CSC510 Project 1a1

Stakeholders

Primary

- **Customers (web/mobile):** Browse, build cart, pay, receive order.
- **Restaurant Manager/Owner:** Hours, menus, pricing, accept/reject orders.
- **Restaurant Staff (kitchen, cashier/packer/expediter):** Prep items, bag/hand off.
- **Delivery Drivers (W2 or gig):** Accept trip, pick up, deliver, capture proof.
- **Dispatch/Operations:** Assign/reassign drivers, handle escalations.

How to find (Primary):
Walk the local journey (discover → order → pay → prep → pickup/delivery → support) and ask at each step: *who is taking an action in the app or at the counter/door?* Keep only the roles that directly move the order forward.

Secondary / Supporting (enable, monitor, or optimize the flow)

- **Platform Administrator (SRE/IT/DevOps):** Uptime, feature flags, incidents.
- **Payments/Risk (gateway, fraud team):** Auth/capture, chargebacks, abuse checks.
- **Customer Support (CSRs, chatbots):** Triage issues, refunds/redeliveries.
- **Marketing/Promotions:** Coupons, referrals, retention campaigns.
- **Data/Analytics**: Dashboards, forecasting, experiment readouts.
- **Third-Party Couriers (overflow partners)**: Capacity during peaks.
- **Vendors:** SMS/email providers, mapping/ETA, ID verification (alcohol).

How to find (Secondary):
For each primary step, list the services/teams that enable (payments, maps, notifications), monitor (SRE/analytics), or recover (support) it. Rule: if it's invisible to customer/restaurant/driver but required → Secondary.

External / Regulatory (local compliance & oversight)

- **City/Regulators:** Restaurant health/safety, delivery/gig-work rules, operating hours/curfews.

How to find (External):
Walk the local flow (discover→order→pay→prep→deliver→support). At each step, list

any rule, permit, or inspection that could block/alter the step and name the local body responsible. Keep city-level only.

Special Populations (accessibility users)

- **Accessibility Users:** Screen-reader users, low-vision, motor impairments (keyboard/switch control).

How to find (Accessibility):
Run the flow (browse→cart→promo→checkout→handoff→support) with (1) screen-reader, (2) keyboard-only, (3) low-vision; if any step needs an alternative interaction, add that group as a stakeholder.

Stakeholder bias & need clashes (five examples)

1. **Customer vs Delivery Drivers**: Customers prefer low fees + fast delivery; drivers prefer higher pay per trip and batching that can delay single orders.
2. **Restaurant Manager/Owner vs Dispatch/Operations:** Restaurants want flexible prep times and pausing items; dispatch/ops enforces SLAs and prefers stable, up-to-date menus.
3. **Marketing/Promotions vs Payments/Risk**: Growth wants granular tracking and referral incentives; privacy/risk restrict data collection and limit abuse.
4. **Customer vs Payments/Risk**: Customers want instant refunds for cold/late orders; risk teams throttle refunds to prevent fraud.
5. **Accessibility users vs Data/Analytics (A/B tests):** Experiment changes can break screen-reader flows or contrast; accessibility needs stable, WCAG-compliant UI.

How to find (Clashes - local):
“Take the primary/secondary stakeholder list, make a quick pairwise grid, and ask ‘What helps A might hurt B?’ for each local step (browse→pay→prep→deliver→support). Score by frequency×severity, and keep the top five.”

Prompt-crafting comment (zero-shot vs careful prompting)

Zero-shot prompting (“Generate 10 use cases for a food delivery app”) is fast but tends to be generic, inconsistent in structure, and may miss your course’s slide terminology. Careful prompting that specifies the template (Preconditions, Main Flow, Subflows, Alternative Flows), domain constraints (e.g., scheduled orders, substitutions, alcohol ID check), and evaluation criteria (coverage across browse, pay, fulfill, deliver, support) produces more complete, slide-aligned results and reduces revision time.

Minimal example:

Zero-shot:
"Write 10 use cases for a food delivery system."
Careful prompt:
"You are a software engineering tutor. Create 10 concise food delivery use cases with headings: Preconditions, Main Flow (≤8 steps), Subflows, Alternative Flows. Cover browse, pay, fulfill, deliver, support. Include web/mobile, in-app pay, substitutions, promos, scheduled delivery, driver reassignment, refunds, and accessibility."

Use Cases for Food Delivery App

UC1 Browse Restaurants by Location

A customer searches for nearby restaurants using GPS or an entered address.

Preconditions

- App installed and home screen open.
- Location services enabled or address entered.

Main Flow

1. The customer taps "Browse." **[S1]**
2. The system retrieves location information. **[S2] [A1] [A2]**
3. The system shows a restaurant list with ETA, pricing, and ratings. **[S3]**
4. The customer applies filters (cuisine, price, dietary). **[S4]**
5. The customer selects a restaurant. **[S5]**
6. The system loads menu and availability. **[S6]**

Subflows

[S1] Initiate location-based search from the home screen.
[S2] Use customer-provided address if available, otherwise default to GPS.
[S3] Display a restaurant list including ETAs, price ranges, and ratings.
[S4] The customer can apply filters on qualitative (cuisine/dietary) measures and sort by quantitative (reviews/pricing) measures.
[S5] Select a restaurant for details.
[S6] Load menu, availability, and basic details.

Alternative Flows

[A1] Out of Zone: If the customer is outside of the delivery area, show pickup zones.
[A2] Unable to Locate: Prompt customer to enter an address and return to Step 2.

UC2 Build Cart & Customize Items

A customer browses a menu, customizes items, and adds them to their cart.

Preconditions

- Restaurant is open.
- Menu is loaded.

Main Flow

1. The customer selects an item. **[S1]**
2. The system shows options (sizes, add-ons), nutrition, and allergens. **[S2]**
3. The customer customizes and adds the item to the cart. **[S3] [A1] [A2]**
4. The system recalculates totals and ETA. **[S4]**
5. The customer repeats for more items. **[S5]**

Subflows

[S1] Select menu item from category view.
[S2] Allow choices such as size, toppings, sides, and allergens while displaying nutrition
[S3] Customer customizes and clicks “Add to Cart.”
[S4] Totals and ETA update automatically.
[S5] Customer may continue browsing and add multiple items or proceed to checkout.

Alternative Flows

[A1] Add-on Sold Out: Prompt customer to substitute or skip.
[A2] Item Removed: Notify, remove item, and recalculate totals.

UC3 Apply Promotion or Referral Credit

A customer applies a promo code or referral credit to reduce their order total.

Preconditions

- Cart has items.

Main Flow

1. The customer opens “Promotions.” **[S1]**
2. The customer enters or selects a promo. **[S2]**
3. The system validates eligibility (min spend, geography, time). **[S3] [S8] [A1] [A2]**
4. The system applies discount(s) and recalculates totals. **[S4] [S7]**
5. The system applies referral credit if available. **[S5]**
6. The system shows any restrictions. **[S6]**

Subflows

[S1] Open “Promotions” in cart/checkout.
[S2] Enter a promo code or pick from offers.
[S3] Check rules: min spend (subtotal), valid geography, time window.
[S4] Apply discount, show order of application vs. taxes/fees.
[S5] Select referral credit to apply.
[S6] Display program-specific restrictions (e.g., loyalty/student).
[S7] Enforce non-stackable promos and highlight applied discounts.
[S8] Disable promos outside valid regions.

Alternative Flows

[A1] Ineligible: Explain reason (e.g., below minimum spend).

[A2] Expired: Show expiry date and remove promo from cart.

UC4 Checkout & Payment

A customer reviews order details, selects payment, and completes checkout.

Preconditions

- Cart valid.

Main Flow

1. The customer reviews order details including items, address, and tip. **[S1] [A2] [A3]**
2. The customer selects a payment method. **[S2]**
3. The system calculates taxes/fees and pre-authorizes payment. **[S3] [A1]**
4. The customer confirms the order. **[S4]**
5. The system places order/s and sends confirmation. **[S5]**

Subflows

[S1] The customer is shown their order summary - items, total, instructions, address, and privacy/data-use notices.

[S2] Choose card, wallet, or split payment.

[S3] Calculate taxes/fees, run pre-authorization.

[S4] Customer clicks “Confirm Order.”

[S5] System sends confirmation with order # and ETA.

Alternative Flows

[A1] Payment Declined: Retry or select another method.

[A2] Backtrack From Cart: Return customer to cart menu.

[A3] Scheduled Order: The customer can schedule an order for future delivery

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UC5: Restaurant Acceptance & Prep

Restaurant receives, accepts, and begins preparing the order.

Preconditions

- **UC4** Order submitted and paid for.
- Restaurant online & open.

Main Flow

1. System forwards order to restaurant POS/tablet; Status = “Confirming”. **[S1]**
2. Restaurant accepts order and sets prep time. **[S2] [A1] [A2]**
3. System updates ETA for customer and driver dispatch. **[S3]**
4. Kitchen begins preparation; Status = “Preparing.” **[S4]**
5. Ticket shows allergens and preparation notes. **[S5]**

Subflows

[S1] Order is displayed on restaurant POS/tablet.

[S2] Restaurant confirms order, sets prep time.
[S3] System updates ETA based on prep time and traffic expectations.
[S4] Order marked as “Preparing”.
[S5] Show declared allergens/notes.

Alternative Flows

[A1] No Response: Notifications are resent to the restaurant. Order can be canceled/refunded by the customer after a prolonged no-response period.
[A2] Out-of-Stock: Trigger substitution process.

UC6: Item Substitution Approval

Customer handles substitutions for unavailable items.

Preconditions

- Restaurant flags an item as out-of-stock during **UC5**

Main Flow

1. System proposes substitute(s) with price differences. **[S1]**
2. System shows nutrition/allergen comparison. **[S2]**
3. Customer receives a prompt to approve or decline. **[S3] [A1] [A2]**
4. On approval, the system updates totals and continues prep. **[S4]**

Subflows

[S1] Suggest substitute items with price delta.
[S2] Display nutrition and allergen differences between original and substitute.
[S3] Push prompt notification to customer in-app for approval.
[S4] Update order totals and return to **UC5** when approved.

Alternative Flows

[A1] Customer Declines: Remove item from cart, recalculate totals.
[A2] No Response: Default policy applies (remove item or closest substitute).

UC7: Driver Assignment & Pickup

System assigns a driver to pick up an order

Preconditions

- Order remaining prep time is below 10 minutes.
- Drivers are available.

Main Flow

1. Delivery job offered to drivers in the area. **[S1] [A1] [A2]**
2. A driver accepts and receives pickup instructions. **[S2]**
3. Driver arrives and verifies order details. **[S3] [A3]**
4. Driver departs; system marks status “On the way”. **[S4]**

Subflows

[S1] Offer job to drivers based on proximity to restaurant compared to other drivers
[S2] Share pickup location, parking notes, and customer contact info.

[S3] Driver verifies order code and bag count; sealed if required.
[S4] System updates status to “On the way” and updates the ETA for the customer. Order is removed from the restaurant's tablet/POS.

Alternative Flows

[A1] Batching: Delivery jobs can be batched for improved efficiency
[A2] No Driver Accepts: Increase incentive or extend ETA.
[A3] Order Not Ready: Driver arrival before readiness triggers wait policy.

UC8: Delivery to Customer

Driver delivers the order to the customer.

Preconditions

- Driver has picked up the customer’s order from the restaurant.

Main Flow

1. System provides navigation and delivery notes to the driver. **[S1]**
2. Driver delivers the food to the customer’s address. **[S2] [A1] [A2]**
3. System marks order delivered, notifies customer, finalizes receipt. System marks order delivered, notifies customer, finalizes receipt. **[S3]**

Subflows

[S1] Navigation guidance and gate/delivery instructions are given to the driver.
[S2] Handoff performed per customer preference (meet or dropoff). If left at the door, a picture must be taken for proof. If restricted items are delivered, ID/PIN verification is required and handoff cannot happen as a dropoff.
[S3] System marks delivered, sends receipt, and allows post-tip edits if enabled.

Alternative Flows

[A1] Customer Unreachable: After timed attempts, escalate to support.
[A2] Wrong Address: Contact customer to reroute or return to restaurant.

UC9: Order Issue - Missing Items

Customer reports missing items after delivery and the system tries to resolve it.

Preconditions

- Order delivered.
- Issue reported within allowed window.

Main Flow

1. Customer opens “Help” and selects the issue type, “Missing Items”. **[S1]**
2. A claim is filed with the restaurant. **[S2] [A1]**
3. Customer works with support and the restaurant to work out a resolution (refund, redelivery, credit). **[S3] [A2] [A3] [A4]**

Subflows

[S1] Customer selects problem category (Missing Food).
[S2] Restaurant gets notified that a complaint has been filed. An optional chat line is

opened up between the restaurant and the customer. The missing item is added to the restaurant's internal profile as a reminder for future orders.

[S3] Customer works out a resolution with the restaurant. If the customer is not satisfied with the resolution, the claim can be escalated to support.

Alternative Flows

[A1] Cancellation: The customer can cancel the claim at any point during the process

[A2] Abuse Detected: System flags customer for manual review if too many claims have been opened up.

[A3] Redelivery Not Possible: System offers credit/refund only.

[A4] Excessive Mistakes: Punishments such as reduced promotion and potentially even dropping of service may happen if a restaurant makes too many mistakes

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UC10: Order Issue - Missing Order

Customer reports a missing order after delivery and the system tries to resolve it.

Preconditions

- Order delivered.
- Issue reported within allowed window.

Main Flow

1. Customer opens "Help" and selects the issue type, "Missing Order". **[S1]**
2. A claim is filed with the driver. **[S2] [A1]**
3. Customer provides proof of non-delivery **[S3] [A2]**
4. Customer or driver is reimbursed for the cost of the order/delivery or customer requests a re-order **[S4] [A3]**

Subflows

[S1] Customer selects problem category (Missing Food).

[S2] Driver gets notified that a complaint has been filed. Funds are withheld and driver can provide further proof of delivery

[S3] Customer can provide proof of non-delivery such as security camera footage to back their case up

[S4] After manual review of the claim, funds are reimbursed to the party in the right.**[A4]**

Alternative Flows

[A1] Cancellation: The customer can cancel the claim at any point during the process.

[A2] Abuse Detected: System flags for manual review.

[A3] Repeat Order: System places new order with the restaurant tagged "Re-order" and dispatches a new driver.

[A4] Derogatory Mark: If the driver was found at fault a "strike" will be added to their profile.