



SEMESTER II 2023/2024

SYSTEM ANALYSIS AND DESIGN (SECD2613)

PHASE 3

ANALYSIS AND DESIGN

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SECTION: 08

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1.0 Overview of the Project

Due to the rapid development of technology worldwide, conventional restaurants increasingly struggle to survive without significant advancements. Consequently, many restaurants are transitioning from traditional operations to more technologically advanced systems, such as implementing cashless payment methods, advanced restaurant management systems, and automated food machines. These improvements align with the preferences of today's teenagers, making the dining experience more convenient and enjoyable. Higher customer satisfaction leads to increased income, which is the primary goal of every restaurant manager.

Mr. Kiho, a restaurant manager, faces similar challenges. His restaurant, Siao Sheng Ya, located in the Skudai area of Johor Bahru, offers a wide variety of meals for customers. However, there is still room for improvement in the restaurant's management system. Although customers can use their mobile devices to order food, the system does not yet support instant mobile payments. Additionally, the restaurant does not offer a reservation system, requiring customers to arrive early to secure a table.

This project aims to outline Mr. Kiho's current business system and propose an updated version. We will use the AI-IS system to illustrate the information flow between the restaurant and external entities, such as seller and customers, through logical data flow diagrams (DFDs). We will also discuss the existing business procedures and processes at Siao Sheng Ya.

The Logical DFD TO-BE system is designed to improve upon the AS-IS system based on the current business processes and workflow. Enhancements made to the Logical DFD TO-BE system will improve customer experience and reduce workload at Siao Sheng Ya. The TO-BE system will track all customer and menu information, providing detailed order analysis. To further enhance the dining experience, additional elements such as menu availability, delivery services, a reservation system, and improved payment methods will be implemented. These improvements will enable Mr. Kiho to elevate the quality of food and services based on data and analysis. Comprehensive and accurate system design specifications will be developed through the Physical DFD TO-BE system, Logical DFD TO-BE system, and Process Specification.

2.0 Problem Statement

1. Limited Website Access

Many restaurants have websites primarily designed to showcase their menu, ambiance, and location. However, access to these websites is often restricted to patrons physically present in the restaurant. This limitation arises from a traditional mind-set that views the website as an extension of the physical establishment rather than a tool for reaching potential customers beyond the premises. Consequently, individuals seeking information about the restaurant's offerings, making reservations, or placing delivery orders are unable to do so without visiting the restaurant in person. This restricts the restaurant's ability to attract new customers and limits the convenience for existing ones, particularly those who prefer to plan their dining experiences in advance or order food for delivery.

2. Lack of Reservation System

In the absence of a reservation system, customers may encounter difficulties securing a table, especially during peak dining hours or for special occasions such as holidays or anniversaries. This can lead to frustration, longer wait times, or even loss of business if potential diners opt for alternative establishments with reservation capabilities. Moreover, without a centralized system for managing reservations, restaurant staff may struggle to keep track of bookings, leading to overbooking or underutilization of available seating capacity. As a result, both customers and restaurant management are inconvenienced, impacting overall satisfaction and operational efficiency.

3. Absence of Delivery System

With the rise of food delivery platforms and changing consumer preferences, offering delivery services has become increasingly important for restaurants to remain competitive and meet the evolving needs of their customers. However, many restaurants still lack an integrated delivery system, relying instead on third-party delivery services that may impose high commission fees and compromise the restaurant's Brand experience. By not having control over the delivery process,

restaurants risk inconsistency in food quality, longer delivery times, and potential disputes with delivery partners. Additionally, without a direct delivery option, restaurants miss out on potential revenue streams from customers who prefer the convenience of having food delivered to their doorstep.

4. Limited Payment Methods

The payment landscape has evolved significantly with the advent of digital payment technologies, yet some restaurants continue to offer limited payment options such as cash-only or a select few credit/debit cards. This poses challenges for customers who prefer alternative payment methods such as mobile wallets, online payment platforms, or contactless transactions. By not accommodating diverse payment preferences, restaurants risk alienating a segment of their customer base and may lose out on potential sales opportunities. Moreover, in an increasingly cashless society, relying solely on cash payments may hinder operational efficiency and increase the risk of errors or theft.

5. Difficulty in Switching Menu Interface

Mr Kiho found that switching menu interfaces presents a formidable challenge. Each time he attempts to make a transition, he encounters a barrage of error codes that disrupt the process, necessitating the involvement of technicians to rectify the issues. This not only incurs significant expenses but also results in considerable time delays, hindering our ability to adapt our menu promptly to meet customer demands or market trends. The impact of this problem goes beyond financial and operational concerns; it also affects the overall customer experience. Inaccurate or outdated menu information can lead to dissatisfaction among patrons, eroding trust and potentially driving them to seek dining alternatives. This ongoing difficulty in switching menu interfaces poses a substantial obstacle to our business's efficiency and competitiveness in the market.

3.0 Proposed Solutions

DineDart system is a solution designed to revolutionize the dining experience for both customers and restaurant owner, Mr. Kiho. With a focus on convenience and efficiency, DineDart seamlessly integrates online ordering, reservation management, delivery services, and streamlined payment options.

One of the key features of the enhanced system is the ability for customers to place their orders online, eliminating the need to physically visit the restaurant or scan QR codes. This empowers customers to enjoy their favorite meals from the comfort of their homes or offices, enhancing convenience and accessibility.

Furthermore, the integration of a reservation system adds another layer of convenience for both Mr. Kiho and his customers. By managing table bookings effectively, Mr. Kiho can ensure a smoother dining experience, minimizing overcrowding and wait times. For customers, this means they can secure a table in advance and enjoy their meals without unnecessary delays.

Recognizing the growing preference for delivery services, DineDart now offers internal delivery options. This expansion extends Mr. Kiho's customer reach beyond the immediate vicinity of the restaurant, catering to a wider audience and increasing sales potential.

In addition to enhancing the ordering and dining experience, DineDart simplifies the payment process. By offering online payment options, customers can settle their bills from their seats, eliminating the need to queue at the counter. This not only adds convenience but also enhances security by promoting cashless transactions, addressing Mr. Kiho's safety concerns.

Moreover, DineDart empowers Mr. Kiho with greater control over his menu structure. Previously, menu alterations required intervention from a programmer, incurring additional costs and delays. Now, with administrative privileges, Mr. Kiho can customize his menu effortlessly. For instance, he can introduce a new menu column called "Menu Rahmah," reflecting his personal touch and preferences. This special menu column is designed to provide affordable meal options for individuals facing financial constraints, such as those in the B40 group.

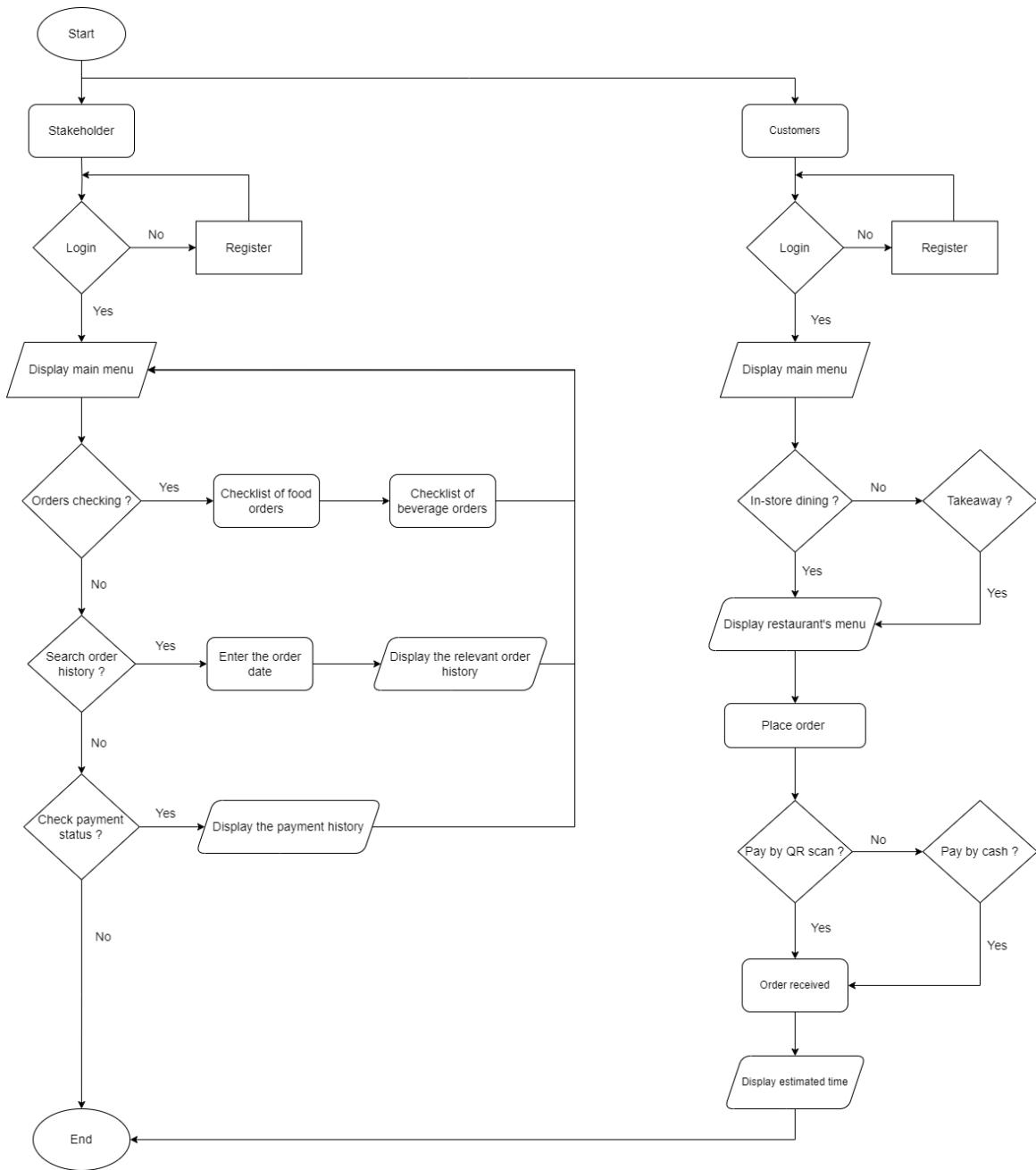
4.0 Current Business Process (Workflow)

Here are the scenarios and workflow of current business process for **stakeholder**:

1. Log in to the system.
2. Customize the main page according to preference.
3. Several options are displayed on the main menu.
4. Option for checking the orders from the customers.
 - 4.1 Food ordering checklist
 - 4.2 Beverage ordering checklist
5. Option for searching the order history.
 - 5.1 Stakeholder is required to enter the order date.
 - 5.2 System will display the relevant order history to the stakeholder.
6. Option for checking the payment status.
 - 6.1 Display the payment history either QR scan or cash done by the customers.

Here are the scenarios and workflow of current business process for **customers**:

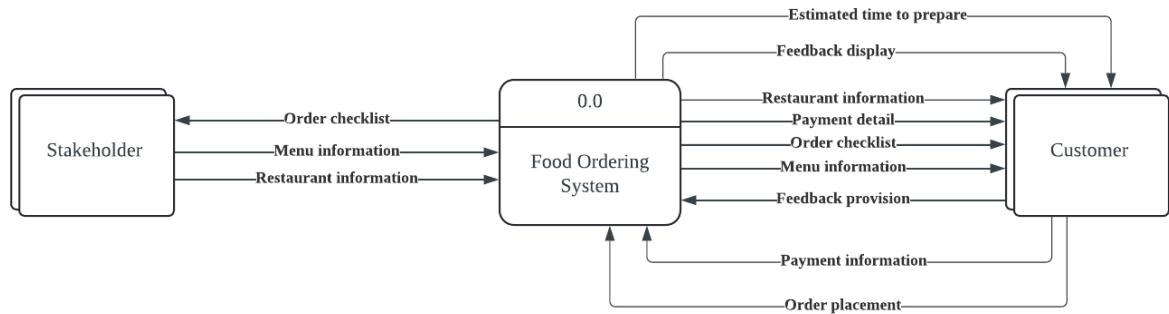
1. Login to the system.
2. Customize the main page according to preference.
3. Display option for ordering meals.
 - 3.1 In-store dining.
 - 3.2 Takeaway.
4. Display the restaurant's menu.
5. Place orders in the system.
6. Display payment options at the counter.
 - 3.1 QR scan
 - 3.2 Cash
4. While the order is received, the customer will be given an estimated time of preparation.



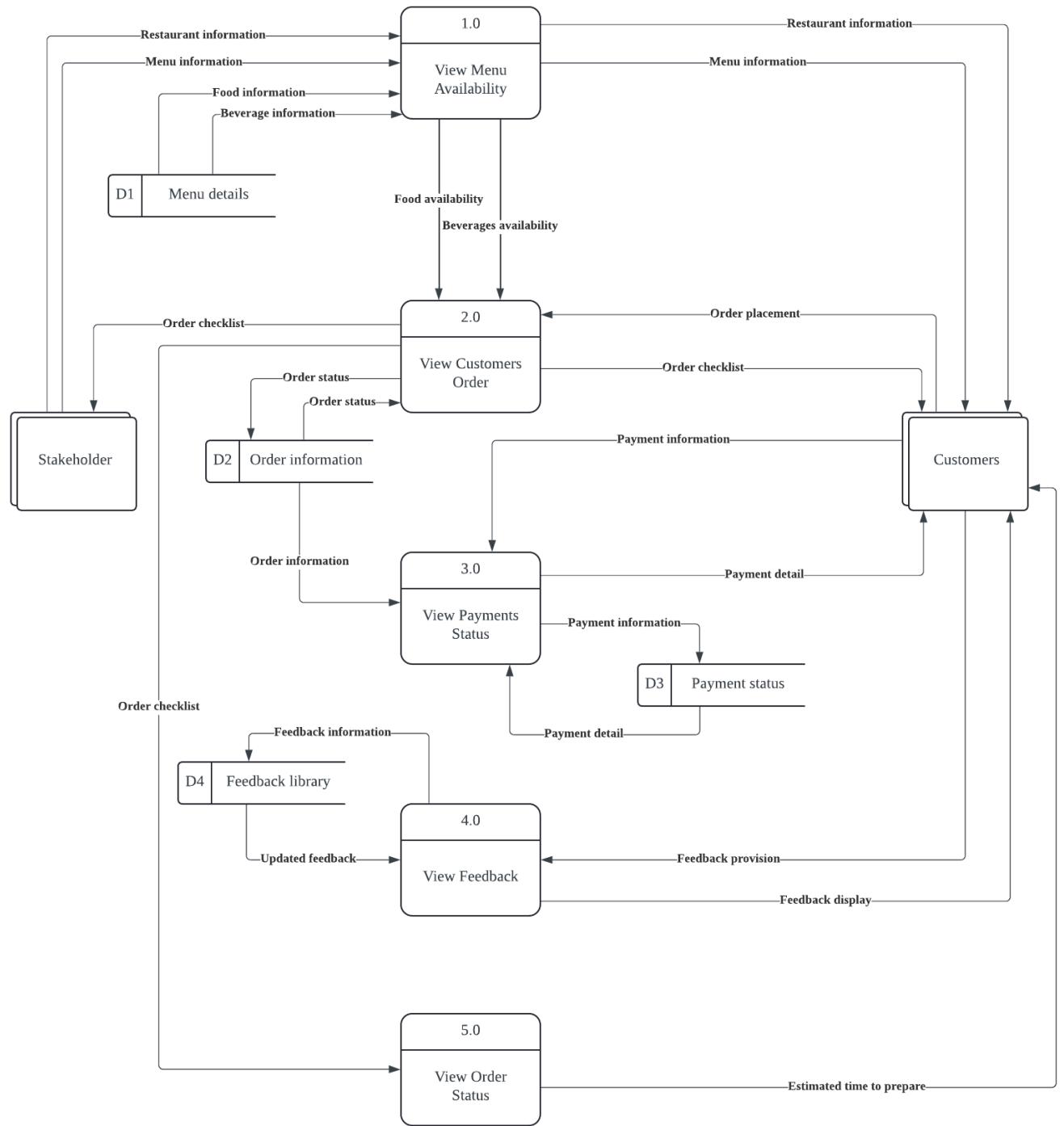
AS-IS System Workflow

5.0 Logical DFD (AS-IS System)

5.1 Context Diagram

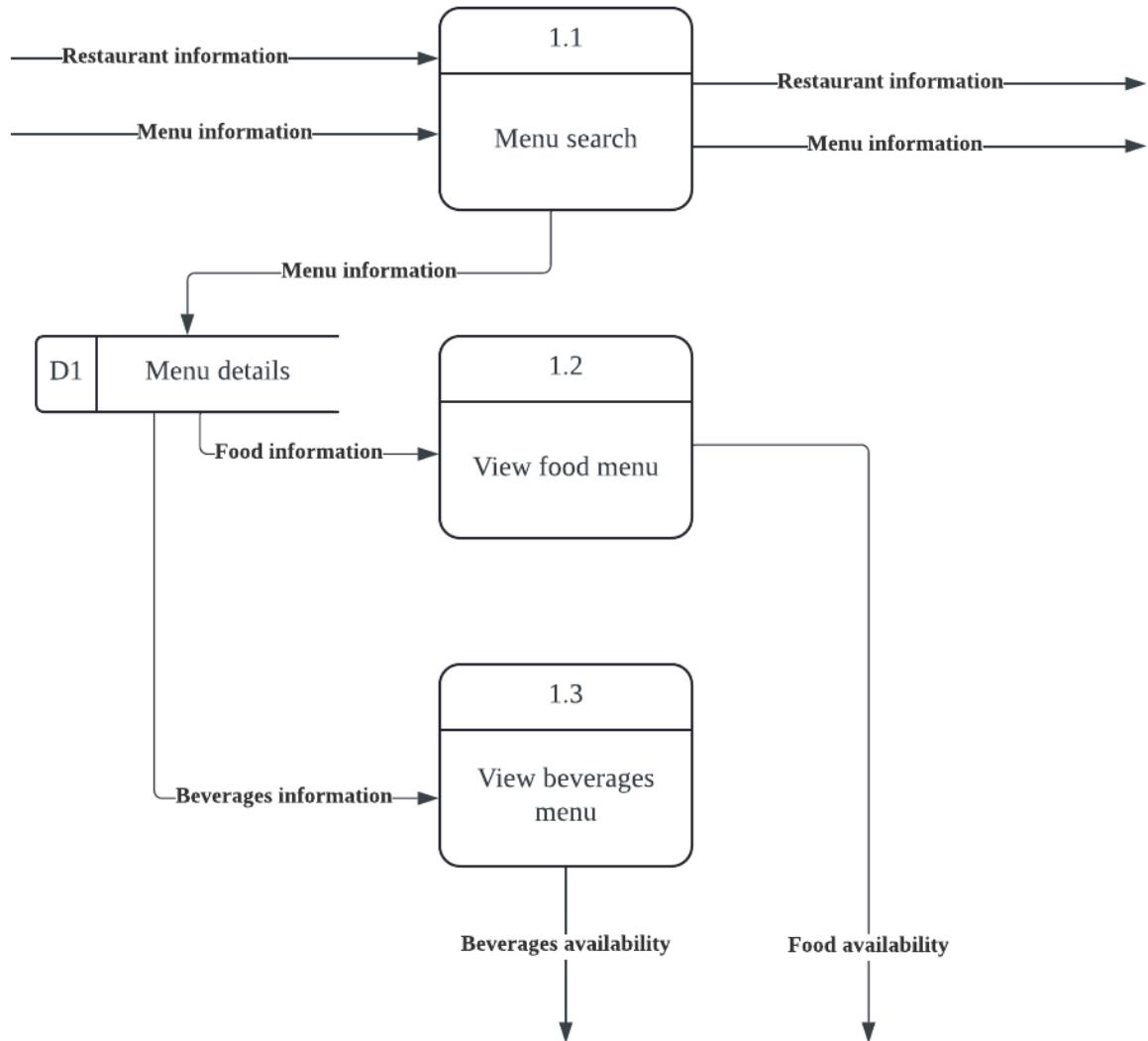


5.2 Diagram 0

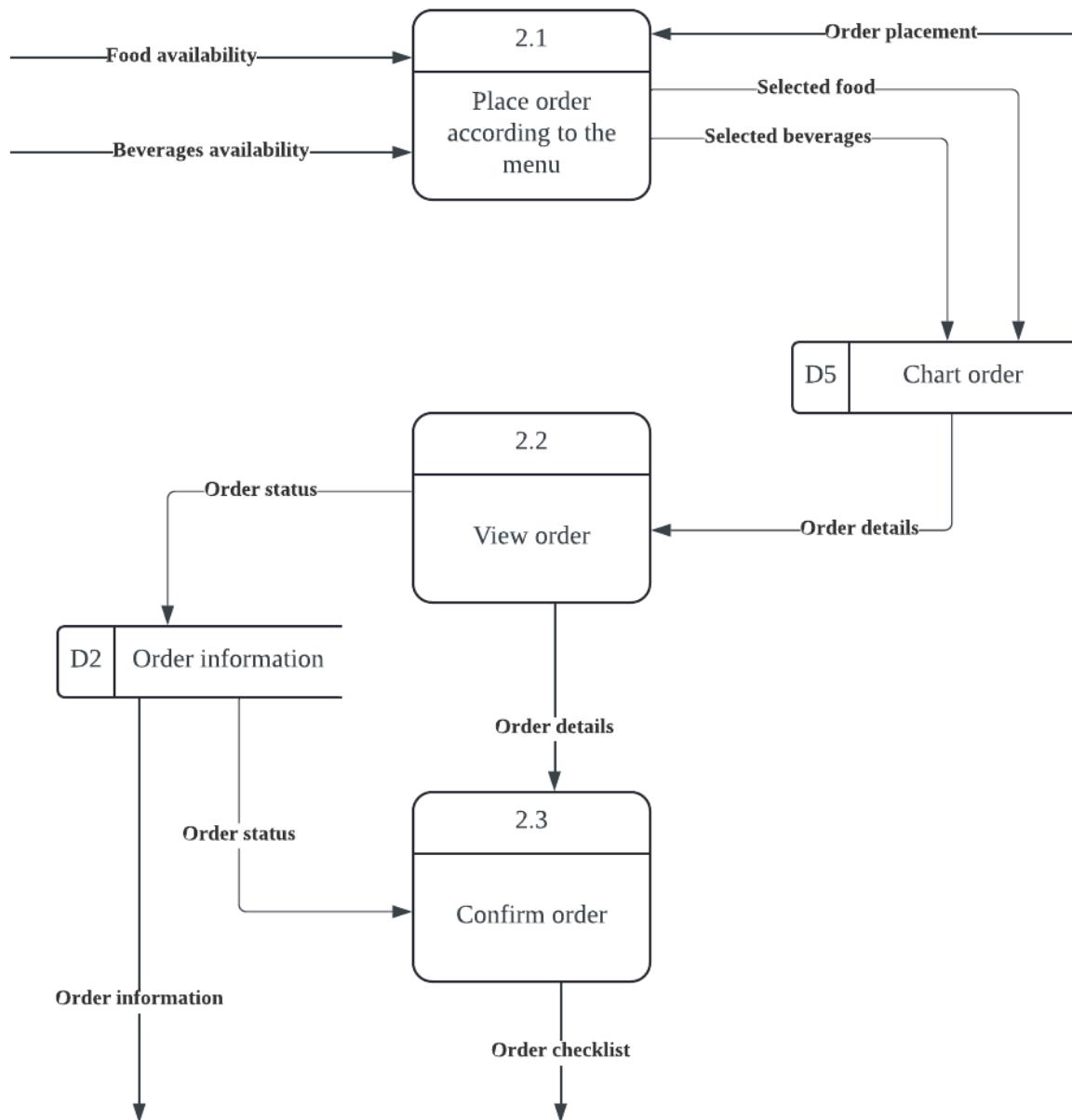


5.3 Child Diagram

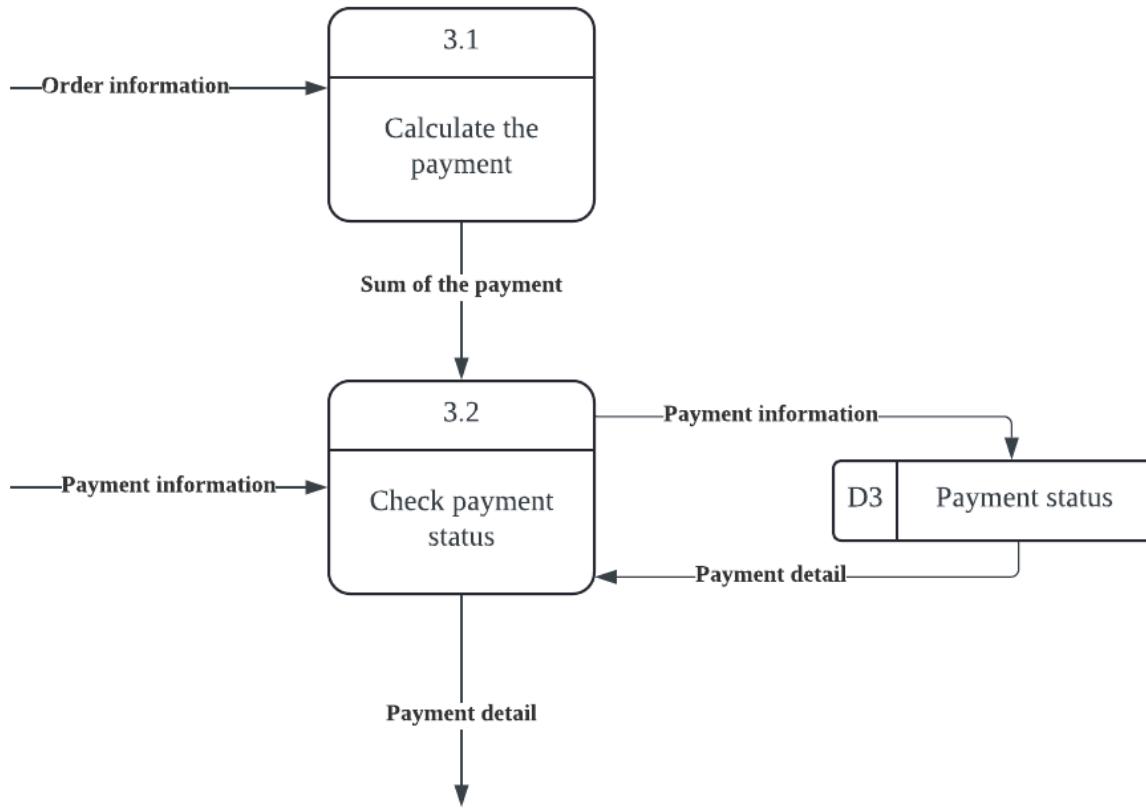
5.3.1 Process 1: View Menu Availability



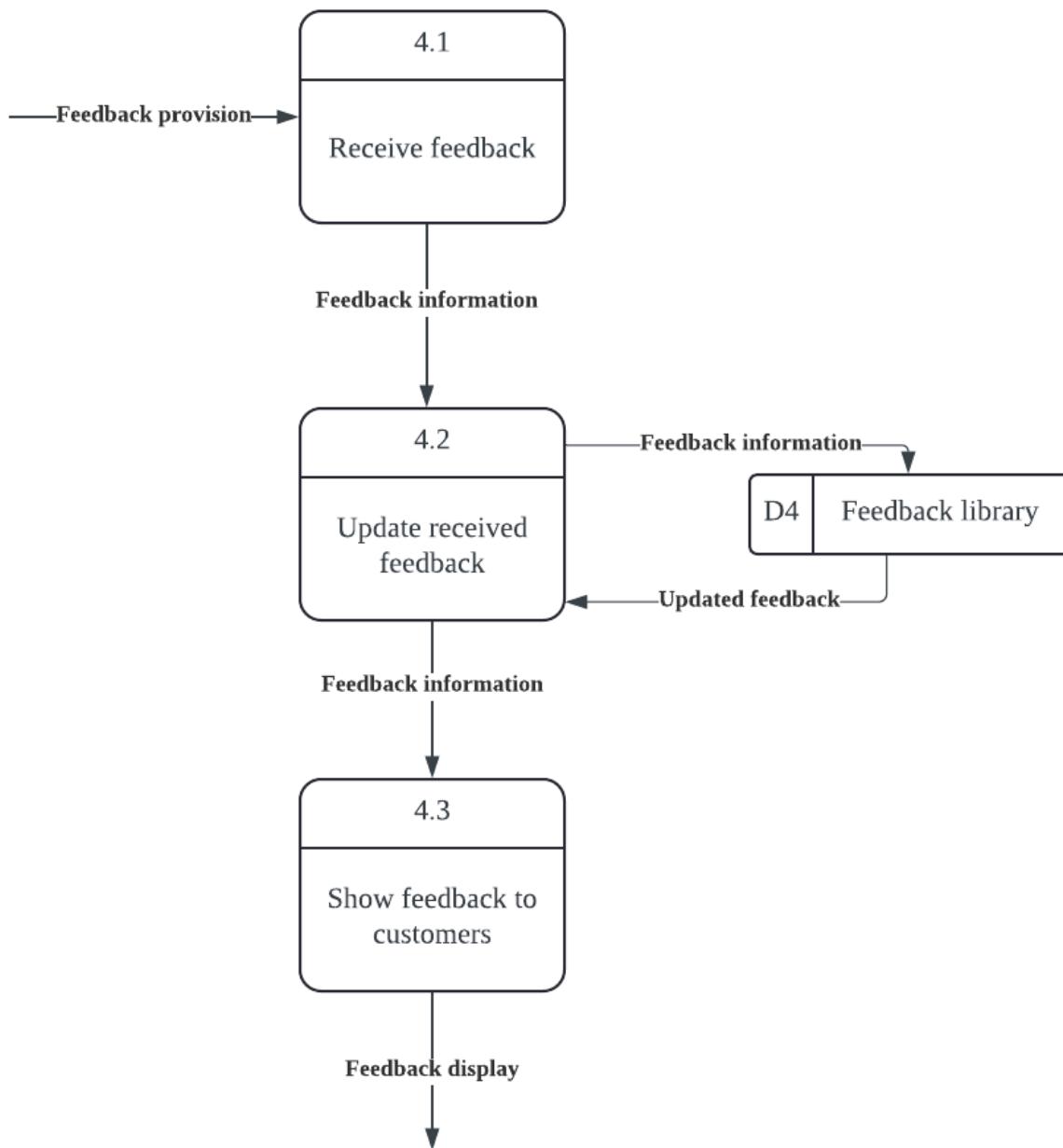
5.3.2 Process 2: View Customers Order



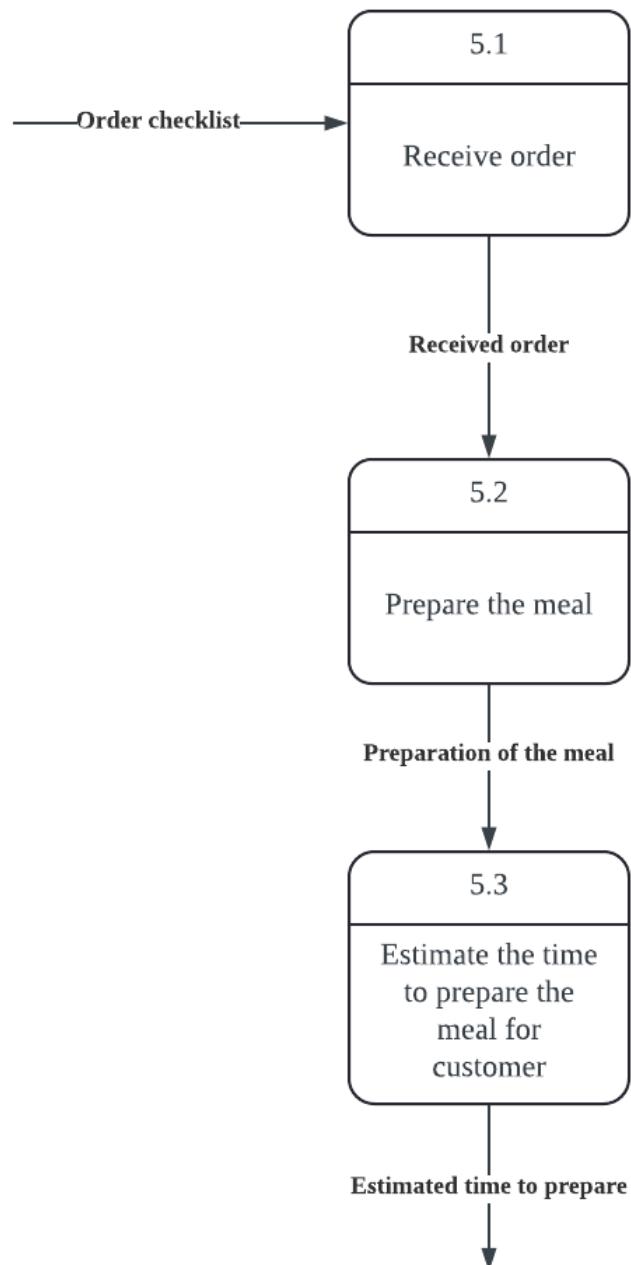
5.3.3 Process 3: View Payment Status



5.3.4 Process 4: View Feedback



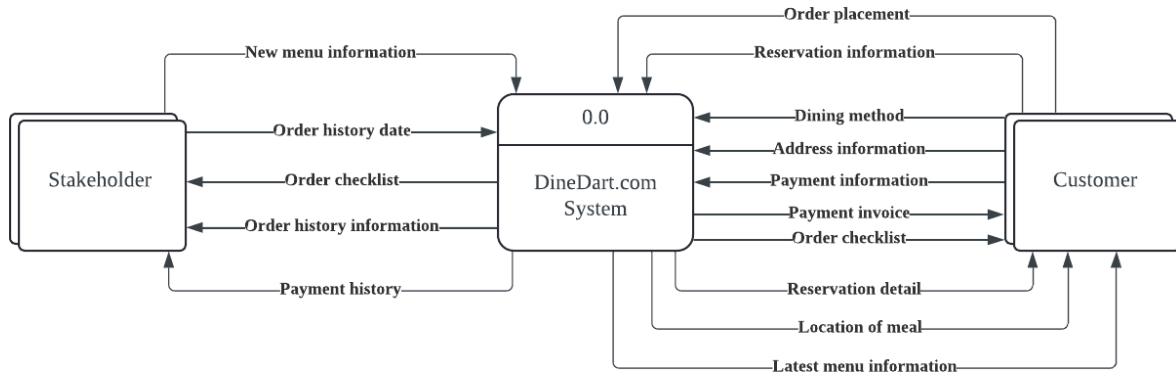
5.3.5 Process 5: View Order Status



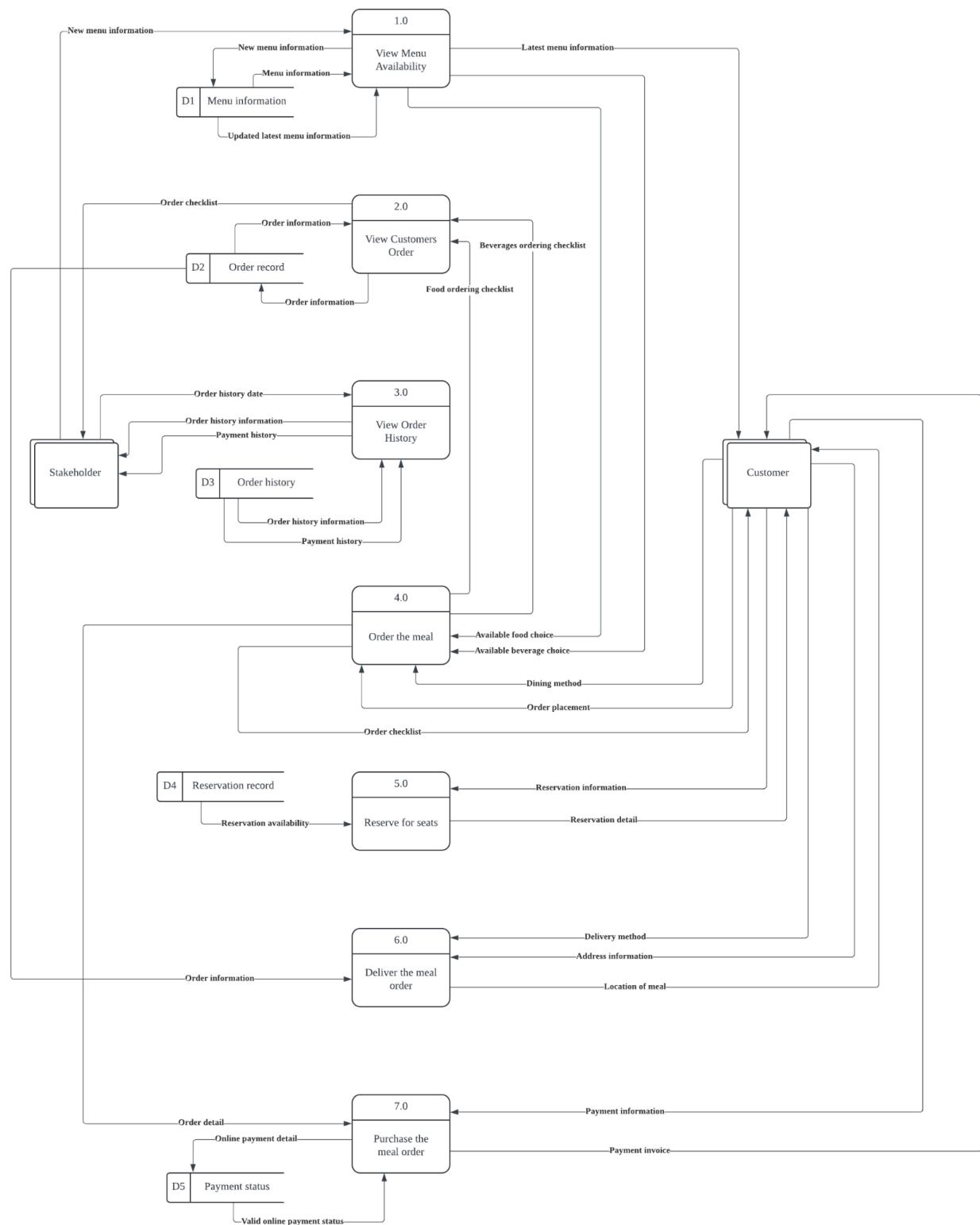
6.0 System Analysis and Specification

6.1 Logical DFD TO-BE System

6.1.1 Context Diagram

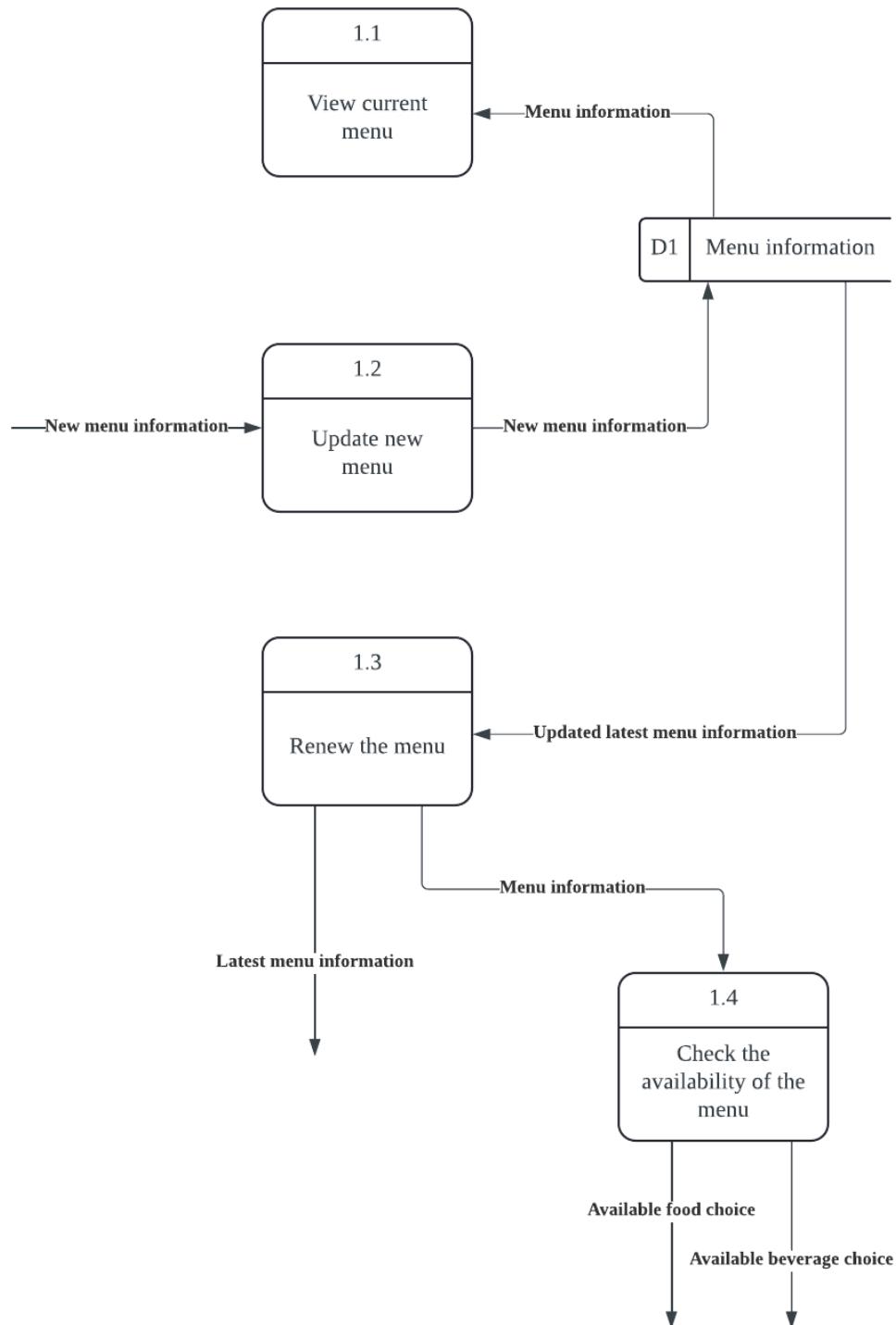


6.1.2 Diagram 0

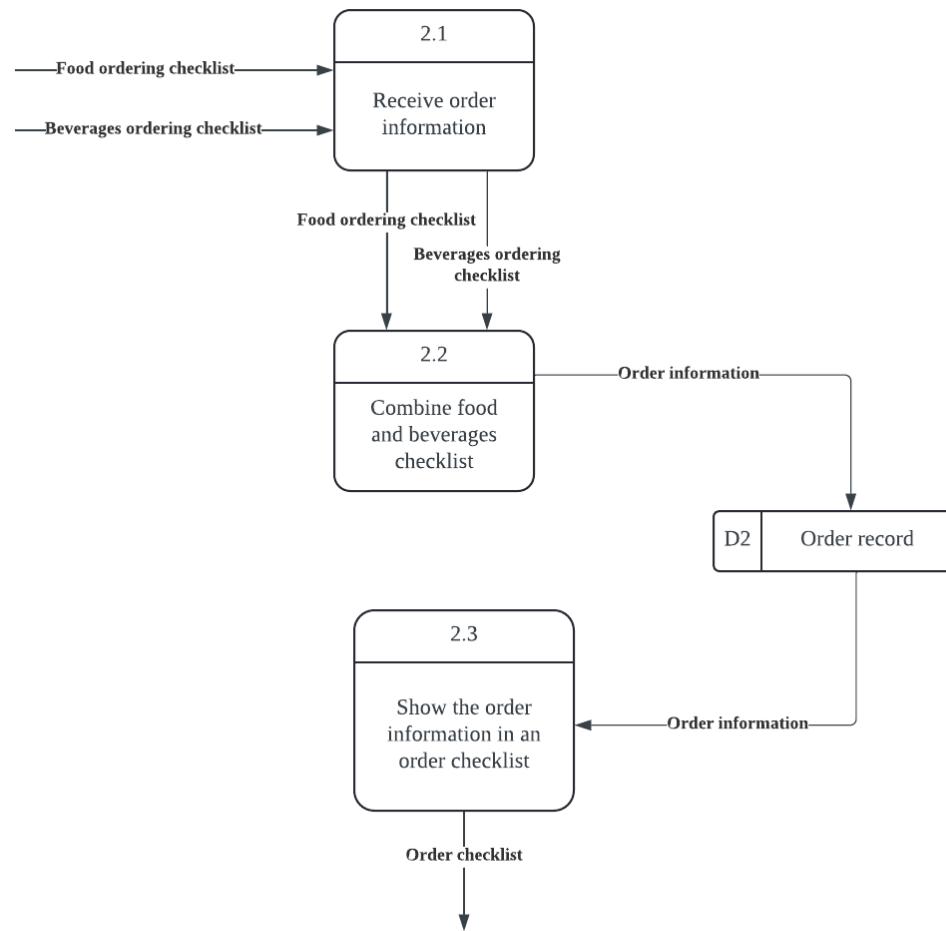


6.1.3 Child Diagram

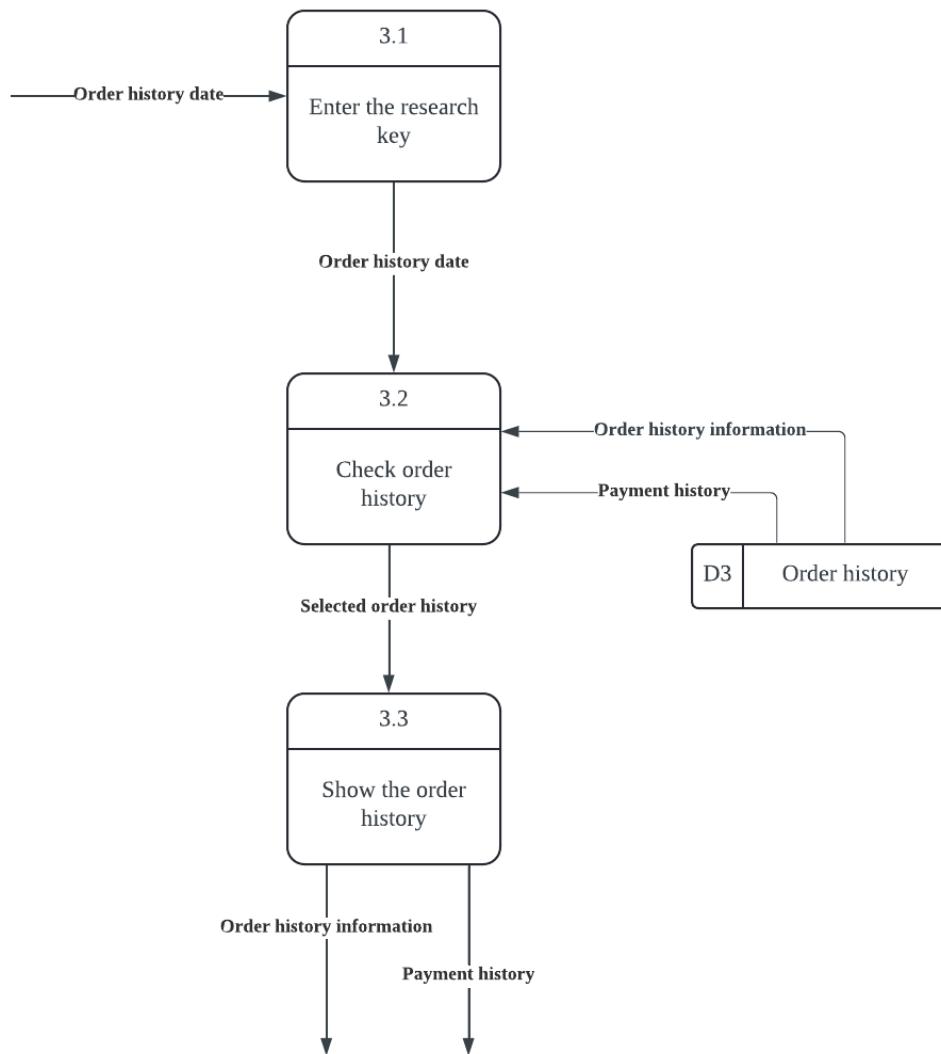
6.1.3.1 Process 1: View Menu Availability



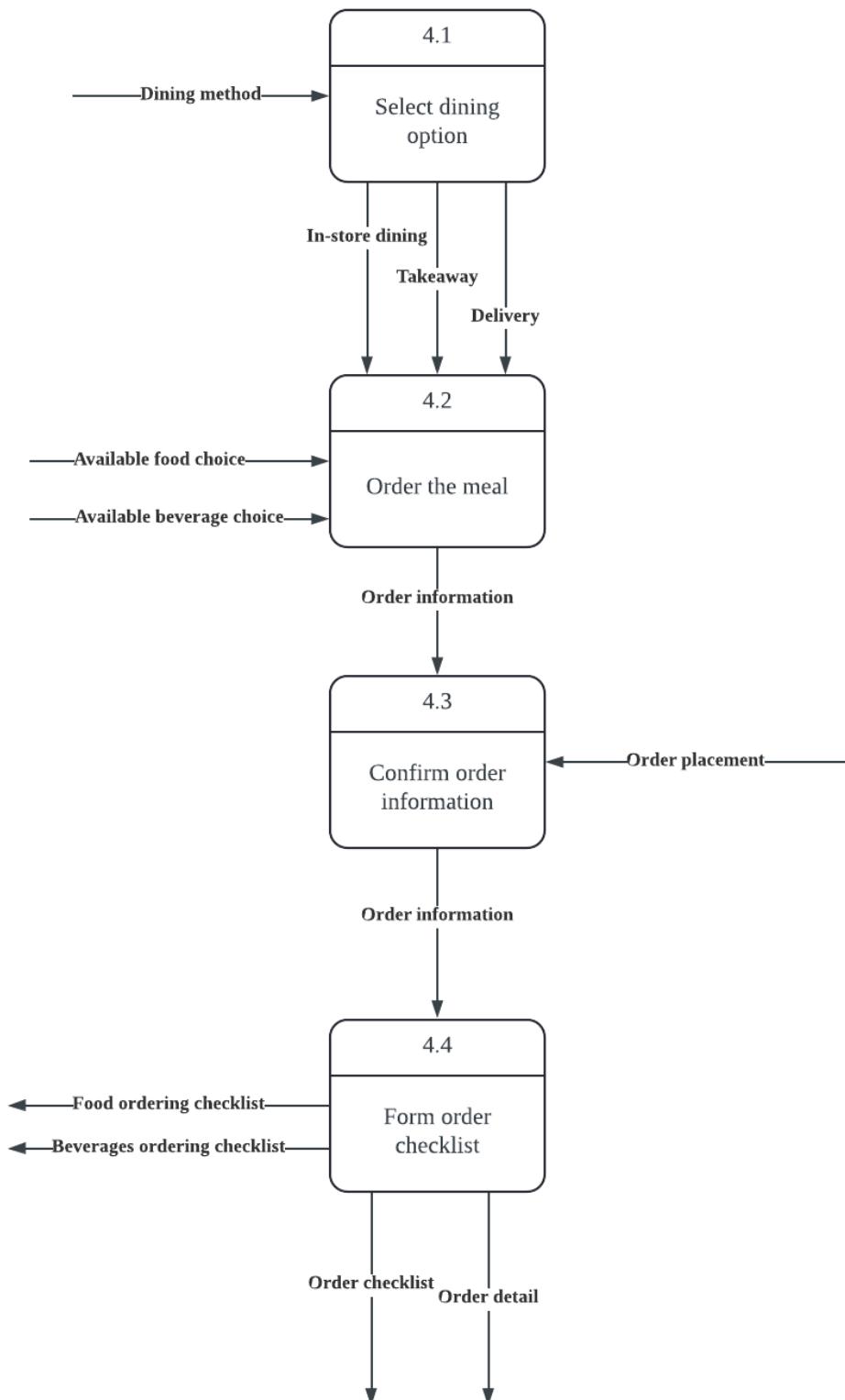
6.1.3.2 Process 2: View Customers Order



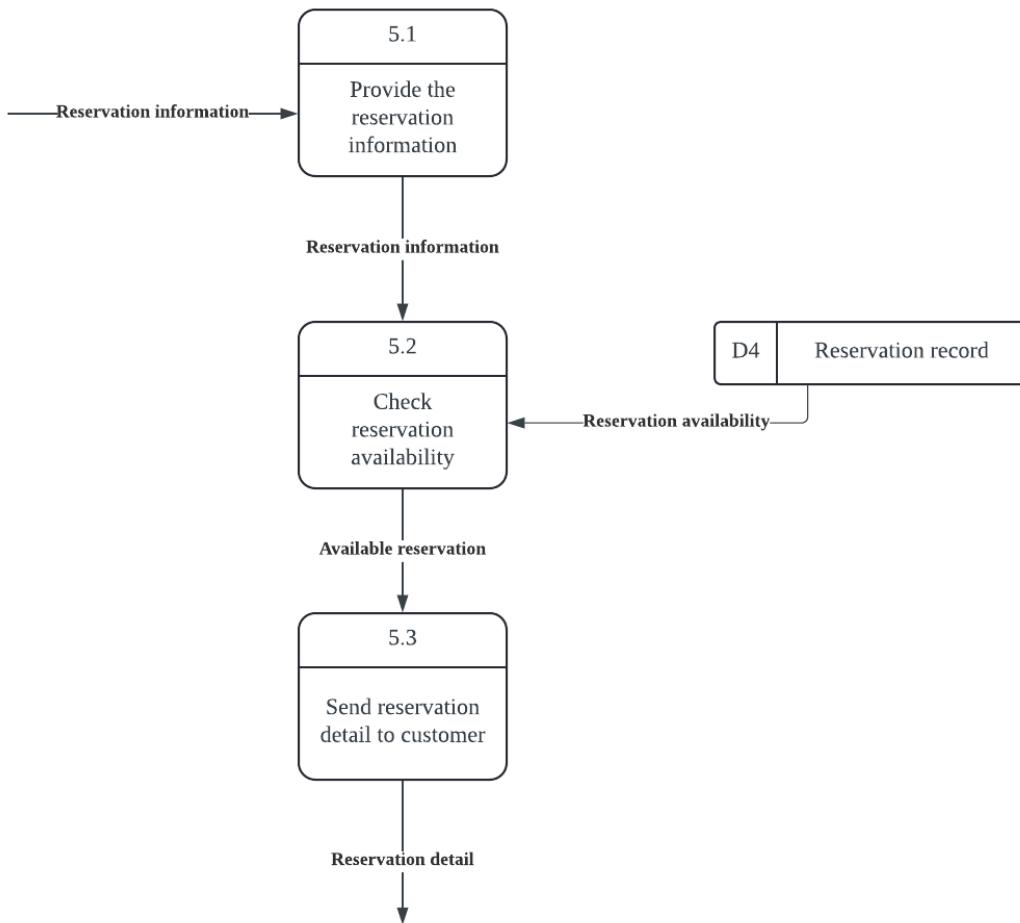
6.1.3.3 Process 3: View Order History



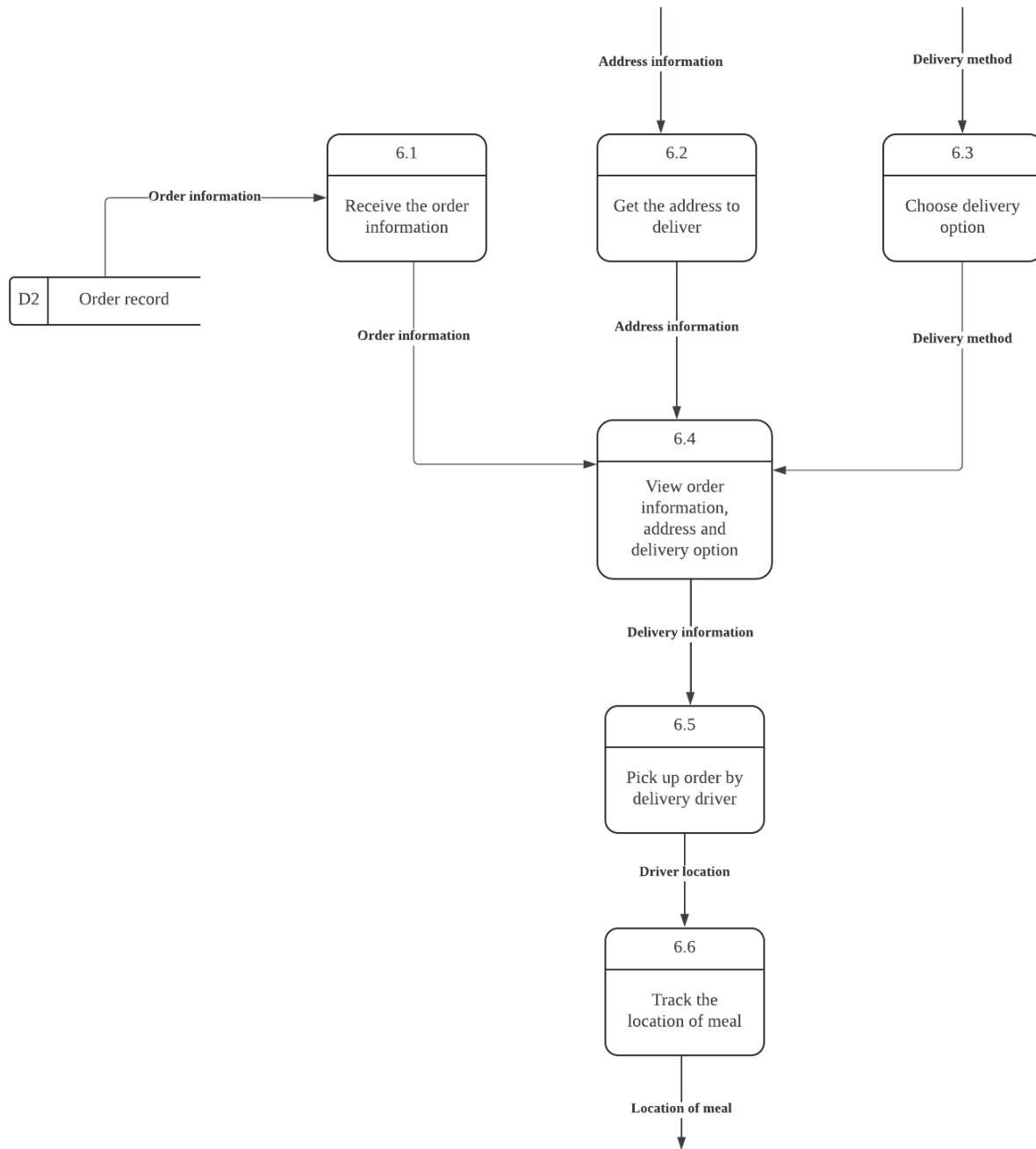
6.1.3.4 Process 4: Order the meal



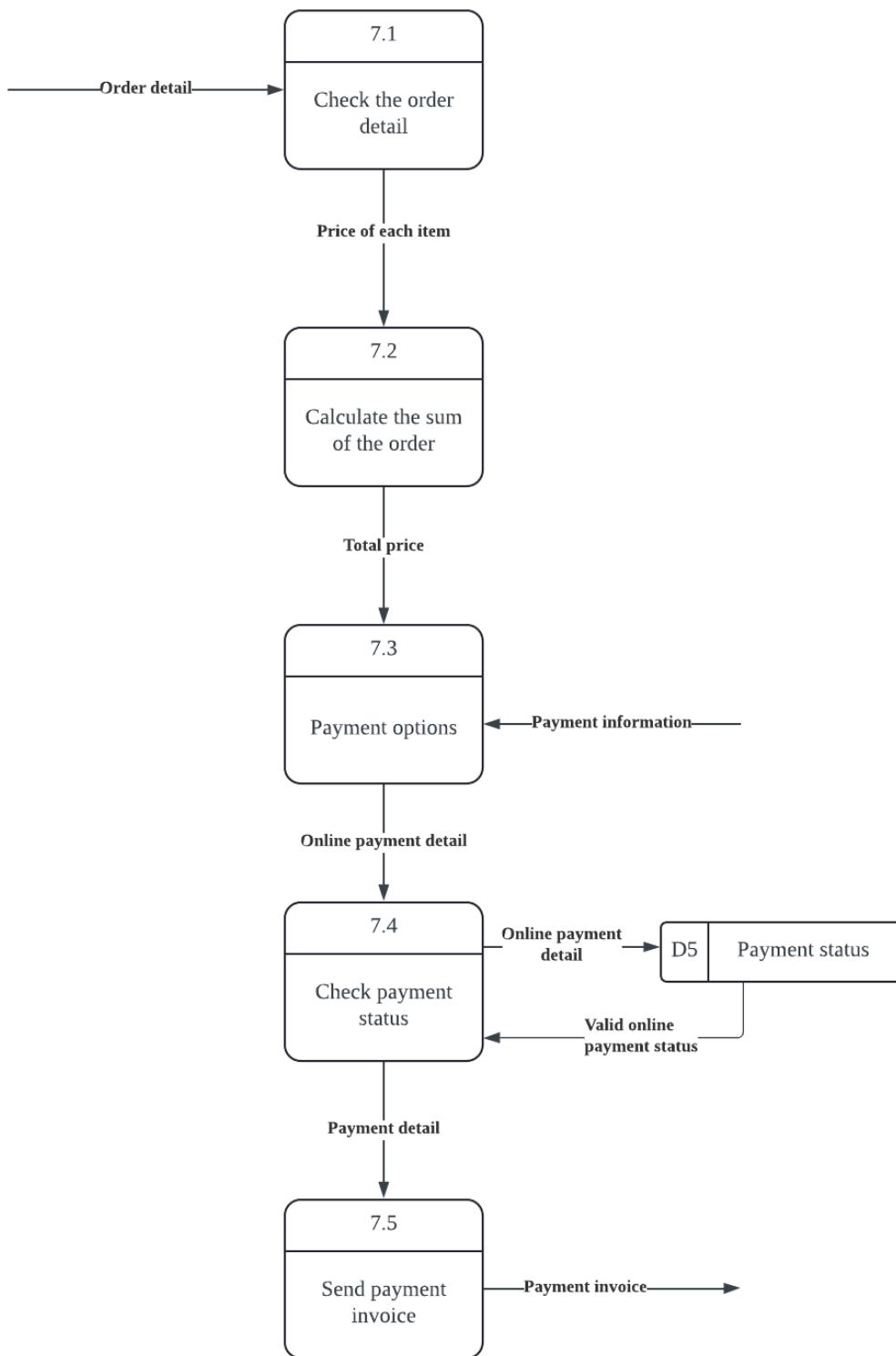
6.1.3.5 Process 5: Reserve for seats



6.1.3.6 Process 6: Deliver the meal order



6.1.3.7 Process 7: Purchase the meal order



6.2 Process Specification (TO-BE System)

Structured English is employed to model and illustrate the process of the Logical TO-BE system, based on the Logical DFD of the TO-BE system. This approach ensures clarity and precision in describing the system's processes and functionalities.

6.2.1 View Menu Availability

DO

READ current menu information

BEGIN IF

IF received the new menu information

 UPDATE the new menu information into the menu database

 RENEW the current menu information

ELSE continue

IF receive order request

 CHECK the availability of the menu

 DISPLAY the available food and beverage

DISPLAY the latest menu information

END IF

END

6.2.2 View Customers Order

DO

READ order information

BEGIN IF

IF received food and beverages ordering checklist

 COMBINE both checklist become a finalized order checklist

 STORE the order information into the order record database

ELSE continue

DISPLAY the finalized order checklist

END IF

END

6.2.3 View Order History

DO
READ research key
BEGIN IF
IF received order history date
 CHECK order history in the database
 SELECT the wanted order history
 ELSE continue
DISPLAY selected order history information and payment history
END IF
END

6.2.4 Order the meal

DO
READ dining option
BEGIN IF
IF dining option is “In-store dining” or “Takeaway” or “Delivery”
 DISPLAY available food and beverages choice
 ORDER meal
 CONFIRM order information
 DISPLAY order checklist
ELSE continue
IF order placed
 DISPLAY order checklist to stakeholder
 DISPLAY order checklist to customer
END IF
END

6.2.5 Reserve for seats

DO

READ reservation information

BEGIN IF

IF received reservation information

CHECK reservation availability

IF reservation availability is “YES”

DISPLAY successful reservation information

ELSE IF reservation availability is “NO”

DISPLAY unsuccessful reservation information

ELSE continue

END IF

DISPLAY reservation detail to the customer

END

6.2.6 Deliver the meal order

DO

RECEIVE order information from order record database

READ address information

READ delivery method

BEGIN IF

IF received delivery method is “Standard”

NOTICE the delivery driver the order is deliver in average time

ELSE IF received delivery method is “Express”

NOTICE the delivery driver the order is urgent

END IF

COLLECT meal order from the restaurant

DELIVER the meal order

TRACK the meal location time on time

END

6.2.7 Purchase the meal order

DO

READ order detail

BEGIN IF

IF received order detail

CALCULATE order detail

SHOW total prices of the meal order

CHECK payment status

ELSE continue

IF received valid payment status

STORE the payment information into the database

SEND payment invoice to the customer

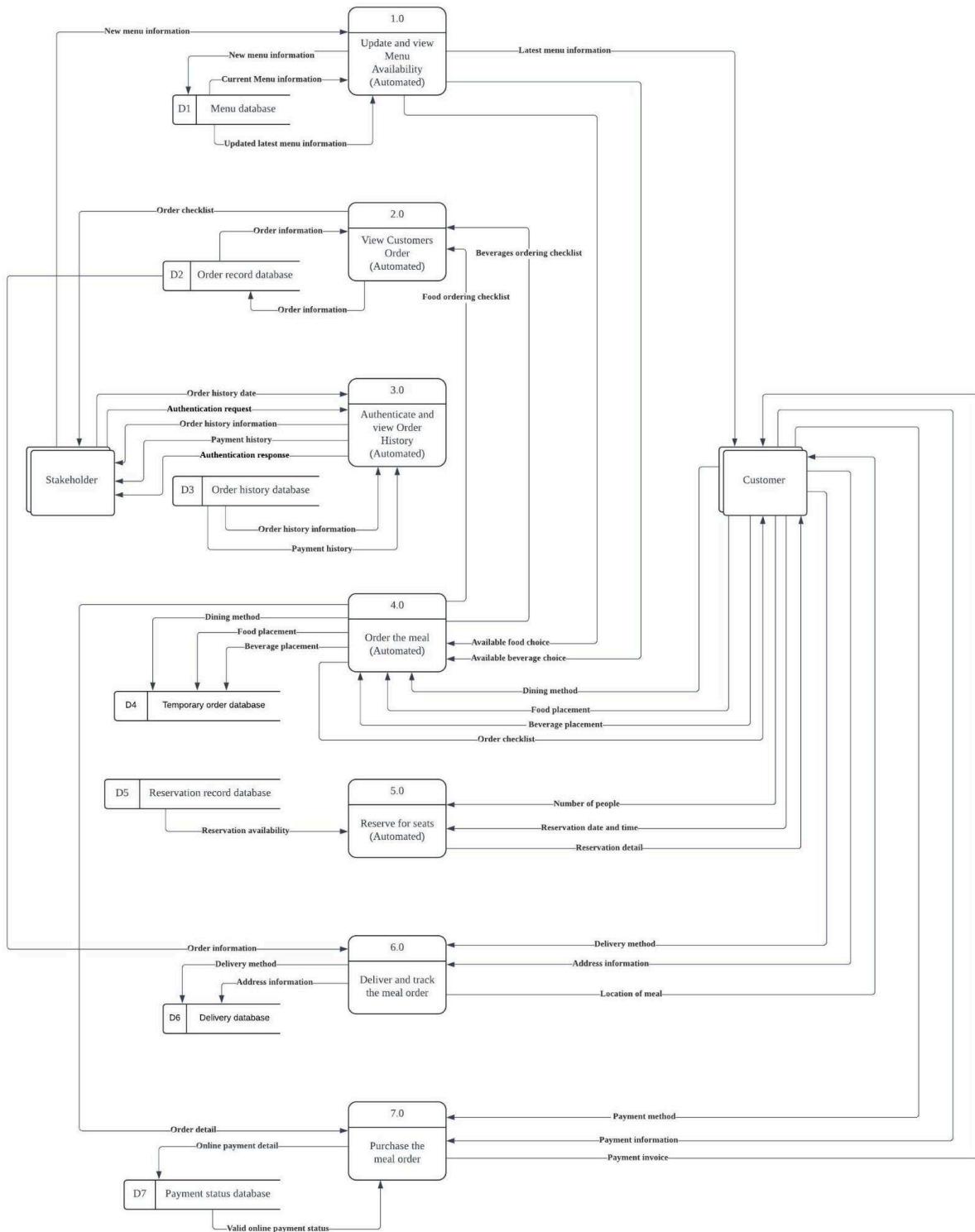
END IF

END

7.0 Physical System Design

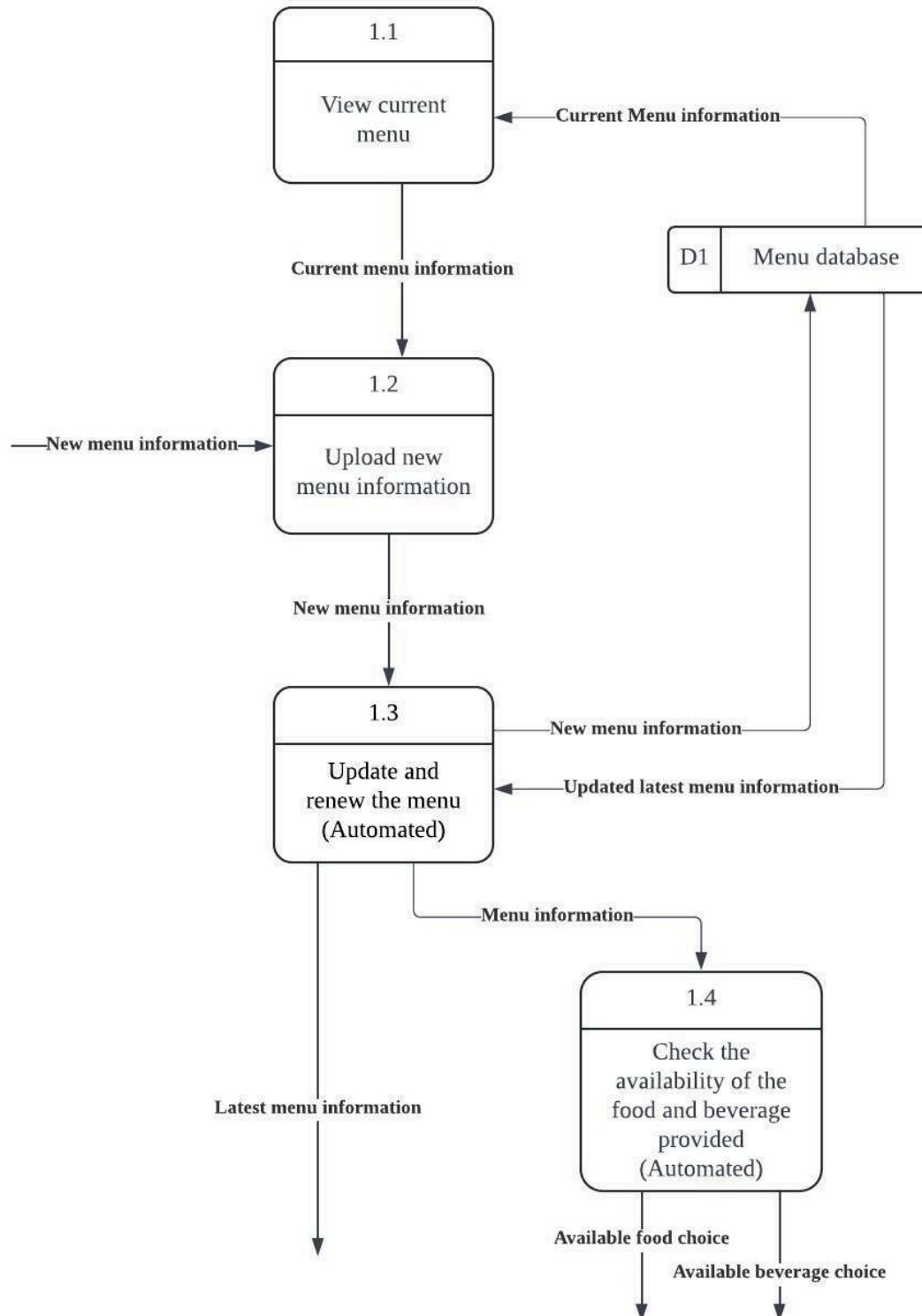
7.1 Physical DFD TO-BE System

7.1.1 Diagram 0

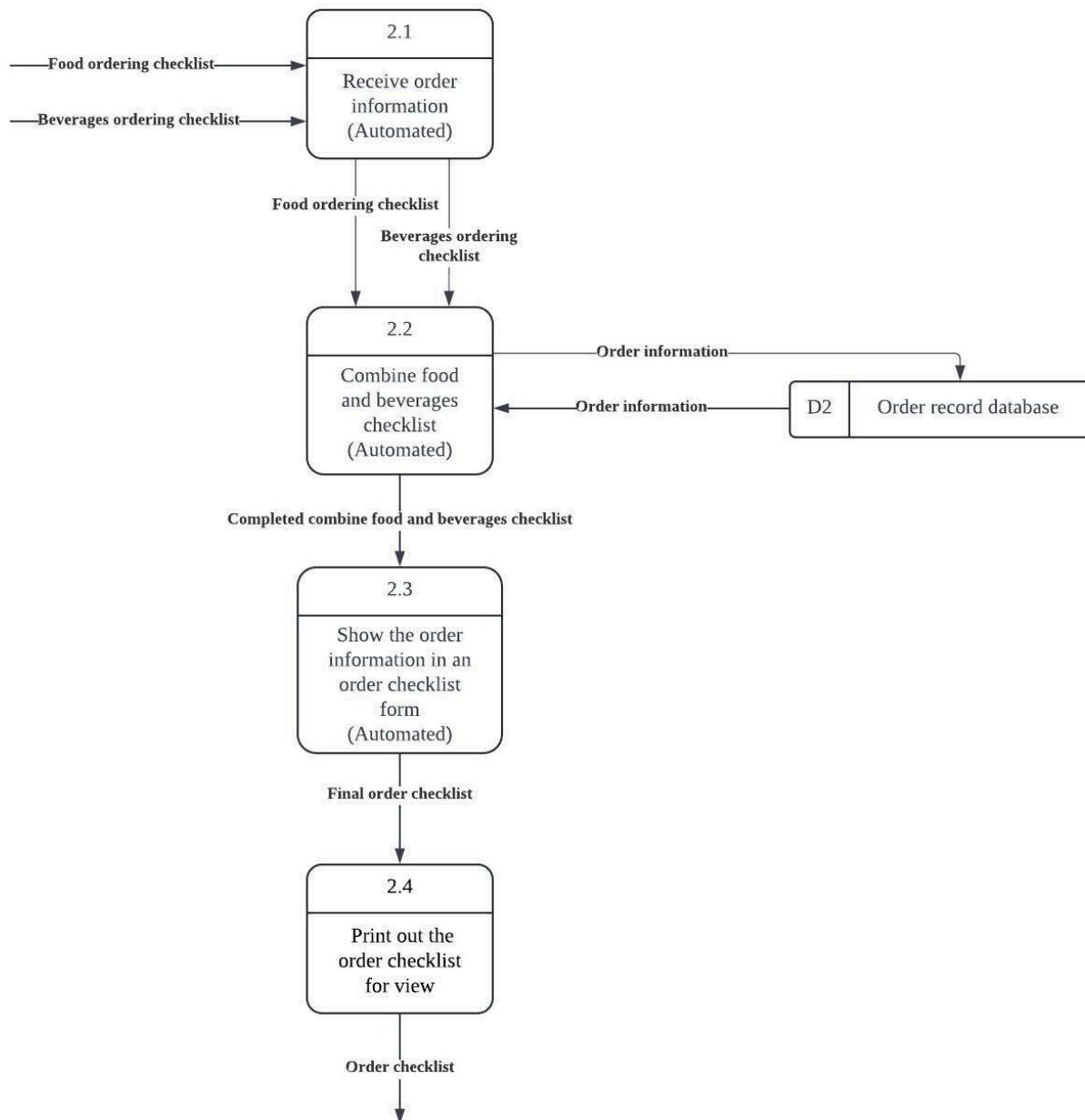


7.1.2 Child Diagram

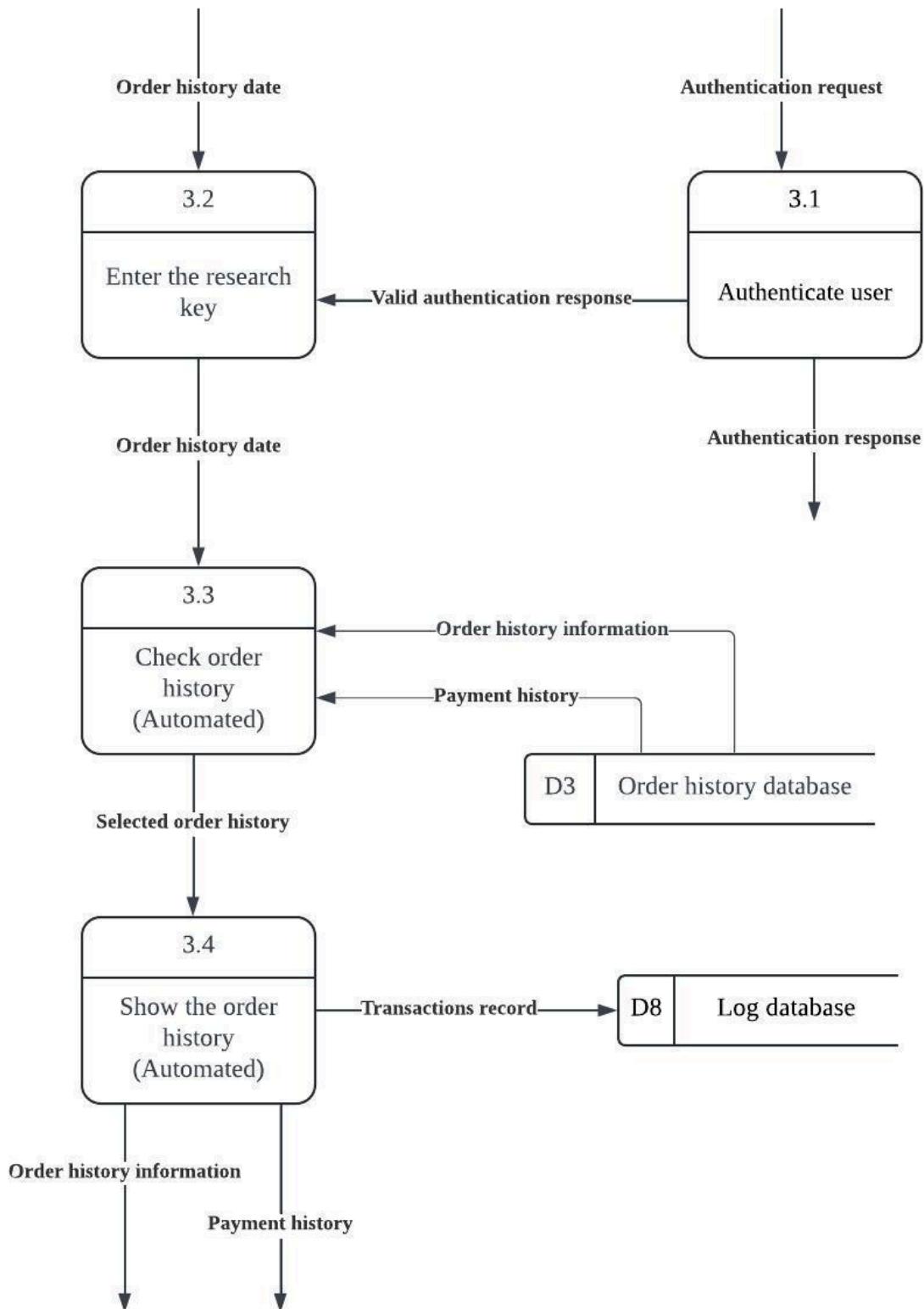
7.1.2.1 Process 1: View Menu Availability



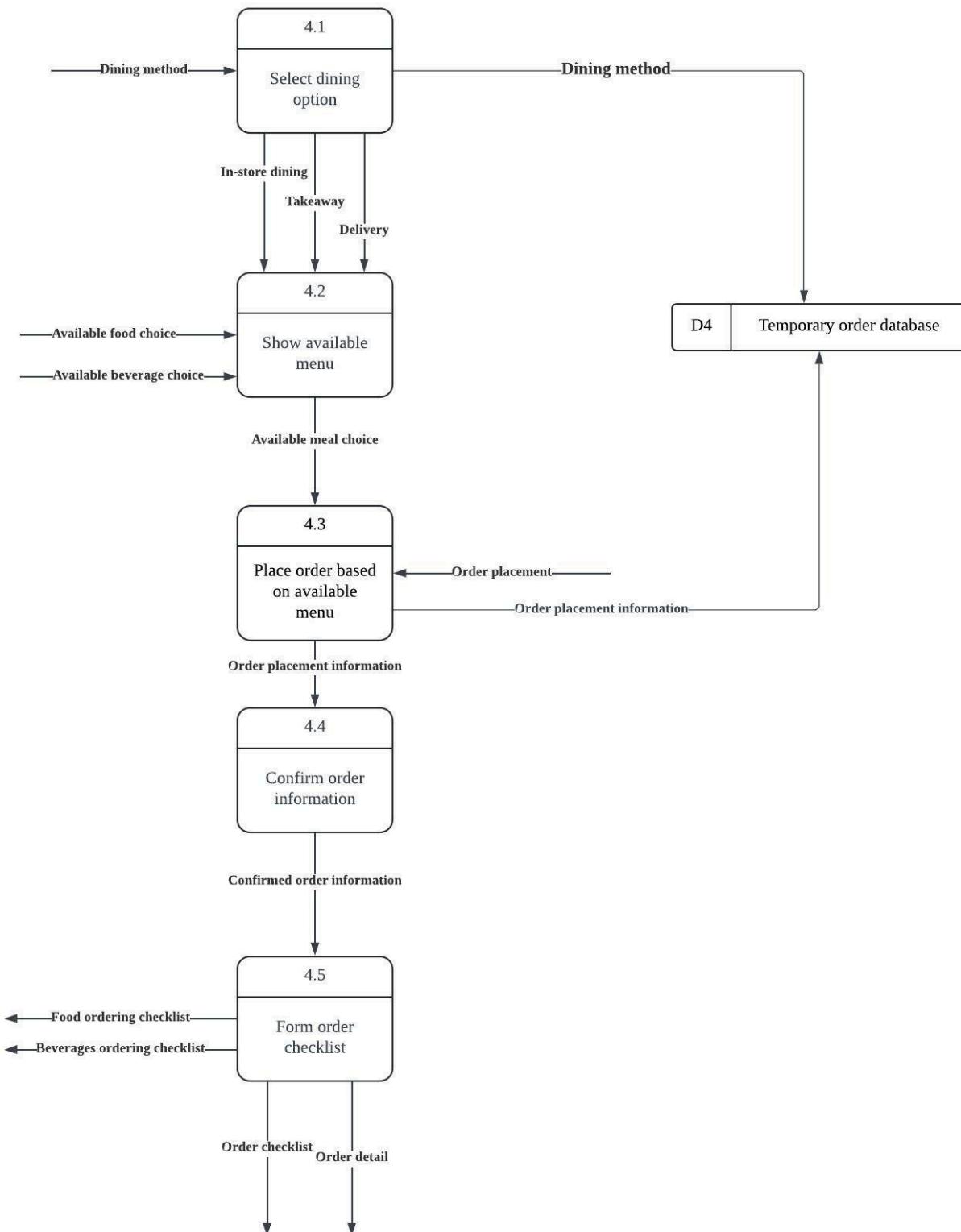
7.1.2.2 Process 2: View Customers Order



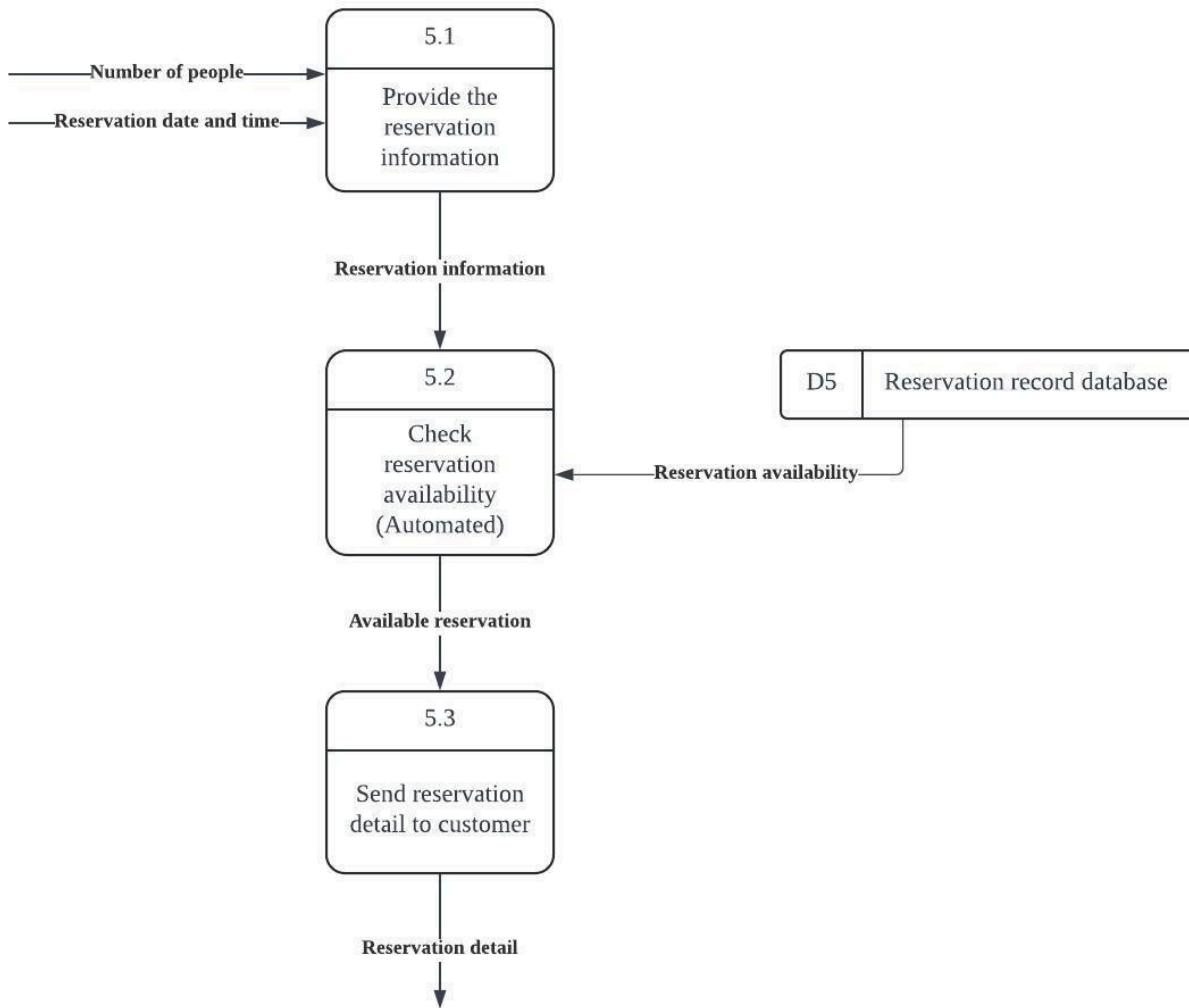
7.1.2.3 Process 3: View Order History



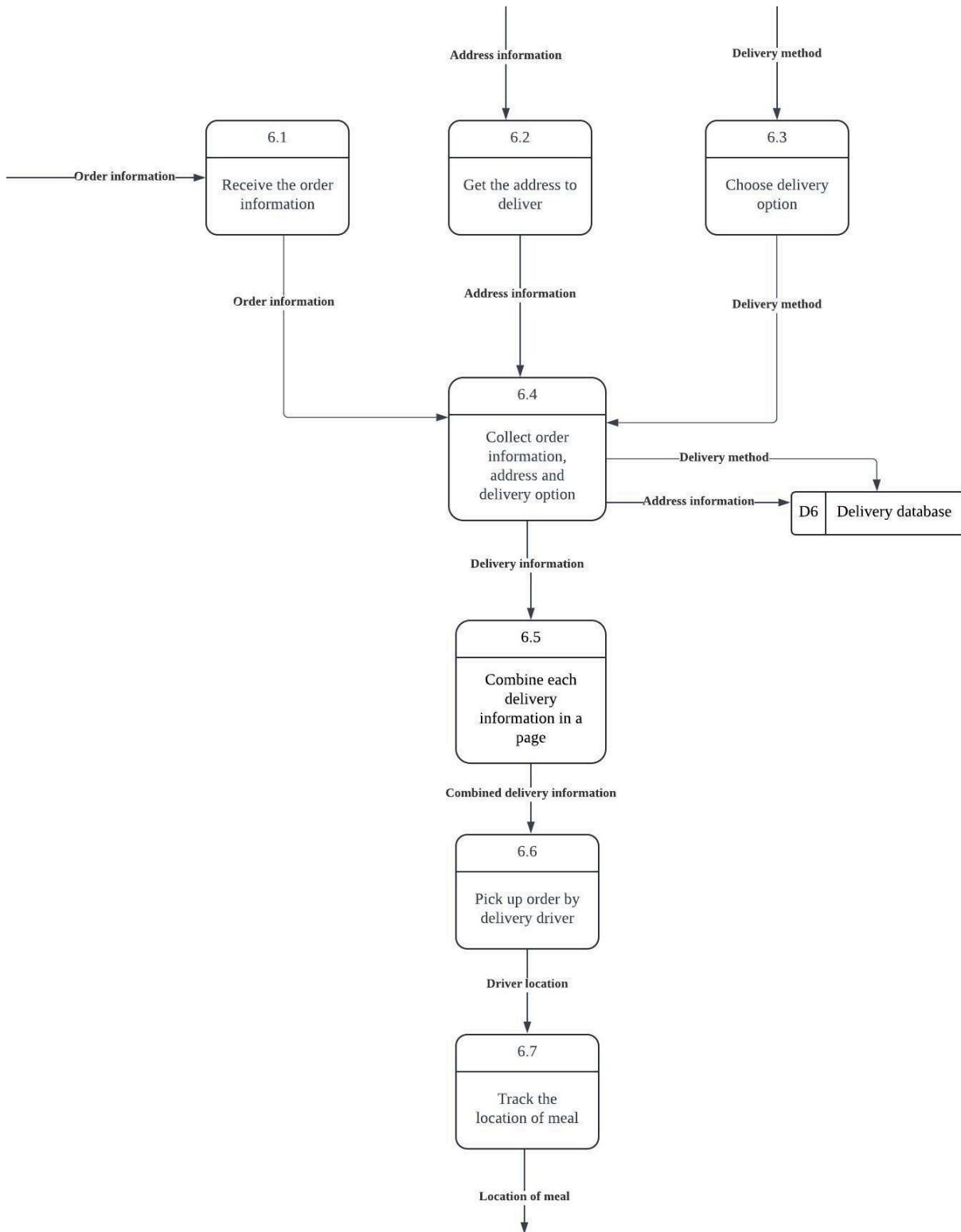
7.1.2.4 Process 4: Order the meal



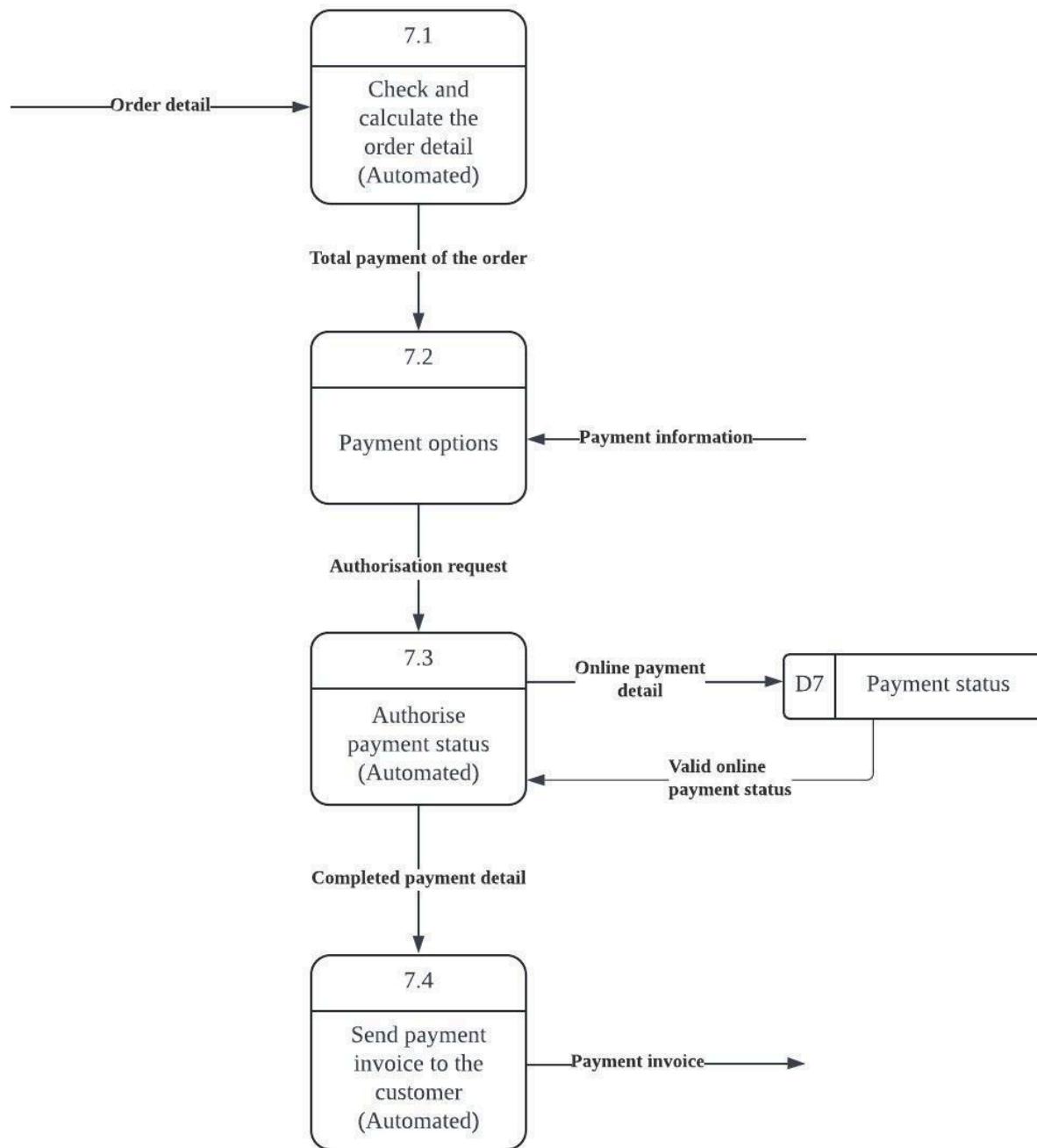
7.1.2.5 Process 5: Reserve for seats



7.1.2.6 Process 6: Deliver the meal order

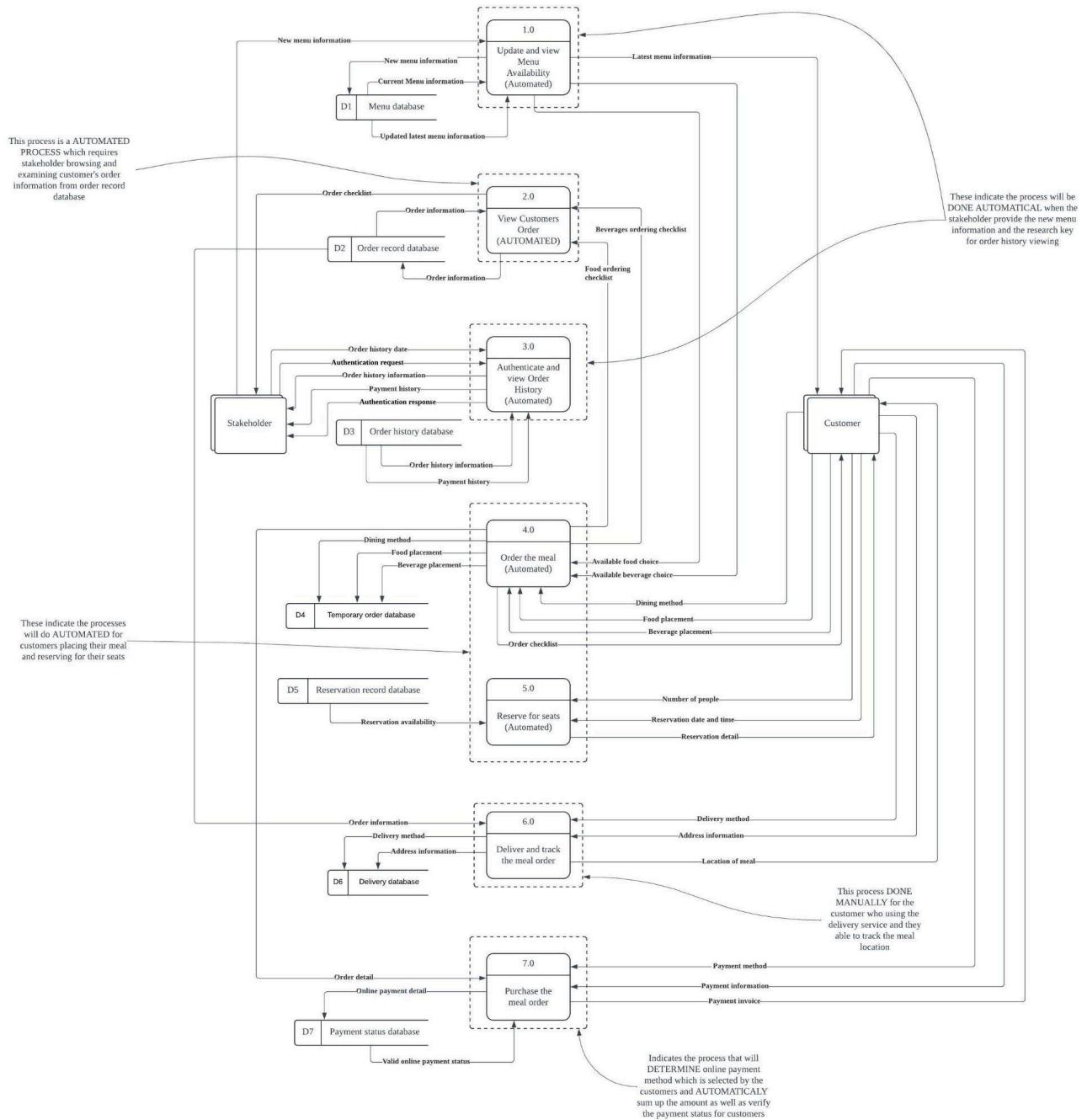


7.1.2.7 Process 7: Purchase the meal order



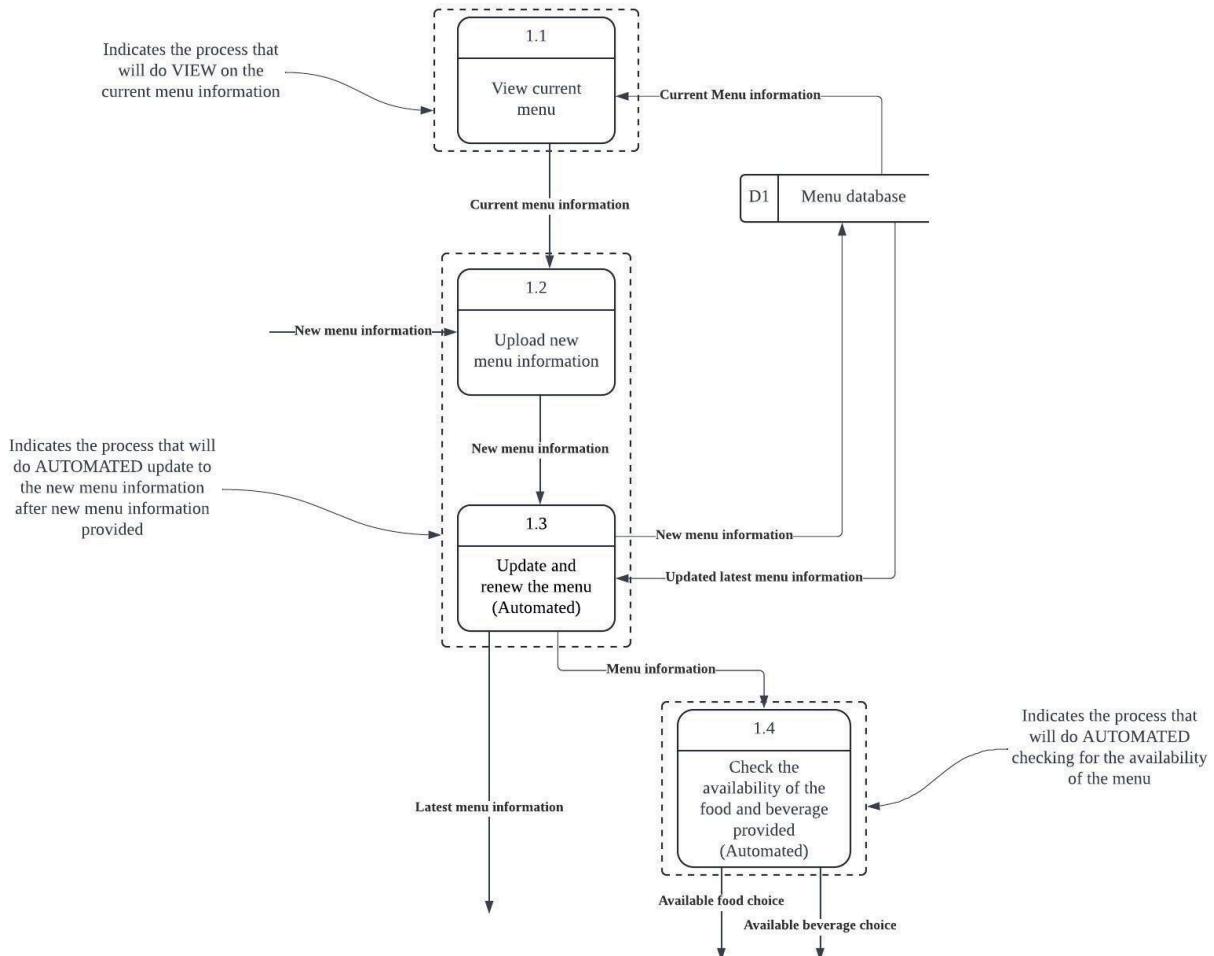
7.1.3 Partitioning

7.1.3.1 Diagram 0

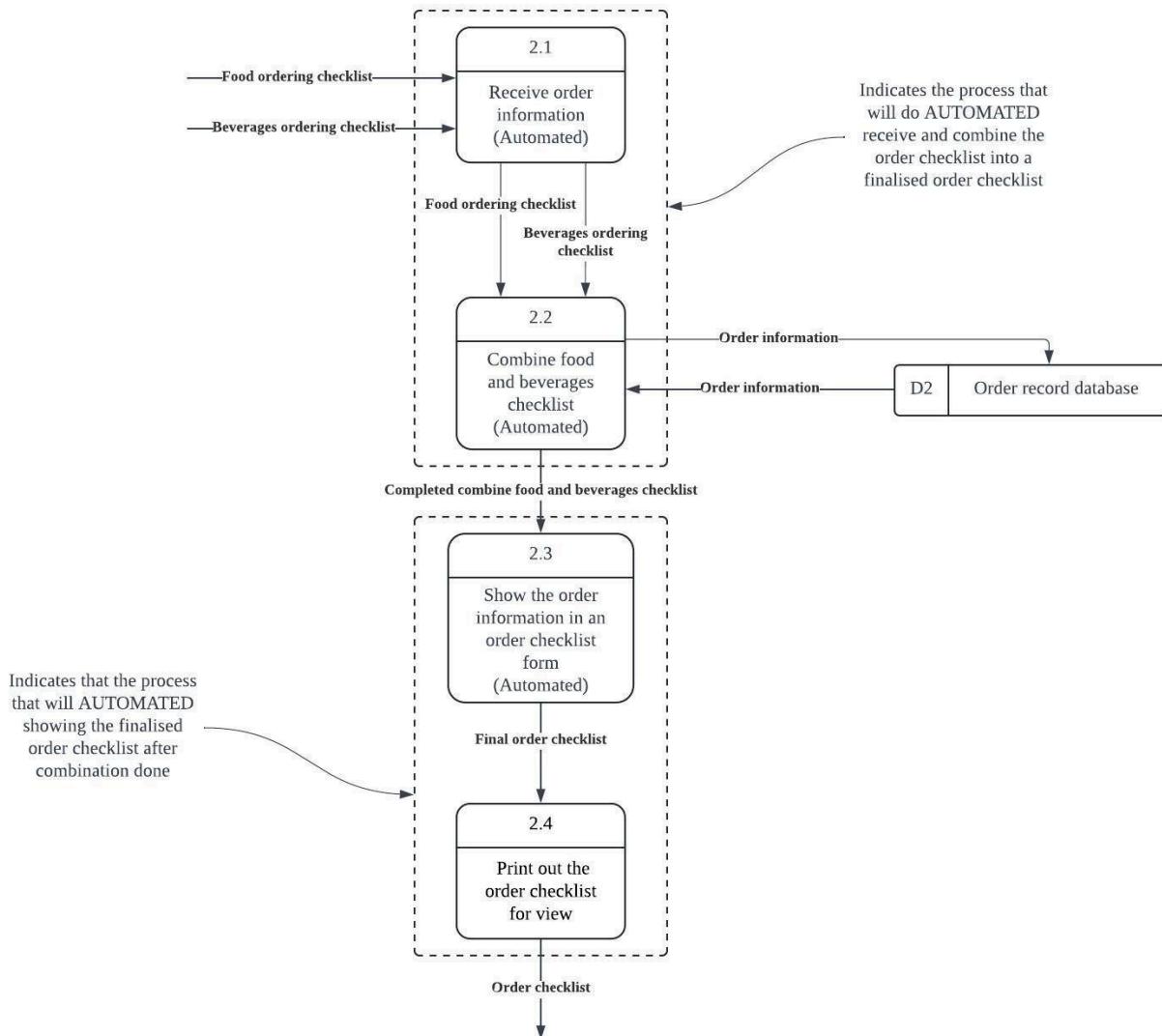


7.1.3.2 Child Diagram

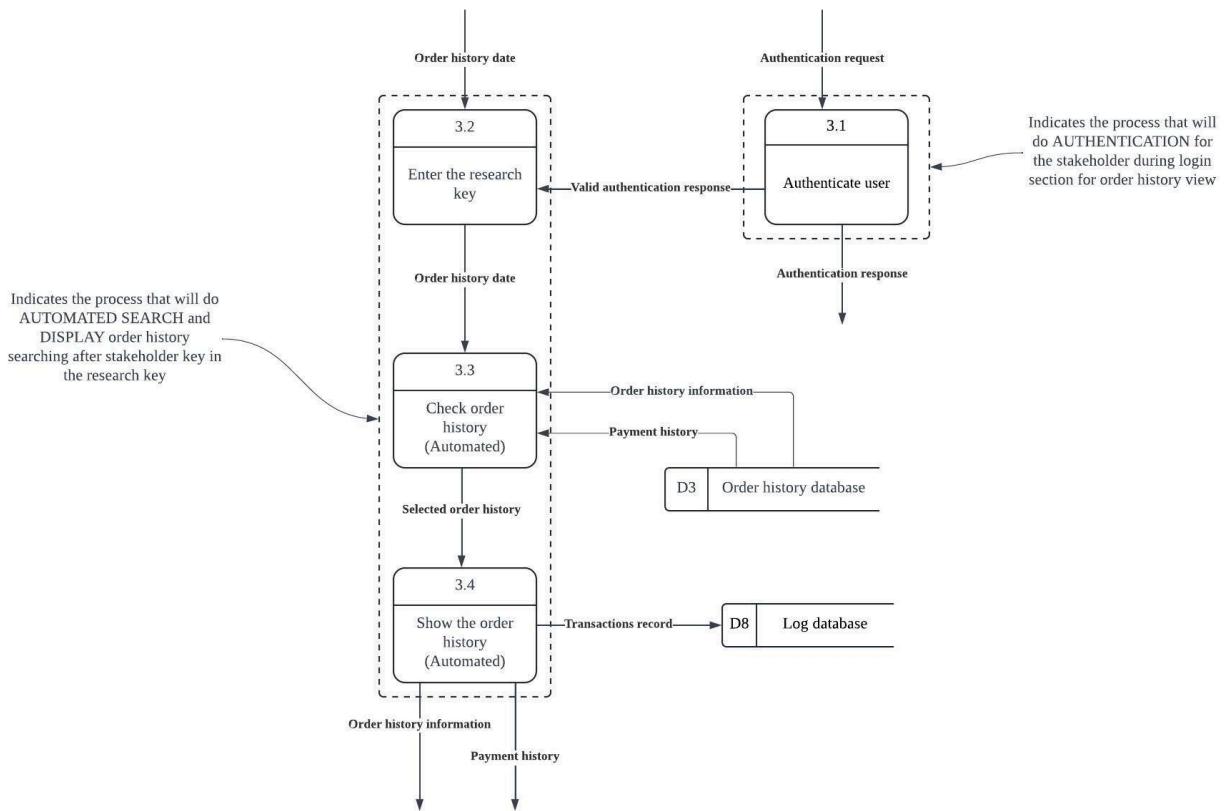
7.1.2.1 Process 1: View Menu Availability



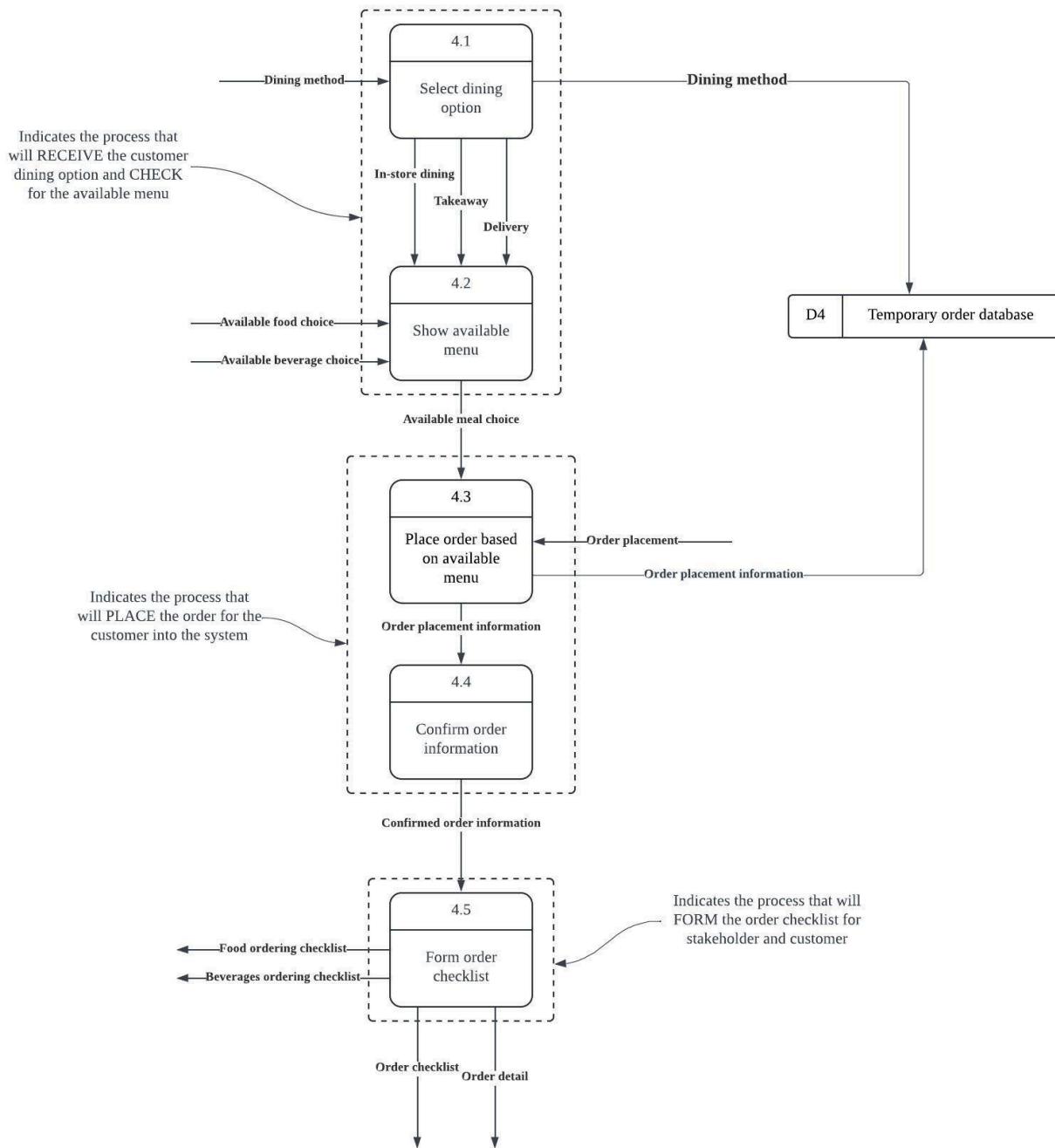
7.1.2.2 Process 2: View Customers Order



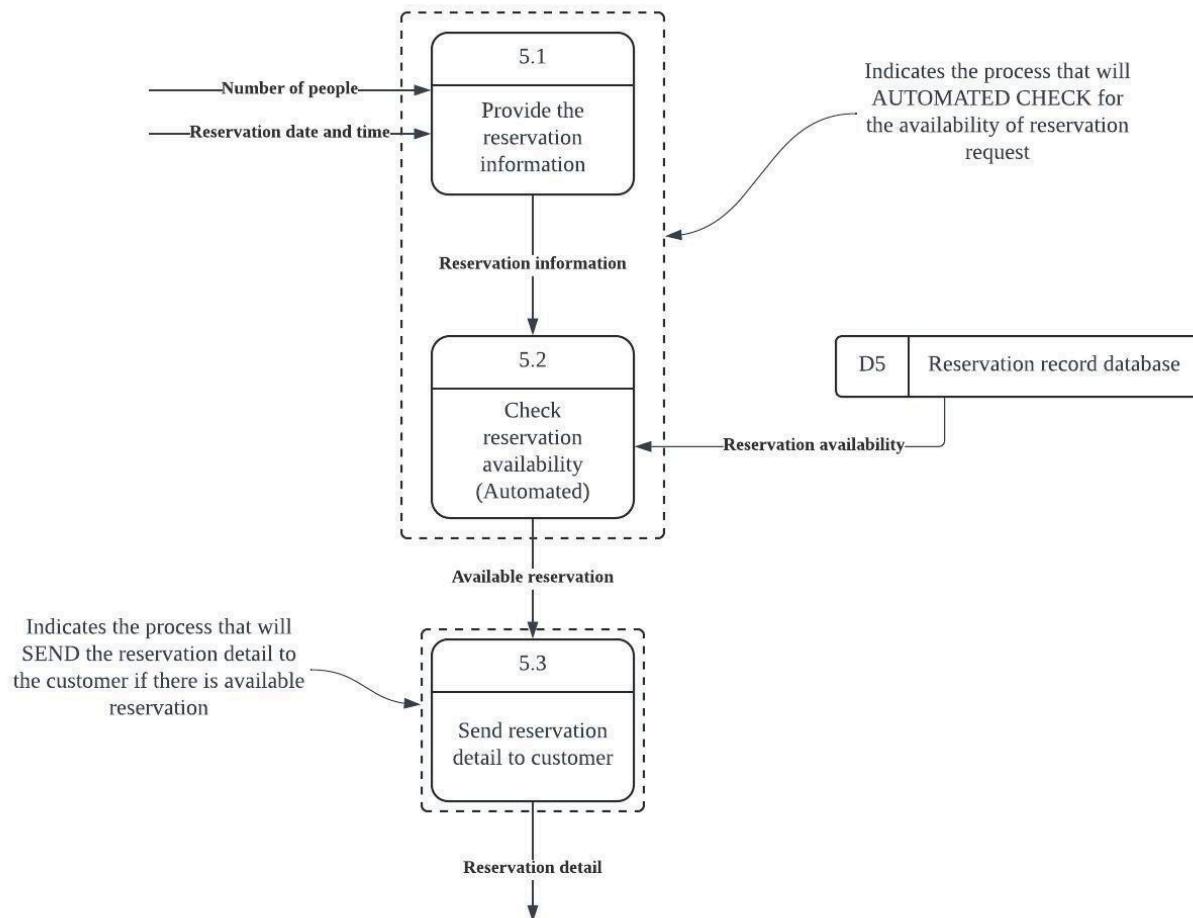
7.1.2.3 Process 3: View Order History



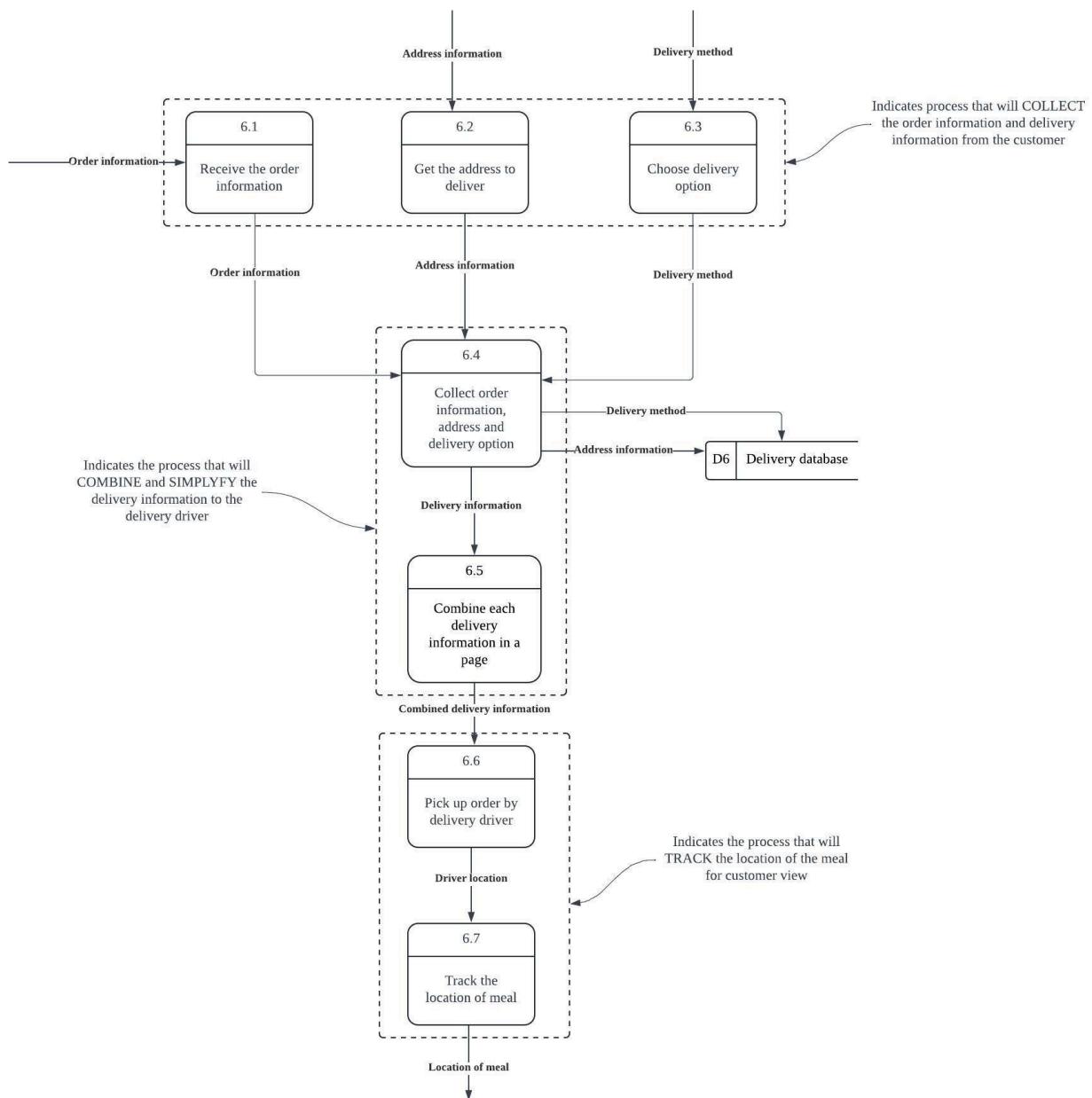
7.1.2.4 Process 4: Order the meal



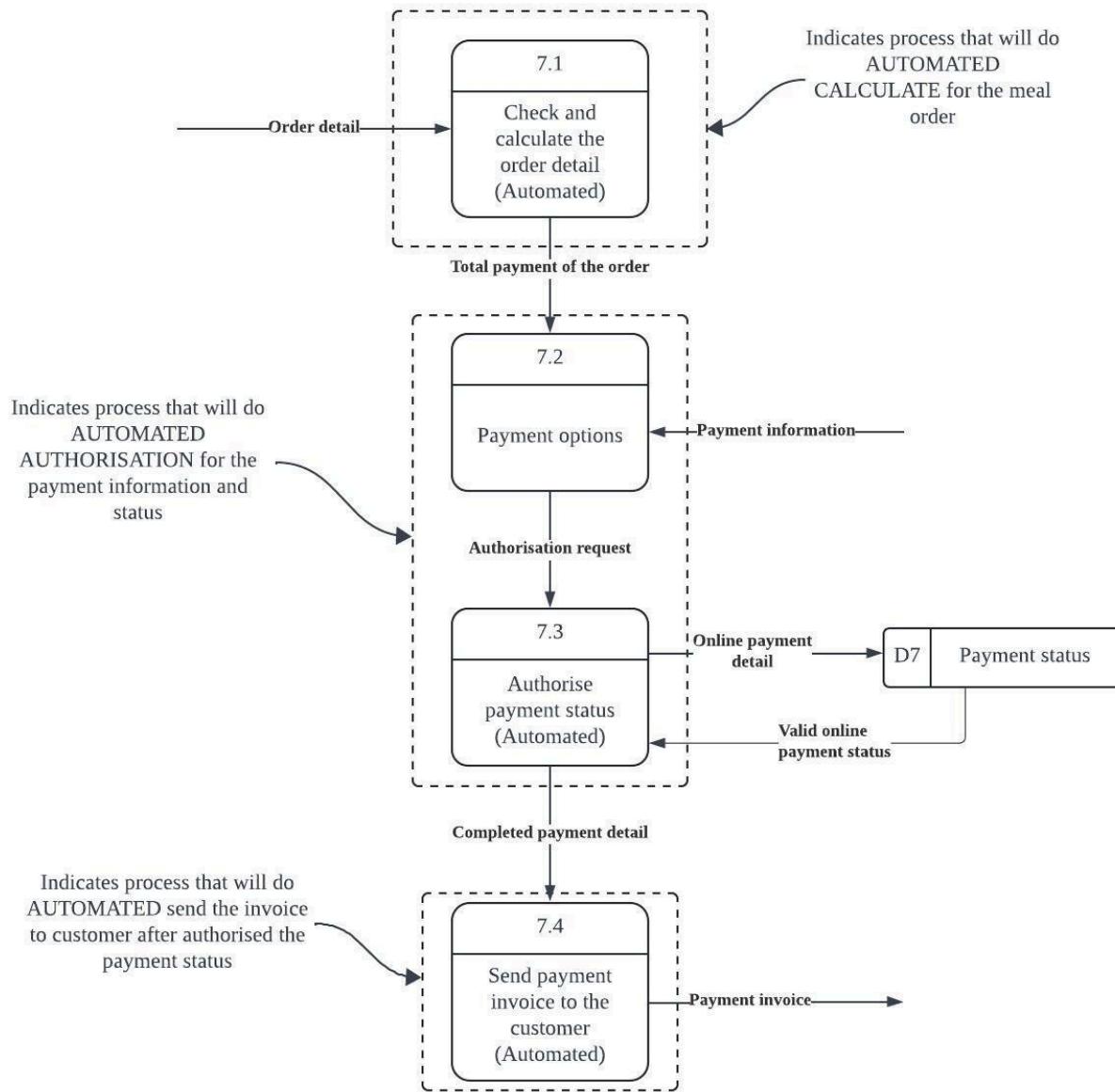
7.1.2.5 Process 5: Reserve for seats



7.1.2.6 Process 6: Deliver the meal order



7.1.2.7 Process 7: Purchase the meal order



7.1.4 CRUD Matrix

Entity	Create	Read	Update	Delete
User	Register new user	View user information	Update user information	Delete user information
Menu items	Add new menu item	View menu information	Update menu information	Delete menu item
Order	Place new order	View order information, order history	Update order status	Delete order
Payment Information	Make a payment	View payment status, payment history	Update payment status	Delete payment information
Delivery Information	Assign delivery	View delivery status	Update delivery status	Delete delivery information

7.1.5 Event Response Table

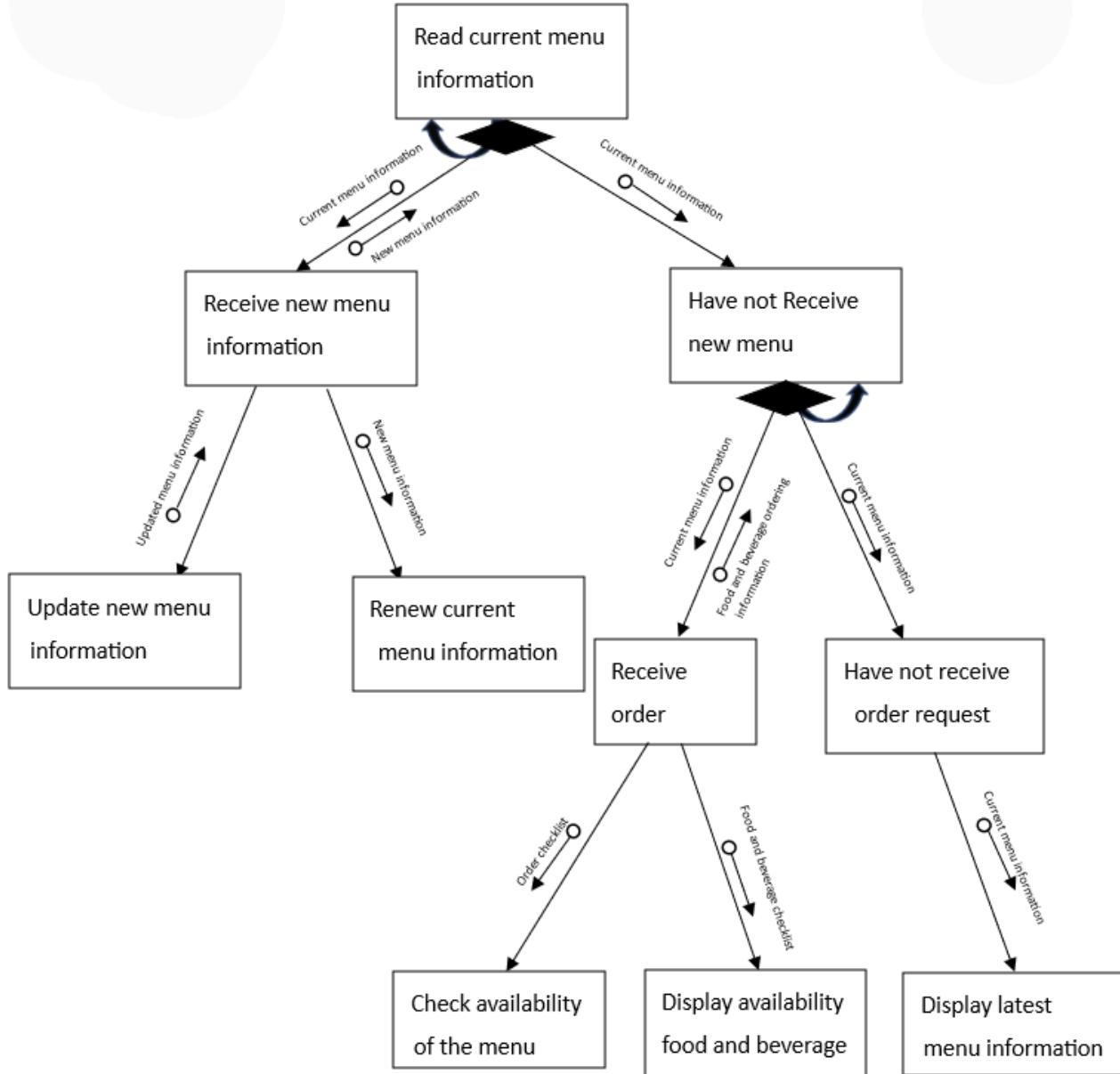
Event	Action	Response
User Registration	User submits registration form	<ul style="list-style-type: none"> - Validate user information - Create new user record in user database - Display confirmation message
User Login	User submits login credentials	<ul style="list-style-type: none"> - Validate credentials - Display main menu - Set user session
View Menu	User selects menu viewing option	<ul style="list-style-type: none"> - Fetch menu data from menu database - Display menu items
Place Order	Customer selects items and submits order	<ul style="list-style-type: none"> - Validate order details - Create new order record in order database - Display order confirmation

Order History Request (Stakeholder)	Stakeholder requests order history	<ul style="list-style-type: none"> - Retrieve order history from order database - Display order history
Order Status Check	Stakeholder requests to check order status	<ul style="list-style-type: none"> - Retrieve order status from order database - Display order status
Order Status Update	Stakeholder updates order status	<ul style="list-style-type: none"> - Update order status in order database - Notify customer (if applicable)
View Payment Status	Stakeholder requests payment status	<ul style="list-style-type: none"> - Retrieve payment status from payment database - Display payment status
Payment Processing	Customer submits payment information	<ul style="list-style-type: none"> - Validate payment details - Update payment status in payment database - Display payment confirmation
Delivery Status Update	Delivery personnel updates delivery status	<ul style="list-style-type: none"> - Update delivery status in delivery database - Notify customer of delivery status
User Information Update	User submits updated information	<ul style="list-style-type: none"> - Validate updated information - Update user information in user database - Display confirmation message
Delete User Information	Admin triggers user deletion	<ul style="list-style-type: none"> - Validate admin privileges - Delete user record from user database - Display deletion confirmation message
Add Menu Item	Admin/stakeholder adds a new menu item	<ul style="list-style-type: none"> - Validate menu item details - Create new menu item in menu database - Display confirmation message

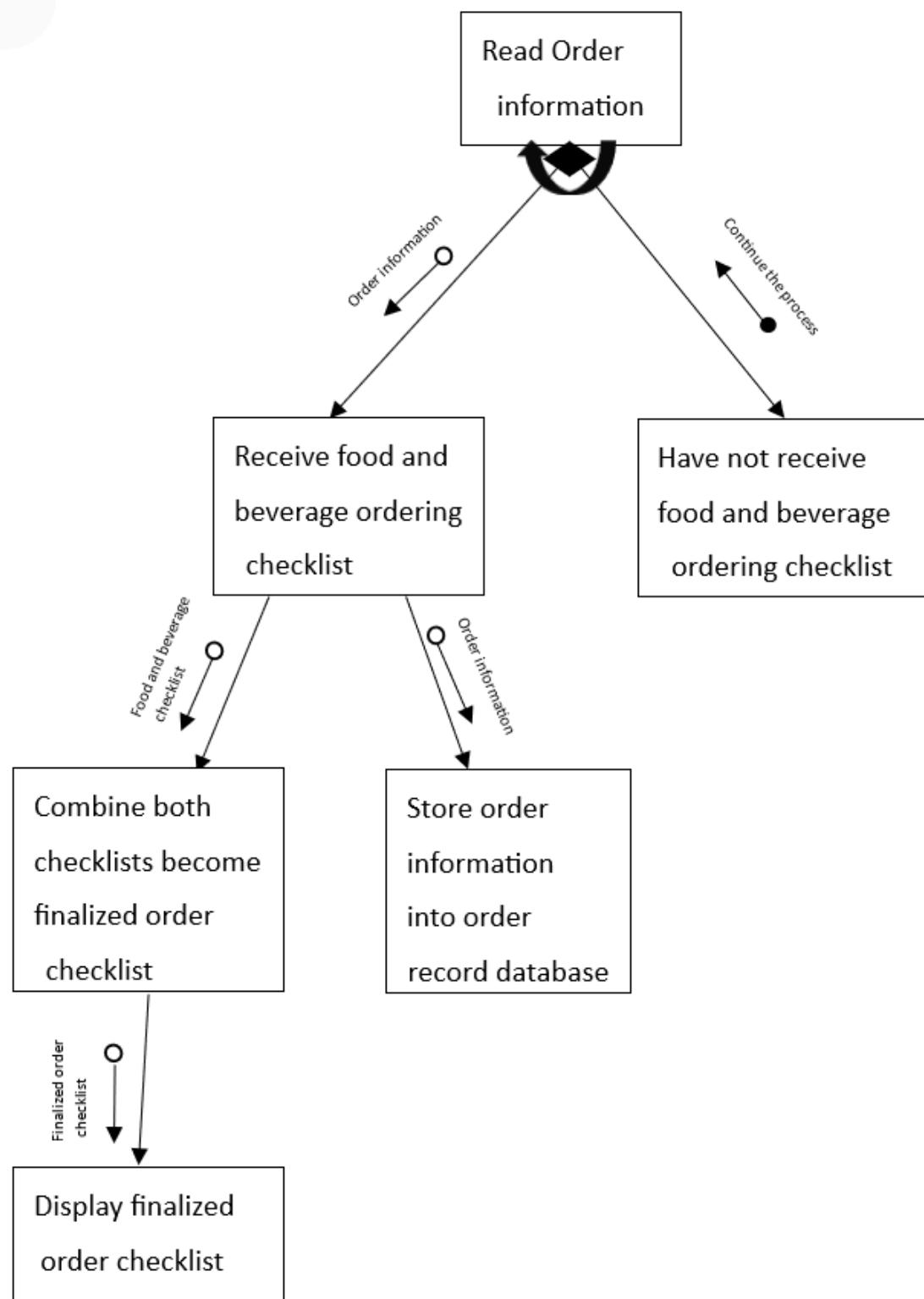
Update Menu Item	Admin/stakeholder updates existing menu item	<ul style="list-style-type: none"> - Validate updated menu item details - Update menu item in menu database - Display confirmation message
Delete Menu Item	Admin/stakeholder deletes a menu item	<ul style="list-style-type: none"> - Validate admin privileges - Delete menu item from menu database - Display deletion confirmation message
Order Cancellation	Customer/stakeholder cancels an order	<ul style="list-style-type: none"> - Validate cancellation request - Update order status to canceled in order database - Notify relevant parties (customer, kitchen, etc.)
Retrieve Delivery Status	Customer requests delivery status	<ul style="list-style-type: none"> - Retrieve delivery status from delivery database - Display delivery status
Update Payment Information	Stakeholder updates payment information	<ul style="list-style-type: none"> - Validate updated payment information - Update payment details in payment database - Display confirmation message
Delete Payment Information	Admin triggers payment information deletion	<ul style="list-style-type: none"> - Validate admin privileges - Delete payment record from payment database - Display deletion confirmation message

7.1.6 Structure Chart

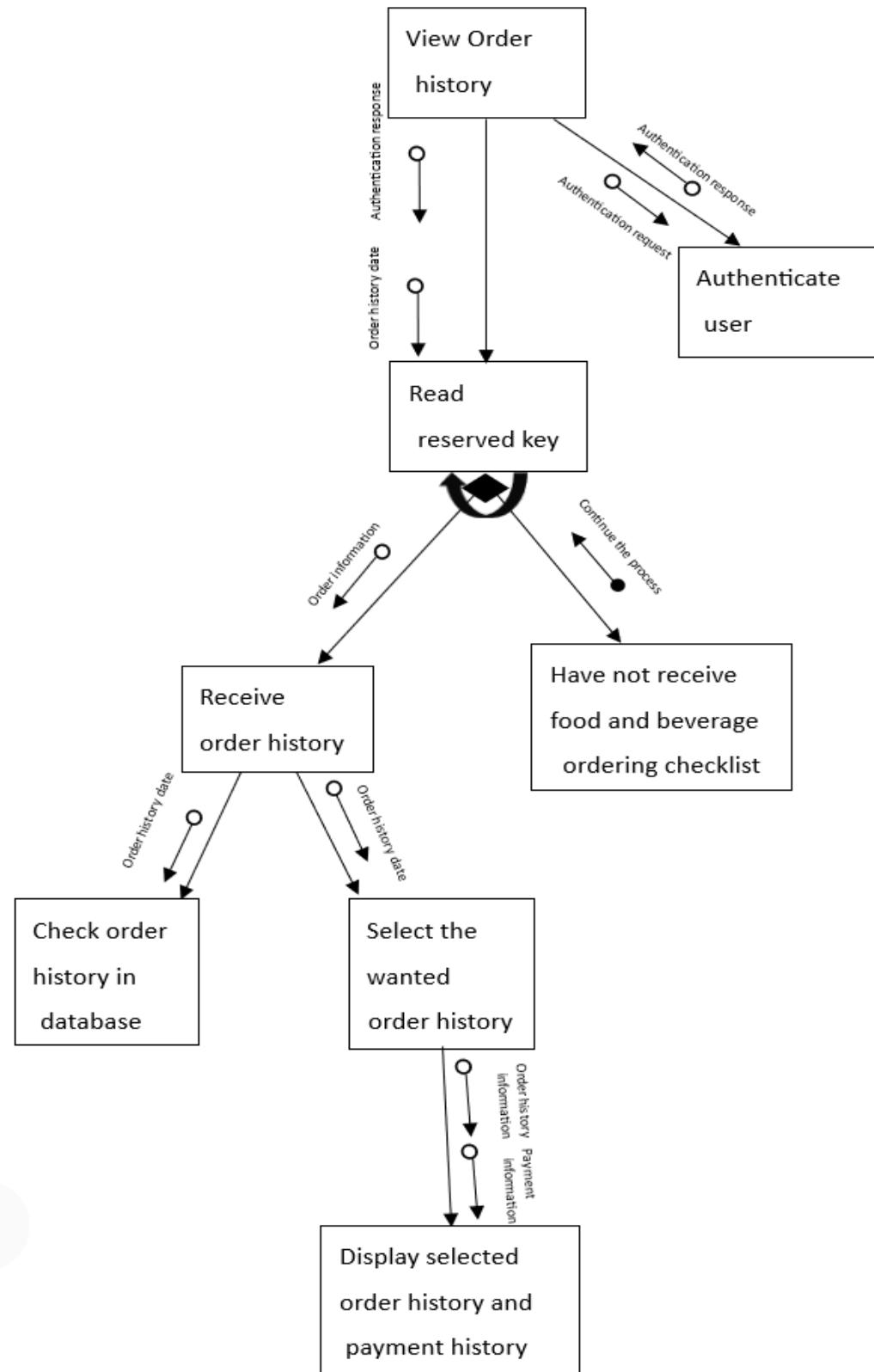
7.1.6.1 Process 1: View Menu Availability



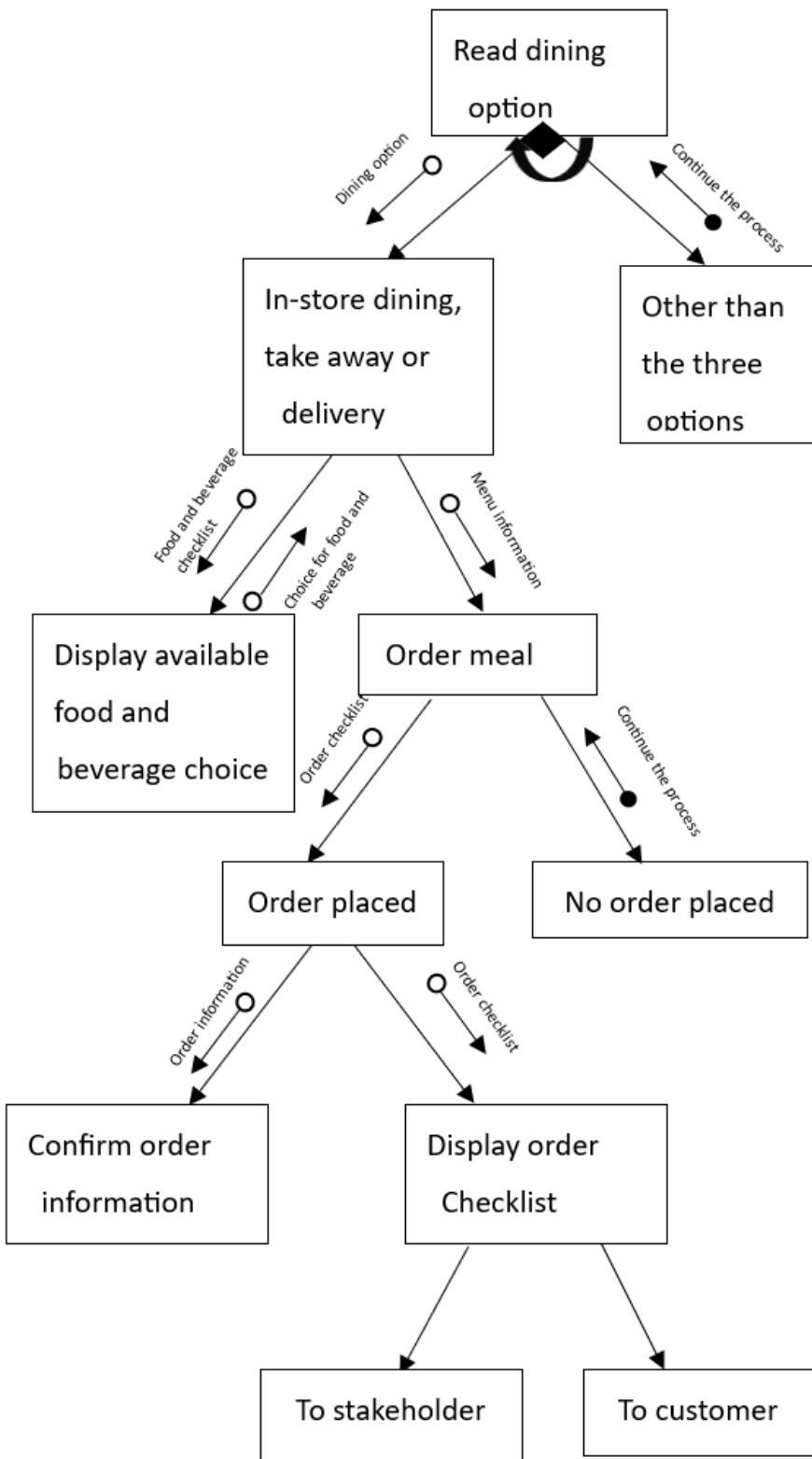
7.6.2.2 Process 2: View Customers Order



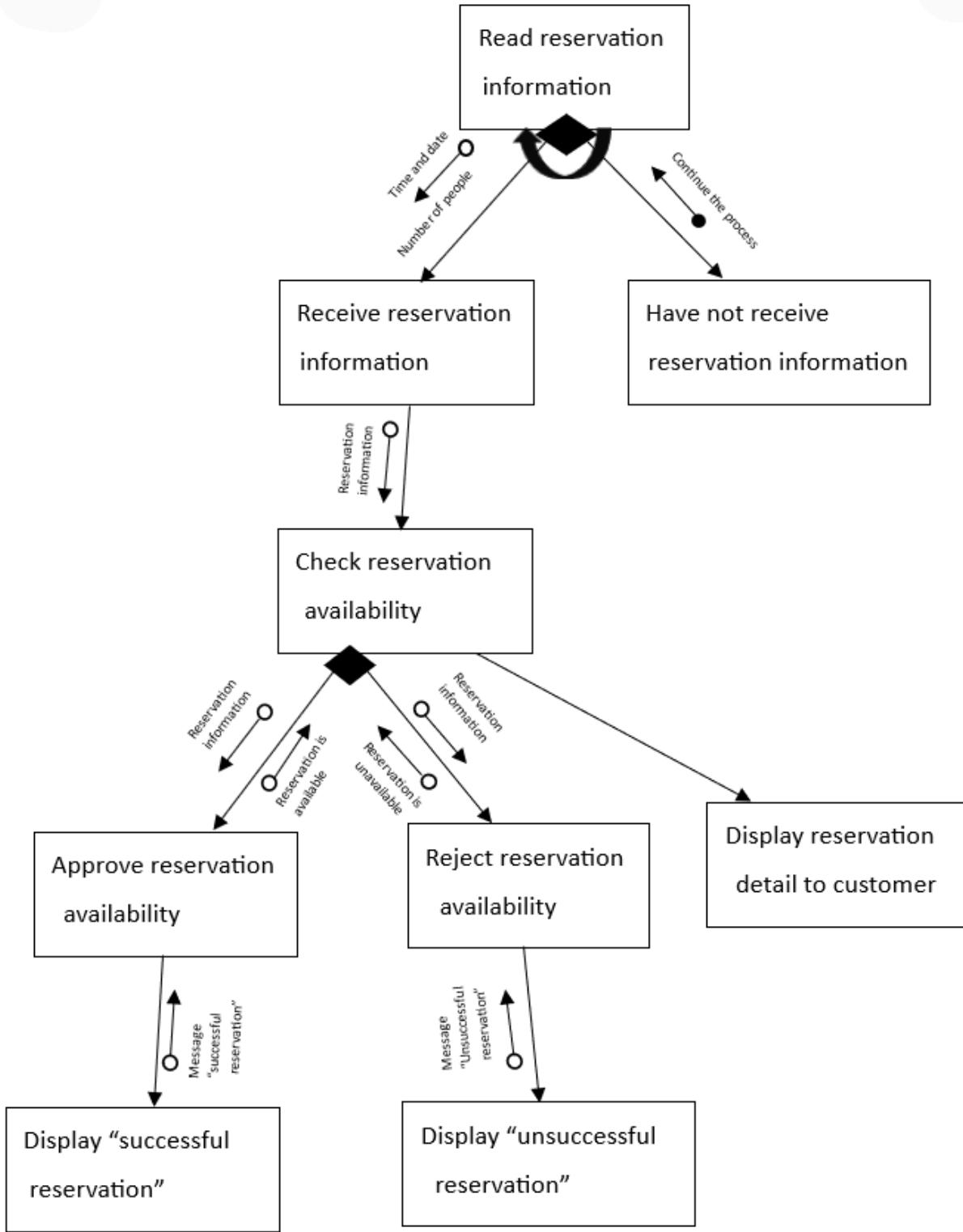
7.6.2.3 Process 3: View Order History



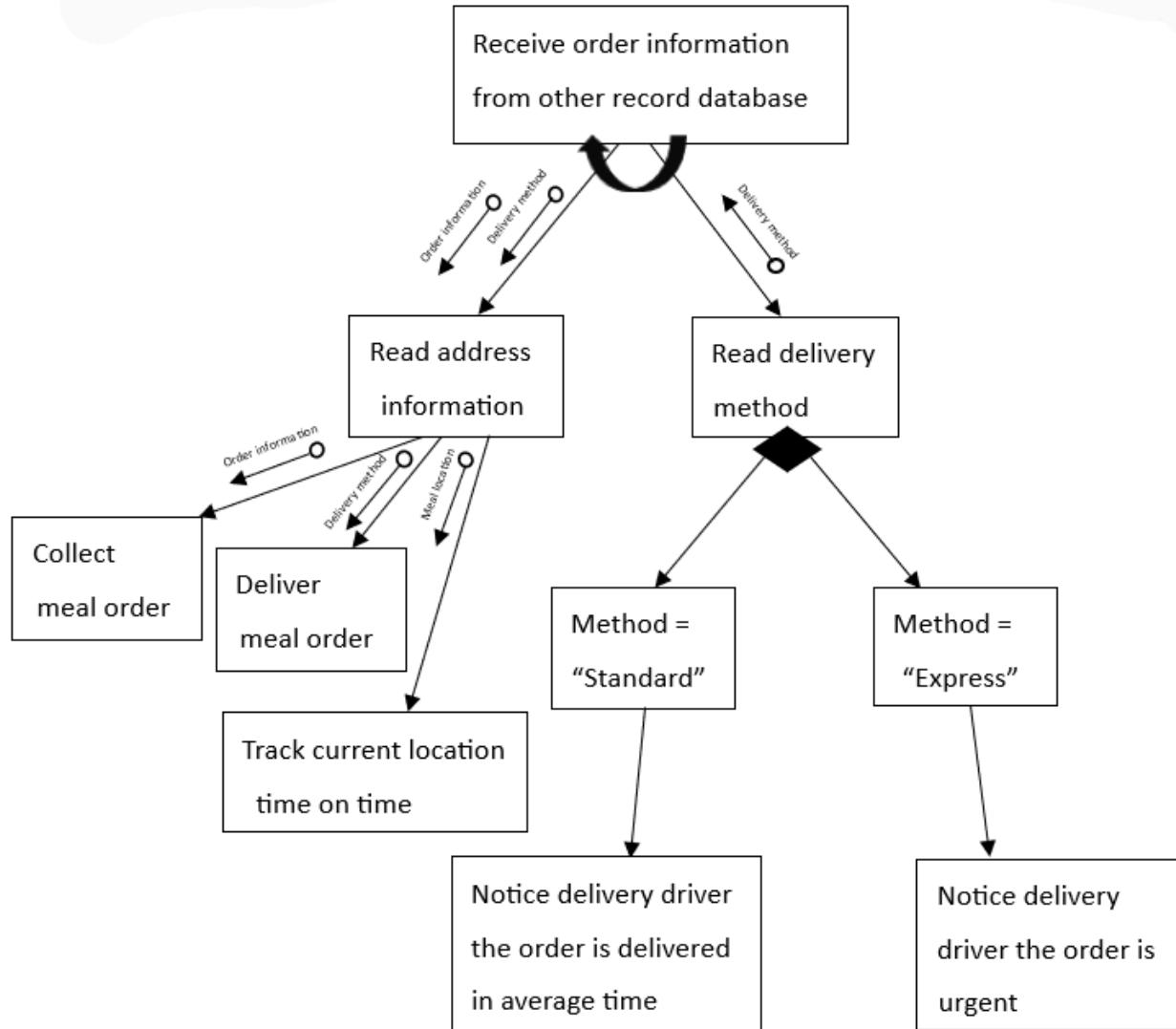
7.6.2.4 Process 4: Order the meal



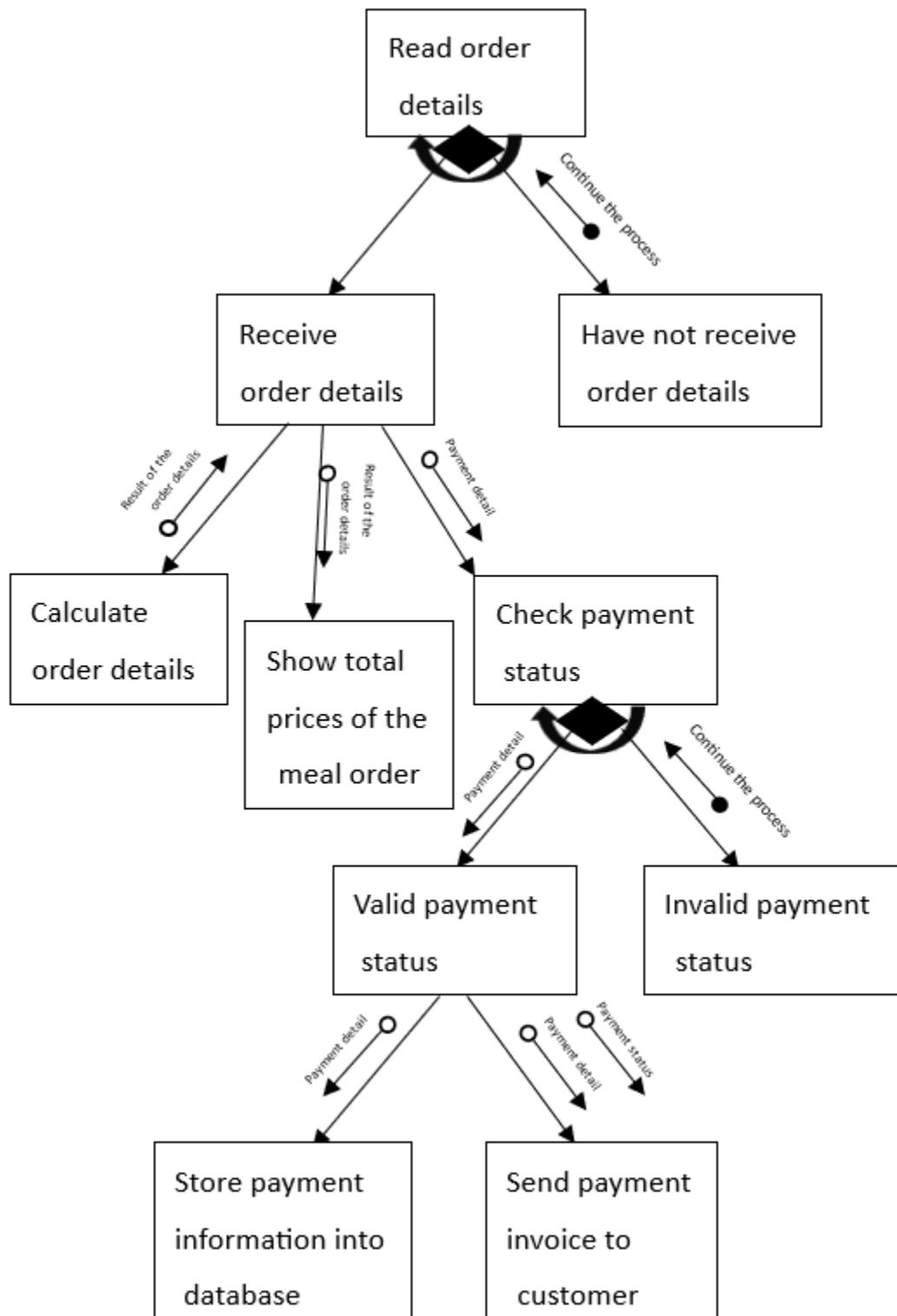
7.6.2.5 Process 5: Reserve for seats



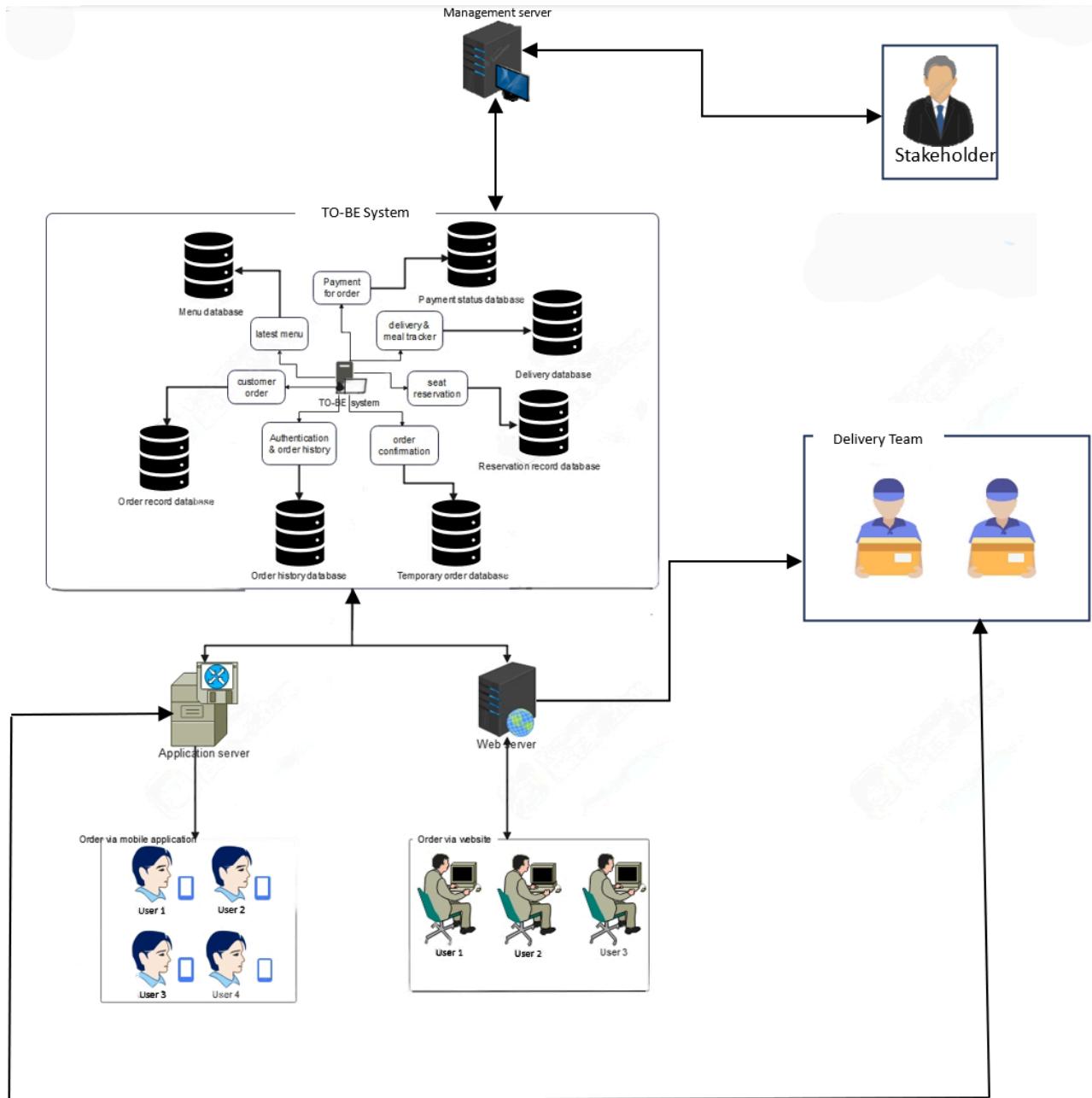
7.6.2.6 Process 6: Deliver the meal order



7.6.2.7 Process 7: Purchase the meal order



7.1.7 System Architecture



8.0 System Wireframe

8.1 Input Design

8.1.1 Stakeholder's View

8.1.1.1 Input New Menu Information

The wireframe shows a mobile application interface for adding new menu items. At the top, there is a header bar with the time '16:23', signal strength, battery level, and a back arrow icon. Below the header is a navigation bar with a logo of a blue bell-shaped dish and the text 'DineDart'. The main content area has a title 'Update Menu Information' and a subtitle 'New menu information'. There are five input fields: 'Name*' (placeholder 'Siao Seng Ya'), 'Code*', 'Categories*', 'Price*', and 'Further Information*'. Below these fields is a placeholder 'Upload picture*' with a small thumbnail showing a landscape image. At the bottom, there are two buttons: 'SET AS AVAILABLE' with a toggle switch (set to 'ON') and a large orange 'ADD' button.

16:23

◀ DineDart

Siao Seng Ya

Update Menu Information

New menu information

Name*

Code*

Categories*

Price*

Further Information*

Upload picture*

SET AS AVAILABLE

ADD

8.1.1.2 Authentication request

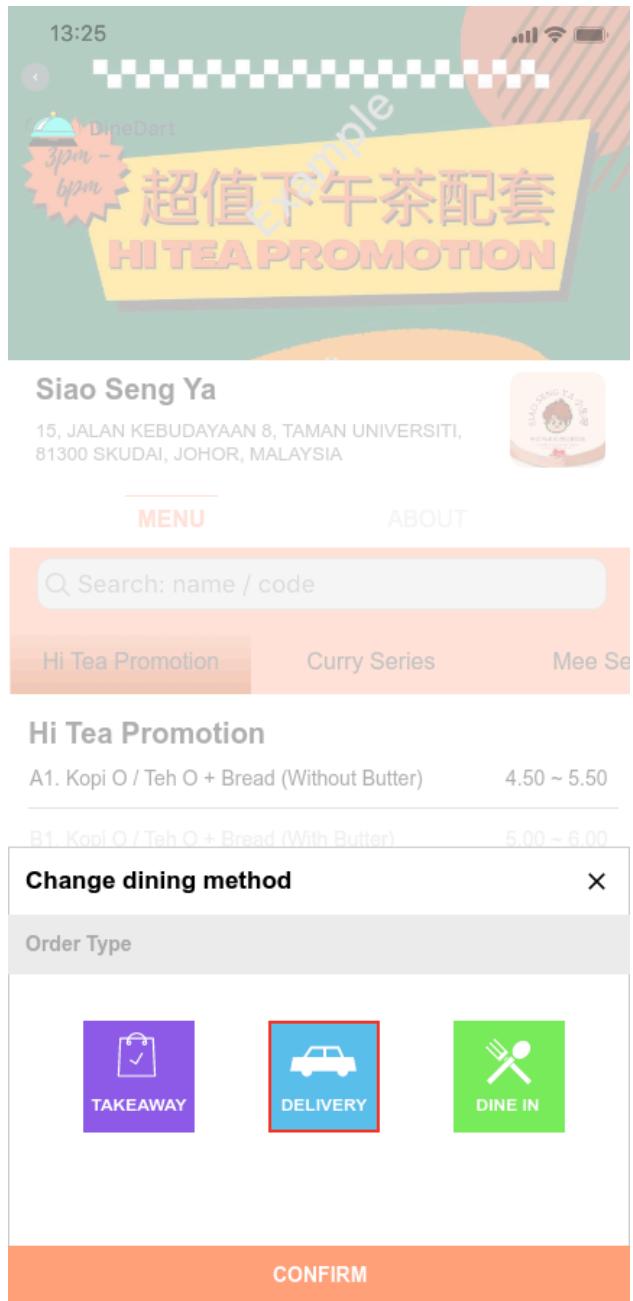


8.1.1.3 Input Research Key



8.1.2 Customer's View

8.1.2.1 Customer Select Dining Method



8.1.2.2 Place Order



CR01. Curry Mee

10.90

Add Prawn (Select 1)

- CR01. Add Prawn (2pcs) 15.90
- CR01. N / A 10.90

Mee Chooser (Select 1)

- Yellow Mee +0.00
- Mee Hon +0.00
- Wei Yi Mee +0.00
- Kueh Teow +0.00
- Mee Hon + Mee +0.00
- Kueh Teow + Mee +0.00

Add Noodle (Optional)

No Taugeh (Optional)

ADD TO CART

10.90



DR01. Autumn Pear With Nata De Coco

0.00

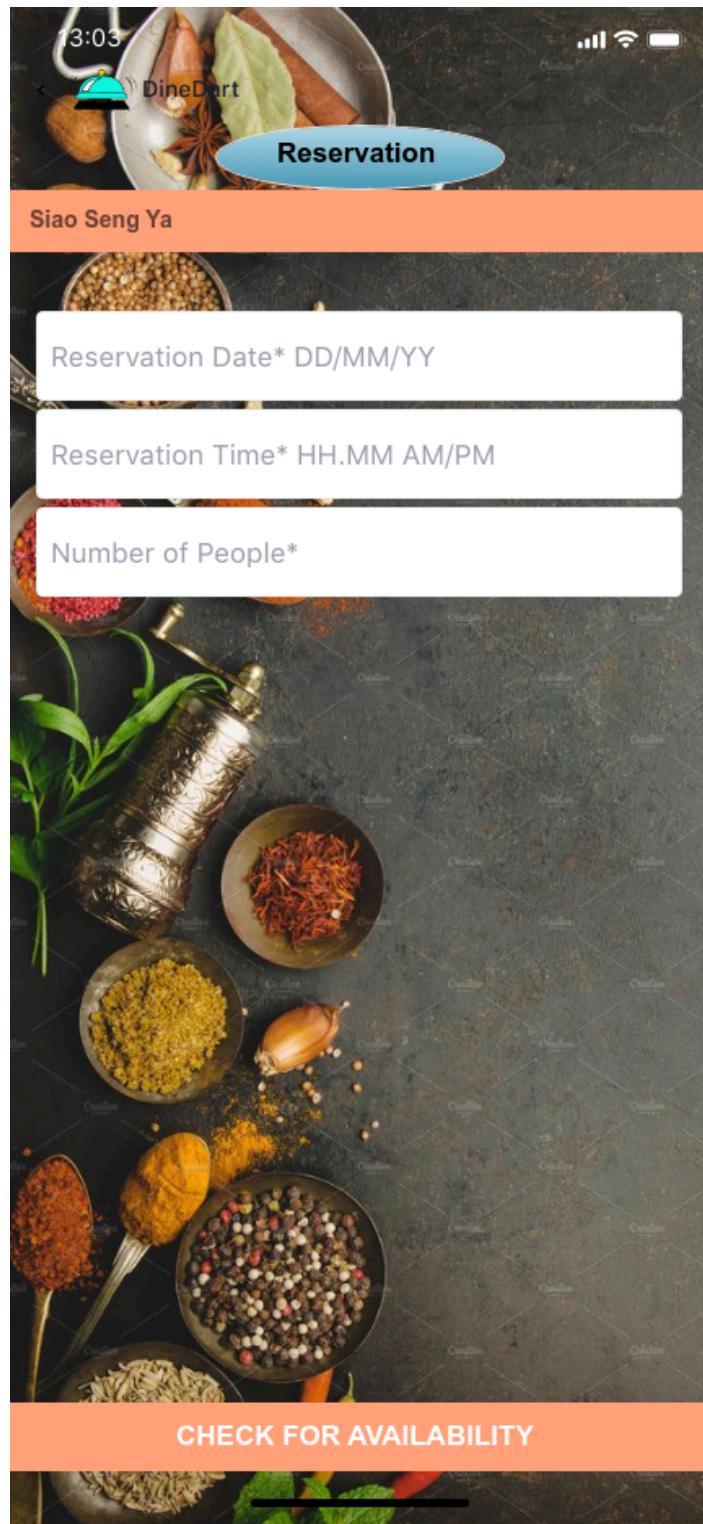
Hot / Cold (Select 1)

- DR01. Hot 5.90
- DR01. Cold 6.90
- DR01. Warm 5.90

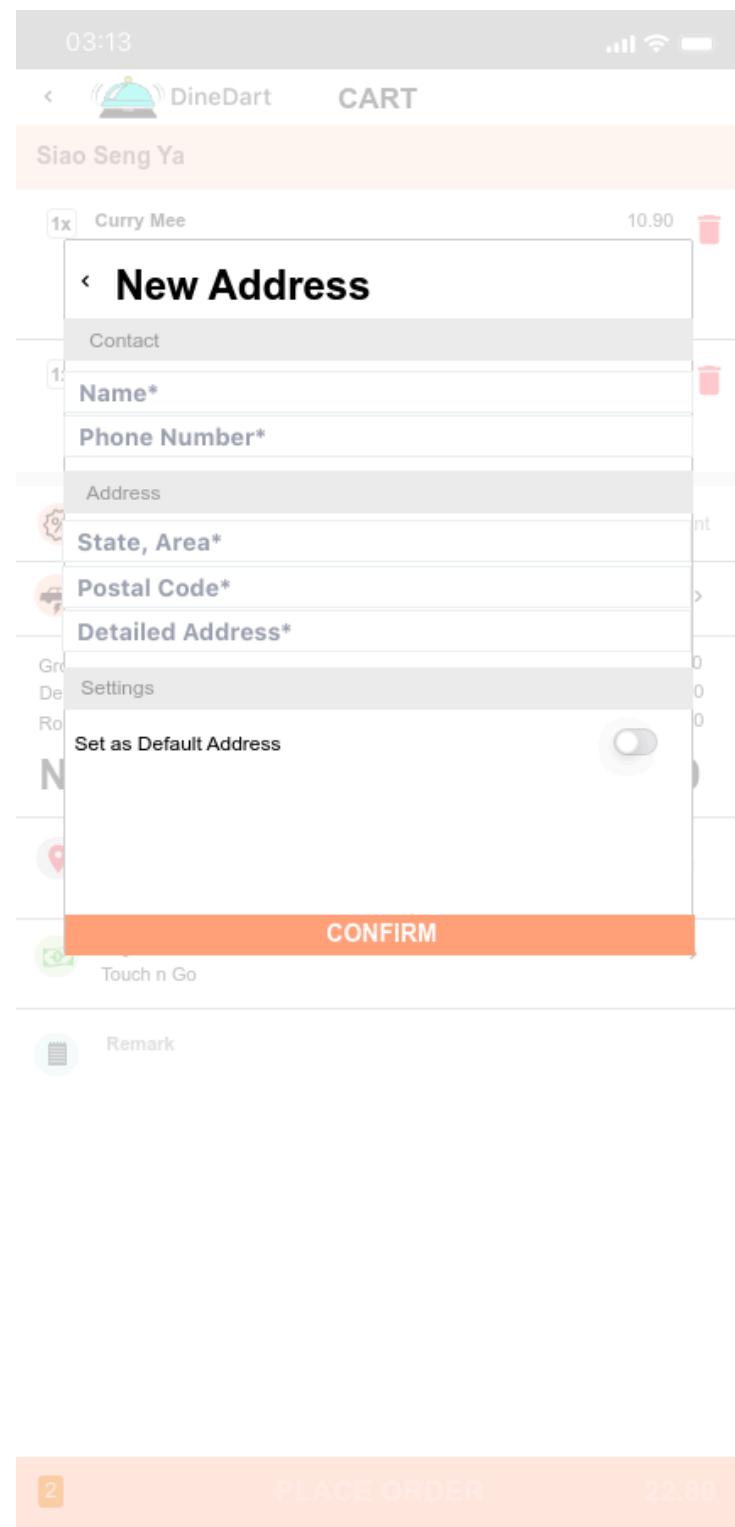
ADD TO CART

5.90

8.1.2.3 Input Reservation Information



8.1.2.4 Input the Address Information



8.1.2.5 Select Delivery Method

The screenshot shows the DineDart mobile application interface for placing an order. At the top, the time is 03:11 and there are signal strength and battery icons. The header includes the DineDart logo and a 'CART' button. Below the header, the restaurant name 'Siao Seng Ya' is displayed. The order summary shows two items:

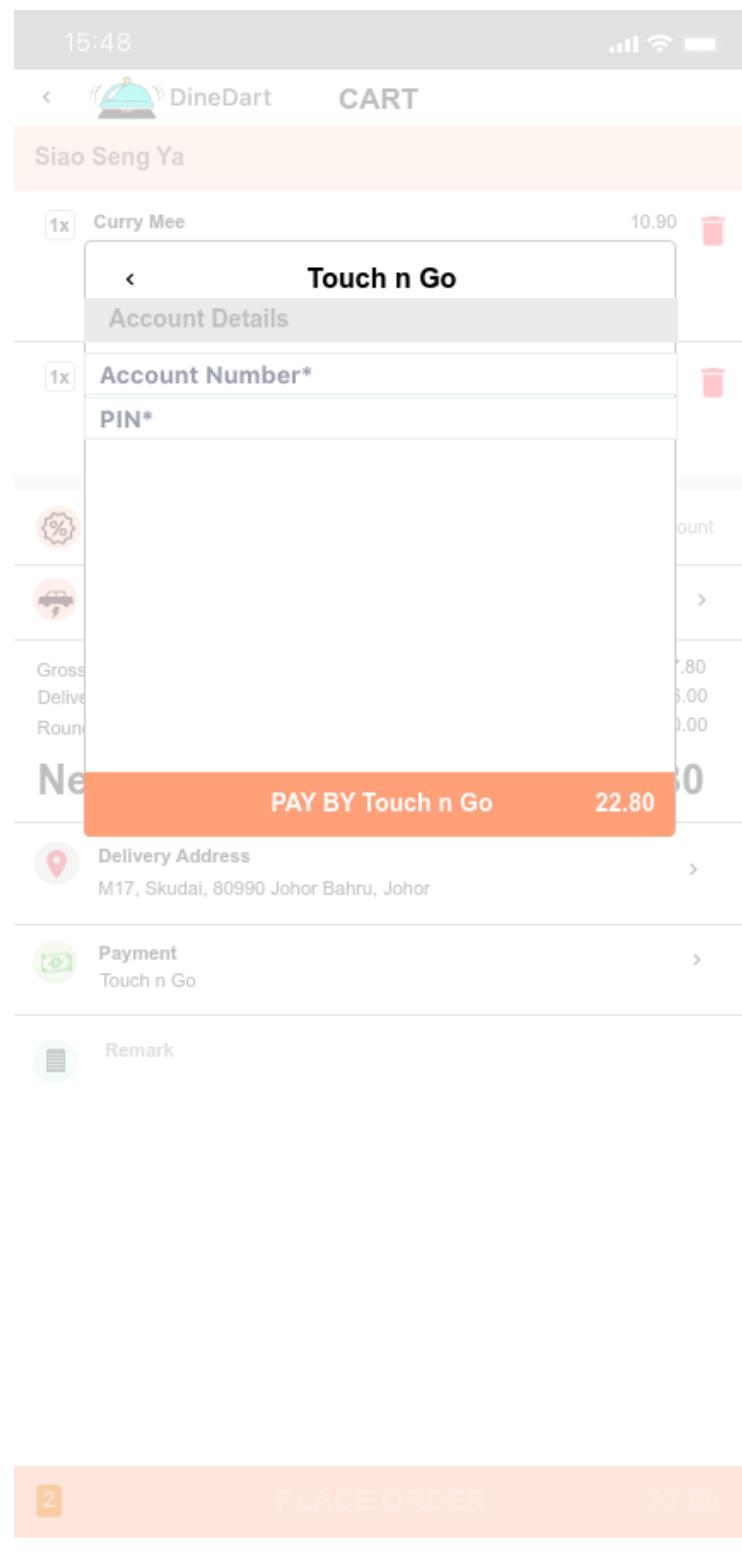
Item	Description	Price
1x Curry Mee	N / A + 1 Yellow Mee	10.90
1x Autumn Pear With Nata De Coco	Hot	5.90

Below the order summary, there is a 'Discount' section with a 'Apply Discount' button. The delivery options are listed as follows:

Delivery Type	Estimated Time	Fee
Standard Delivery	Estimated time: 30 - 45 minutes	RM 3.00
Standard Delivery	Estimated time: 30 - 45 minutes	RM 3.00
Express Delivery	Estimated time: 15 - 30 minutes	RM 6.00

The delivery address is listed as 'M17, Skudai, 80990 Johor Bahru, Johor'. Payment methods are listed under 'Payment' as 'Touch n Go'. A 'Remark' section is available for notes. At the bottom, a large orange button labeled 'PLACE ORDER' is shown with a total amount of RM 16.80.

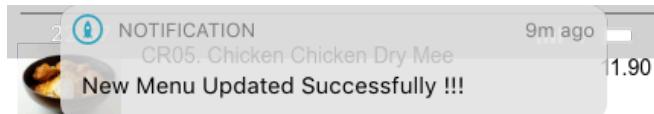
8.1.2.6 Input Payment Information



8.2 Output Design

8.2.1 Stakeholder's View

8.2.1.1 Output new menu information



 CR06. Curry Fish Balls (13pcs) 6.50

 CR07. Curry Samosa (6pcs) 4.90

 CR08. Curry Chicken With Mini Bun (4pcs) 10.90

 **NEW** CR09. Curry Chicken With Bun (1pcs) 10.90

Drinks Series

 DR01. Autumn Pear With Nata De Coco 5.90 ~ 6.90

 DR02. Red Bean Ice 6.90

 DR03. Green Bean Ice 6.90

 DR04. Lemon Longan Mint Ice 6.90 ~ 8.10

 DR05. Pineapple Sour Plum Ice 5.90

 DR06. Soya Cincau 3.90 ~ 4.90

8.2.1.2 Output Order Checklist

The screenshot shows a mobile application interface for DineDart. At the top, the time is 10:18 and there are signal, Wi-Fi, and battery icons. The app header includes a back arrow, the DineDart logo, and the restaurant name "Siao Seng Ya". Below the header, the title "View Customer Order Checklist" is displayed. A grey bar labeled "Order Checklist Information" follows. The first item listed is "CR01. Curry Mee" with a quantity of 1x, status "N / A", and note "+ 1 Yellow Mee". To the right is an image of a bowl of curry mee. The second item is "DR01. Autumn Pear With Nata De Coco" with a quantity of 1x, status "Hot", and an image of a drink. Below these items are sections for "Dining method" (Delivery) and "Remark". At the bottom is a large orange button labeled "PRINT".

10:18

DineDart

Siao Seng Ya

View Customer Order Checklist

Order Checklist Information

1x CR01. Curry Mee
N / A
+ 1 Yellow Mee

1x DR01. Autumn Pear With Nata De Coco
Hot

Dining method

Delivery

Remark

PRINT

8.2.1.3 Output Order History

The screenshot shows a mobile application interface for DineDart. At the top, the time is 13:30 and there are signal and battery icons. The app logo 'DineDart' is visible with a small icon. The restaurant name 'Siao Seng Ya' is displayed in an orange header bar. Below it, the title 'View Order History' is centered. A grey navigation bar contains the text 'Order History'. The main content area is a white box titled 'Payment Invoice'. Inside, the restaurant details are listed: SIAO SENG YA RESTAURANT, 15, JALAN KEBUDAYAAN 8, TAMAN UNIVERSITI, 81300 SKUDAI, JOHOR, MALAYSIA, (+60) 11 - 1234567. The order summary shows: ORDER: 54, 19/10/2023; HOST: MEGAN, 3 : 20 PM. The food items listed are: 1 Curry Mee (N/A + Yellow Mee), RM 10.90; 1 Autumn Pear With Nata De Coco (Hot), RM 5.90. The payment details include: SUBTOTAL RM 16.80, DELIVERY FEE (Express delivery) RM 6.00, TOTAL RM 22.80. Payment method: Touch n Go, Authorization: APPROVED, Payment code: 233828, Payment ID: 8211884. The net total is RM 22.80. The bottom of the invoice includes: ADMIN COPY, THANKS FOR VISITING, SIAO SENG YA RESTAURANT.

13:30

DineDart

Siao Seng Ya

View Order History

Order History

Payment Invoice

SIAO SENG YA RESTAURANT
15, JALAN KEBUDAYAAN 8,
TAMAN UNIVERSITI, 81300
SKUDAI, JOHOR, MALAYSIA
(+60) 11 - 1234567

ORDER: 54 19/10/2023

HOST: MEGAN 3 : 20 PM

HOST: MEGAN

1 Curry Mee RM 10.90
N/A
+ Yellow Mee

1 Autumn Pear With Nata De Coco RM 5.90
Hot

SUBTOTAL RM 16.80

DELIVERY FEE (Express delivery) RM 6.00

TOTAL: RM 22.80

PAYMENT METHOD: Touch n Go

AUTHORIZATION: APPROVED

PAYMENT CODE: 233828

PAYMENT ID: 8211884

NETT TOTAL RM 22.80

ADMIN COPY

THANKS FOR VISITING

SIAO SENG YA RESTAURANT

8.2.2 Customer's View

8.2.2.1 Output order checklist to view

The screenshot shows a mobile application interface for placing an order. At the top, it displays the time (15:43), signal strength, and battery level. The header includes the DineDart logo and a 'CART' button. Below the header, the restaurant name 'Siao Seng Ya' is shown. The main content area lists the items in the cart:

1x	Curry Mee N/A + 1 Yellow Mee	10.90	
1x	Autumn Pear With Nata De Coco Hot	5.90	

Below the items, there is a section for applying a discount:

Discount [Apply Discount](#)

Then, delivery options are listed:

Express Delivery Estimated time: 15 - 30 minutes [RM 6.00 >](#)

Below the delivery options, the breakdown of the total amount is shown:

Gross Total	RM 16.80
Delivery Fee	RM 6.00
Rounding	RM 0.00

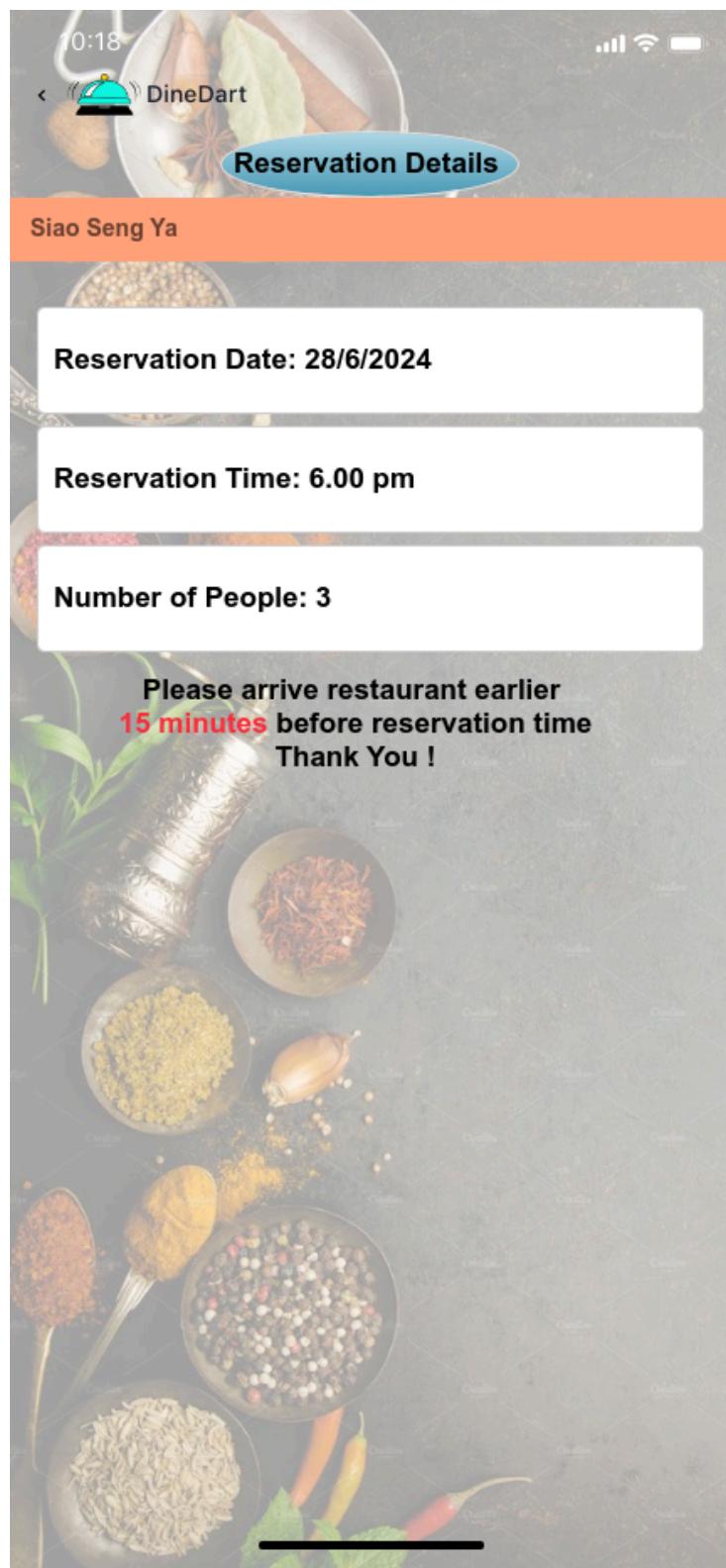
The **Nett Total** is displayed as **RM 22.80**.

Below the total, there are three expandable sections:

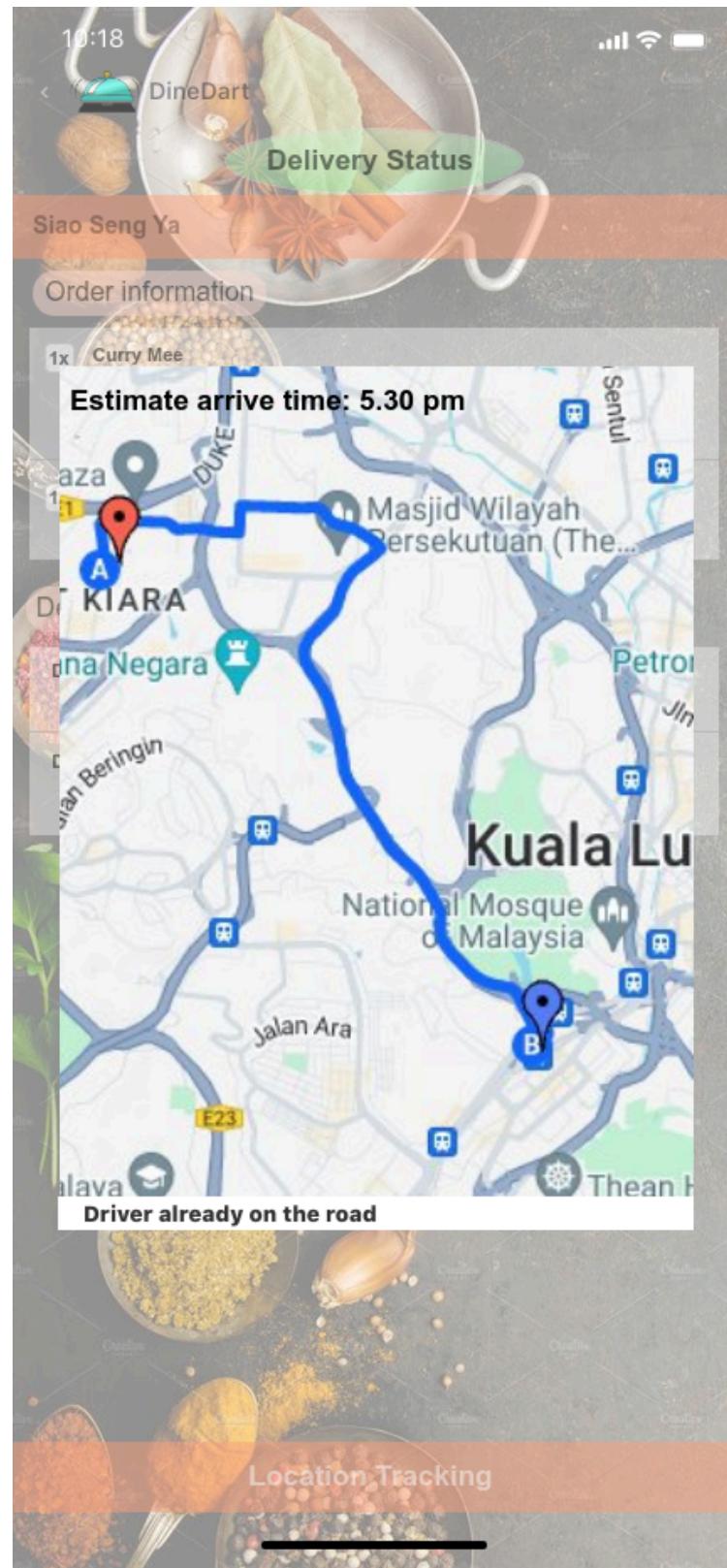
- Delivery Address** M17, Skudai, 80990 Johor Bahru, Johor [>](#)
- Payment** Touch n Go [>](#)
- Remark**

At the bottom, there is a large orange button labeled **PLACE ORDER** with the number **2** to its left, and the total amount **22.80** to its right.

8.2.2.2 Output reservation detail



8.2.2.3 Output location of the meal



8.2.2.4 Output payment invoice

The image shows a screenshot of the DineDart mobile application on a smartphone. The top status bar indicates the time is 13:31 and shows signal, Wi-Fi, and battery icons. Below the status bar, the DineDart logo is visible with a small icon of a person eating. To the right of the logo is a 'Share' button with a social media icon.

The main content area is titled 'Payment Invoice' in bold. It displays the following information:

SIAO SENG YA RESTAURANT
15, JALAN KEBUDAYAAN 8,
TAMAN UNIVERSITI, 81300
SKUDAI, JOHOR, MALAYSIA
(+60) 11 - 1234567

ORDER: 54 19/10/2023
HOST: MEGAN 12 : 16 PM

HOST: MEGAN

1 Curry Mee	RM 10.90
N / A	
+ Yellow Mee	
1 Autumn Pear With Nata De Coco	RM 5.90
Hot	

SUBTOTAL RM 16.80
DELIVERY FEE
(Express delivery) RM 6.00
TOTAL: RM 22.80
PAYMENT METHOD: Touch n Go
AUTHORIZATION: APPROVED
PAYMENT CODE: 233828
PAYMENT ID: 8211884

NETT TOTAL RM 22.80

CUSTOMER COPY
THANKS FOR VISITING
SIAO SENG YA RESTAURANT

9.0 Summary of Proposed System

In a nutshell, our group has completed the analysis and design for DineDart. In this phase, we have developed the Logical DFD TO-BE system, process specifications, and Physical DFD TO-BE system. In the AS-IS system, the system is not fully automated and lacks advanced yet user-friendly functionalities. Although the AS-IS system helps customers choose and order food without taking much time, there is room for improvement.

The TO-BE system is an automated system that enhances the restaurant management flow. All information will be automatically stored in the database, accessible only to authorized personnel for analysis. Every order and payment made can be reviewed in the order history. Customers can choose either take-away or in-store dining. Once the dining method is chosen and the meal is ordered, the system will display an order checklist for customers and stakeholders to review and prepare the meal. The new system also updates the menu when stakeholders add new items. It tracks the availability of food and beverages, providing convenience to customers. Reservations can be made easily through the system, with detailed information displayed to the customer. The system offers different delivery methods and allows customers to track their meal location in real-time. After payment, an invoice is sent to the customer, and the payment information is stored in the database.

The TO-BE system surpasses the AS-IS system in several ways. Firstly, the automation of data storage and order processing reduces human error and increases efficiency. The ability to update menus and track inventory in real-time ensures customers are always aware of current offerings and availability. The enhanced reservation and order tracking functionalities provide a seamless and user-friendly experience, improving customer satisfaction. Additionally, the integration of various delivery methods and payment tracking adds flexibility and convenience for both customers and restaurant staff. Overall, the TO-BE system offers a more efficient, reliable, and user-centric solution compared to the AS-IS system, significantly improving the overall management and customer experience at DineDart.

System Wireframe and Prototype

<https://pr.to/T0VCNJ/>

Prototype demo video:

<https://youtu.be/6k4fXaN-0MI>