(id)	Get Menu By Id
3	CreateMenuAsync(request)	Create Menu
4	UpdateMenuAsync(id,request)	Update Menu
5	DeleteMenuAsync(id)	Delete Menu

Table 27 - Class Diagram Specification - Create Menu

3.2.2 Sequence Diagram

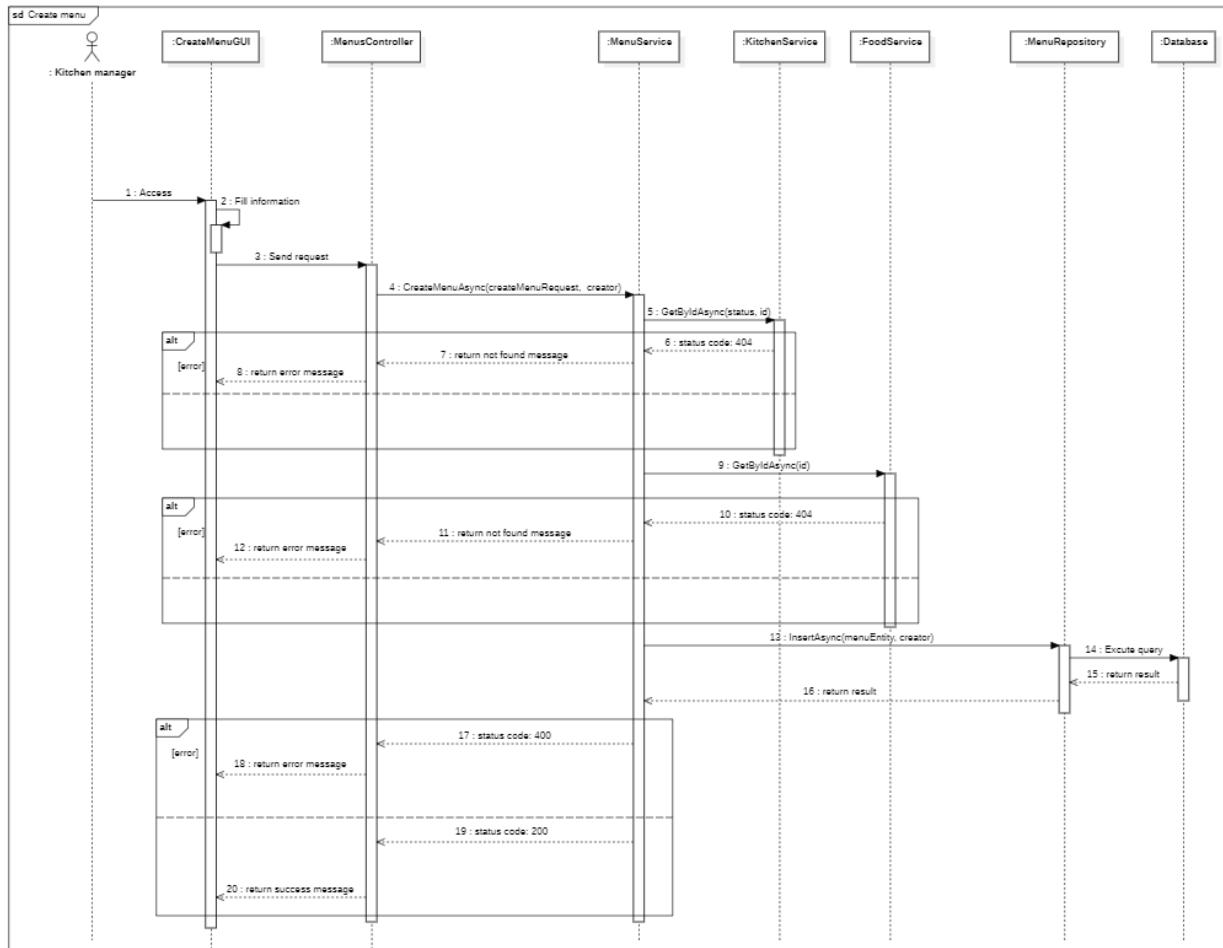


Figure 15 - Sequence Diagram Kitchen manager create menu

3.3 Kitchen manager add new food

3.3.1 Class Diagram

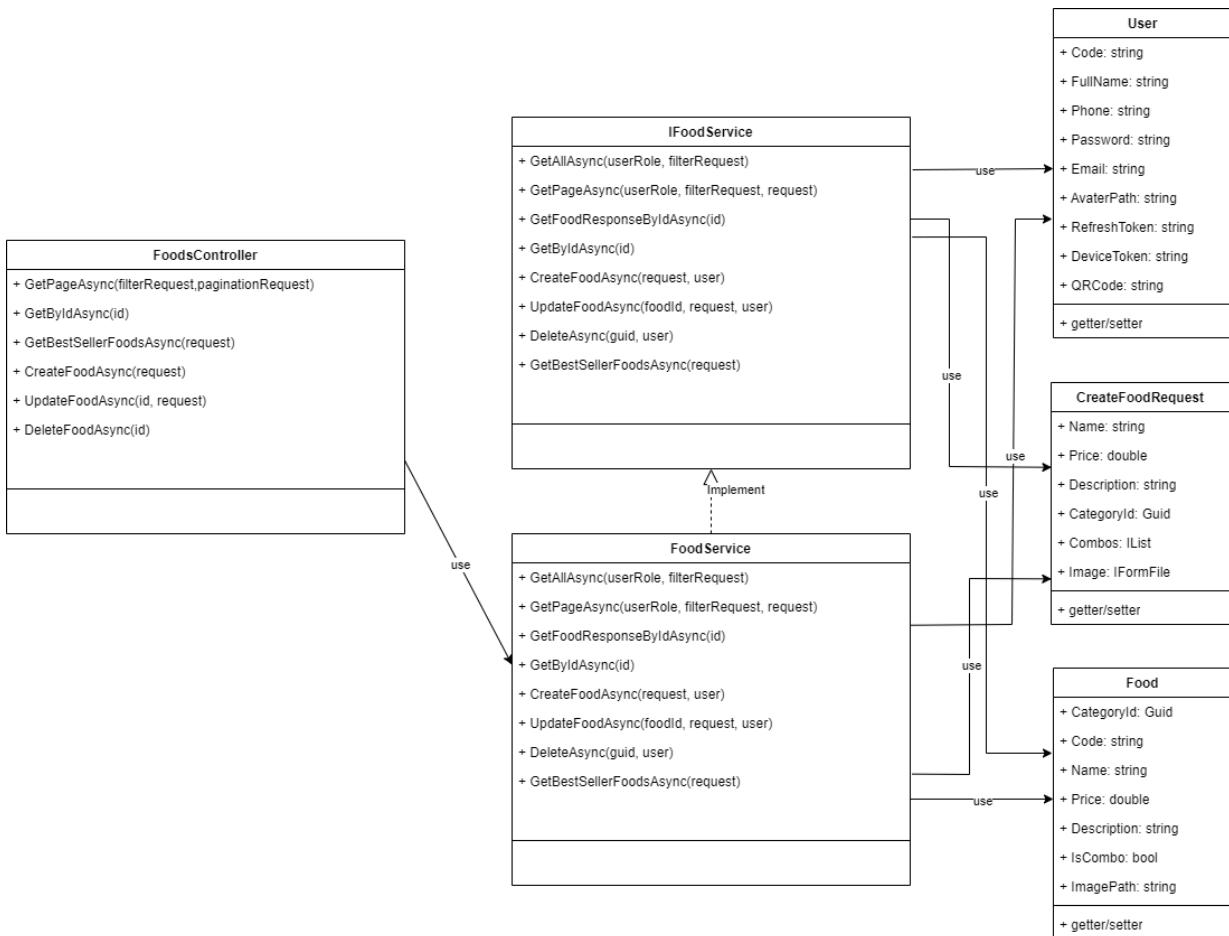


Figure 16 - Class Diagram Kitchen manager add new food

- Class Diagram Specification:

No	Method	Description
1	GetPageAsync(filterRequest,paginationRequest)	Get Page
2	GetByIdAsync(id)	Get By Id
3	GetBestSellerFoodsAsync(quest)	Get Best Seller Foods
4	CreateFoodAsync(request)	Create Food
5	UpdateFoodAsync(id, request)	Update Food
6	DeleteFoodAsync(id)	Delete Food

Table 28 - Class Diagram Specification - Add New Food

3.3.2 Sequence Diagram

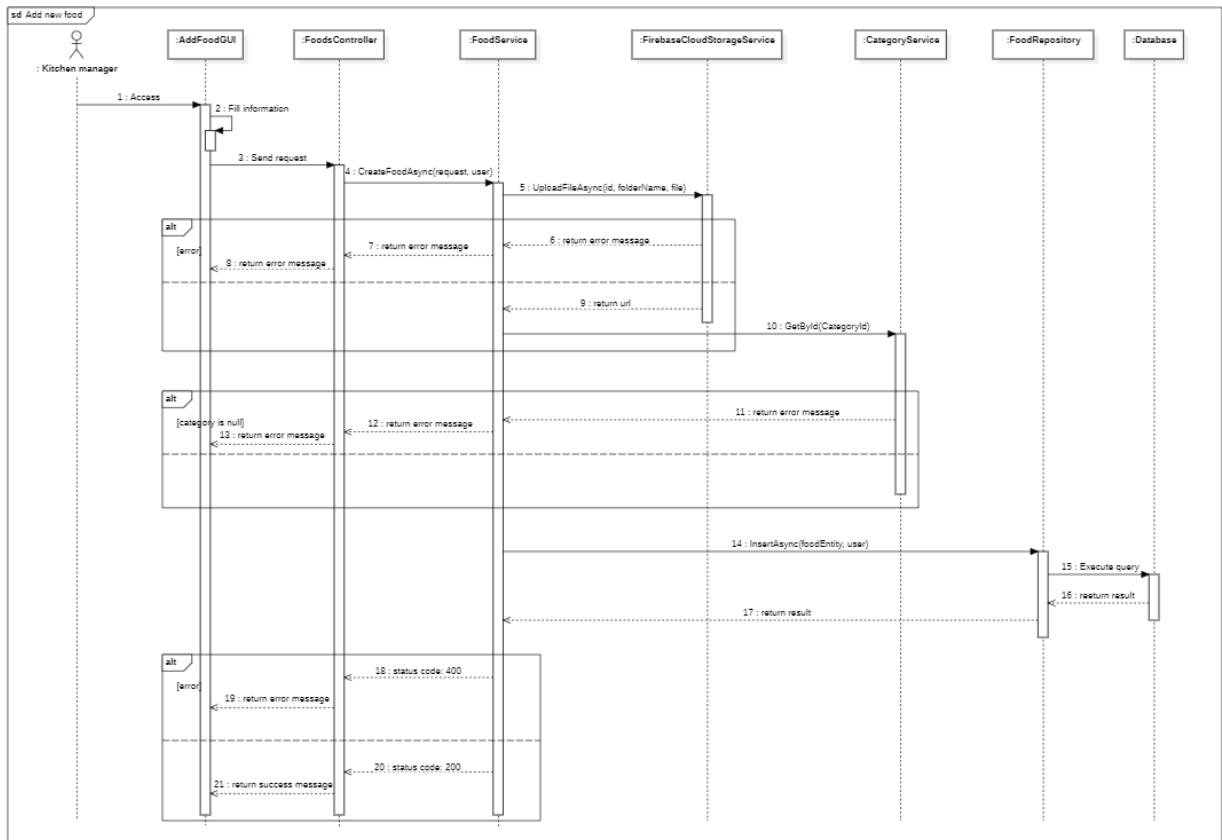


Figure 17 - Sequence Diagram Kitchen manager add new food

3.4 Kitchen manager view order

3.4.1 Class Diagram

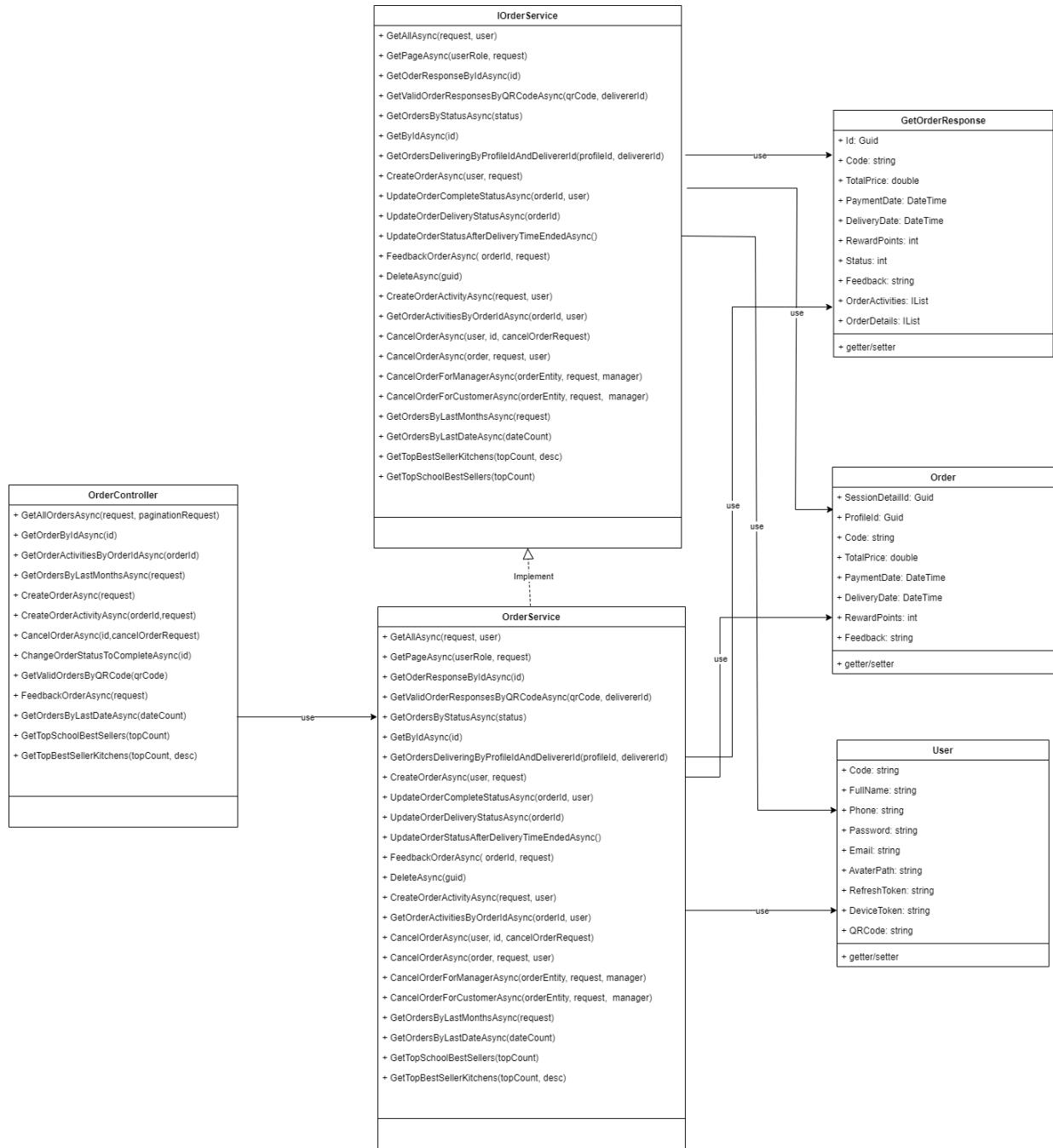


Figure 18 - Class Diagram Kitchen manager view order

- Class Diagram Specification:

No	Method	Description
1	GetAllOrdersAsync(request)	Get All Orders
2	GetOrderByIdAsync(id)	Get Order By Id

3	GetOrderActivitiesByOrderIdA sync(orderId)	Get Order Activities By Order Id
4	GetOrdersByLastMonthsAsync (request)	Get Orders By Last Months
5	CreateOrderAsync(request)	Create Order
6	CreateOrderActivityAsync(ord erId,request)	Create Order Activity
7	CancelOrderAsync(id,cancelO rderRequest)	Cancel Order
8	ChangeOrderStatusToComplet eAsync(id)	Change Order Status To Complete
9	GetValidOrdersByQRCode(qr Code)	Get Valid Orders By QR Code
10	FeedbackOrderAsync(request)	Feedback Order

Table 29 - Class Diagram Specification - View Order

3.4.2 Sequence Diagram

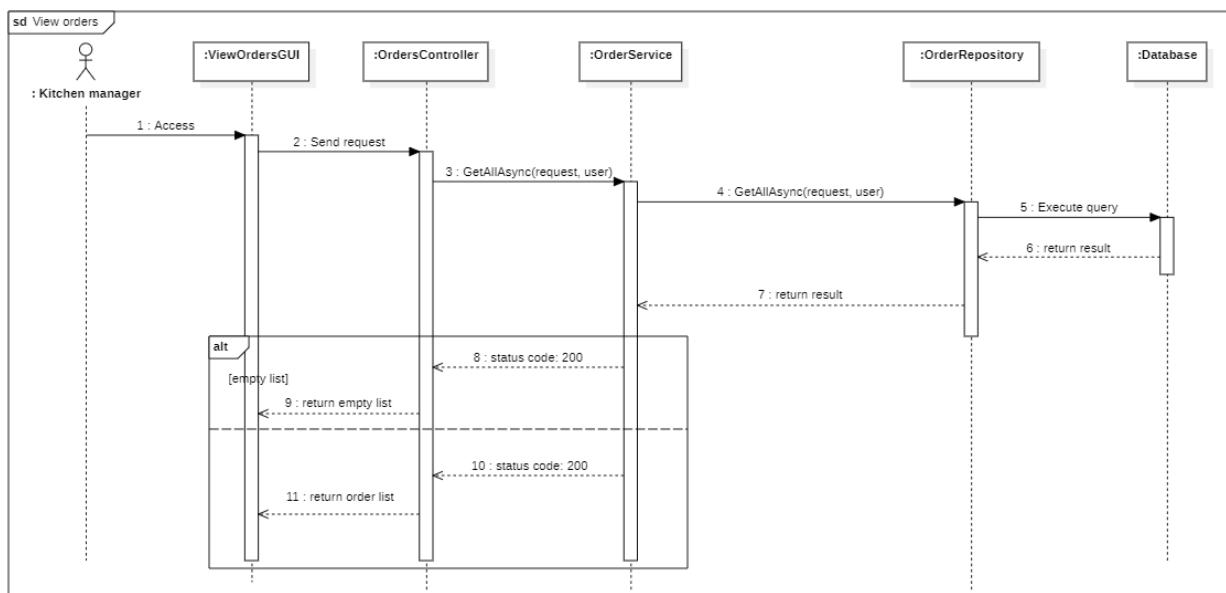


Figure 19 - Sequence Diagram Kitchen manager view order

3.5 Customer order food

3.5.1 Class Diagram

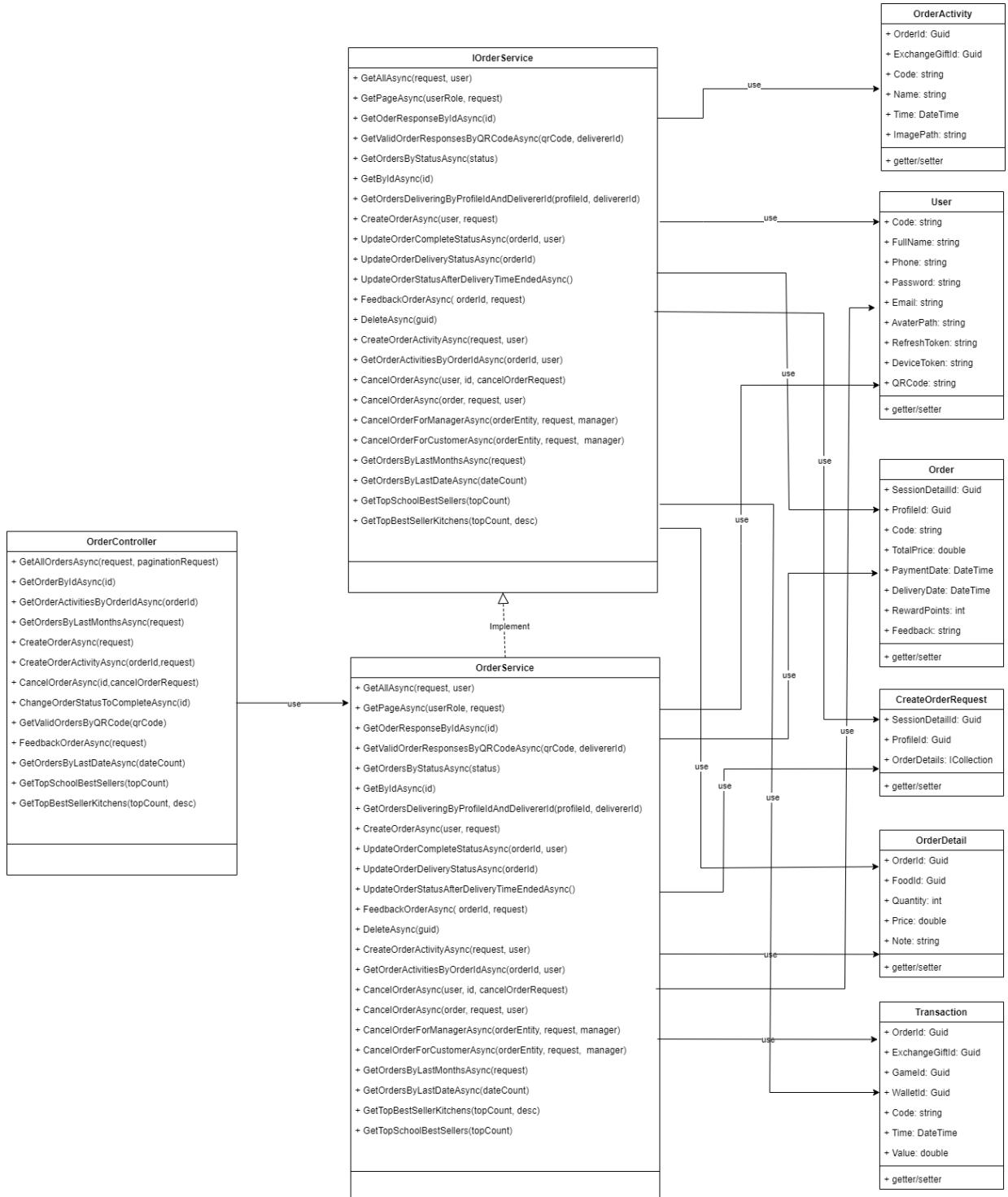


Figure 20 - Sequence Diagram Customer order food

- Class Diagram Specification:

No	Method	Description
1	GetAllOrdersAsync(request)	Get All Orders
2	GetOrderByIdAsync(id)	Get Order By Id
3	GetOrderActivitiesByOrderIdA sync(orderId)	Get Order Activities By Order Id
4	GetOrdersByLastMonthsAsync (request)	Get Orders By Last Months
5	CreateOrderAsync(request)	Create Order
6	CreateOrderActivityAsync(ord erId,request)	Create Order Activity
7	CancelOrderAsync(id,cancelO rderRequest)	Cancel Order
8	ChangeOrderStatusToComplete Async(id)	Change Order Status To Complete
9	GetValidOrdersByQRCode(qr Code)	Get Valid Orders By QR Code
10	FeedbackOrderAsync(request)	Feedback Order

Table 30 - Class Diagram Specification - Order Food

3.5.2 Sequence Diagram

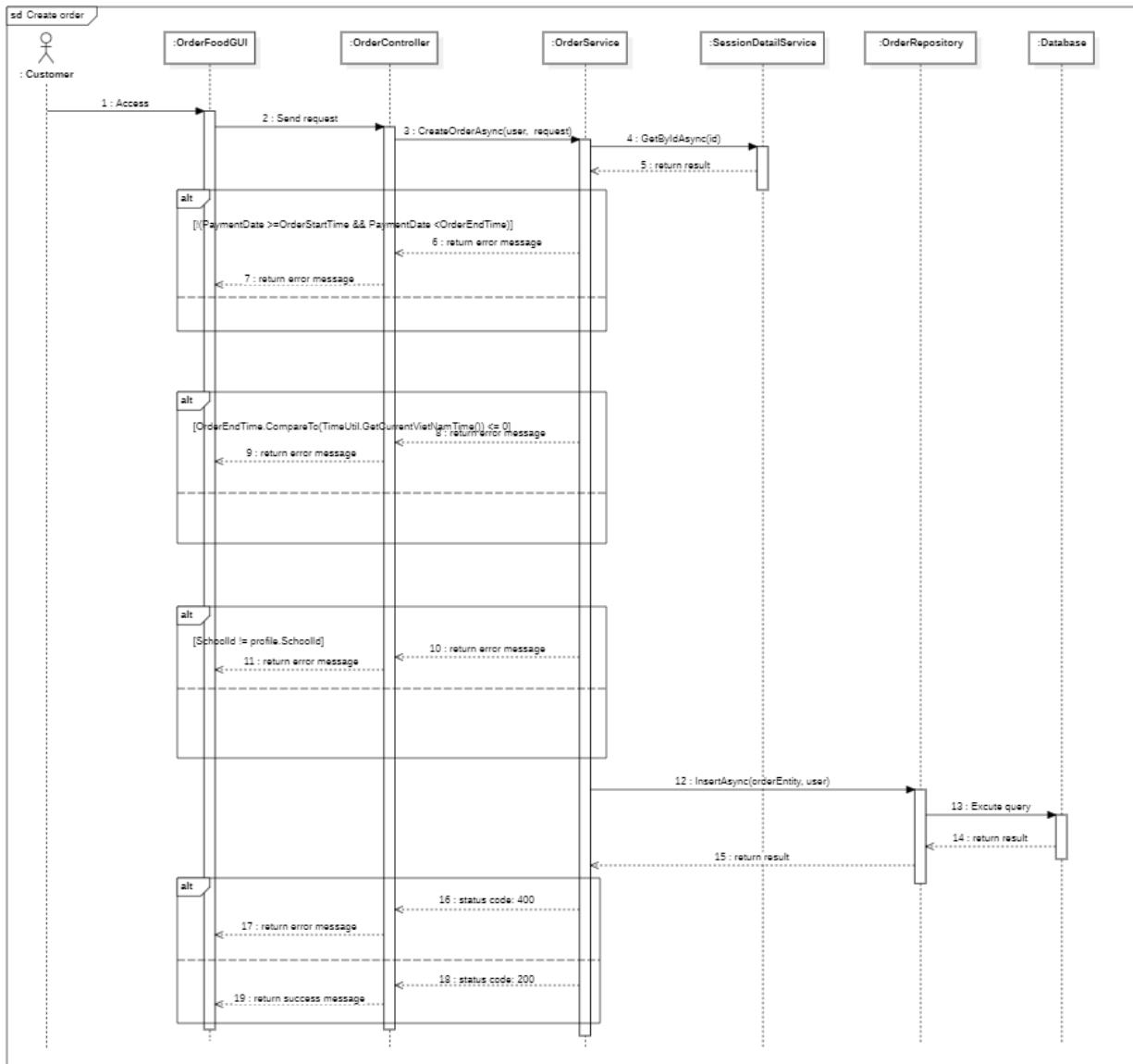


Figure 21 - Sequence Diagram Customer order food

3.6 Notification

3.6.1 Class Diagram

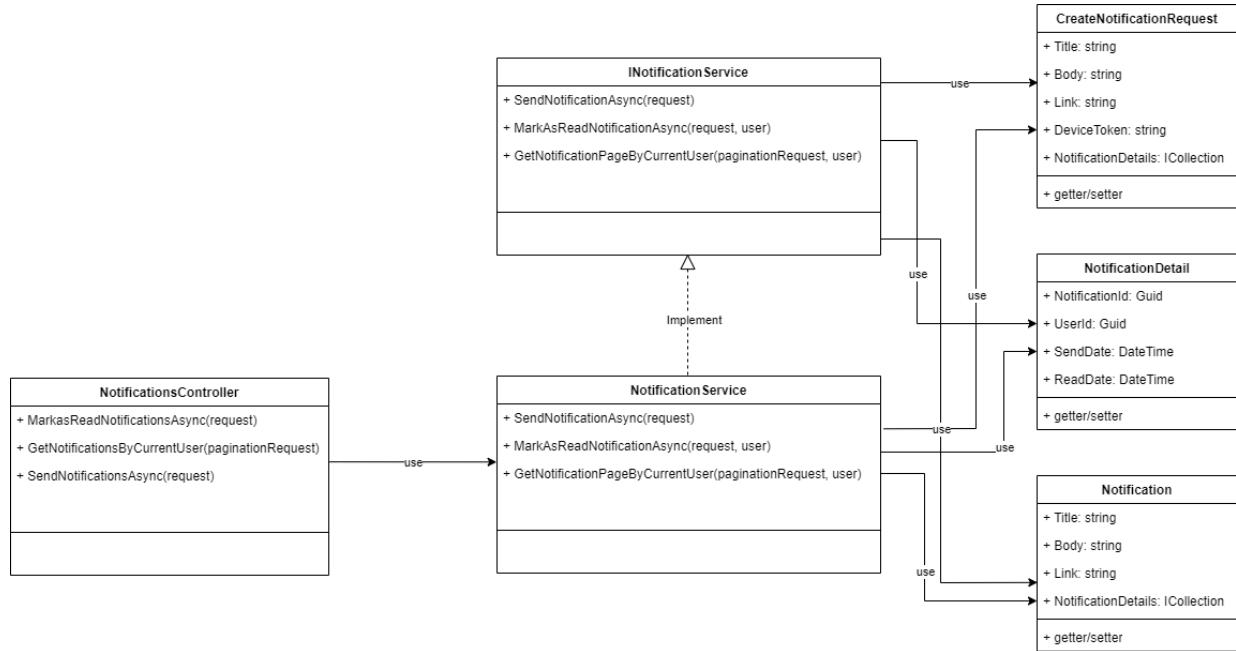


Figure 22 - Class Diagram Notification

- Class Diagram Specification:

No	Method	Description
1	MarkasReadNotificationsAsync(request)	Mark as Read Notifications
2	GetNotificationsByCurrentUser(paginationRequest)	Get Notifications By Current User
3	SendNotificationsAsync(request)	Send Notifications

Table 31 - Class Diagram Specification - Notification

3.6.2 Sequence Diagram

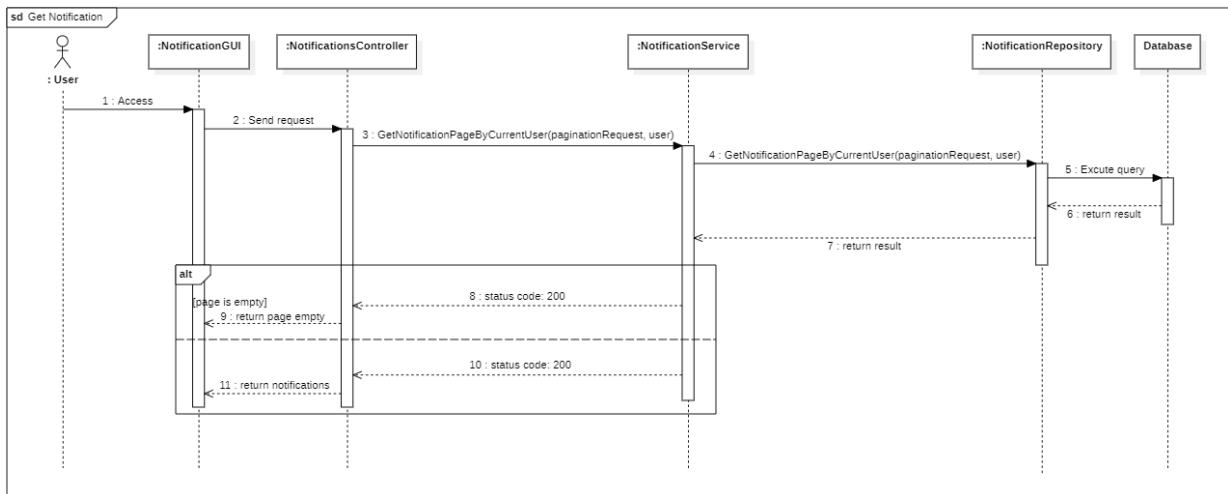


Figure 23 - Sequence Diagram Notification

3.7 Customer topup

3.7.1 Class Diagram

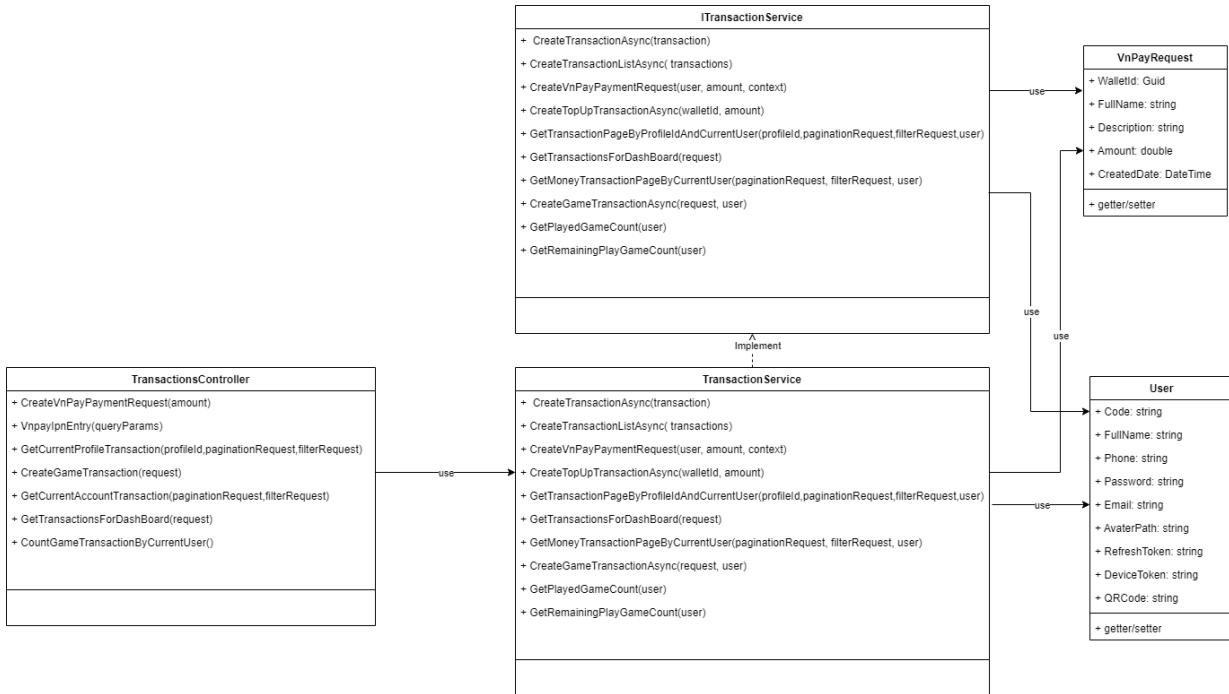


Figure 24 - Class Diagram Customer topup

- Class Diagram Specification:

No	Method	Description
1	CreateVnPayPaymentRequest(amount)	Create VnPay Payment Request
2	VnpayIpnEntry(queryParams)	Vnpay Ipn Entry
3	GetCurrentProfileTransaction(profileId,paginationRequest,filterRequest)	Get Current Profile Transaction
4	CreatGameTransaction(request)	Create Game Transaction
5	GetCurrentAccountTransaction(paginationRequest,filterRequest)	Get Current Account Transaction
6	GetTransactionsForDashBoard(request)	Get Transactions For Dashboard

Table 32 - Class Diagram Specification - Topup

3.7.2 Sequence Diagram

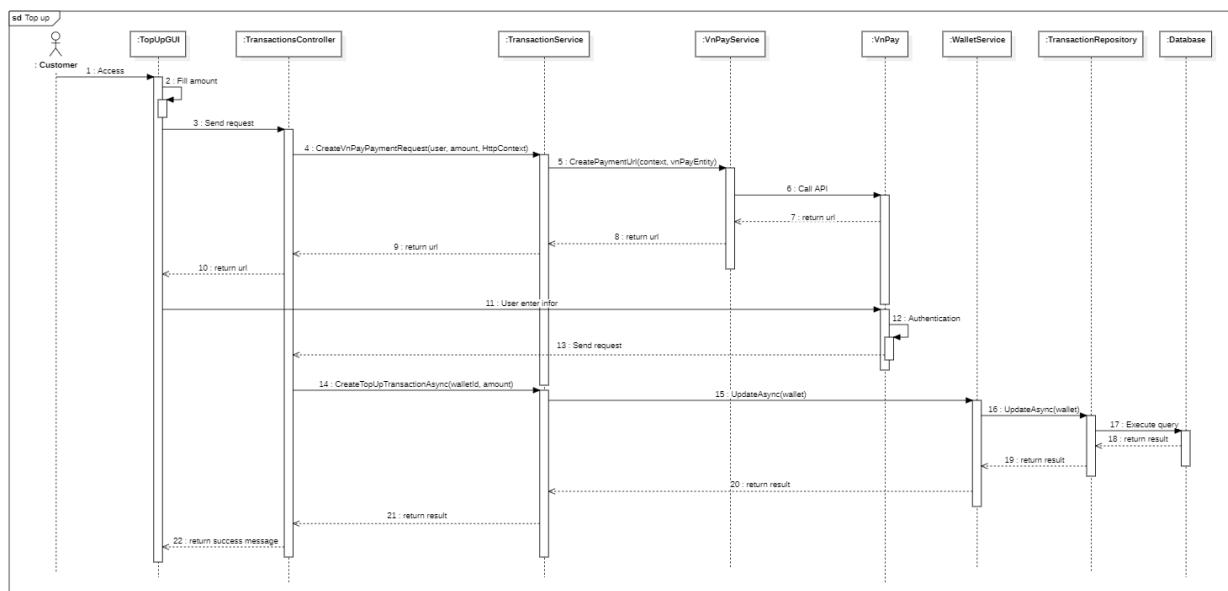


Figure 25 - Sequence Diagram Customer topup

3.8 Customer add children

3.8.1 Class Diagram

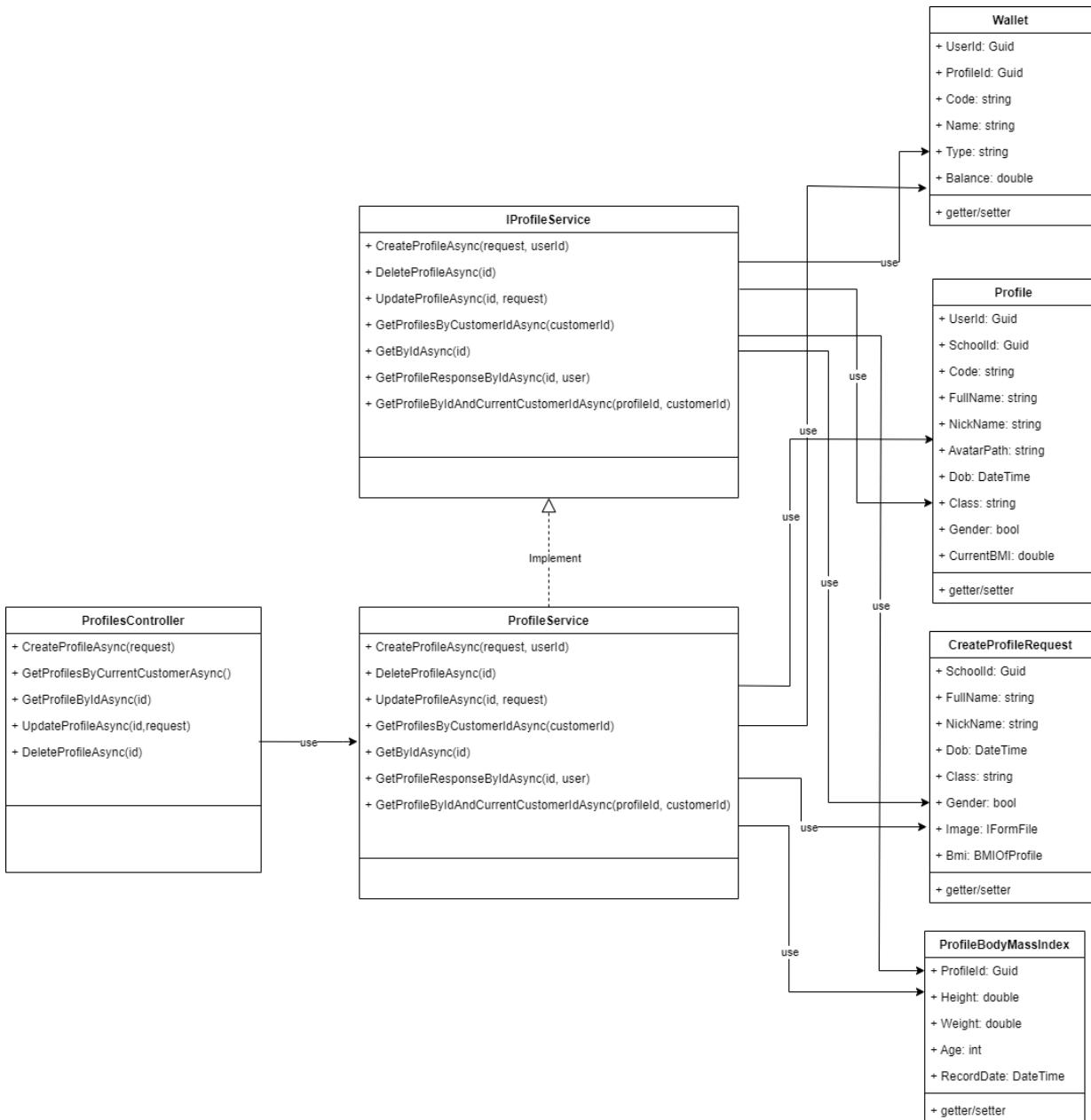


Figure 26 - Class Diagram Customer add children

- Class Diagram Specification:

No	Method	Description
1	CreateProfileAsync(request)	Create Profile
2	GetProfilesByCurrentCustomerAsync()	Get Profiles By Current Customer

3	GetProfileByIdAsync(id)	Get Profile By Id
4	UpdateProfileAsync(id,request)	Update Profile
5	DeleteProfileAsync(id)	Delete Profile

Table 33 - Class Diagram Specification - Add Children

3.8.2 Sequence Diagram

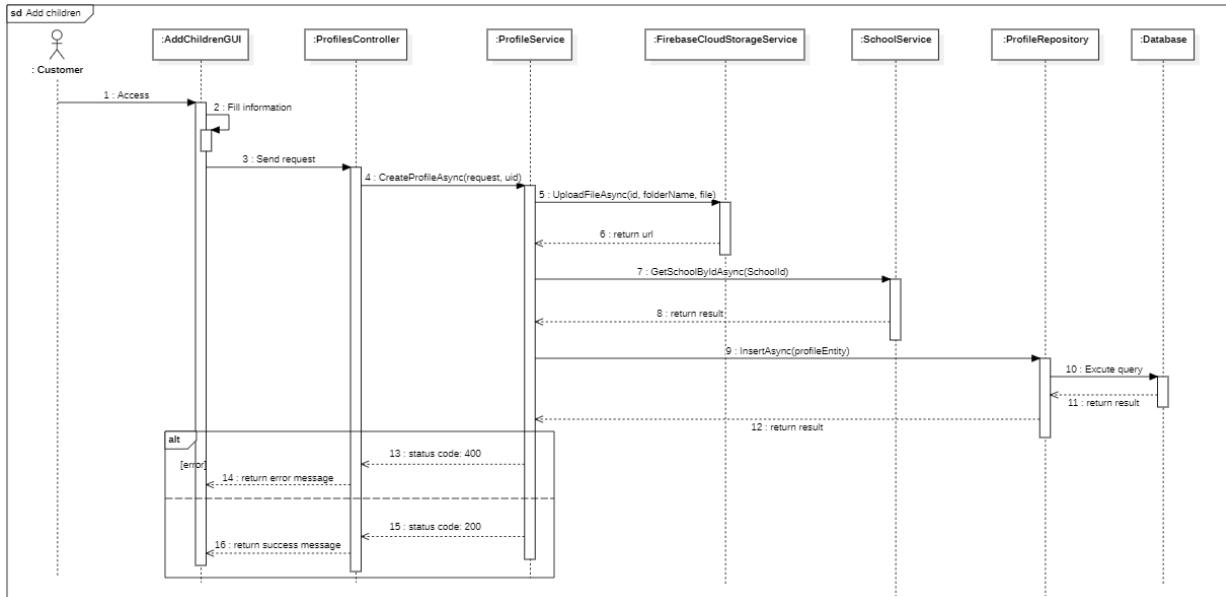


Figure 27 - Sequence Diagram Customer add children

3.9 Deliverer view schedule

3.9.1 Class Diagram

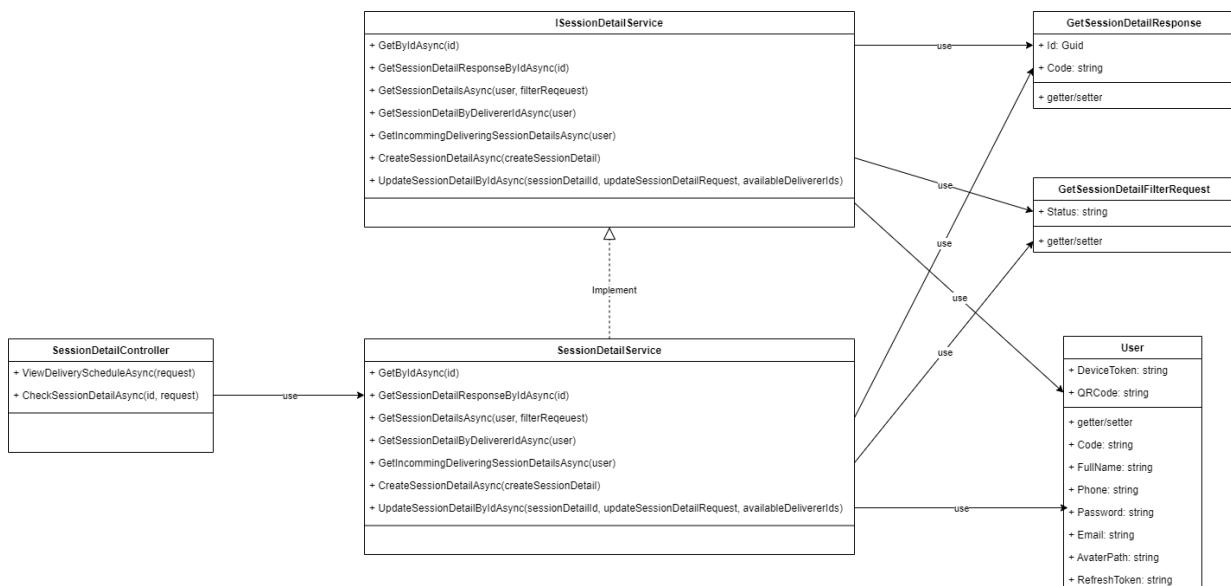


Figure 28 - Class Diagram Deliverer view schedule

- Class Diagram Specification:

No	Method	Description
1	ViewDeliveryScheduleAsync(request)	View Delivery Schedule
2	CheckSessionDetailAsync(id,request)	Check Session Detail
3	CreateSessionDetail(request)	Create Session Detail

Table 34 - Class Diagram Specification - View Schedule

3.9.2 Sequence Diagram

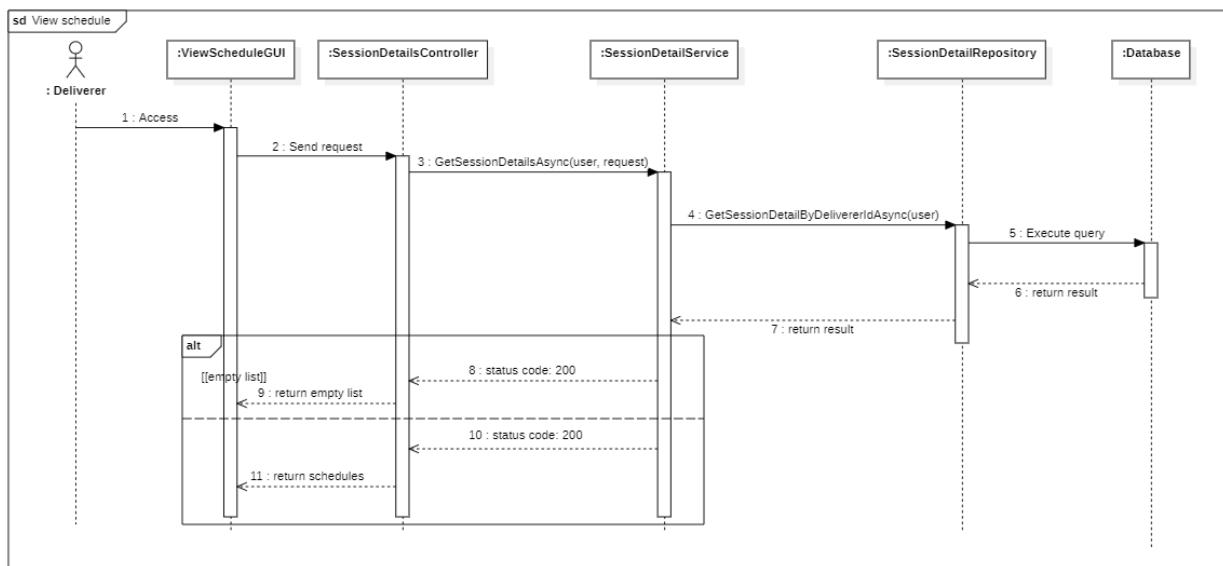


Figure 29 - Sequence Diagram Deliverer view schedule

3.10 Deliverer update completed order status when delivered

3.10.1 Class Diagram

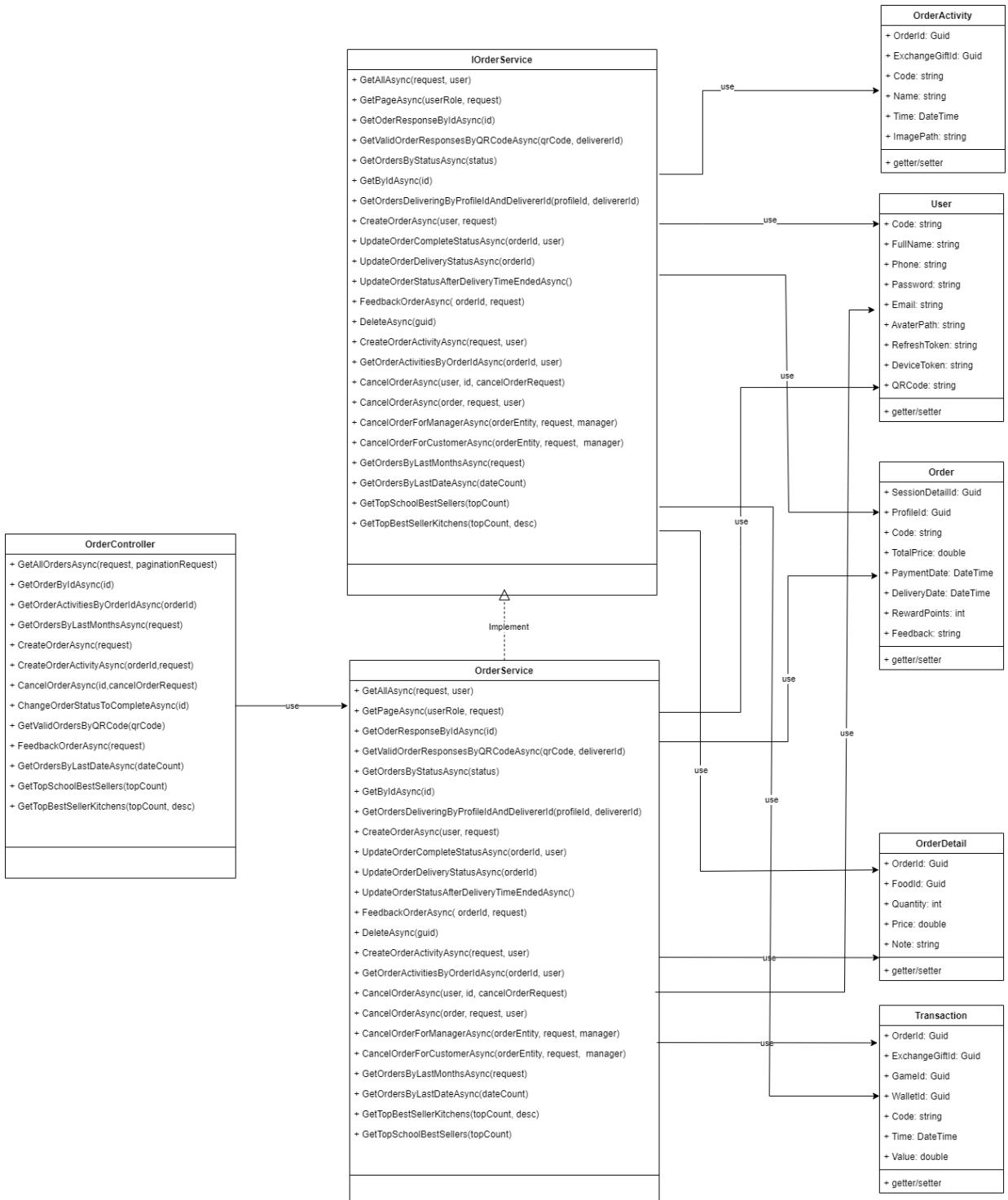


Figure 30 - Class Diagram Deliverer update completed order status when delivered

- Class Diagram Specification:

No	Method	Description
1	GetAllOrdersAsync(request)	Get All Orders
2	GetOrderByIdAsync(id)	Get Order By Id
3	GetOrderActivitiesByOrderIdA sync(orderId)	Get Order Activities By Order Id
4	GetOrdersByLastMonthsAsync (request)	Get Orders By Last Months
5	CreateOrderAsync(request)	Create Order
6	CreateOrderActivityAsync(ord erId,request)	Create Order Activity
7	CancelOrderAsync(id,cancelO rderRequest)	Cancel Order
8	ChangeOrderStatusToComplete Async(id)	Change Order Status To Complete
9	GetValidOrdersByQRCode(qr Code)	Get Valid Orders By QR Code
10	FeedbackOrderAsync(request)	Feedback Order

Table 35 - Class Diagram Specification - Complete Order

3.10.2 Sequence Diagram

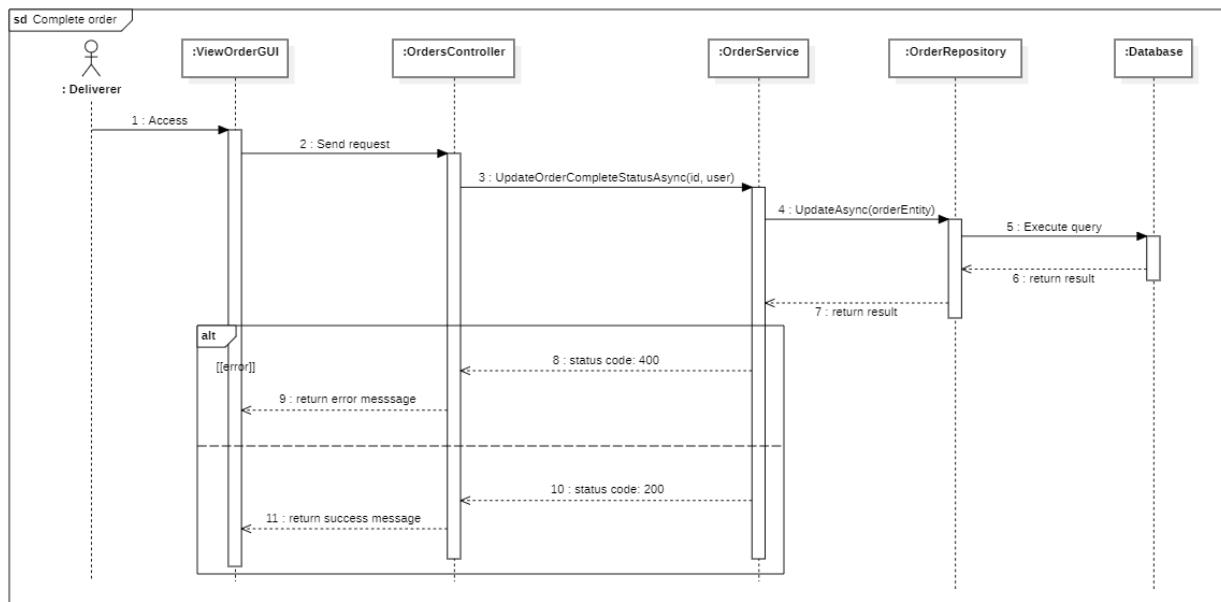


Figure 31 - Sequence Diagram Deliverer update completed order status when delivered

3.11 State Machine Diagram

3.11.1 Order State Machine

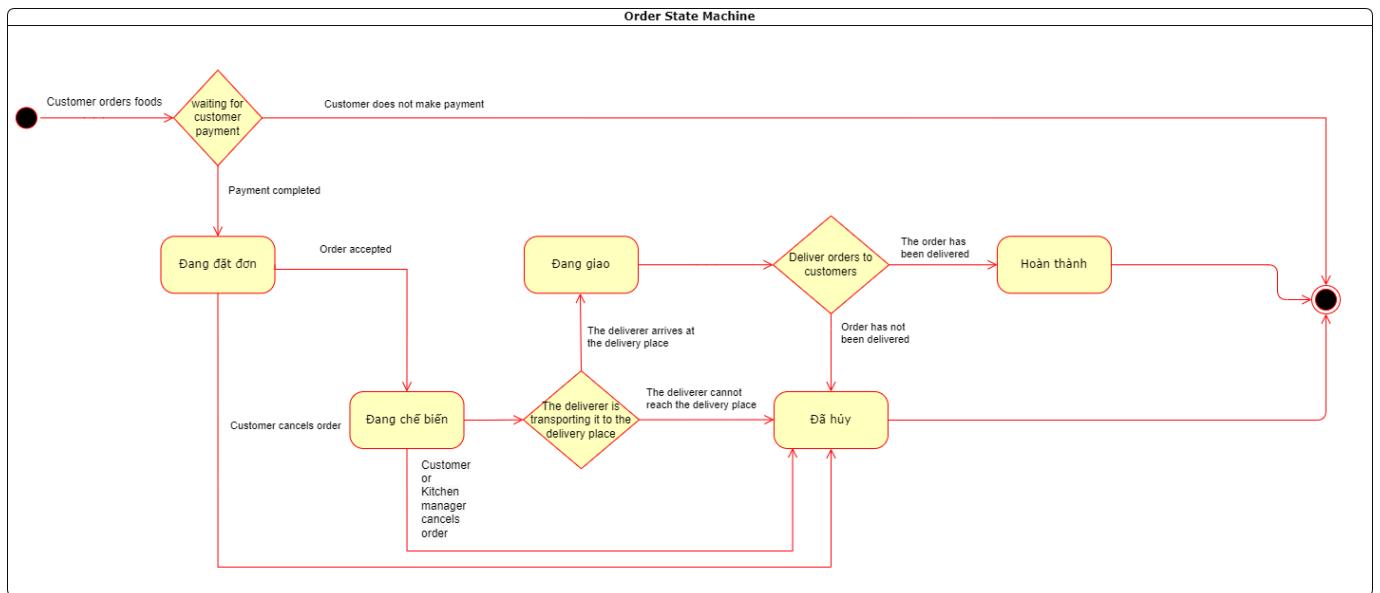


Figure 32 - Order State Machine Diagram

3.12 Activity Diagram

3.12.1 Topup Activity Diagram

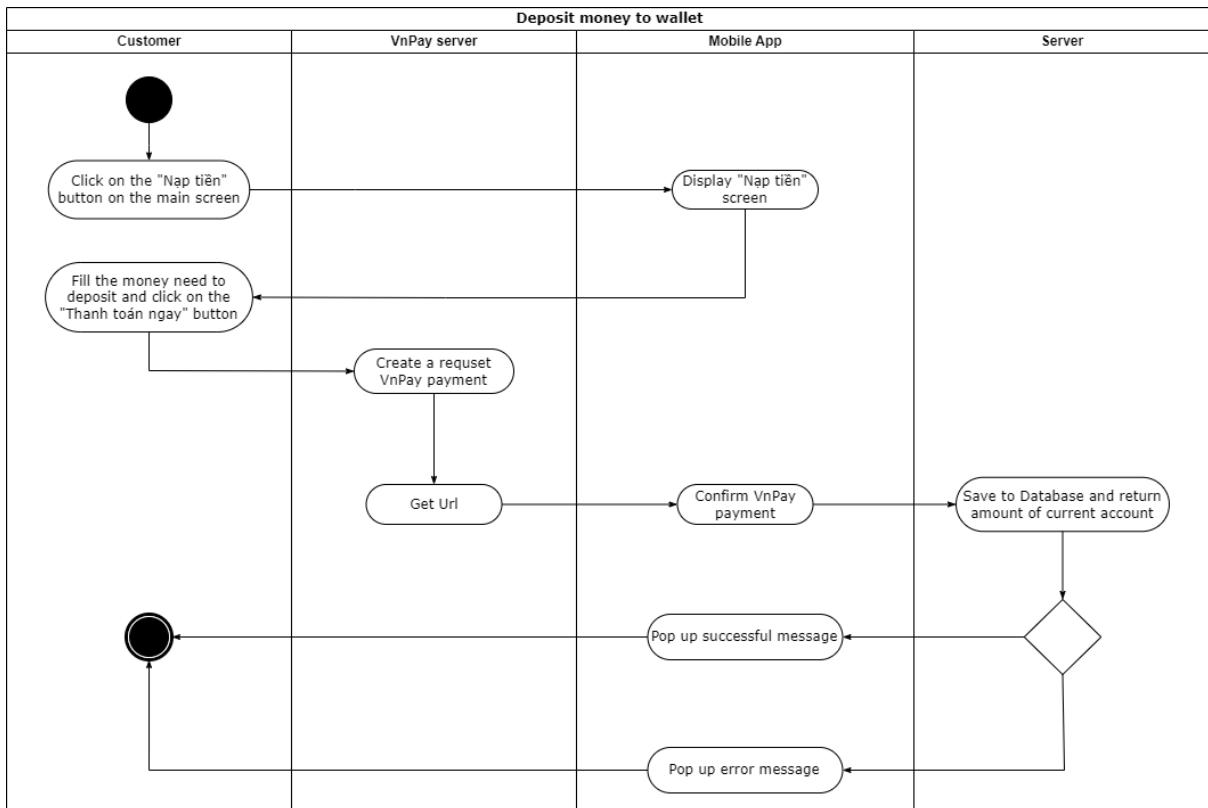


Figure 33 - Deposit Activity Diagram

3.12.2 Order Food Activity Diagram

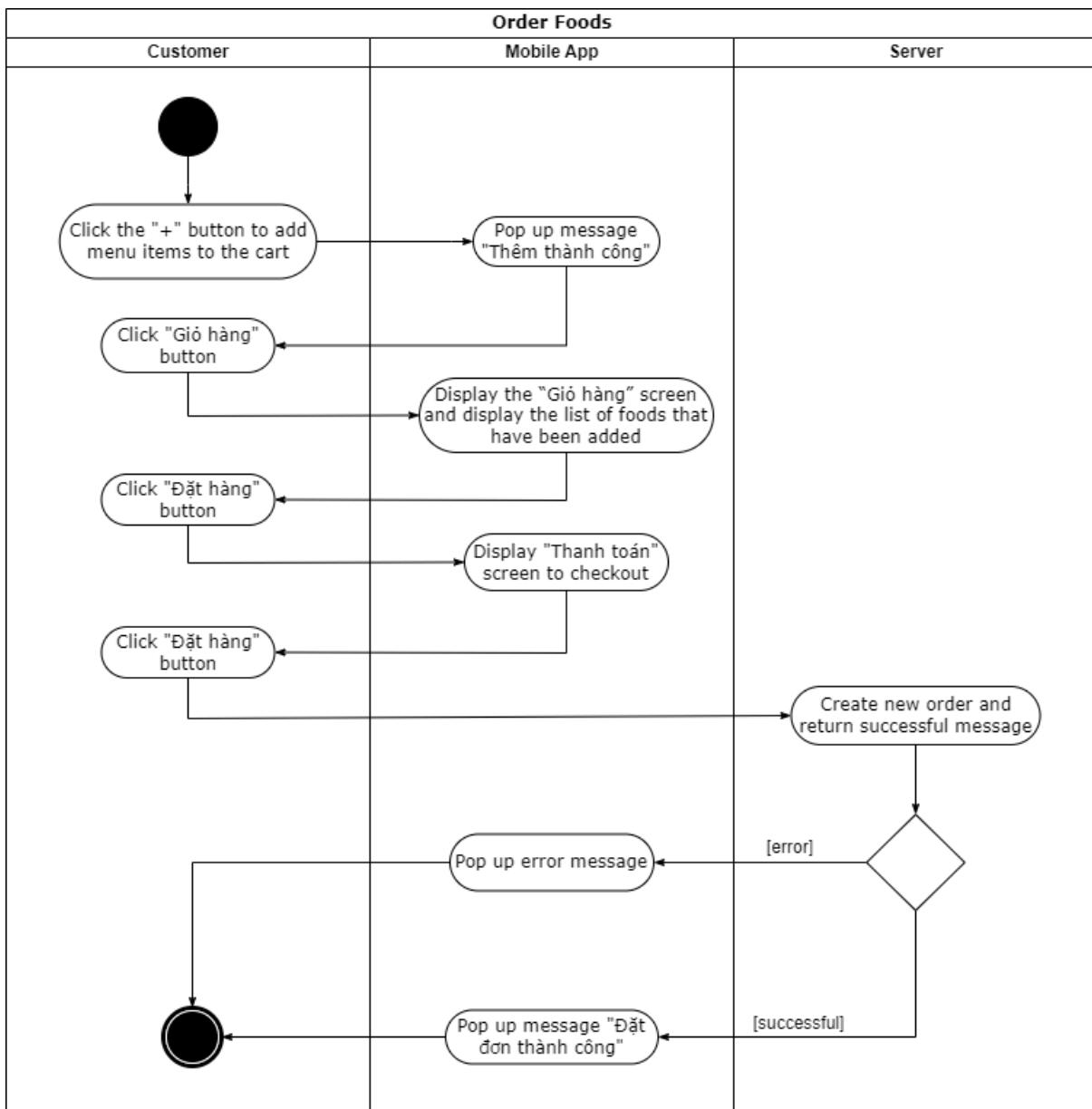


Figure 34 - Order Food Activity Diagram

3.12.3 Manage Order Activity Diagram

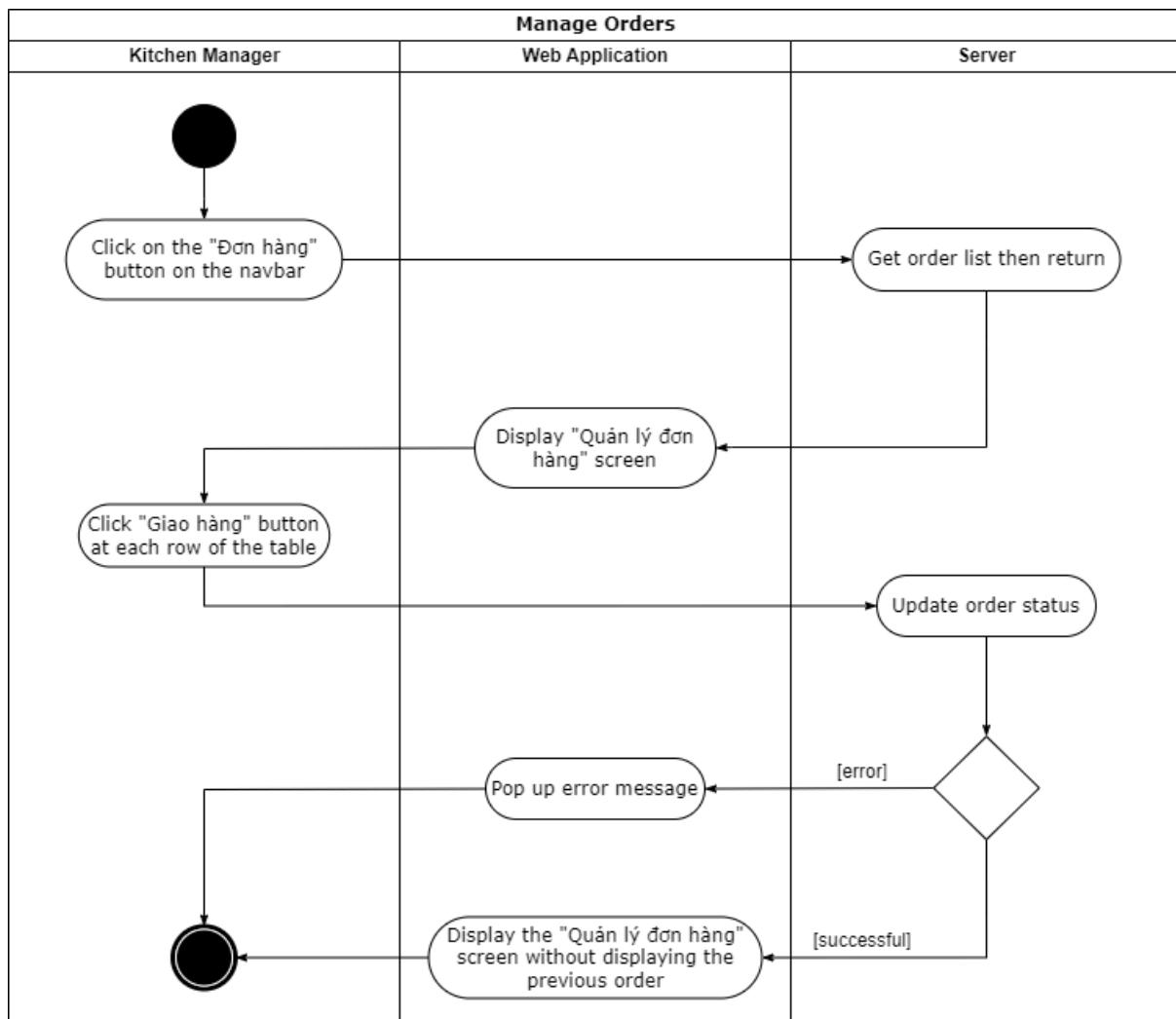


Figure 35 - Manage Order Activity Diagram

3.12.4 Food Delivery Activity Diagram

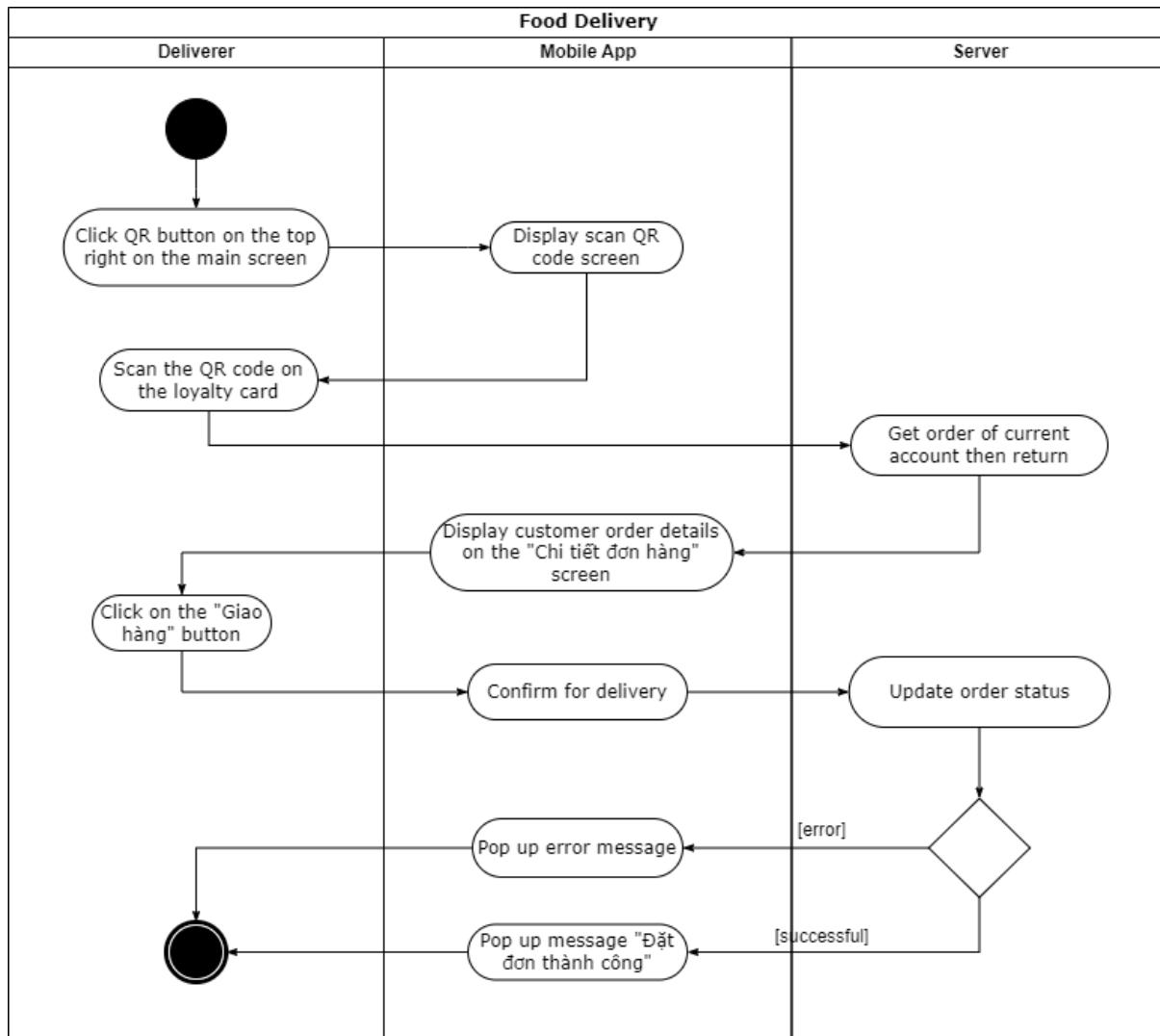


Figure 36 - Food Delivery Activity Diagram

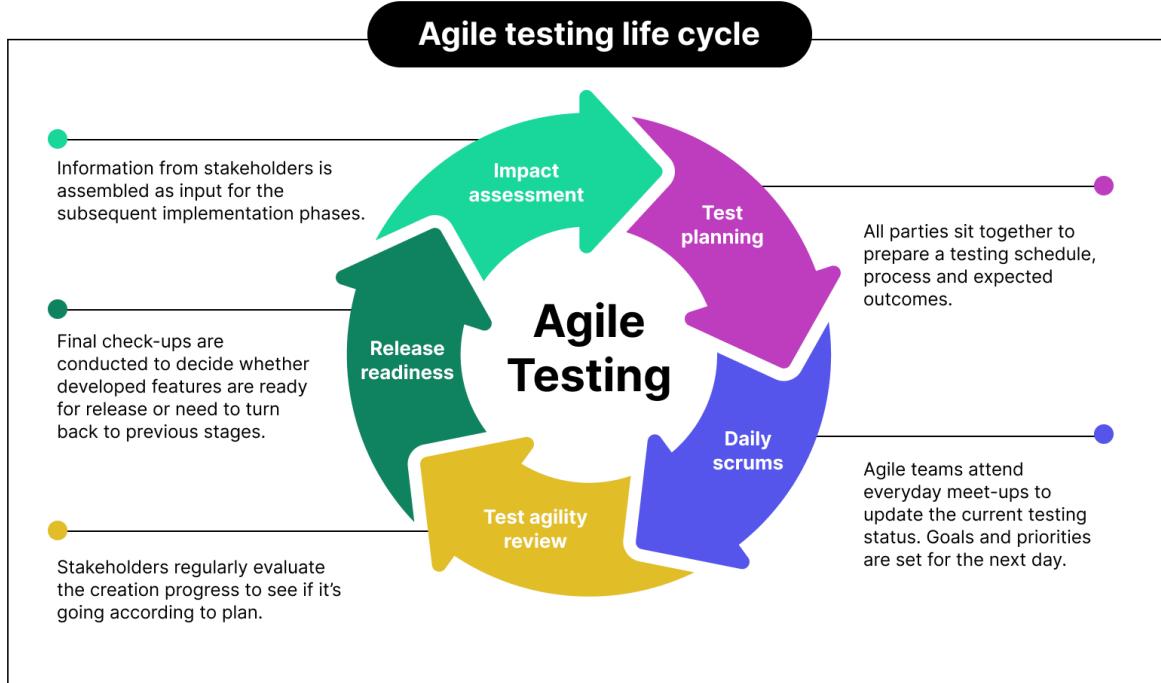
V. Software Testing Documentation

1. Scope of Testing

Tests at different scopes complement each other's strengths and weaknesses. A good mix of tests can create an excellent testing plan that allows us to make changes confidently and catches actual bugs quickly and efficiently.

- With the Backend API, we applied Unit Testing and then Integration Testing.
- With the Website and Mobile, we applied System Testing with functional requirements.

2. Test Strategy



The Agile testing approach is suitable for changing requirements with each cycle. It is an entirely new test phase, allows the testing team to spot bugs quickly, and prevents the development team from repeating a bug type too many times. Additionally, the Agile testing model has the following advantages:

- Suitable in small or medium projects.
- Provide a common ground for stakeholders to communicate incrementally.

2.1 Testing Types

- **Functional testing**: Ensure system functions comply with business functional requirements.
- **User interface testing**: Perform testing on UI controls to verify if they work properly according to their desired functionalities.

2.2 Test Levels

Type of tests	Test levels			
	Unit	Integration	System	Acceptance
Functional testing	x	x	x	
User interface testing			x	

Table 36 - Test Levels

2.3 Supporting Tools

Purpose	Tool	Vendor / In-house	Version
View log of web application	Chrome DevTools	Chrome	123.0.6312.123
Backend IDE	Visual Studio 2022	Microsoft	17.8.5
Web application	Visual Studio Code	Microsoft	1.88.0
Mobile application	Visual Studio Code	Microsoft	1.88.0
Communication	Discord, Messenger, Zalo	Discord, Meta, Zalo	

Table 37 - Supporting Tools

3. Test Plan

3.1 Human Resources

Worker	Role	Specific Responsibilities
Nguyen Hoai Phuong	Leader	Planning. Verify test deliverables.
Dao Duc Thanh	Member	Execute test and report as planned.
Pham Quoc Thinh	Member	Execute test and report as planned.
Nguyen Huynh Phi	Member	Execute test and report as planned.

Table 38 - Human Resources

3.2 Test Environment

Purpose	Tool	Provider
View logs of web application	Chrome DevTools	Chrome
Test case management	Microsoft Excel	Microsoft
UI for Unit test and Integration test	Postman	Postman
Backend IDE	Visual Studio 2022	Microsoft

Web application IDE	Visual Studio Code	Microsoft
Mobile application IDE	Visual Studio Code	Microsoft
Execution hardware	<p>Testing is implemented on computers with the following specifications:</p> <ul style="list-style-type: none"> • CPU: Intel i7-10750H • RAM: 16GB • Storage device: HDD or SSD 	Any providers
Communication	Discord, Messenger, Zalo	Discord, Meta, Zalo

Table 39 - Test Environment

3.3 Test Milestone

Milestone Task	Effort (md)	Start Date	End Date
Iteration 1: Test planning for web application	5	28/01/2024	02/02/2024
Create test plan	1	28/01/2024	29/01/2024
Review test plan	1	29/01/2024	30/01/2024
Create unit test	2	30/01/2024	01/02/2024
Create test case	1	01/02/2024	02/02/2024
Iteration 2: Test planning for mobile application	6	04/03/2024	09/03/2024

Create test plan	1	04/03/2024	05/03/2024
Review test plan	1	05/03/2024	06/03/2024
Create unit test	2	06/03/2024	08/03/2024
Create test case	2	08/03/2024	09/03/2024
Iteration 3: Execute tests for mobile and web applications	4	12/04/2024	16/04/2024
Execute test for mobile application	2	12/04/2024	14/04/2024
Execute test for web application	2	14/04/2024	16/04/2024
System test	4	16/04/2024	20/04/2024
Acceptance test	2	20/04/2024	22/04/2024
Write final report	1	22/04/2024	23/04/2024

Table 40 - Test Milestone

4. Test Cases

Unit Test Case	Test Report
Unit Test Case	Test Report

Table 41 - Test Cases

5. Test Reports

Test Report								
Project Name: GSP24SE27 Project Code: SP24SE082 Test Environment Setup Description: Source Code			Total TCs	Passed	Failed	Untested	Pending	% TCs
No	Function Group	Description						
1	Unauthenticated User	Unauthenticated User can log into the system using these functions	8	8	0	0	0	100.00% 100.00% 0.00%
2	Kitchen Manager	Admin can log into the system to use these functions	20	20	0	0	0	100.00% 100.00% 0.00%
3	Authenticated Member	Member can log into the system to use these functions	34	34	0	0	0	100.00% 100.00% 0.00%
4	Deliverer	Member can log into the system to use these functions	5	5	0	0	0	100.00% 100.00% 0.00%
5	Admin	Member can log into the system to use these functions	7	7	0	0	0	100.00% 100.00% 0.00%

Test suit Created By Created Date	Unauthenticated User Nguyễn Huỳnh Phi 21/4/2024		Review By Nguyễn Hoài Phương					
Task 1st Run	Test By Nguyễn Huỳnh Phi	Total TCs 8	TCs Passed 8	TCs Failed 0	TCs Untested 0	TCs Pending 0		
Test case ID	Test Case	Test Case Description	Pre-Condition	Test Case Procedure	Expected Result	Passed/Failed	Date	Note
UnauthenticatedUser-01	Check UI interface				System show onboarding screen and welcome screen	Pass	21/4/2024	
UnauthenticatedUser-02	Unauthorized User want to login			1. Click on "Đăng nhập" button.	The system will not login and have message text "Tài khoản hoặc mật khẩu không đúng"	Pass	21/4/2024	
UnauthenticatedUser-03	Login	User login with account created on customer app	User already has an account	1. User filling in information in "Số điện thoại" text box and "Mật khẩu" text box, Click "Đăng nhập". 1. User filling in information in "Số điện thoại" text box, "Mật khẩu" text box and "Xác nhận mật khẩu" text box, checked on "Chấp nhận điều với điều khoản" check box, Click "Đăng nhập".	System redirect Member to Home Page	Pass	21/4/2024	Account login: 0812345678 Password: Ab123456
UnauthenticatedUser-04	Register	User create account on customer app	User not using their phone to create account	1. User filling in information in "Số điện thoại" text box, "Mật khẩu" text box and "Xác nhận mật khẩu" text box, checked on "Chấp nhận điều với điều khoản" check box, Click "Đăng ký".	System redirect User to OTP confirmation screen	Pass	21/4/2024	Account register: 0966324249
UnauthenticatedUser-05	OTP confirmation	User fill 6 number OTP on fill, OTP will be send to user by phone number		1. User filling in 6 number of OTP get from phone message to the text box, Click "Xác nhận OTP".	System notify success and redirect User to Login screen	Pass	21/4/2024	Account register: 0966324249
UnauthenticatedUser-06	Login	Kitchen manager login on kitchen website	User already has an account	1. User filling in information in "Tên đăng nhập" text box and "Mật khẩu" text box, Click "Đăng nhập".	System redirect Kitchen manager to Kitchen Page	Pass	21/4/2024	Account login: kitchen.manager01.beanfast@gmail.com Password: 12345678
UnauthenticatedUser-07	Login	Deliver login on delivery app	User already has an account	1. User filling in information in "Tên đăng nhập" text box and "Mật khẩu" text box, Click "Đăng nhập".	System redirect Deliverer to Deliver Page	Pass	21/4/2024	Account login: deliverer01.beanfast@gmail.com Password: 12345678
UnauthenticatedUser-08	Login	Admin login on admin website	User already has an account	1. User filling in information in "Tên đăng nhập" text box and "Mật khẩu" text box, Click "Đăng nhập".	System redirect Admin to Admin Page	Pass	21/4/2024	Account login: admin01.beanfast@gmail.com Password: 12345678
Test suit Created By Created Date	Member Nguyễn Huỳnh Phi 21/4/2024		Review By Nguyễn Hoài Phương					
Task 1st Run	Test By Nguyễn Huỳnh Phi	Total TCs 34	TCs Passed 34	TCs Failed 0	TCs Untested 0	TCs Pending 0		
Test case ID	Test Case	Test Case Description	Pre-Condition	Test Case Procedure	Expected Result	Passed/Failed	Date	
Manage Children Profile								
Member-01	View list of children	Check UX/UI	Member already have a list of children depend	1. Click "User" icon on bottom navbar 2. Click on "Danh sách học sinh"	System show list of children	Pass	21/4/2024	
Member-02	View child detail information	Check UX/UI	Member already have a list of children depend	2. Click on "Danh sách học sinh" 3. Click "Child" row on list of children 4. Click "User" icon on bottom navbar	System show detailed information of child	Pass	21/4/2024	
Member-03	Create child profile	Input data		5. Click on "Thêm học sinh" 6. Fill information of child "Họ và tên" text box, "Biệt danh" text box, select radio button "Giới tính" of child, pick day of birth of child, input "Chiều cao" and "Cân nặng" text box, select "Trường học" on "Chỗ trường học" button, input "Lớp học" text box, upload image		Pass	21/4/2024	
Member-04	Change default children profile	Check UX/UI	Member already have a list of children depend	7. Click on "Lưu thông tin" button 8. Click on "Child Profile" row on top of home page 9. Click on "Child" want to change in list of children	System show home page with update to a new chosen child	Pass	21/4/2024	
Member-05	Update child profile	Input data	Member already have a list of children depend	10. Click "User" icon on bottom navbar 11. Click on "Danh sách học sinh" 12. Click on "Edit" icon 13. Fill information of child "Họ và tên" text box, "Biệt danh" text box, select radio button "Giới tính" of child, pick day of birth of child, input "Chiều cao" and "Cân nặng" text box, select "Trường học" on "Chỗ trường học" button, input "Lớp học" text box, update new Image		Pass	21/4/2024	
Member-06	View QR code	Check UX/UI		14. Click on "Lưu thông tin" button 15. Click "QR icon" on bottom navbar	System show QR and update after 60 second	Pass	21/4/2024	
Member-07	Generate QR code	Generate QR code		16. Click "QR icon" on bottom navbar 17. Click on "Cập nhật" button	System show new QR and update after 60 second	Pass	21/4/2024	

VI. Release Package & User Guides

1. Deliverable Package

1.1 Source codes & documents

No.	Deliverable Item	Description
1	Schedule / Task Tracking	Trello: Trello
2	Source Code	<p>API: BeanFast API</p> <p>Web Application:</p> <ul style="list-style-type: none"> Web manager Admin web <p>Mobile Application:</p> <ul style="list-style-type: none"> Customer app Delivery app

3	Database Script	Database Script
4	Final Report Document	Final Report Document
5	Test Cases Document	Test Cases Document
6	Slide	Slide

Table 42 - Source codes & documents

1.2 Known Issues, Limitation & Restrictions

- Projects haven't been packaged as installers yet.
- Some configuration must be configured by setting files: paths, secrets...
- Manual SDKs and runtimes installation
- Databases are initialized using scripts.
- SSL encryption is not supported yet.

2. Installation Guides

2.1 System Requirements

2.1.1 Web application

PC / Laptop	Minimum Requirements	Recommended
Internet Connection	Cable, Wi-Fi (4 Mbps)	Cable, Wi-Fi (8 Mbps)
Operating System	Windows 10	Windows 11
Computer Processor	Intel® Core i5	Intel® Core i7
Computer Memory	4GB RAM	8GB RAM or more
Web Browser	Chromes (v69 or higher)	Chrome latest stable version

Table 43 - System Requirement - Web application

2.1.2 Mobile application

Operating system	Android 9.0 or higher
Processor	Exynos 9820 8 nhân

Storage	Minimum 850MB, 32GB is recommended
RAM	Minimum of 2GB, 8GB is recommended
Hard Disk	2 GB of available hard-disk space for installation

Table 44 - System Requirement - Mobile application

2.2 Installation Instruction

Setup and start a Windows OS (Windows 10 or Windows Server 2016):

2.2.1 Set up environment

1. Backend

a. Set up database

Install SQL Server 2019 and Microsoft SQL Server Management Studio 18 by following guidelines link:

<https://datapot.vn/huong-dan-cai-dat-sql-server-2019>

b. Set up Backend API

i. Install Visual Studio by following guidelines link:

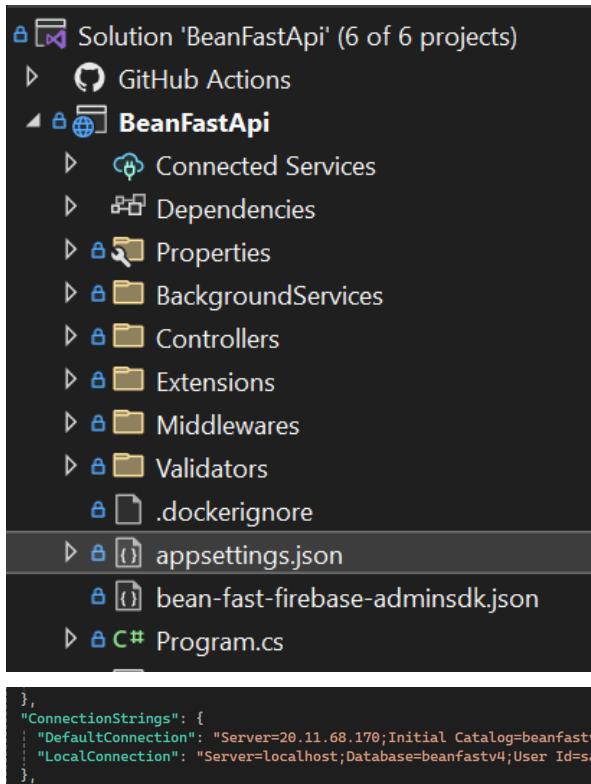
<https://howkteam.vn/course/huong-dan-cai-dat/cai-dat-moi-truong-phat-trien-visual-studio-2022-4422>

ii. Extracting:

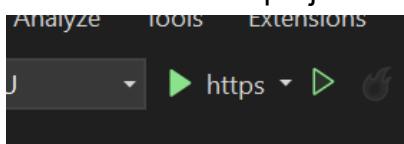
Name	Date modified	Type	Size
.git	24-Apr-24 12:08 AM	File folder	
.github	06-Mar-24 11:15 AM	File folder	
.idea	06-Mar-24 11:15 AM	File folder	
.vs	06-Mar-24 2:30 PM	File folder	
BeanFastApi	24-Apr-24 12:08 AM	File folder	
BusinessObjects	24-Apr-24 12:08 AM	File folder	
DataTransferObjects	21-Apr-24 10:37 AM	File folder	
Repositories	06-Mar-24 11:16 AM	File folder	
Services	05-Apr-24 10:02 PM	File folder	
Utilities	05-Apr-24 10:02 PM	File folder	
.gitignore	06-Mar-24 11:15 AM	Text Document	13 KB
banh-mi-cha-2.jpg	06-Mar-24 11:15 AM	JPG File	65 KB
BeanFastApi.sln	05-Apr-24 10:02 PM	Visual Studio Solut...	4 KB
BeanFastApi.sln.DotSettings	12-Mar-24 4:34 PM	DOTSETTINGS File	1 KB
docker-compose.yml	06-Mar-24 11:15 AM	Yaml Source File	1 KB
Dockerfile	06-Mar-24 11:15 AM	File	2 KB
qodana.yaml	06-Mar-24 11:15 AM	Yaml Source File	1 KB

iii. Open BeanFastApi.sln with Visual Studio 2022

iv. Config your database connection



v. Run project



vi. Test project in browser by go to url:

<https://localhost:7122/swagger/index.html>

Beanfast API v1 OAS3
https://localhost:7122/swagger/v1/swagger.json

Areas

GET	/api/v1/Areas	🔒
GET	/api/v1/Areas/all	🔒
GET	/api/v1/Areas/cities	🔒
GET	/api/v1/Areas/cities/{cityName}/districts	🔒
GET	/api/v1/Areas/cities/{cityName}/districts/{districtName}/wards	🔒

Auth

2. Frontend

a. Web application

- i. Install Visual Studio Code by following guidelines link:
<https://cellphones.com.vn/sforum/visual-studio-code>

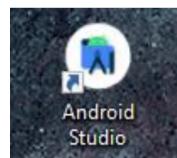
b. Mobile Application

- i. Download and install [Android Studio setup file](#).
- ii. Start Android Studio and go through the “Android Studio Setup Wizard”. This installs the latest Android SDK, Android SDK Command-line Tools, and Android SDK Build-Tools

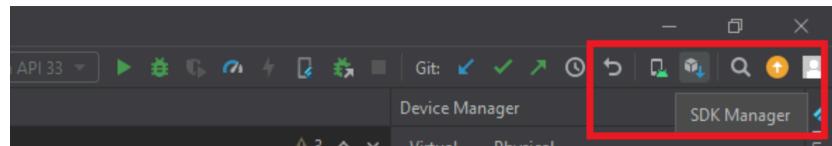


1. For more detail, see [here](#).
- iii. Download Android SDK

1. Open Android Studio



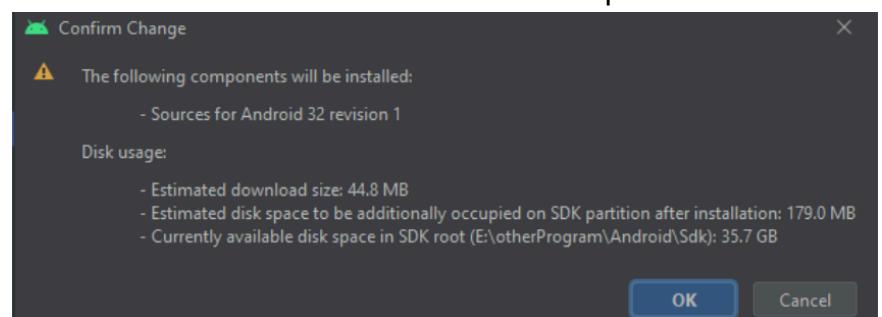
2. Open window



3. Choose SDK version (minimum 23) and click the download button

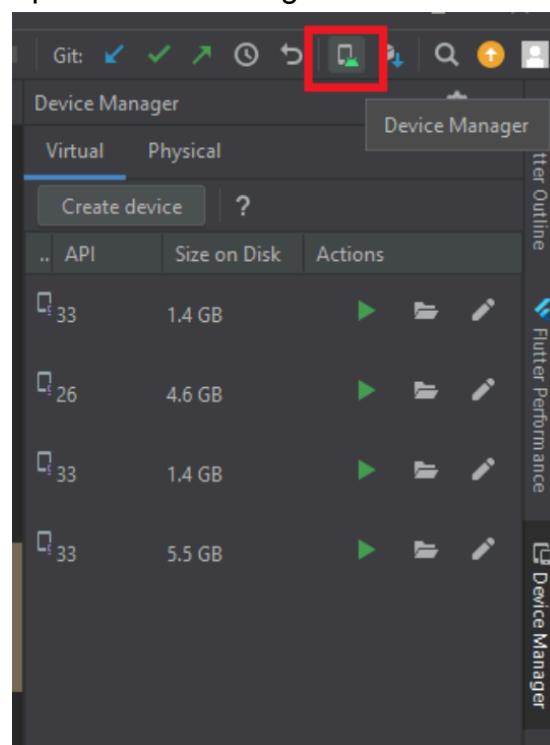
SDK Platforms SDK Tools SDK Update Sites		
Each Android SDK Platform package includes the Android platform and sources per default. Once installed, the IDE will automatically check for updates. Check "show packages" for individual SDK components.		
Name	API Level	
<input type="checkbox"/> Android UpsideDownCake Preview	UpsideDownCake	
<input type="checkbox"/> Android TiramisuPrivacySandbox Preview	TiramisuPrivacySand	
<input checked="" type="checkbox"/> Android API 33	33	
<input checked="" type="checkbox"/> Android API 32	32	
<input type="checkbox"/> Android 12.0 (S)	31	

4. Click Ok and wait for the download to complete

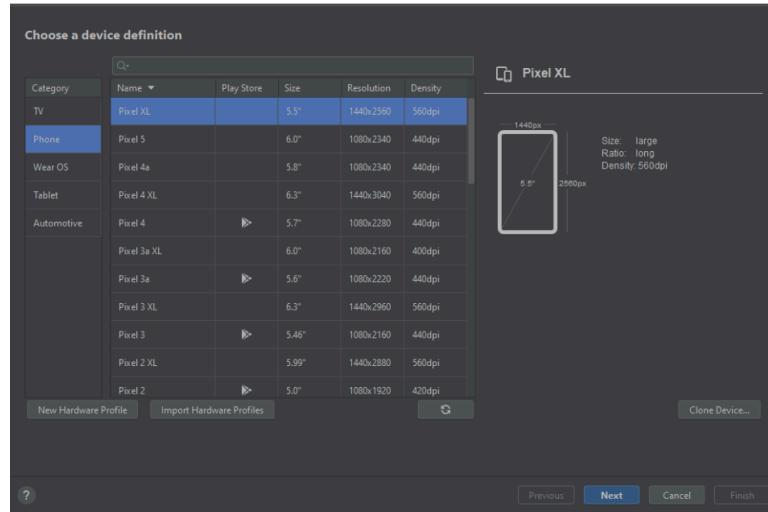


iv. Download Virtual Device

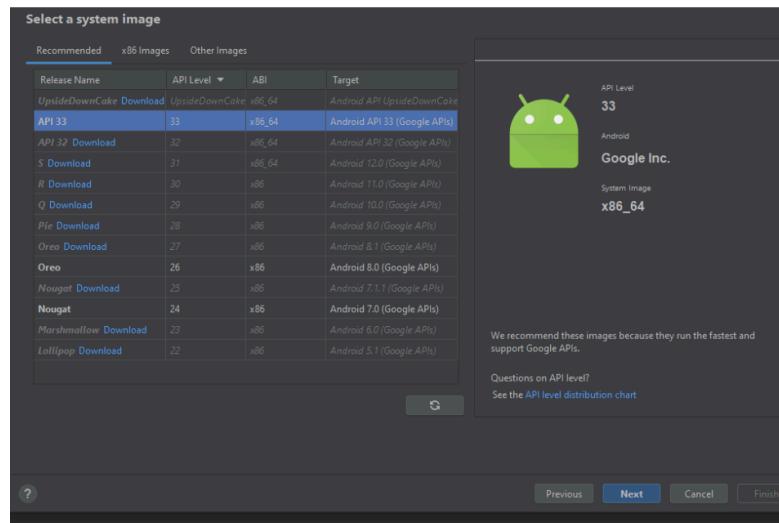
1. Open Device Manager and click Create New Device



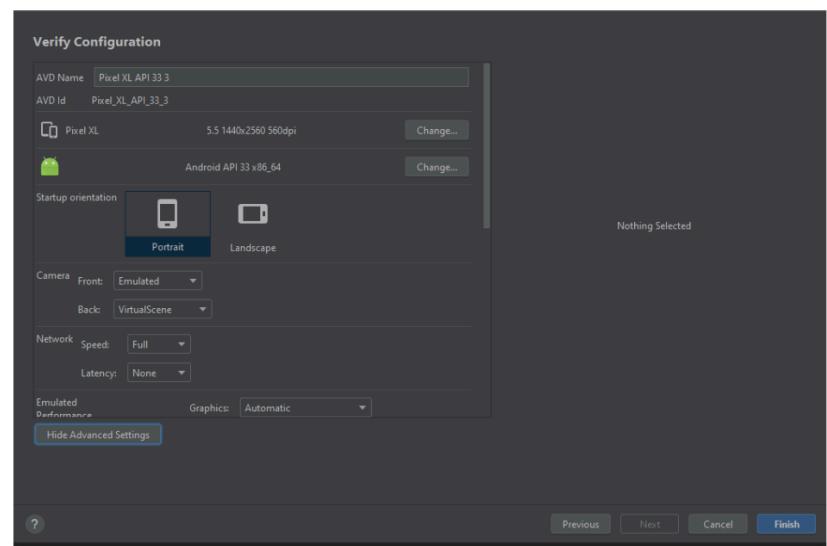
2. Choose Phone Device and click next



3. Choose a system image and click next

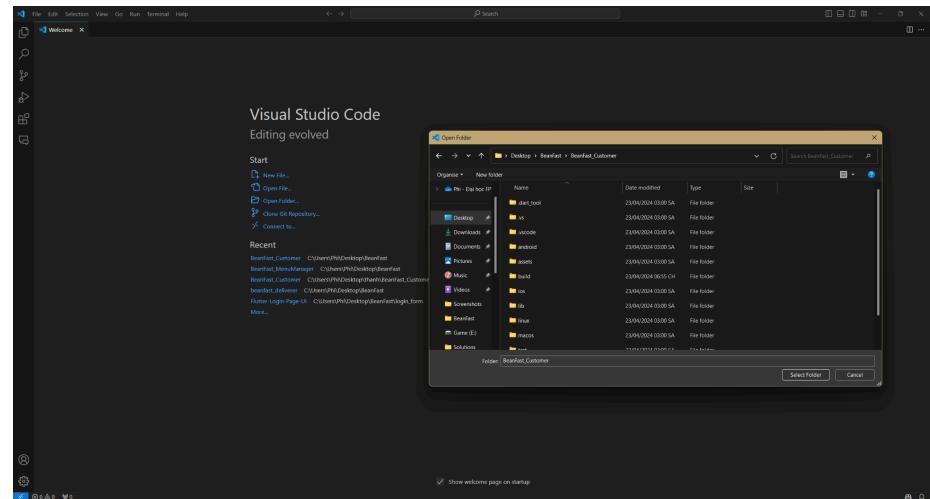


4. If there is no available system image, click download and wait till the download is finished
5. Custom some configuration if needed and click Finish

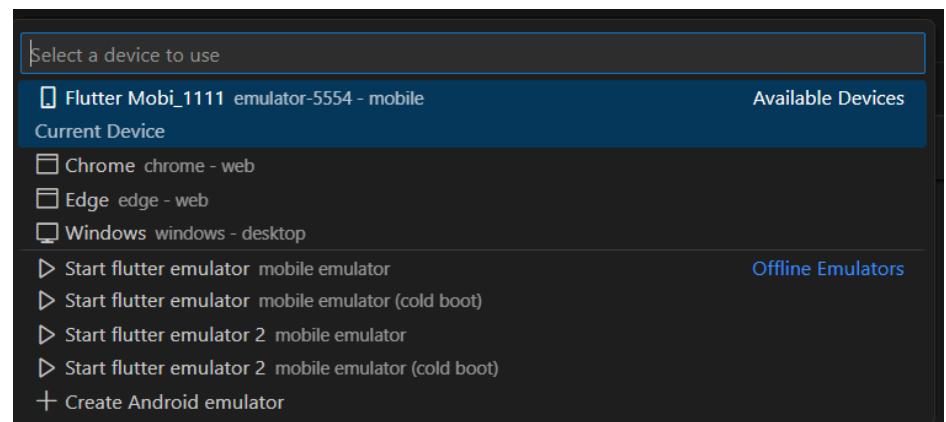


v. Select file and run

1. Open Visual Studio Code and click “Open Folder”
2. Select file android in project



3. Run android device



3. User Manual

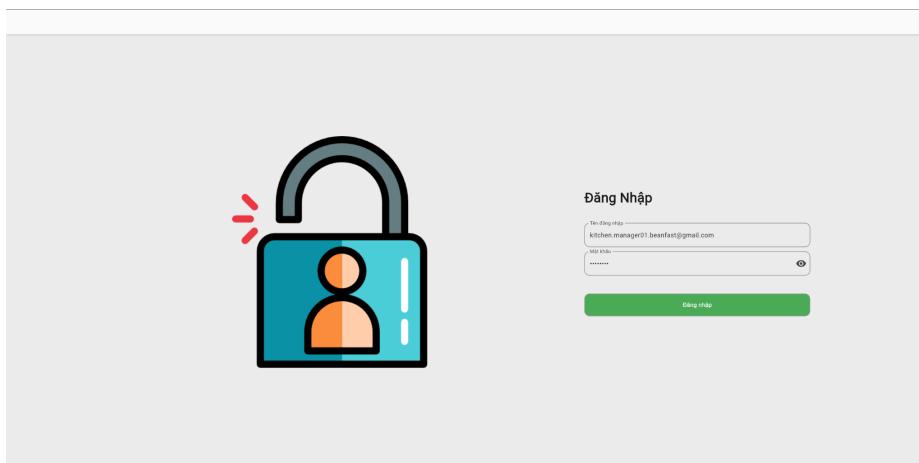
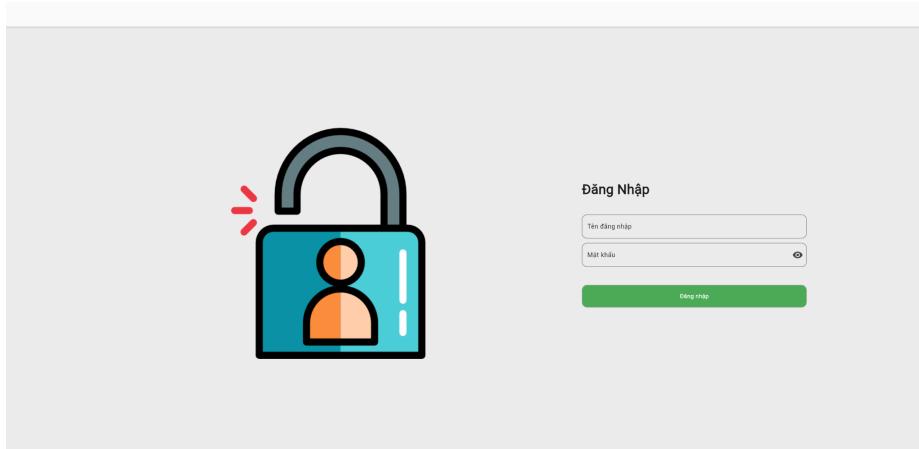
3.1 Overview

- Kitchen manager creates food, menu, and updates order status.
- Deliverer update order status.
- Customers create orders, deposit money, exchange gifts, play games, and manage children.

3.2 Application Usage

3.2.1 Kitchen manager login

- Login screen



3.2.2 Kitchen manager creates food

- Food list

Quản lý bếp nhà hàng					
Code	Hình ảnh	Tên sản phẩm	Loại	Giá	
COM08		Cơm tấm xiu mại	Cơm	40.000 đ	
NUOCTRA02		Trà kiwi	Nước Trà	15.000 đ	
PH006		Phở đặc biệt	Bún/Phở/My	50.000 đ	
NUOCDONGCHA 108		Olong Tea Plus	Nước đóng chai	15.000 đ	
BUN01		Bún nem nướng	Bún	35.000 đ	
COMBOANSAN G02		Phở đặc biệt + Coca Cola	Combo	55.000 đ	
NUOCTRA04		Trà phục bồn tử	Nước Trà	15.000 đ	
NUOCDONGCHA I02		Sting Dầu	Nước đóng chai	15.000 đ	
NUOCTRA01		Trà chanh dày	Nước Trà	15.000 đ	
COMBOANYATO 1		5 Bò lá lốt + 5 Mực xoắn + 5 Cá viên + 5 Hộp lò	Combo	180.000 đ	

● Create food

Quản lý bếp nhà nòi

Code	Hình ảnh	Tên sản phẩm	Loại	Giá
COM08		Tên Sản Phẩm		0/200
NUOCTRA02				
PH006				
NUOCDONGCHI08				
BUN01				
COMBOANSANG02				
NUOCTRA04				
NUOCDONGCHI02				
NUOCTRA01				
COMBOANVAT1				

Thông tin món ăn

Chưa có ảnh [+ Thay đổi ảnh](#)

Tên Sản Phẩm

Giá 0/15

Loại Chưa chọn loại

[+ Lưu](#)

Rows per page: 10 ▾ 1-10 of 66 < >

Quản lý bếp nhà nòi

Code	Hình ảnh	Tên sản phẩm	Loại	Giá
COM08				
NUOCTRA02				
PH006				
NUOCDONGCHI08				
BUN01				
COMBOANSANG02				
NUOCTRA04				
NUOCDONGCHI02				
NUOCTRA01				
COMBOANVAT1				

Thông tin món ăn

Tên Sản Phẩm Trà Đậu

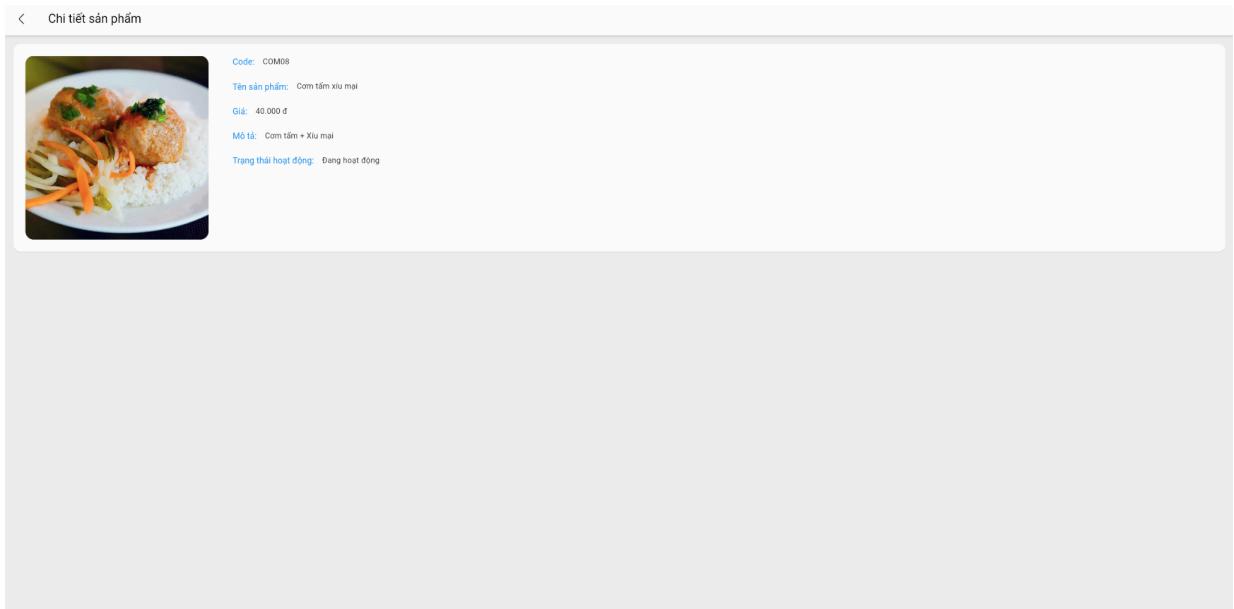
Giá 15.000 7/200

Loại Nước Trà 6/15

[+ Lưu](#)

Rows per page: 10 ▾ 1-10 of 66 < >

- Food detail



3.2.3 Kitchen manager creates menu

- Menu list

Quản lý bếp nhà női						
Số	Code	Bếp	Ngày tạo	Ngày cập nhật	Số sản phẩm	
1	MENU0004	Bếp Nhà Đậu			0	🕒
2	MENU0002	Bếp Nhà Đậu			8	🕒
3	M2403142KYSX M	bếp nhà női	14-05-24	14-05-24	0	🕒
4	M240409NQFP A	bếp nhà női			5	🕒
5	M24041098FQG R	bếp nhà női			0	🕒
6	M240321AXSII G	bếp nhà női			1	🕒
7	MENU0001	Bếp Nhà Đậu			8	🕒
8	M240410XHOC PE	bếp nhà női			0	🕒
9	M240410VEMZ D0	Bếp Nhà Đậu			1	🕒
10	MENU0005	Bếp Nhà Đậu			0	🕒

● Create menu

● Menu detail

Stt	Code	Hình ảnh	Tên sản phẩm	Giá bán	Giá	Loại
1	BUN03		Bún thịt xào	35.000 đ	35.000 đ	Bún
2	COM08		Cơm tấm xíu mại	40.000 đ	40.000 đ	Cơm
3	NUOCDONGCHA01		Nước suối	7.000 đ	7.000 đ	Nước đóng chai
4	BUN01		Bún nem nướng	35.000 đ	35.000 đ	Bún
5	BUN04		Bún thịt nướng đặc biệt	45.000 đ	45.000 đ	Bún
6	NUOCTR03		Trà nhài đen	15.000 đ	15.000 đ	Nước Trà
7	COM02		Cơm dưa cải mầm tỏi	40.000 đ	40.000 đ	Cơm
8	NUOCTR077		Trà tắc	15.000 đ	15.000 đ	Nước Trà

3.2.4 Kitchen manager manages the order

- Order list by status

Quản lý bếp nhà nội

Quản lý đơn hàng

Danh sách

Đang chuẩn bị Đang giao Hoàn thành Đã hủy

Code	Học sinh	Ngày thanh toán	Trường	Khung giờ	Công	Số sản phẩm	Tổng giá	Chi tiết
02404046WZPK1	Trần Nguyễn Huyền Anh	22/10/04/24	THLONGTHANHMYBUOISANG	05:30 14/04/24 - 06:30 14/04/24	THLONGTHANHMYBUOISANG	2	110.000 ₫	
0240405AXS11G	Trần Nguyễn Huyền Anh	11:55 05/04/24	THLONGTHANHMYBUOISANG	05:30 14/04/24 - 06:30 14/04/24	THLONGTHANHMYBUOISANG	2	69.000 ₫	
0240412PRRLVE	Trần Nguyễn Huyền Anh	14:11 11/04/24	THLONGTHANHMYBUOISANG	05:30 14/04/24 - 06:30 14/04/24	THLONGTHANHMYBUOISANG	1	15.000 ₫	
02404075QOZNC	Trần Nguyễn Huyền Anh	11:00 07/04/24	THLONGTHANHMYBUOISANG	05:30 14/04/24 - 06:30 14/04/24	THLONGTHANHMYBUOISANG	2	110.000 ₫	
0240405518JAG	Trần Nguyễn Huyền Anh	12:59 05/04/24	THLONGTHANHMYBUOISANG	05:30 14/04/24 - 06:30 14/04/24	THLONGTHANHMYBUOISANG	1	15.000 ₫	
0240412508JAG	Trần Nguyễn Huyền Anh	14:13 12/04/24	THLONGTHANHMYBUOISANG	05:30 14/04/24 - 06:30 14/04/24	THLONGTHANHMYBUOISANG	1	15.000 ₫	
0240405NQJOPA	Trần Nguyễn Huyền Anh	12:11 01/04/24	THLONGTHANHMYBUOISANG	05:30 14/04/24 - 06:30 14/04/24	THLONGTHANHMYBUOISANG	1	20.000 ₫	
0240405PKLULVE	Trần Nguyễn Huyền Anh	12:07 05/04/24	THLONGTHANHMYBUOISANG	05:30 14/04/24 - 06:30 14/04/24	THLONGTHANHMYBUOISANG	1	20.000 ₫	
0240412AA7NVL	Trần Nguyễn Huyền Anh	22:37 12/04/24	THLONGTHANHMYBUOISANG	05:30 10/04/24 - 06:30 15/04/24	THLONGTHANHMYBUOISANG	1	35.000 ₫	
0240413QDA48C	Trần Nguyễn Huyền Anh	00:02 13/04/24	THLONGTHANHMYBUOISANG	05:30 10/04/24 - 06:30 15/04/24	THLONGTHANHMYBUOISANG	2	75.000 ₫	

Rows per page: 10 | 1-10 of 38 | < >

● Cancel order

Quản lý bếp nhà nội

Quản lý đơn hàng

Danh sách

Đang chuẩn bị Đang giao Hoàn thành Đã hủy

Tìm kiếm

Số	Code	Học sinh	Ngày thanh toán	Ngày nhận hàng	Địa điểm	Tổng điểm
1	Eg240519GBHJDM	Trần Nguyễn Huyền Anh	19-05-24	Chưa có	Sđ240519VEMZD0	20 điểm

Lý do bạn muốn hủy đơn hàng?

Hủy đơn hàng | **Bí mật**

1-1 of 1 | < >

- Order detail

< Chi tiết đơn hàng

Thời gian dự kiến nhận hàng
Từ 05:30 đến 06:30, 14/04/24

Trần Nguyễn Huyền Anh

	Com tấm xiu mai	x1	40.000 ₫
	Bún thịt xào	x2	35.000 ₫

2 sản phẩm

Mã đơn hàng
Thời gian đặt hàng

Thành tiền 110.000 ₫
#0240404UW2YK1
10:15 04/04/24

3.2.5 Kitchen manager creates school

- School list

☰ Quản lý bếp bếp nhà nội

Danh sách trường học

Code	Hình ảnh	Tên trường	Địa chỉ	Số cống	Số học sinh	Trạng thái
THLONGTHANHMY		Trường tiểu học Long Thành Mỹ	35 Đường Số 20	3	6	Đang hoạt động
THPHUHHU		Trường Tiểu Học Phú Hữu	Đ. 836, Khu phố 3	2	0	Chưa hoạt động
THDINHTIENHOANGCS1		Trường Tiểu học Định Tiên Hoàng (CST)	60 Đường Trần Hưng Đạo	2	0	Chưa hoạt động
THVIVANHATCS2		Trường tiểu học Võ Văn Hát (CS2)	38 Đ. Tuy Hòa	2	0	Chưa hoạt động
S.truong-chinh.84bf8338-f36d-48da-a284-236379a9c9bf		Trường Chính 2	862/31/27 Lê Đức Thọ	2	5	Chưa hoạt động
THTRUONGTHANH		Trường tiểu học Trường Thành	Số 1 Đường 3, KP Phước Hiệp	1	0	Chưa hoạt động
THPHUOCCLONGA		Trường Tiểu học Phước Long A	9 Đ. Hồ Bá Phấn	2	0	Chưa hoạt động
HTTANPHU		Trường tiểu học Tân Phú	Đường 138, Khu phố 2	2	0	Chưa hoạt động
HTTAUYEN		Trường tiểu học Tô Uyên	47 Đường 2, Khu tái định cư Long Sơn, KP Thái Bình 2	2	0	Chưa hoạt động
THPHUOC THANH		Trường tiểu học Phước Thành	26 Đ. Nguyễn Duy Trinh	2	0	Chưa hoạt động

Rows per page: 10 ▾ 1-10 of 20 < >

● School detail

< Chi tiết trường học

Code: THLONGTHANHMY

Tên trường: Trường tiểu học Long Thành Mỹ

Số cổng: 3

Số học sinh: 6

Địa chỉ: 35 Đường Số 20, Long Thành Mỹ, Quận 9, Thành phố Hồ Chí Minh



● Menu list by school

< Danh sách thực đơn

Đang hoạt động

Sắp hoạt động

Lịch sử

+ Thêm

Danh sách khung giờ

Code	Mã thực đơn	Thời gian đặt hàng	Thời gian giao hàng	Bia điểm	Số đơn hàng	Số người giao hàng	X	Y
Ss240519NQFPA	MENU0002	Từ 14/5/2024 đến 23/5/2024	Từ 07:00 28/05/24 đến 09:30 28/05/24	Dia điểm giao hàng trường TH Long Thanh Mỹ 3 <small>Địa chỉ: 35 Đường Số 20, Long Thành Mỹ, Quận 9, Thành phố Hồ Chí Minh</small>	MENU0002	MENU0002	 	
Ss240519P6KLVE	MENU0002	Từ 14/5/2024 đến 23/5/2024	Từ 07:00 27/05/24 đến 09:30 27/05/24	Dia điểm giao hàng trường TH Long Thanh Mỹ 3 <small>Địa chỉ: 35 Đường Số 20, Long Thành Mỹ, Quận 9, Thành phố Hồ Chí Minh</small>	MENU0002	MENU0002	 	

Rows per page: 10 ▾ 1-10 of 2 < >

- Create a menu section

Danh sách menu

- Mã: MENU0004
Số lượng sản phẩm: 0
- Mã: MENU0002
Số lượng sản phẩm: 8
- Mã: MENU0001
Số lượng sản phẩm: 8
- Mã: M240410VEMZDO
Số lượng sản phẩm: 1
- Mã: MENU0005
Số lượng sản phẩm: 0
- Mã: MENU0003
Số lượng sản phẩm: 9

Thông tin session

Thời gian đặt hàng

Thời gian giao hàng

Địa điểm giao

Địa điểm giao hàng trường TH Long Thành Mỹ 3
Người giao hàng: Chưa có

Địa điểm giao hàng trường TH Long Thành Mỹ 4
Người giao hàng: Chưa có

Địa điểm giao hàng trường TH Long Thành Mỹ 2

[+ Tạo](#)

- Session detail

3.2.6 Kitchen manager creates gift

- Gift list

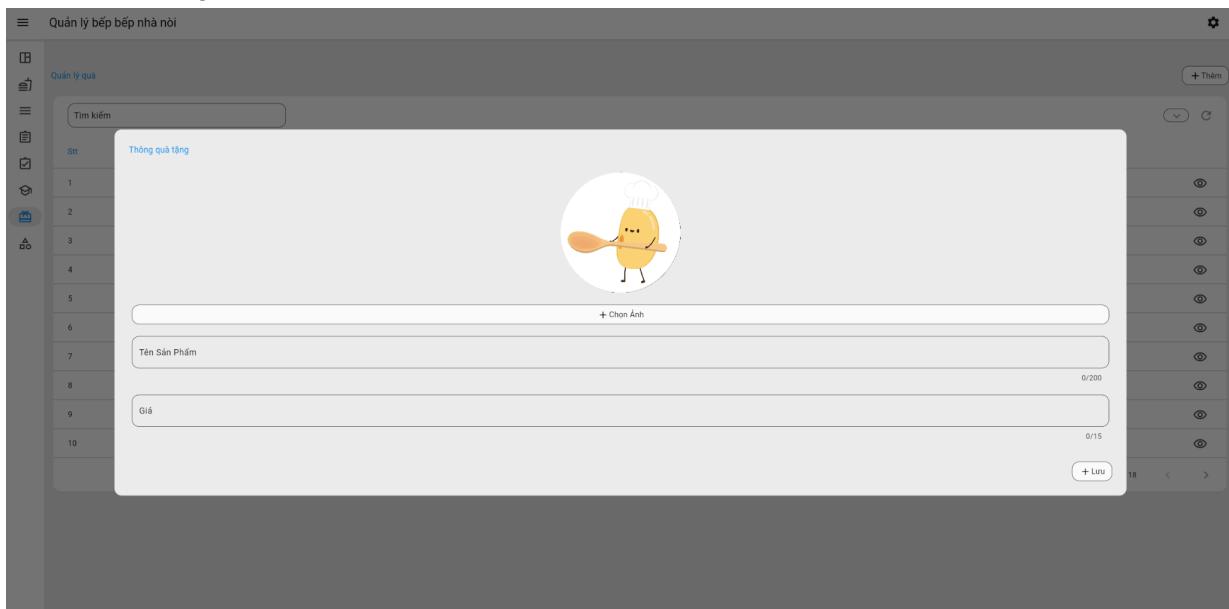
Quản lý bếp nhà nòi			
Số	Code	Hình ảnh	Tên sản phẩm
1	GIFT0009		Hộp sticker Shin Cậu bé bút chì
2	GIFT0004		Bộ vòng tay, kep tóc, sticker, bút, gương... - hình Hello Kitty
3	GIFT0016		Đồng hồ LED, vòng tay từ giao - chọn ngẫu nhiên
4	GIFT0014		Vòng tay hình khủng long - chọn ngẫu nhiên
5	G_gau-bong-meo-hoang-thu..		Gấu Bông Mèo Hoàng Thượng
6	GIFT0001		Mô hình Cona
7	GIFT0002		Bộ quà tặng Conan - Chai nước, huy hiệu, sticker...
8	GIFT0007		Đồng hồ điện tử Shin Cậu bé bút chì - CASIO
9	GIFT0008		Bộ đồ chơi Shin Cậu bé bút chì
10	GIFT0012		Bộ sút tay, viet, bút xóa kéo Doraemon

- Gift detail

< Chi tiết quà tặng

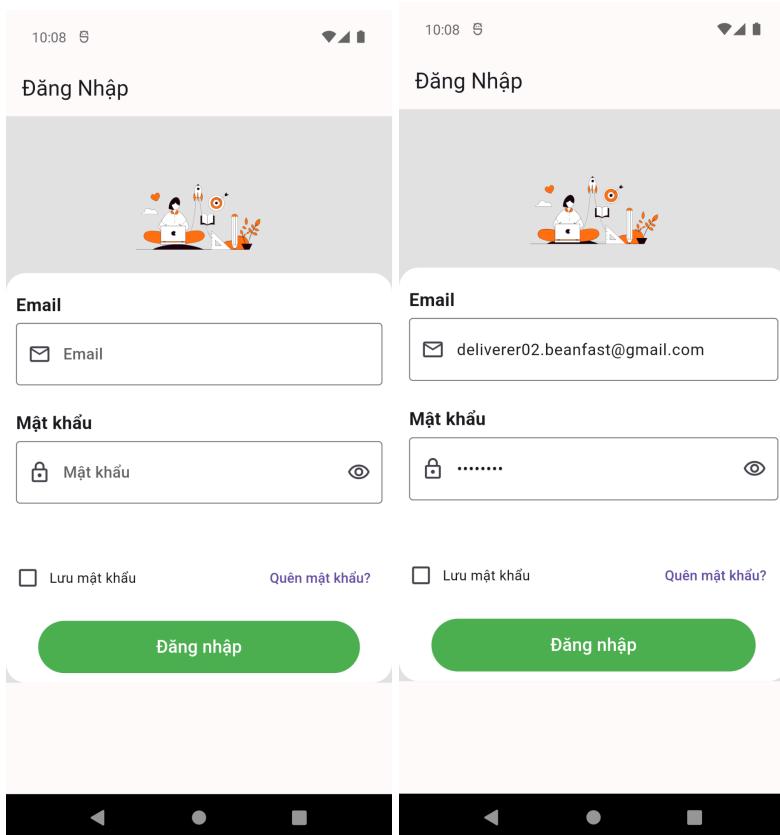
Code: GIFT0009
Tên quà: Hộp sticker Shin Cậu bé bút chì
Điểm: 20
Tồn kho: 29

- Create gift



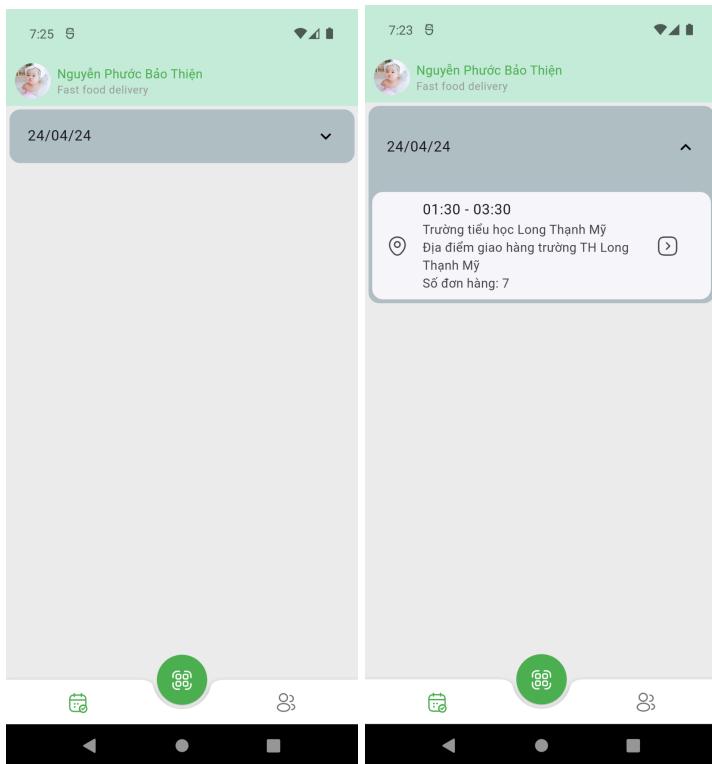
3.2.7 Deliverer login

- Login screen

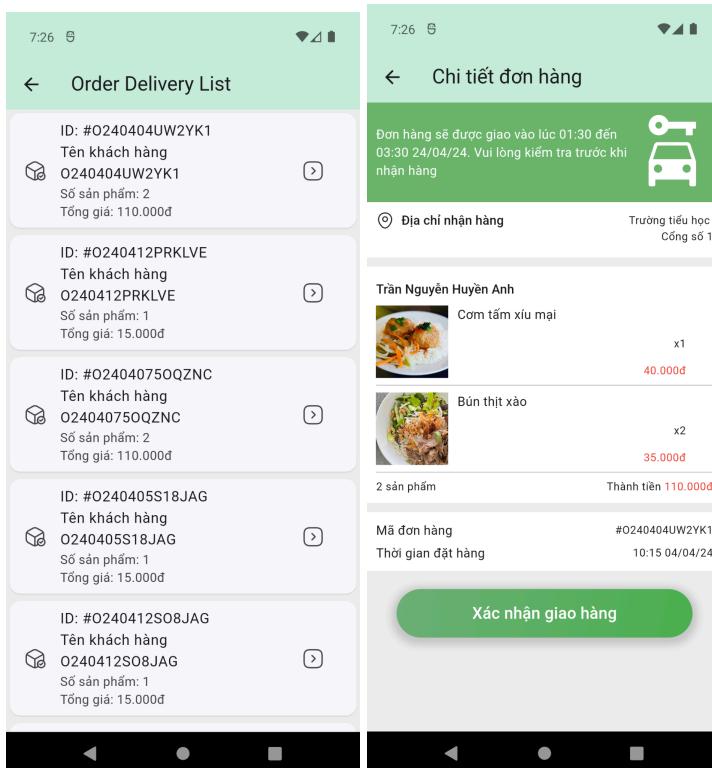


3.2.8 Deliverer manages food order

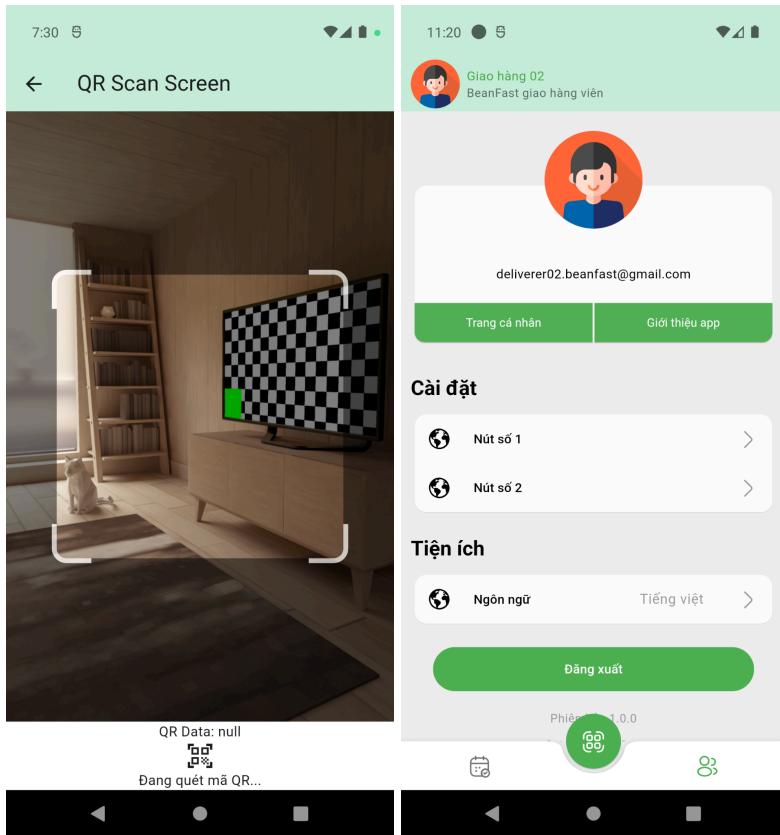
- Location secession list



- Order list and order detail



- Qr scanner and Deliverer profile



3.2.9 Customers login

- On boarding screen



Chất lượng món ăn

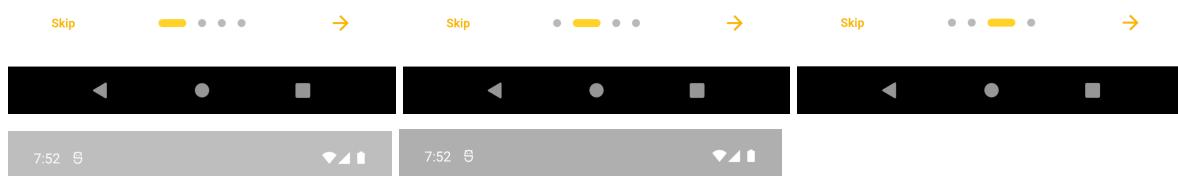
Món ăn được chế biến từ nguyên liệu tươi ngon, đảm bảo vệ sinh an toàn thực phẩm và được trình bày đẹp mắt. Món ăn ngon sẽ kích thích vị giác của khách hàng và mang lại cho họ cảm giác thỏa mãn.

Vận chuyển

Món ăn được vận chuyển đến tay khách hàng một cách nhanh chóng và an toàn để đảm bảo chất lượng món ăn được tốt nhất. Bao bì vận chuyển cần phù hợp với từng loại món ăn và phương tiện vận chuyển cần được đảm bảo vệ sinh sạch sẽ.

Trải nghiệm

Chính sách khuyến mãi hấp dẫn, chăm sóc khách hàng tận tình, nhân viên phục vụ nhiệt tình, thân thiện. Đặc biệt, nhân viên cần có thái độ niềm nở, lịch sự, tôn trọng khách hàng.



Bean Fast

Bữa sáng "siêu tốc", bé đi học "siêu nhanh"!

Bean Fast

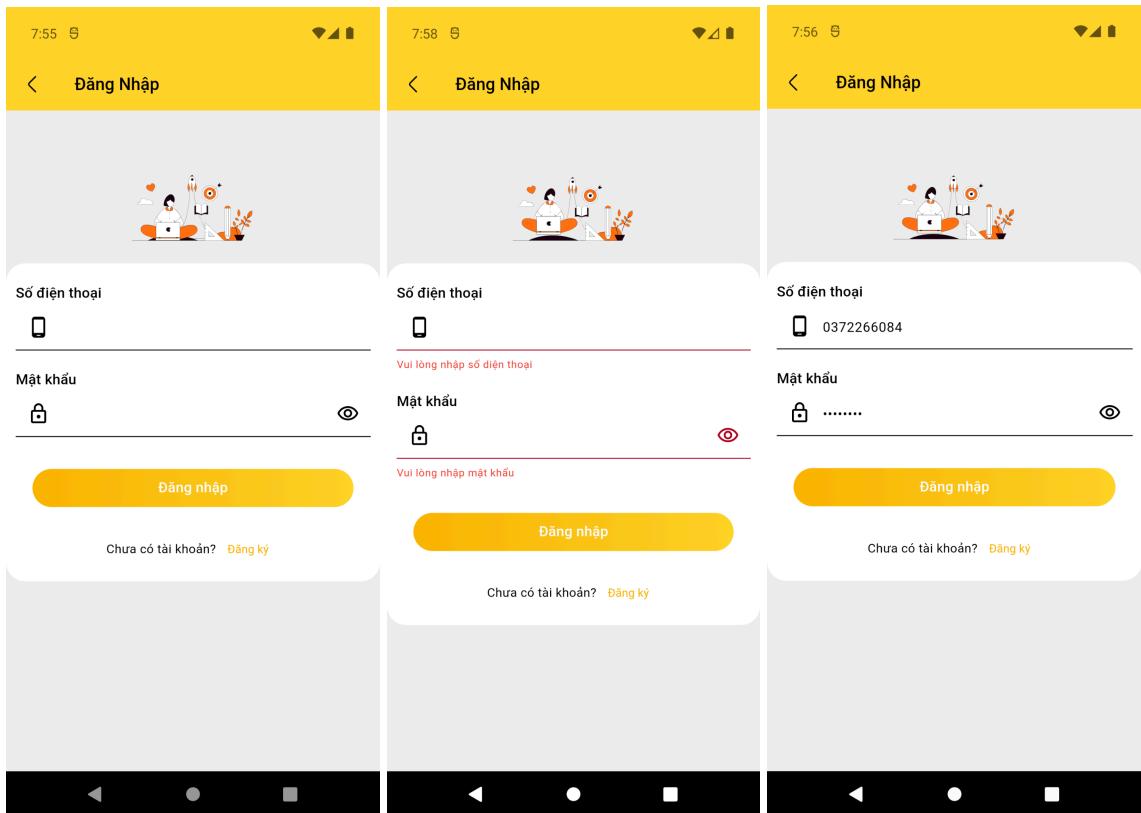
Bữa sáng "siêu tốc", bé đi học "siêu nhanh"!

Đặt hàng ngay!

Đăng nhập

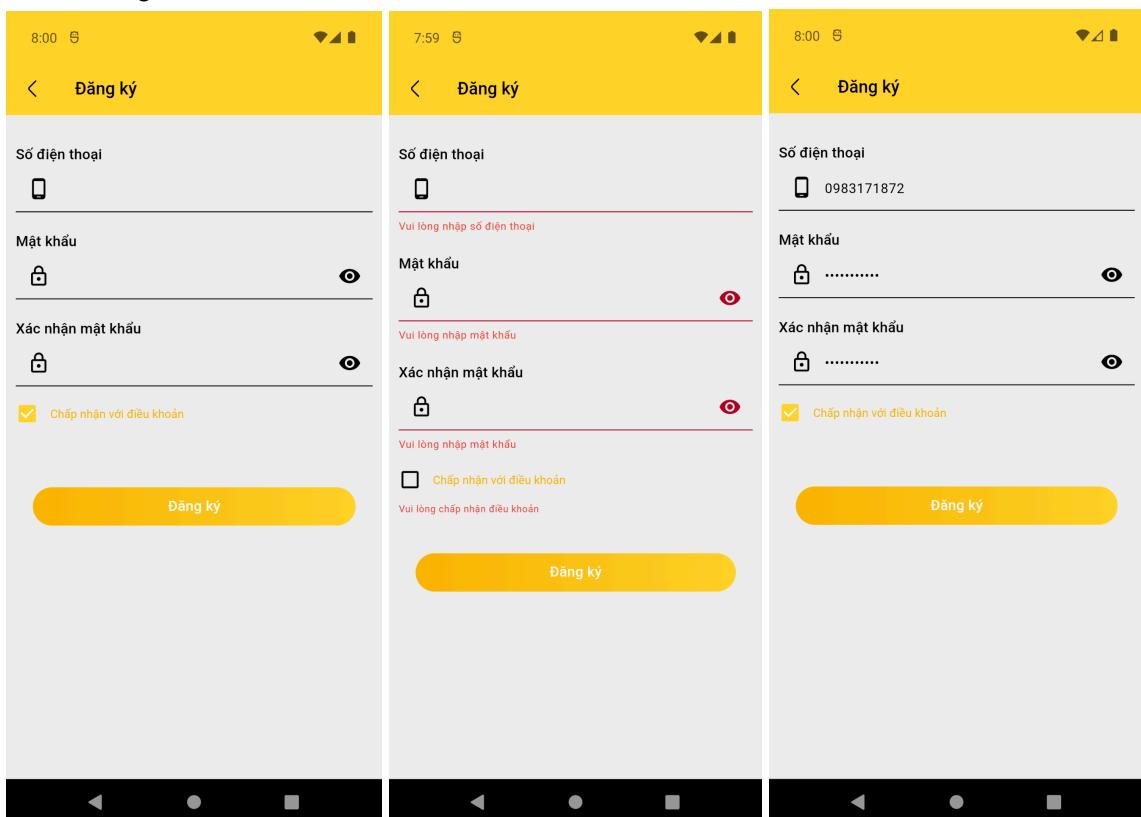
Đăng ký

- Login screen

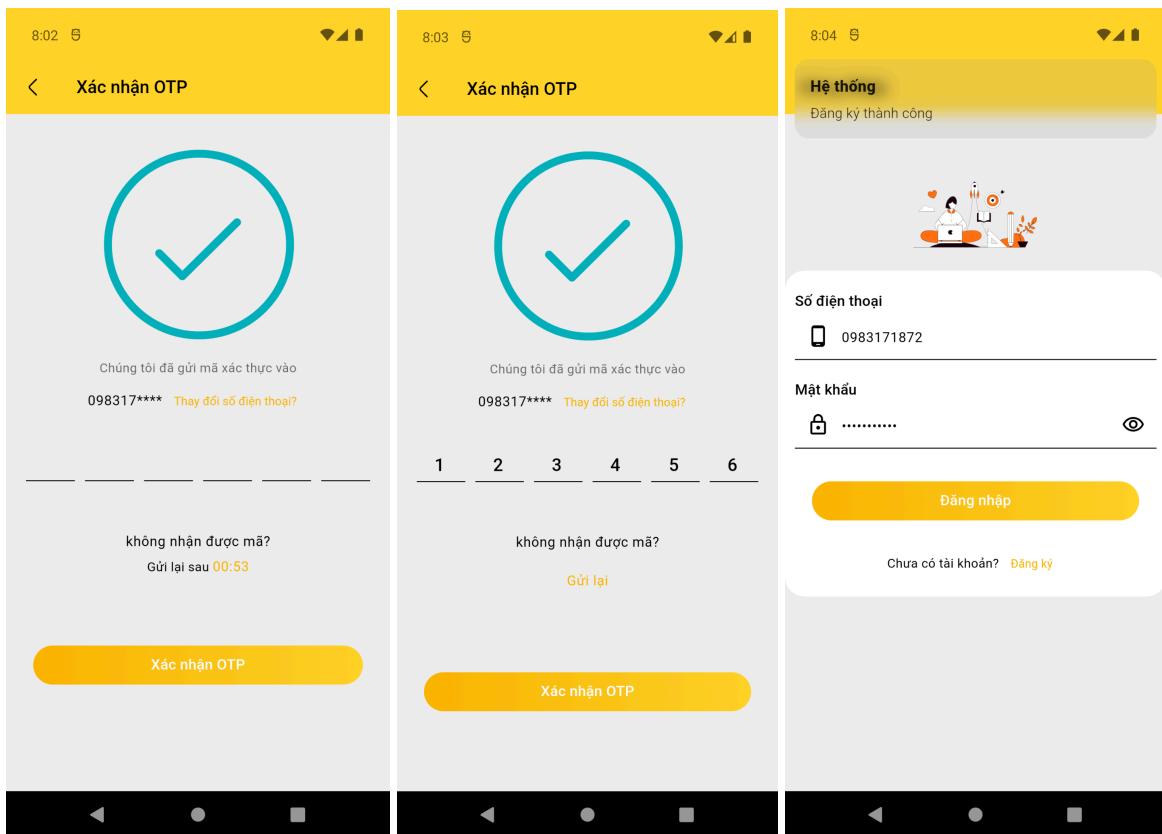


3.2.10 Customers register

- Register screen

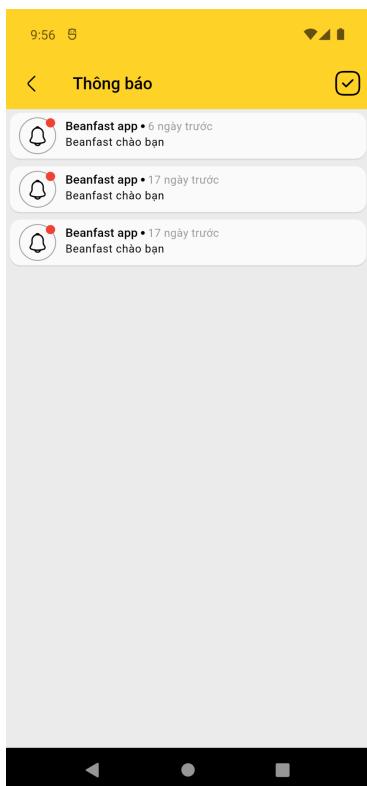


- OTP confirmation



3.2.11 Customers view notification

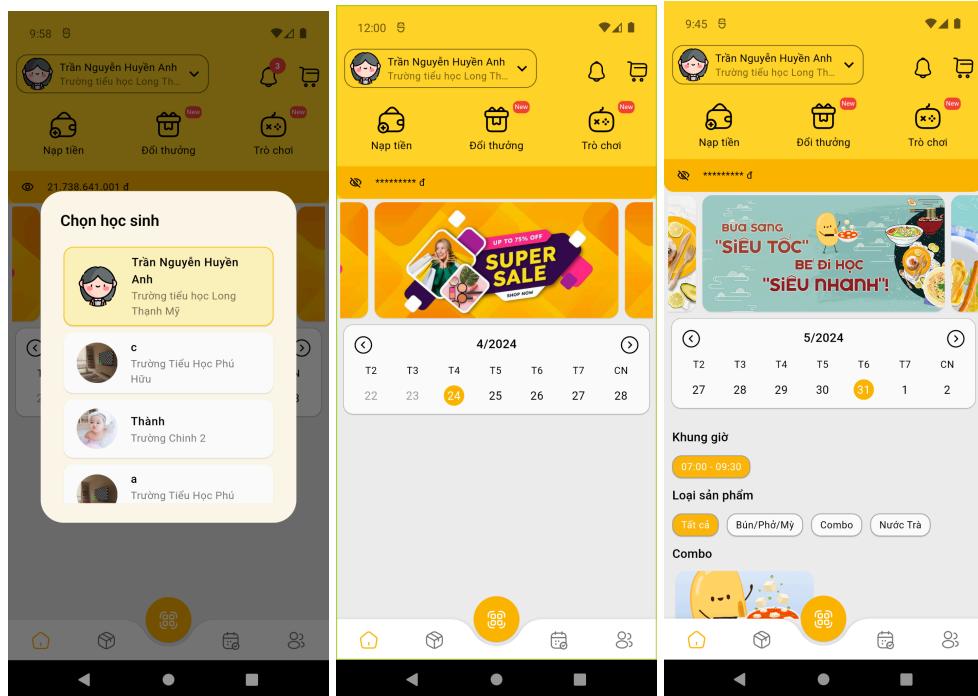
- Notification screen



3.2.12 Customers manages order

3.2.12.1 Customers create orders

- Select child for booking and add food to cart and booking food

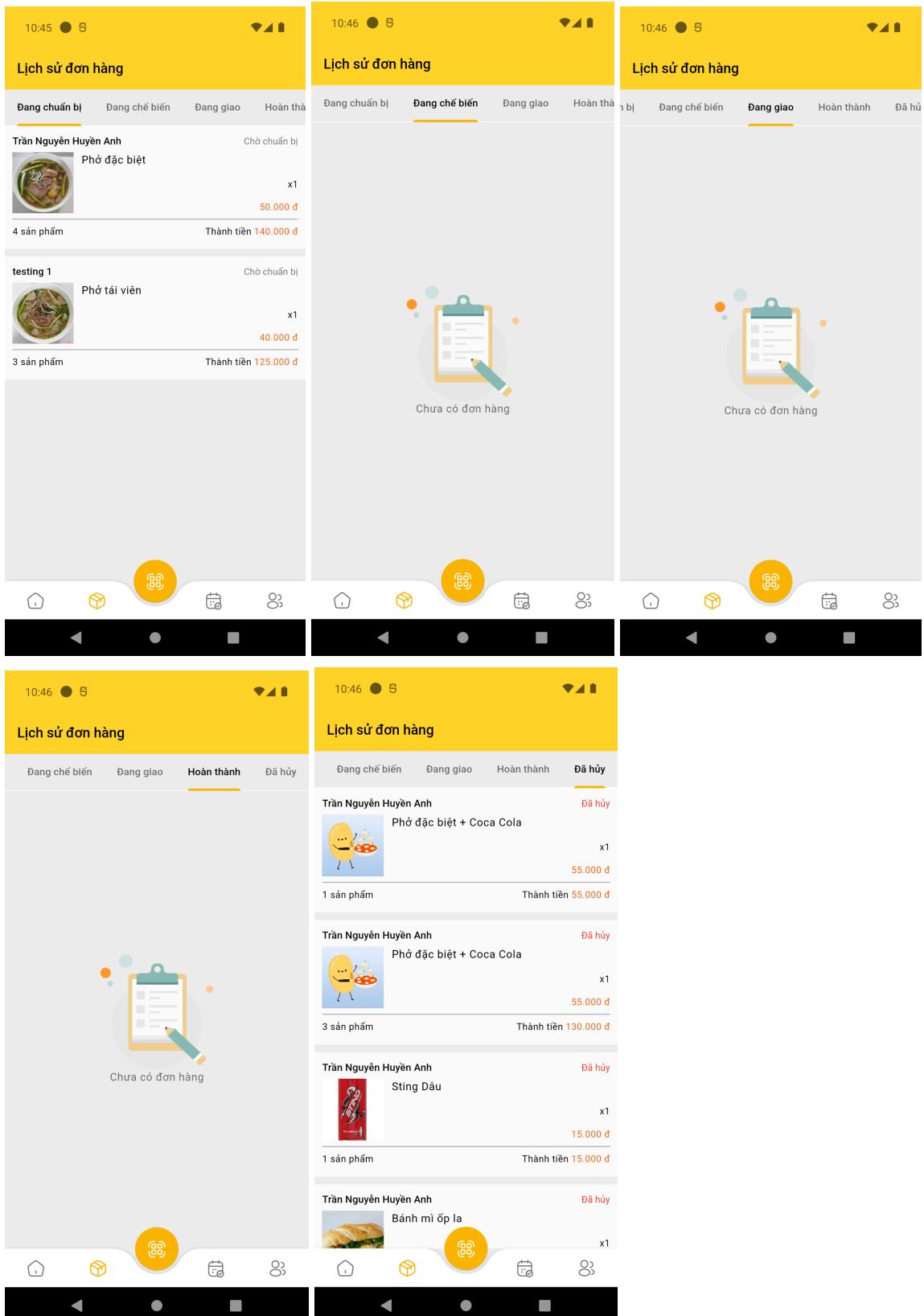


The screenshots illustrate the flow of placing an order through a mobile application:

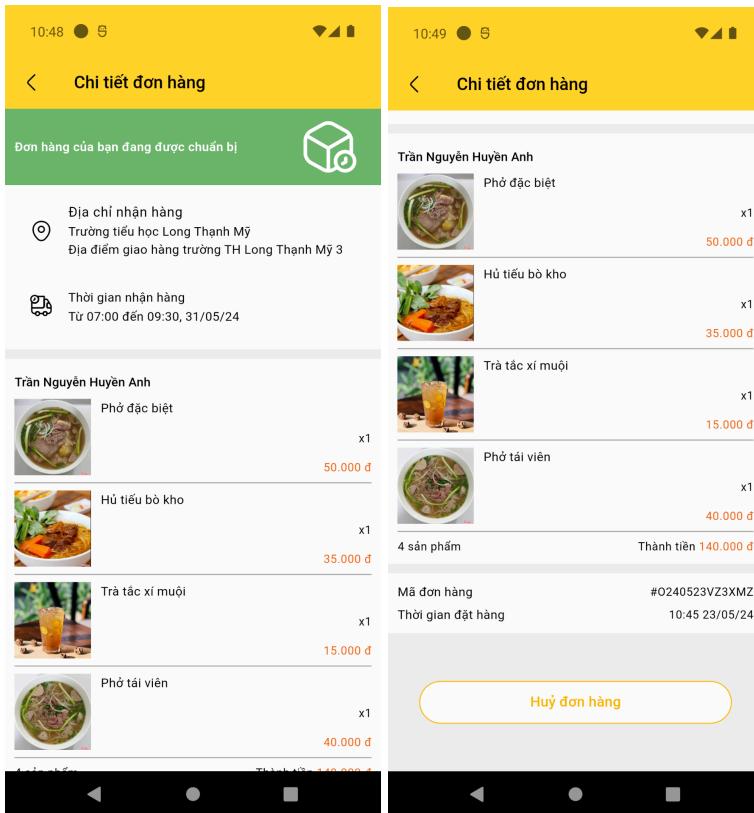
- Screenshots 1 & 2:** The user is viewing a product catalog under "Sản phẩm". Items listed include Sting Dầu (15,000đ), Bánh mì ốp la (15,000đ), Bánh mì heo quay (20,000đ), 7UP (15,000đ), and Pepsi (15,000đ). Each item has a quantity selector.
- Screenshot 3:** The user is in the "Giỏ hàng" (Cart) screen, showing the items selected for purchase: Bánh mì ốp la (15,000đ), Bánh mì heo quay (20,000đ), and 7UP (15,000đ).
- Screenshot 4:** The user is in the "Thanh toán" (Payment) screen for "Trần Nguyễn Huyền Anh". It shows the delivery address (Trường tiểu học Long Thành Mỹ), delivery time (Từ 17:30 đến 18:30, 26/04/24), and the total amount (50,000đ). A yellow button labeled "Đặt hàng" (Place Order) is visible.
- Screenshot 5:** The user is in the "Thanh toán" screen again, showing the same details and the "Đặt hàng" button.
- Screenshot 6:** The user is in the "Thanh toán" screen, which now includes a note about delivery point: "Địa điểm giao hàng trường TH Long Thành Mỹ" (Delivery point: TH Long Thành High School). It also shows the breakdown of the order: Bánh mì ốp la (15,000đ), Bánh mì heo quay (20,000đ), and 7UP (15,000đ).
- Screenshot 7:** The user has completed the order placement. The screen displays a confirmation message: "Đặt hàng thành công" (Order placed successfully) and "Cảm ơn bạn đã ủng hộ BeanFast!" (Thank you for supporting BeanFast!). It includes "Trang chủ" (Home) and "Đơn hàng" (Orders) buttons.

3.2.12.2 Customers view orders

- Order list by status

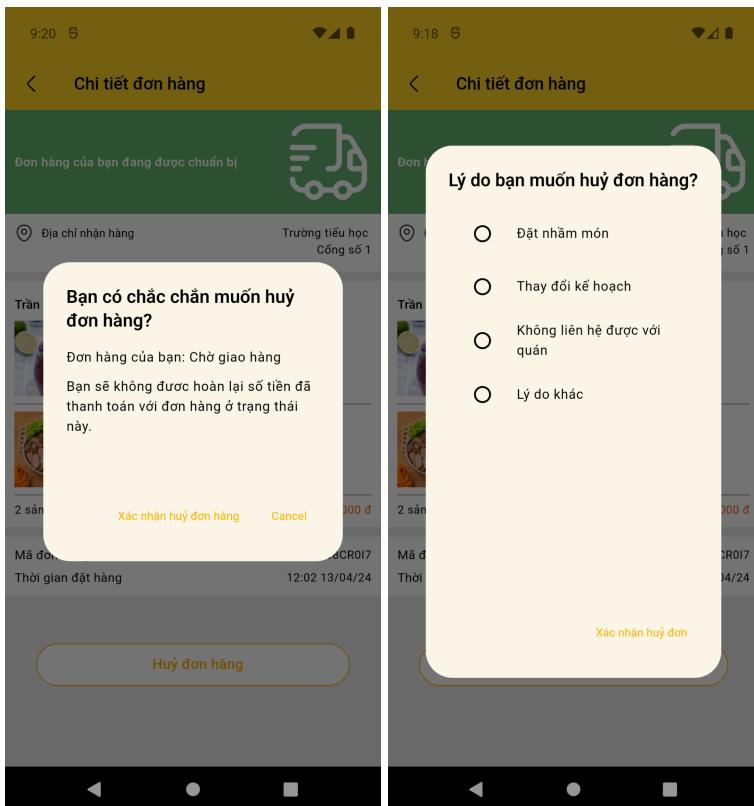


- Order detail



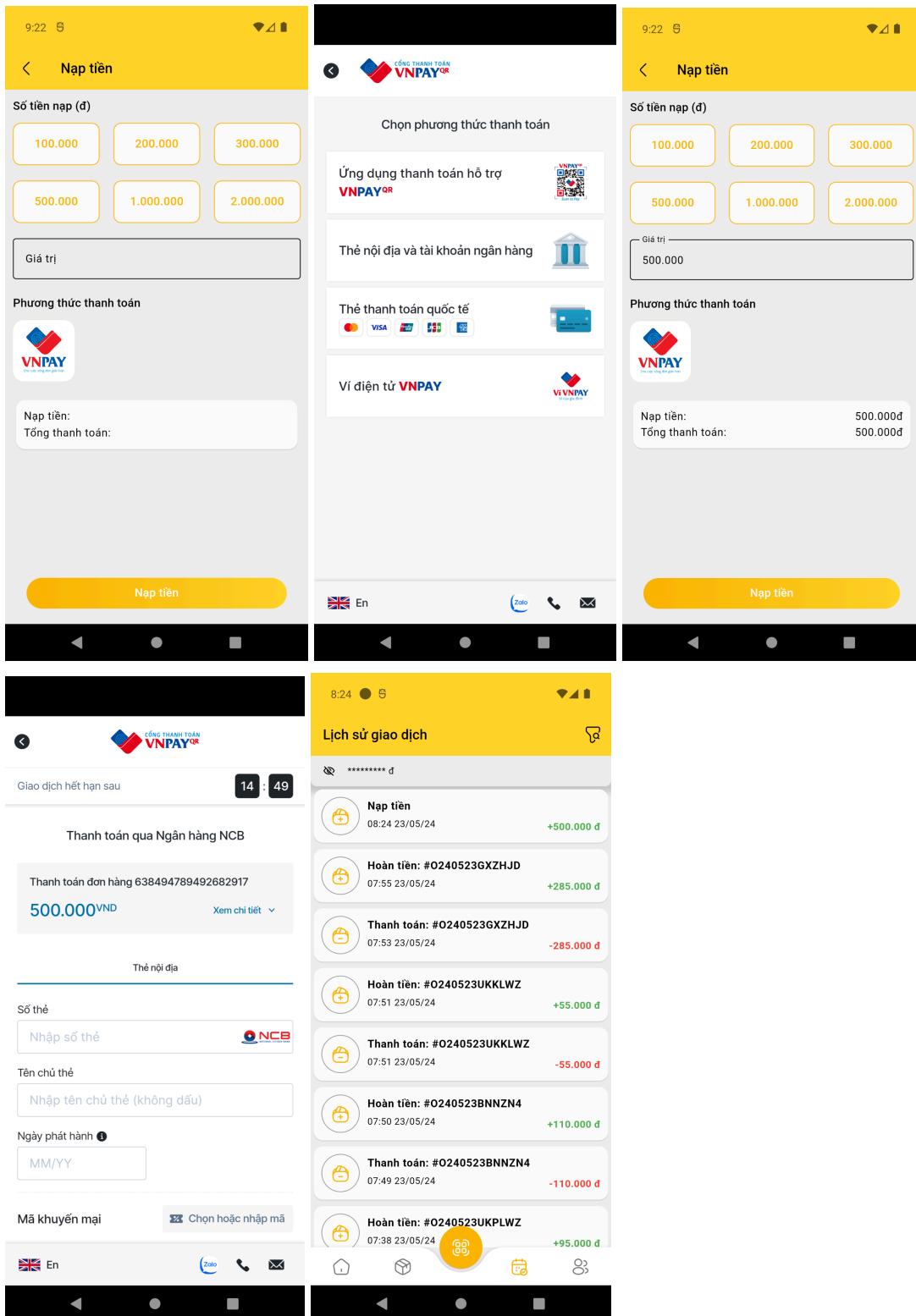
3.2.12.3 Customers cancel orders

- Customers cancel orders on 2 different status.



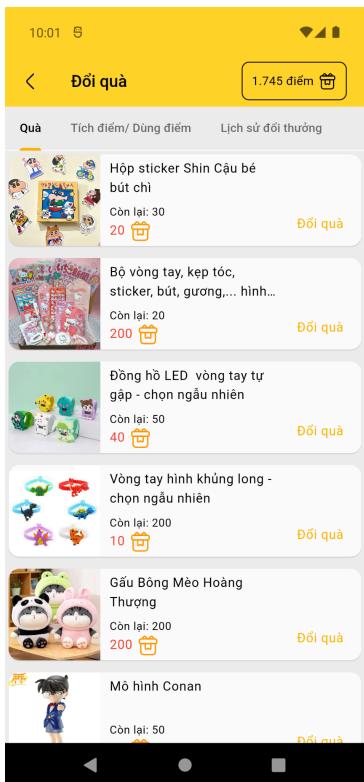
3.2.13 Customers deposit money

- Deposit money



3.2.14 Customers exchange gifts

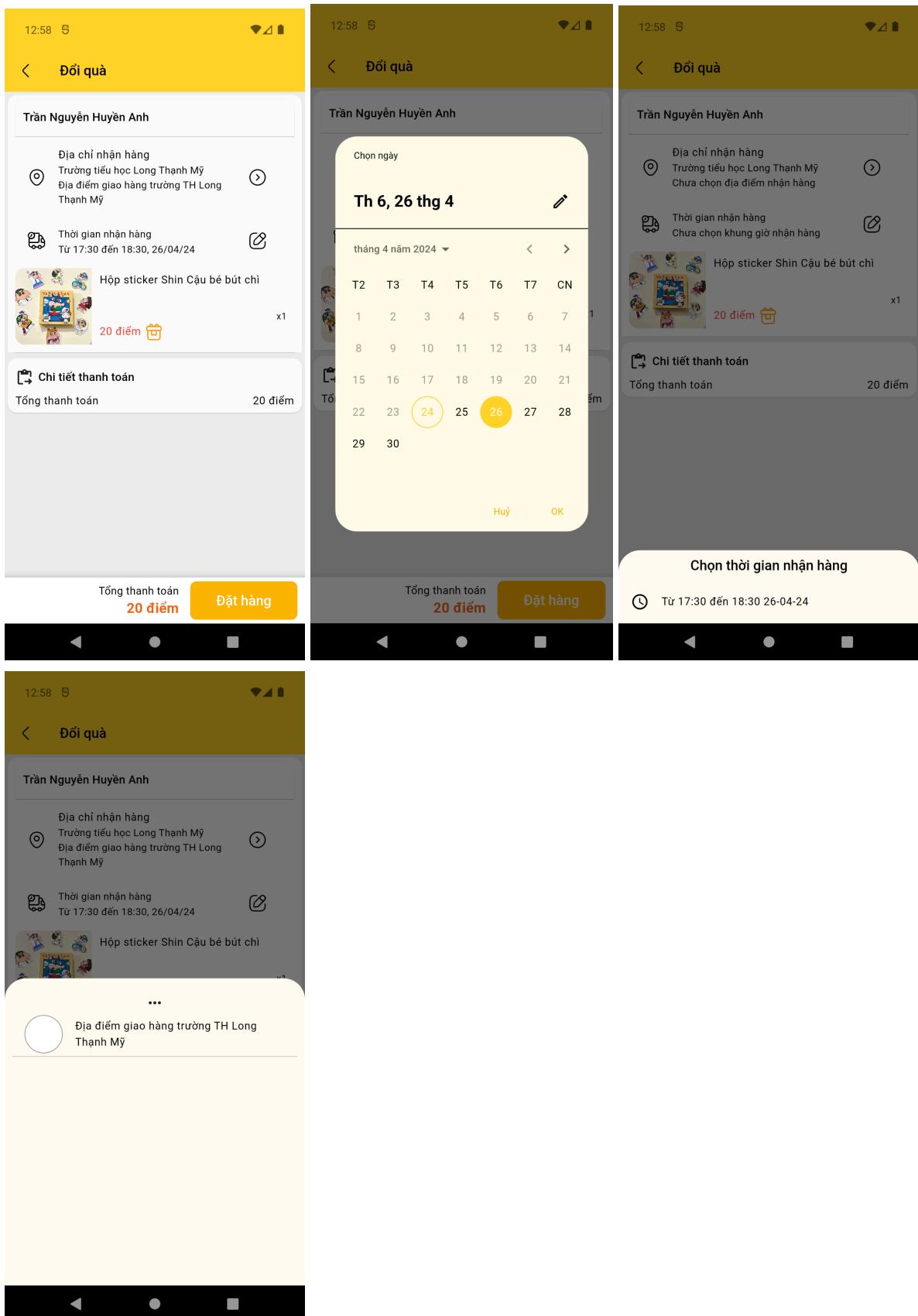
- Exchange gift screen



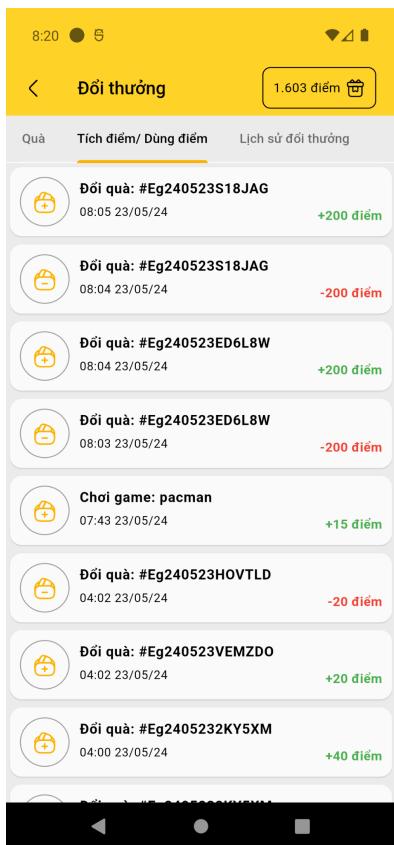
- Gift detail screen



- Confirmation gift exchange screen



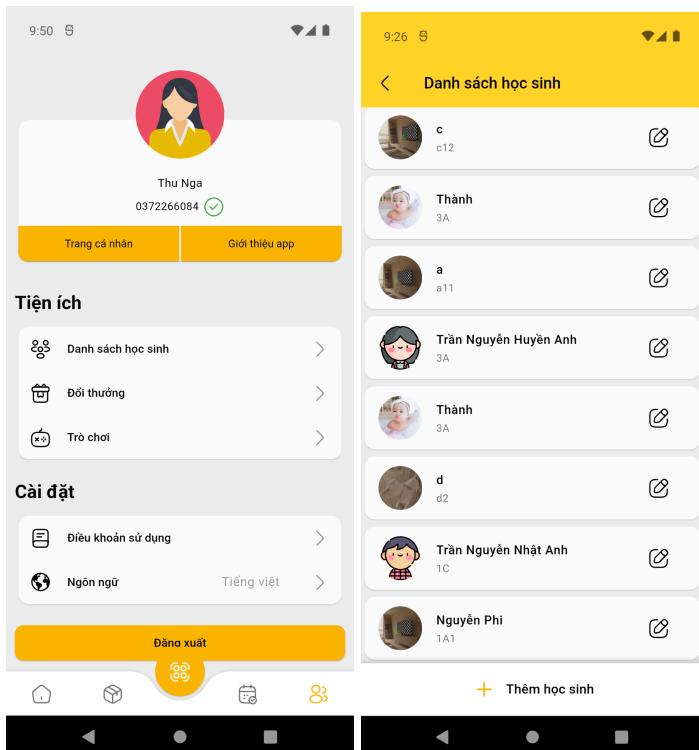
- Gift transaction screen



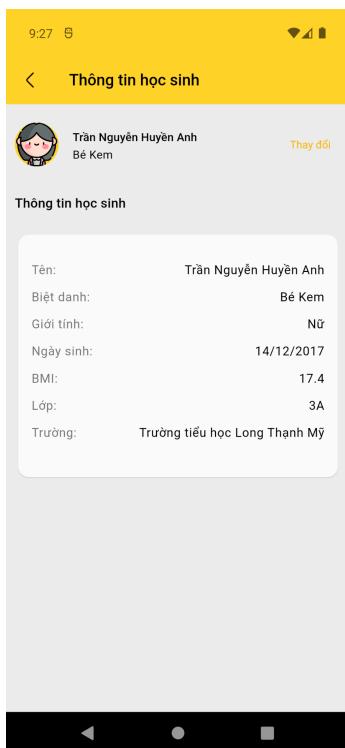
3.2.15 Customers manages children

3.2.15.1 Customers view child details

- Child list



- Child profile detail



3.2.15.2 Customers update child profiles

- Update form

Thông tin học sinh

Họ và tên

Thành

Biệt danh

Tí

Giới tính: Nam Nữ

Ngày sinh:

09/01/2001

Chiều cao (m) Cân nặng (kg)

Trường học

Lưu Thông tin

3.2.15.3 Customers create child profiles

- Create profile screen

Screenshot 1: Initial profile creation screen. Fields include: Họ và tên (Name), Biệt danh (Alias), Giới tính: Nam (Gender: Male), Ngày sinh: 24/04/2020 (Birth Date), Chiều cao (m) (Height), Cân nặng (kg) (Weight), and Trường học (School). A yellow "Lưu Thông tin" (Save Information) button is at the bottom.

Screenshot 2: The same screen as Screenshot 1, but the "Biệt danh" field is now populated with "phinguyen21".

Screenshot 3: The same screen as Screenshot 1, but the "Họ và tên" field is now populated with "nguyen huynh phi".

Screenshot 4: A modal titled "Lựa chọn phương thức" (Select method) with two options: "Chụp ảnh" (Take photo) and "Chọn ảnh từ thư viện ảnh" (Select from photo library).

Screenshot 5: The modal from Screenshot 4 is open, showing the "Chọn ảnh từ thư viện ảnh" option.

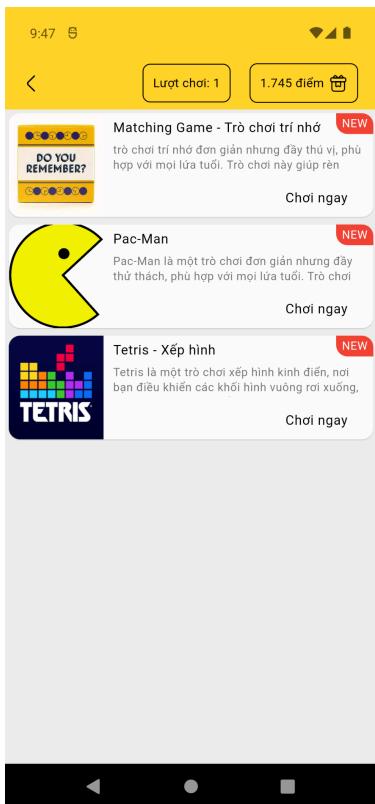
Screenshot 6: The completed profile screen. The profile picture is set to a placeholder image of a classroom. The profile information is: Họ và tên: nguyen huynh phi, Biệt danh: phinguyen21, Giới tính: Nam, Ngày sinh: 15/06/2001, Chiều cao (m): 1.7, Cân nặng (kg): 55, and Trường học: Trường Tiểu Học Phú Hữu. The "Lưu Thông tin" button is visible at the bottom.

Screenshot 7: A search interface for selecting a school. It includes a search bar labeled "Tim kiem theo tên trường" (Search by school name) and a list of schools with small thumbnail images. Schools listed: Trường Tiểu Học Phú Hữu (Đ. 836, Khu phố 3), Trường Tiểu học Đinh Tiên Hoàng (CS1) (60 Đường Trần Hưng Đạo), Trường tiểu học Võ Văn Hát (CS2) (38 Đ. Tây Hồ), Trường Chinh 2 (862/31/27 Lê Đức Thọ), Trường tiểu học Trường Thạnh Số 1 Đường 3, KP Phước Hiệp, and Trường Tiểu học Phước Long A (9 Đ. Hồ Bá Phấn).

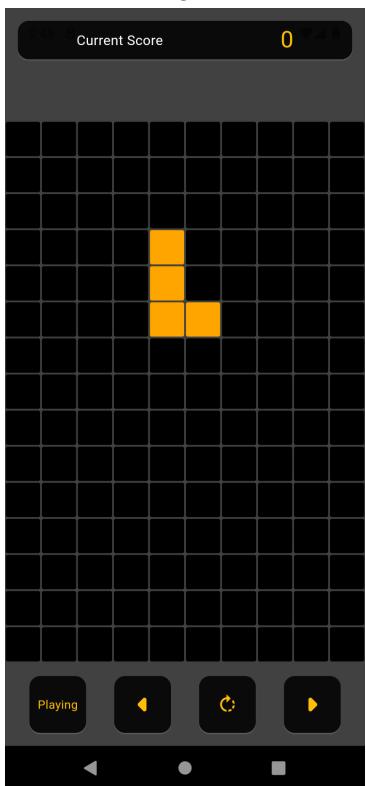
Screenshot 8: The completed profile screen again, showing the selected profile picture and all filled-in profile details.

3.2.16 Customers play game

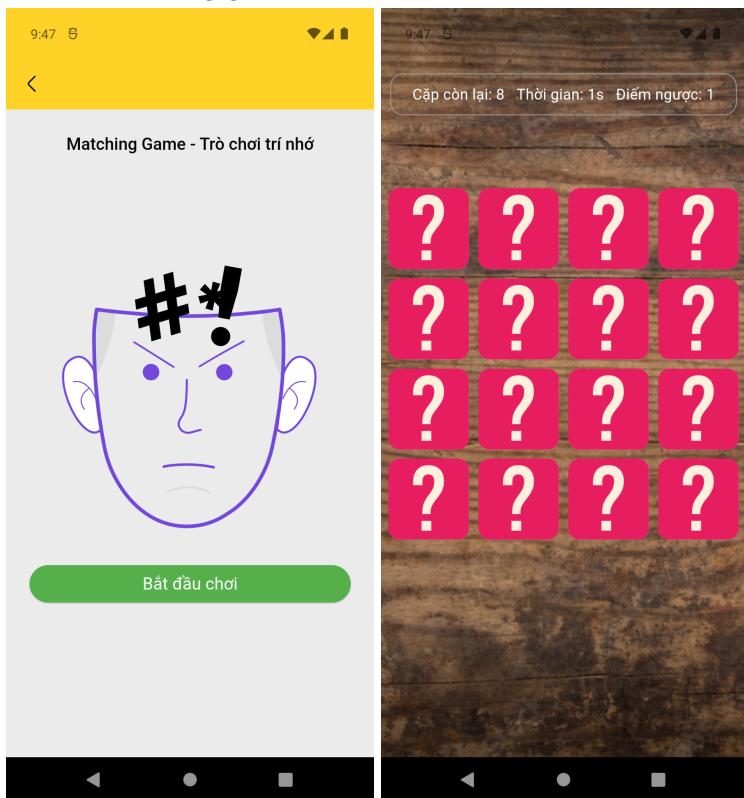
- Game screen



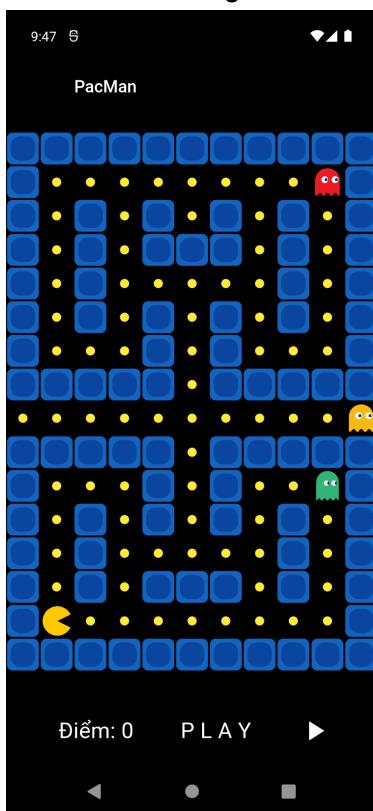
- Tetris game



- Matching game

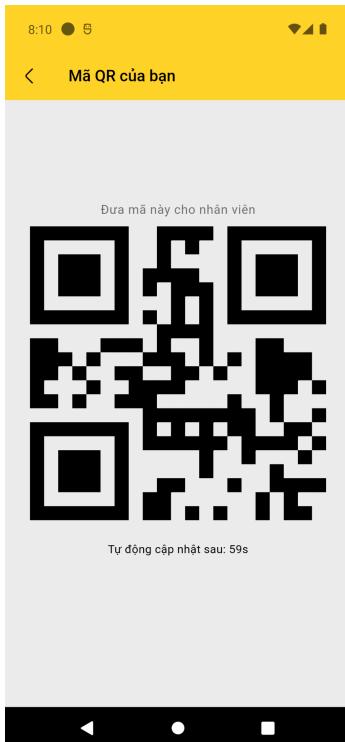


- Pac-man game



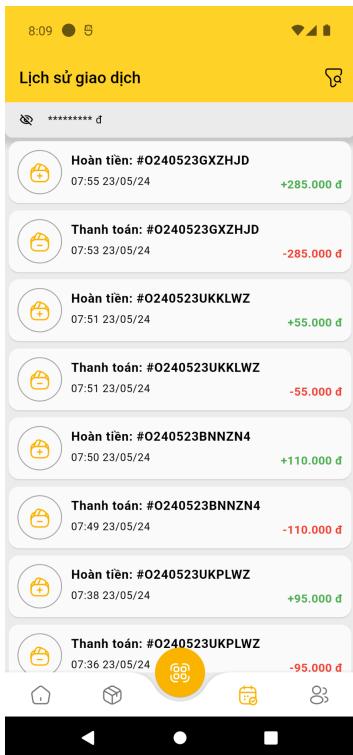
3.2.17 Customers manage QR code

- Qr code screen



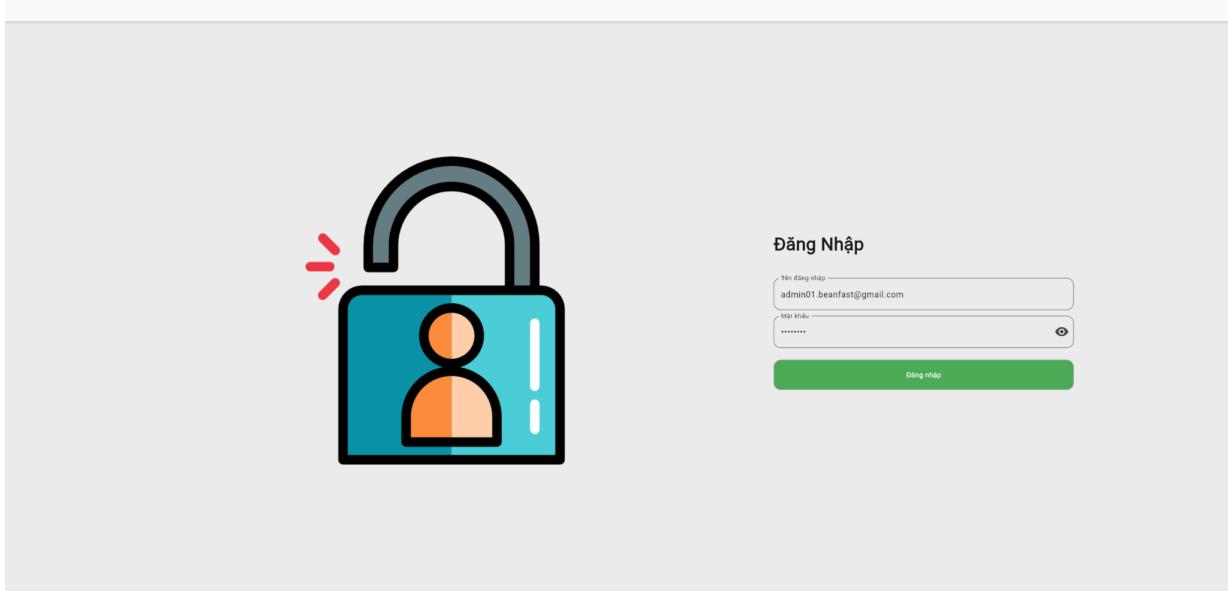
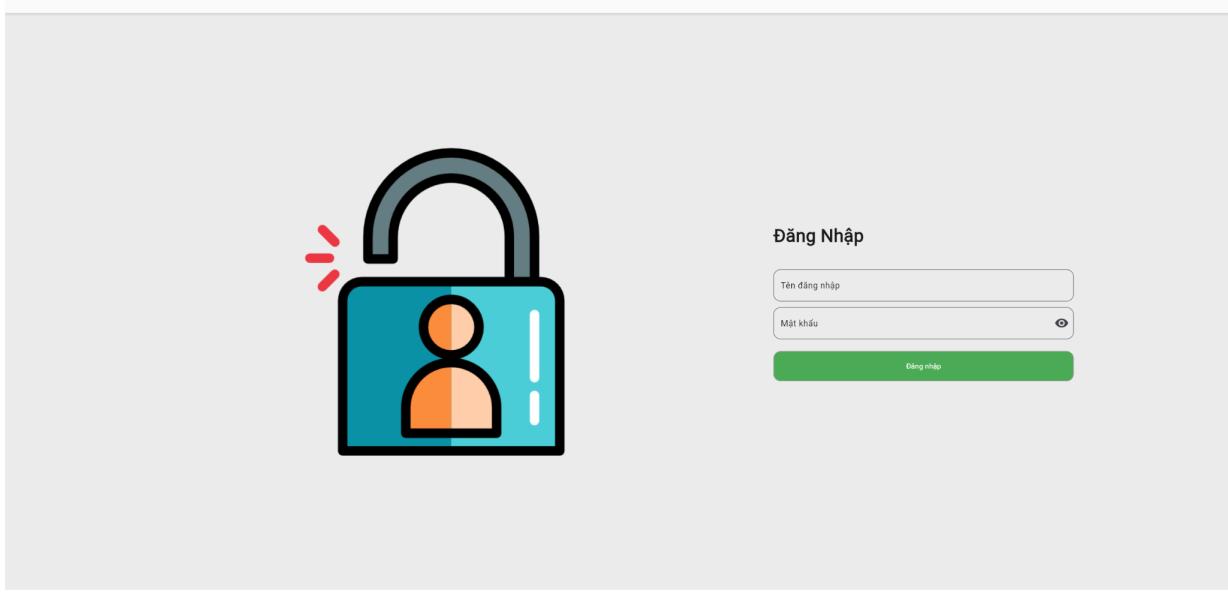
3.2.18 Customers view money transactions

- Transaction screen



3.2.19 Admin web login

- Login screen



3.2.20 Admin manages customers

- Customer list

BeanFast Admin					
	Hình ảnh	Tên	Số điện thoại	Trạng thái	
CU000001		Hoài Phương	0789958500	Đang hoạt động	
CU000002		Hoàng Quốc Trung	0357823405	Đang hoạt động	
CU000003		Nguyễn Thành Vũ	0838171217	Đang hoạt động	
CU000005		Thú Hằng	0976535500	Đang hoạt động	
CU000004		Thu Nga	0372266084	Đang hoạt động	
Cus240412HOVTLD		User #261289a3-1d38-492a-ac50-a911166a65d	0369998759	Đang hoạt động	
Cus240412S18JAG		User #5101c099-7edf-4cab-b1db-3e0547441449	0989576786	Chưa xác thực	
Cus240413ED6L8W		User #e95b6dd0-4499-4859-b921-df1b11695fac	0966324245	Đang hoạt động	

- Ban account customer

BeanFast Admin					
	Hình ảnh	Tên	Số điện thoại	Trạng thái	
CU000001		Hoài Phương	0789958500	Đang hoạt động	
CU000002		Hoàng Quốc Trung	0357823405	Đang hoạt động	
CU000003		Nguyễn Thành Vũ	0838171217	Đang hoạt động	
CU000005		Thú Hằng		Đang hoạt động	
CU000004		Thu Nga		Đang hoạt động	
Cus240412HOVTLD		User #261289a3-1d38-492a-ac50-a911166a65d		Đang hoạt động	
Cus240412S18JAG		User #5101c099-7edf-4cab-b1db-3e0547441449	0989576786	Chưa xác thực	
Cus240413ED6L8W		User #e95b6dd0-4499-4859-b921-df1b11695fac	0966324245	Đang hoạt động	

Xác nhận

Xác nhận khóa tài khoản?

3.2.21 Admin manages the deliverer account

- Account deliverer list

Code	Hình ảnh	Họ và tên	Email	Số điện thoại	Trạng thái
U2403222KYSXM		Nguyễn Phước Bảo Thiện	thien.admin@beanfast.com	0977937959	Đang hoạt động
DL000002		Giao hàng 02	deliverer02.beanfast@gmail.com	0767576886	Đang hoạt động
DL000001		Giao hàng 01	deliverer01.beanfast@gmail.com	0392103381	Đang hoạt động

- Create a deliverer account

Thông tin tài khoản giao hàng

Code: U2403222KYSXM

Hình ảnh: Chưa có ảnh

Họ và tên:

Email: 0/200

Mật khẩu: 0/50

Xác nhận mật khẩu: 0/50

+ Lưu

- Ban account deliverer

Danh sách người giao hàng					
Code	Hình ảnh	Họ và tên	Email	Số điện thoại	Trạng thái
U2403222KYSXM		Nguyễn Phước Bảo Thiện	thien.admin@beanfast.com	0977937959	Đang hoạt động
DL000002		Giao hàng 02	deliverer02.beanfast@gmail.com	0767576886	Đang hoạt động
DL000001		Giao hàng 01	deliverer01.beanfast@gmail.com	0392103381	Đang hoạt động

3.2.22 Admin manages the kitchen manager

- Account kitchen manager list

Danh sách quản lý bếp					
Code	Hình ảnh	Họ và tên	Email	Số điện thoại	Trạng thái
KC000002		Quản lý bếp 2	kitchen.manager02.beanfast@gmail.com	0867660719	Đang hoạt động
KC000001		Quản lý bếp 1	kitchen.manager01.beanfast@gmail.com	0966324244	Đang hoạt động

- Create a kitchen manager account

The screenshot shows the BeanFast Admin application interface. A modal window titled "Thông tin tài khoản bếp" (Kitchen Manager Account Information) is open. It contains fields for "Họ và tên" (Name), "Email", "Mật khẩu" (Password), and "Xác nhận mật khẩu" (Confirm Password). There is also a placeholder "Chưa có ảnh" (No photo yet) with a "+ Thay đổi ảnh" (Change photo) button. The modal has a "Lưu" (Save) button at the bottom right. The background shows a list of existing kitchen managers with columns for "Code", "Hình ảnh" (Photo), "Họ và tên" (Name), "Email", "Số điện thoại" (Phone number), and "Trạng thái" (Status).

- Ban account kitchen manager

The screenshot shows the BeanFast Admin application interface. A modal window titled "Xác nhận" (Confirm) is open, asking "Xác nhận khóa tài khoản?" (Confirm account lock?). It has two buttons: "Đồng ý" (Agree) and "Đóng" (Close). The background shows a list of kitchen managers with the same columns as the previous screenshot. The status of the second entry, KC000002, is now "Đang hoạt động" (Active).

3.2.23 Admin manages the kitchen.

- Kitchen list.

Code	Hình ảnh	Tên trường	Địa chỉ	Trưởng phụ trách	Số trưởng
BEPPHUOCLONGB		Bếp Nhà Đậu 2	455A Đô Xuân Hợp	455A Đô Xuân Hợp	4
BEPLONGTHANHMY		Bếp Nhà Đậu	450 Nguyễn Xiển	450 Nguyễn Xiển	1
area_1		bếp nhà nôi	456B Đô Xuân Hợp	456B Đô Xuân Hợp	0
area_1		bếp nhà nôi	456B Đô Xuân Hợp	456B Đô Xuân Hợp	0
area_1		bếp nhà nôi	456B Đô Xuân Hợp	456B Đô Xuân Hợp	0

- Create kitchen.

Thông tin bếp

Chưa có ảnh

+ Thay đổi ảnh

Tên bếp

Khu vực
Chưa chọn khu vực

Địa chỉ

+ Lưu

● Kitchen detail.

< Chi tiết bếp



Code: BEPPHUOCLONGB
Tên bếp: Bếp Nhà Đầu 2
Số trường phu thuộc: 4
Địa chỉ: 455A Đô Xuân Hợp, Phường Long Bình, Quận 9, Thành phố Hồ Chí Minh