Software Engineering HW Group 14

Project 1b1 - Food Delivery System: The Hungry Wolf

New Use Cases

Use Case 11: Customer Profile Management

Preconditions: Customer is logged in.

Main Flow:

- 1. Customer navigates to "Profile Settings"
- 2. Updates personal information (name, phone, dietary preferences)
- 3. Manages delivery addresses (add, edit, delete)
- 4. Sets notification preferences
- 5. System saves changes and confirms update

Subflows:

- 2a. Upload profile picture
- 3a. Set default delivery address

Alternative Flows:

- 2a. Invalid phone format \rightarrow system shows validation error
- 4a. Push notification permission denied → system notes preference

Use Case 12: Loyalty Points & Rewards

Preconditions: Customer has completed previous orders.

Main Flow:

- 1. Customer views loyalty points balance
- 2. Browse available rewards/discounts
- 3. Select a reward to redeem
- 4. The system applies a discount to the current order
- 5. Points deducted from the customer's account

Subflows:

- 2a: Viewpoints earning history
- 3a: Gift points to another user

Alternative Flows:

3a: Insufficient points → system shows minimum required

4a: Reward expired → system removes from available list

Use Case 13: Scheduled Order Placement

Preconditions: Customer wants to order for future delivery.

Main Flow:

- 1. Customer selects "Schedule Order"
- 2. Choose a future date and time slot
- 3. Adds items to the cart
- 4. Confirms the scheduled order with payment
- 5. System queues orders for future processing

Subflows:

- 2a. View restaurant availability for the selected time
- 4a. Pre-authorize payment for the scheduled order

Alternative Flows:

- 2a. Restaurant closed at selected time → suggest alternative slots
- 5a. Payment authorization fails → notify customer before scheduled time

Use Case 14: Menu Management

Preconditions: Restaurant owner is logged in.

Main Flow:

- 1. Restaurant accesses the menu dashboard
- 2. Adds/edits/removes menu items
- 3. Updates prices and availability status
- 4. Sets item categories and descriptions
- 5. The system updates the menu in real-time for customers.

Subflows:

- 2a. Upload item images
- 3a. Set temporary discounts on items

4a. Mark items as "Chef's Special"

Alternative Flows:

- 2a. Image file too large → system compresses or rejects
- 3a. Price below cost threshold \rightarrow system warns restaurant

Use Case 15: Restaurant Analytics Dashboard

Preconditions: Restaurant partner is logged in.

Main Flow:

- 1. The restaurant views the performance dashboard
- 2. Analyzes order trends, peak hours, and popular items
- 3. Reviews customer ratings and feedback
- 4. Downloads sales reports
- 5. Adjusts business strategy based on insights

Subflows:

- 2a. Compare performance with previous periods
- 3a. Respond to customer reviews
- 4a. Export data in CSV/PDF format

Alternative Flows:

2a. No data available for selected period → show empty state message

Use Case 16: Customer Views Order History

Preconditions: Customer is logged in.

Main Flow:

- 1. The customer navigates to "Order History."
- 2. A list of all past and canceled orders is displayed.
- 3. The customer can view details for each order.

Subflows:

2a: Filter orders by date or restaurant.

Alternative Flows:

2b: The order history is empty → show a message "No orders yet."

Use Case 17: Account Deactivation

Preconditions: Customer wants to close their account.

Main Flow:

- 1. The customer goes to "Account Settings."
- 2. They select "Deactivate Account."
- 3. The system prompts for a confirmation and a reason.
- 4. The account is deactivated, and data is archived.

Subflows:

4a: Deactivation confirmation is sent via email.

Alternative Flows:

4b: Customer reactivates account → system restores profile and order history.

Use Case 18: Restaurant Timings & Availability

Preconditions: The restaurant owner/manager is logged in.

Main Flow:

- 1. The restaurant navigates to "Store Settings."
- 2. They can set daily opening and closing hours.
- 3. They can toggle their restaurant's availability (e.g., "open" or "closed").
- 4. The system updates its status on the platform.

Subflows:

2a: Temporarily close for a holiday or maintenance.

Alternative Flows:

2b: Attempt to set illogical hours (e.g., close time before open time) \rightarrow system shows an error.

Use Case 19: Eco-Friendly Delivery Options

Preconditions: Customer cares about environmental impact.

Main Flow:

- 1. Customer selects "Eco-Friendly Delivery" option
- 2. System shows available green options (bike delivery, electric vehicle, biodegradable packaging)
- 3. Customer chooses preferred eco option
- 4. System matches with environmentally conscious delivery partners
- 5. Order delivered with sustainable packaging

Subflows:

- 2a: Show carbon footprint reduction estimate
- 3a: Option to pay a small premium for a carbon offset

Alternative Flows:

- 4a: No eco-friendly partners available → suggest alternative delivery time
- 5a: Restaurant doesn't support eco-packaging → notify customer of limitation

Use Case 20: Subscription Meal Plans

Preconditions: Customer wants regular meal delivery.

Main Flow:

- 1. Customer browses available meal plans
- 2. Selects plan duration and frequency
- 3. Chooses preferred restaurants/cuisines
- 4. Sets delivery schedule and address
- 5. System auto-places orders according to subscription

Subflows:

- 3a: Customize dietary restrictions and preferences
- 4a: Pause subscription temporarily

Alternative Flows:

- 5a: Restaurant unavailable → system suggests alternatives
- 5b: Customer wants to skip a meal → allow modification

Use Case 21: Customer Service Chatbot

Preconditions: Customer needs help but wants an automated response.

Main Flow:

- 1. The customer opens the chat support.
- 2. A chatbot provides automated responses to common questions (e.g., "Where is my order?," "How do I cancel?").
- 3. If the chatbot can't help, the conversation is handed over to a human agent.

Subflows:

2a: Chatbot provides links to relevant FAQs.

Alternative Flows:

3a: Chatbot provides an unhelpful response \rightarrow the customer escalates the issue.

Use Case 22: Manage Restaurant Ratings & Reviews

Preconditions: Customers have left ratings and reviews.

Main Flow:

- 1. The restaurant manager views the ratings dashboard.
- 2. Read customer reviews and feedback.
- 3. Responds to reviews (thank you/address concerns).
- 4. Uses feedback to improve service quality.

Subflows:

2a: Filter reviews by rating or keyword.

3a: Report inappropriate reviews to the admin.

Alternative Flows:

3a: Review flagged as fake \rightarrow admin investigates.

4a: Consistently low ratings → admin reaches out for support.

Use Case 23: Admin Creates Promotions

Preconditions: Platform admin is logged in.

Main Flow:

- 1. The admin navigates to "Promotions Management."
- 2. They create a new coupon code or a sitewide discount.
- 3. They define the promotion's rules (e.g., minimum order value, validity dates, user limits).
- 4. The system activates the promotion.

Subflows:

2a: Create a first-time user discount.

2b: Generate a unique coupon for a specific customer.

Alternative Flows:

3c: Invalid date range set \rightarrow system flags the error.

Use Case 24: Customer Applies Promotion

Main Flow:

- 1. The customer enters a coupon code.
- 2. The system validates the code against its rules.
- 3. The discount is applied to the cart total.
- 4. Preconditions: The customer is on the checkout page.

Subflows:

2a: System automatically suggests applicable promotions.

Alternative Flows:

3a: Invalid or expired coupon code → show an "Invalid Coupon" message.

3c: Code already redeemed by the user \rightarrow show a "Coupon Already Used" message.

Use Case 25: Wishlist / Save for Later

Preconditions: Customer browses menu.

Main Flow:

1. The customer selects items to "Save for Later."

- 2. The system stores items in the customer's wishlist.
- 3. Customers can view wishlists anytime.
- 4. Customers add wishlist items directly to carts in the future.

Subflows:

3a. The system allows sorting/filtering items in the wishlist (by restaurant, cuisine, price).

Alternative Flows:

2a. Item becomes unavailable → system greys out item in wishlist.

Use Case 26: Gift Orders

Preconditions: Customer logged in.

Main Flow:

- 1. The customer selects the "Send as Gift" option at checkout.
- 2. Customer enters recipient details (name, address, phone).
- 3. The customer adds a personalized greeting note.
- 4. Order is confirmed and assigned to a delivery partner.
- 5. Rider delivers food to the recipient.

Subflows:

2a. The system suggests saved contacts or address book integration for quicker entry.

Alternative Flows:

2b. Wrong recipient details entered \rightarrow system alerts sender to recheck information.

Use Case 27: Tipping Delivery Partner

Preconditions: Order delivered successfully.

Main Flow:

- 1. The system prompts customers with a tipping option after delivery confirmation.
- 2. The customer selects the preset tip amount or enters a custom tip.
- 3. The system adds the tip to the delivery partner's payout balance.

Subflows:

2a. Tip options displayed dynamically (percentage-based or flat values).

Alternative Flows:

2b. Customer skips tipping → system proceeds without adding any payout.

Use Case 28: Rating Delivery Partner

Preconditions: Order delivered successfully.

Main Flow:

- 1. The system prompts customers to rate the delivery partner.
- 2. Customer selects rating (stars or thumbs-up/down).
- 3. Optionally, the customer enters a custom message.
- 4. The system stores the rating and associates it with the delivery partner's profile.

Subflows:

2a. Customers can provide quick tags (e.g., "On-time," "Polite," "Delayed").

Alternative Flows:

2b. Customer skips rating → system closes feedback prompt.

Use Case 29: Fraud Detection & Prevention

Preconditions: Customer or restaurant activity is ongoing on the platform.

Main Flow:

- 1. The system monitors real-time activity across users and restaurants.
- 2. System flags suspicious behavior (e.g., multiple refund requests, duplicate accounts, abnormal order frequency).
- 3. An alert is automatically generated and sent to the admin dashboard.
- 4. Admin investigates the flagged account.
- 5. Admin suspends or permanently blocks fraudulent accounts.

Subflows:

2a. AI-based scoring system calculates fraud probability and prioritizes cases.

Alternative Flows:

3a. If the investigation reveals a false positive \rightarrow account is reinstated with a notification to the user.

Use Case 30: Group Order Coordination

Preconditions: Multiple people want to order together.

Main Flow:

- 1. Customer creates group order session
- 2. Shares the order link with colleagues/friends
- 3. Each person adds items to the shared cart
- 4. Group reviews the combined order

5. Designated person completes payment and delivery details

Subflows:

2a: Set a deadline for adding items

4a: Vote on the restaurant if multiple options are added

Alternative Flows:

3a: Restaurant doesn't deliver to some group members → split into multiple orders

5a: Payment method declined → allow others to pay or split the cost

<u>Difference Between LLMs</u>

Aspect	Claude's Reply	ChatGPT's Reply
Format	Consistent: Preconditions \rightarrow Main \rightarrow Subflows \rightarrow Alternatives	Less consistent: often missing subflows
Depth	Elaborate, 5+ steps each, rich variations	Shorter, 3–4 steps, minimal alternatives
Feature Type	Advanced/AI-driven (RecSys, Voice Ordering, Multi-Restaurant)	Practical/core features (Wishlist, Gift Orders, Fraud Detection)
Stakeholder Balance	Balanced: customers, restaurants, riders, admins, system	Customer-heavy, fewer rider/admin features
Interpretation of "Implementable"	Theoretically possible (future-ready features)	Immediately feasible (MVP-level)

Careful prompting (by mentioning the use case format and previous use cases) got us better results than without showing the format.

Cost of LLMs

The use cases were generated using a pre-existing Claude Pro (Sonnet 3.7) membership.