

SE Proj1a1 - Group 19

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Stakeholder Analysis – WolfCafe System

Admin

- **Role:** Manages users, settings, tax, and policies.
- **Goals:** Secure system, correct configs.
- **Actions:** Manage accounts, taxes, logs.
- **Metrics:** Security, access control, accuracy.
- **Priority:** High | **Interview:** IT admin, finance officer.

Staff

- **Role:** Operates daily tasks (inventory, orders).
- **Goals:** Fast order fulfillment, accurate inventory.
- **Actions:** Manage items, track orders, adjust inventory.
- **Metrics:** Order speed/accuracy, stock errors.
- **Priority:** High | **Interview:** Shift lead.

Customer

- **Role:** Orders and picks up items.
- **Goals:** Simple, reliable ordering; accurate pickup times.
- **Actions:** Place orders, view status/history, pick up.
- **Metrics:** On-time pickup, satisfaction.
- **Priority:** High | **Interview:** Customers.

Developers

- **Role:** Build and maintain WolfCafe.
- **Goals:** Deliver secure, maintainable features.
- **Actions:** Code features, write tests, maintain CI/CD
- **Metrics:** Code coverage, defect rate, release speed.
- **Priority:** High | **Interview:** Tech lead.

Accessibility Advocate

- **Role:** Ensure accessible UI.

- **Goals:** Compliance, inclusivity.
- **Actions:** Review UI for standards, test with assistive tools.
- **Metrics:** WCAG compliance, issues resolved.
- **Priority:** Medium–High | **Interview:** Accessibility consultant.

Privacy / Compliance Officer

- **Role:** Enforce data protection and policy compliance.
- **Goals:** Secure data, clear policies, regulatory compliance.
- **Actions:** Audit data, review retention, draft policies.
- **Metrics:** Risk reduction, compliance.
- **Priority:** High | **Interview:** DPO.

University IT

- **Role:** Provides infra, hosting, security.
- **Goals:** Stable, secure system.
- **Actions:** Manage servers, auth, backups, patches.
- **Metrics:** Uptime, incident response.
- **Priority:** Medium | **Interview:** IT security lead.

Supplier (Proposed)

- **Role:** Provides inventory/ingredients.
- **Goals:** Timely delivery, accurate stock.
- **Actions:** Sync stock levels, handle shortages.
- **Metrics:** Stock-outs, data accuracy.
- **Priority:** Medium | **Interview:** Supplier rep.

Marketing / Business Analyst (Proposed)

- **Role:** Provides insights and recommendations.
- **Goals:** Boost UX and sales with analytics.
- **Actions:** Run dashboards, A/B tests, track KPIs.
- **Metrics:** Conversion, retention, revenue.
- **Priority:** Medium | **Interview:** Analytics lead.

Stakeholder Clashes

1. **Privacy vs Analytics** – Marketing wants detailed tracking; Privacy limits PII.

- **Mitigation:** Use anonymized/aggregated data, consent opt-in.
- 2. **Accessibility vs Features** – Rich features may harm accessibility.
 - **Mitigation:** Accessibility-first design, automated WCAG tests.
- 3. **Admin vs Privacy (Logs)** – Admins want detailed logs; Privacy limits retention.
 - **Mitigation:** Minimal logs, retention window, strict access.
- 4. **IT vs Supplier** – Supplier needs API access; IT restricts it.
 - **Mitigation:** Secure API gateway, allowlisting, strict contracts.
- 5. **Customer vs Staff (Data Access)** – Staff need order info; customers expect privacy.
 - **Mitigation:** RBAC, limit staff data, audit access.
- 6. **Privacy vs IT (Backups)** – Privacy wants deletion; IT keeps backups.
 - **Mitigation:** Encrypt, restrict access, purge old data.

Zero shot prompting vs Careful Prompting

When I asked Gemini in a zero-shot way to analyze stakeholders in the WolfCafe food delivery app, it listed only café owners, developers, and customers, hallucinating a simplified view and missing staff, delivery partners, suppliers, and regulators. It also failed to identify potential conflicts or suggest mitigation strategies, showing that zero-shot prompts can produce incomplete and sometimes misleading outputs. With careful prompting—asking for a table including roles, interactions, conflicts, biases, and mitigation strategies—it produced a complete, accurate, and structured response. All stakeholders were covered, interactions and conflicts were clearly identified, and practical strategies were suggested to address biases. This demonstrates that careful prompting reduces hallucinations, improves coverage, and produces actionable, reliable outputs, making it far more suitable for complex, multi-step tasks like stakeholder analysis.

Use Cases

UC-1 Browse and Search Menu

1.1 Preconditions

- Menu is published; store hours configured.
- Customer app is available and connected.

1.2 Main Flow

1. Customer opens the menu [Load Menu].

2. Customer searches and/or filters items [Search/Filter].
3. Customer views item details [View Item].
4. Customer returns to menu or proceeds to add items to cart.

1.3 Subflows

- [Load Menu] Retrieve categories, items, pricing, images, availability flags, and dietary/allergen tags.
- [Search/Filter] Full-text search; filters by category, price, dietary needs, allergens, popularity.
- [View Item] Show description, price, modifiers, allergens, nutrition, prep time estimate.

1.4 Alternative Flows

- [Store Closed] Display closed banner; allow browsing but disable checkout actions.
- [Item Unavailable] Grey out items; show reason (sold out, prep paused, outside time window).
- [Network Error] Retry/backoff; display cached menu if available.

UC-2 Build Cart and Customize Items

2.1 Preconditions

- Customer authenticated or guest cart allowed.
- Menu loaded with current availability.

2.2 Main Flow

1. Customer selects an item [Select Item].
2. Customer customizes with modifiers [Customize Item].
3. Customer adds item to cart [Add to Cart].
4. Customer reviews cart [Review Cart].

2.3 Subflows

- [Select Item] Choose base option (size/flavor/variant).
- [Customize Item] Choose required and optional modifiers; notes; dynamic price updates.
- [Add to Cart] Validate selections; add line item; update totals and ETA.
- [Review Cart] Display line items, taxes/fees, promos, and estimated pickup time.

2.4 Alternative Flows

- [Modifier Conflict] Incompatible selections; prompt to adjust.
- [Exceeds Limit] Quantity or modifier limit reached; block and explain.
- [Item Went Out-of-Stock] Invoke UC-10 [Detect OOS] and resolve before adding.

UC-3 Place Order (Checkout and Payment)

3.1 Preconditions

- Cart contains at least one item.
- Store is open and within capacity; payment gateway configured.

3.2 Main Flow

1. Customer proceeds to checkout [Start Checkout].
2. Customer confirms pickup location/time [Confirm Pickup].
3. Customer applies promo/loyalty if any [Apply Promotions].
4. Customer selects or enters payment method [Select Payment].
5. System authorizes payment [Authorize Payment].
6. System creates order and number [Create Order].
7. System notifies staff and customer [Send Confirmation].

3.3 Subflows

- [Start Checkout] Show order summary, policies, and consent to terms.
- [Confirm Pickup] Choose ASAP or schedule within available slots.
- [Apply Promotions] Validate codes/eligibility; recalculate totals.
- [Select Payment] Choose saved card or add new; accept terms.
- [Authorize Payment] Perform auth/capture per policy; handle SCA if required.
- [Create Order] Persist order, lines, prices, taxes; set status Pending.
- [Send Confirmation] Email/SMS/push receipt and ETA; show order on confirmation screen.

3.4 Alternative Flows

- [Payment Failure] Decline/fraud/SCA failed; allow retry or change method.
- [Capacity Reached] Slots unavailable; offer next available time or waitlist.
- [Price Changed] Menu changed during checkout; show delta; require reconfirmation.
- [Item Out-of-Stock] Invoke UC-10 resolution before payment.

UC-4 Staff Accept and Prepare Order

4.1 Preconditions

- Order status is Pending.
- Staff logged into Kitchen Display System (KDS).

4.2 Main Flow

1. New order appears on KDS [Display New Order].
2. Staff accepts order [Accept Order].
3. Staff prepares items [Prepare Items].
4. Staff marks items and order as ready [Mark Ready].
5. System updates status and timestamps [Update Status].

4.3 Subflows

- [Display New Order] Show ticket with modifiers, allergens, promised time.
- [Accept Order] Move order to In-Progress; print labels/tickets if enabled.
[Prepare Items] Follow recipes; record exceptions or notes.
- [Mark Ready] Change line items to Ready; then set order to Ready.
- [Update Status] Persist status; emit event for notifications and dashboards.

4.4 Alternative Flows

- [Missing Ingredient] Trigger UC-10 substitution workflow; notify customer if needed.
- [Order Cancelled Mid-Prep] Stop work; follow UC-11 for refunds/voids.
- [Device/Printer Failure] Use manual ticket; reprint when back online.

UC-5 Notify Customer of Status Changes

5.1 Preconditions

- Customer notification preferences captured.
- Notification providers (SMS/email/push) available.

5.2 Main Flow

1. System detects order state changes [Detect State Change].
2. System composes message from template [Compose Message].
3. System sends via preferred channels [Dispatch Message].
4. System records delivery outcomes [Record Outcome].

5.3 Subflows

- [Detect State Change] Subscribe to events (Accepted, In-Progress, Ready, Delayed).
- [Compose Message] Include order number, pickup instructions, and latest ETA.
- [Dispatch Message] Enforce rate limits; respect opt-in/opt-out.
- [Record Outcome] Store message IDs, status, bounce/undelivered codes; retry plan.

5.4 Alternative Flows

- [Delivery Failure] Retry with backoff; fall back to a secondary channel.
- [Opt-Out] Suppress marketing; allow transactional messages only where permitted.
- [Invalid Contact] Flag account; prompt update on next session.

UC-6 Customer Pickup and Handoff

6.1 Preconditions

- Order status is Ready.
- Customer has order code/ID or QR.

6.2 Main Flow

1. Customer announces arrival or taps “I’m here” [Announce Arrival].
2. Staff locates the order [Locate Order].
3. Staff verifies identity [Verify Identity].
4. Staff hands off items [Handoff Order].
5. System completes order [Complete Order].

6.3 Subflows

- [Announce Arrival] Front-desk notification or in-app arrival signal.
- [Locate Order] Search by name/code/QR; retrieve ticket and bag location.
- [Verify Identity] Match name/code; optionally last 4 of phone.
- [Handoff Order] Confirm items; provide receipt/label if needed.
- [Complete Order] Set status Completed; timestamp; close ticket and KDS card.

6.4 Alternative Flows

- [Wrong Items Detected] Initiate remake; adjust order; note incident.
- [Late Arrival] Hold order per policy; mark as Late Pickup and notify.
- [Fraud Suspected] Deny handoff; escalate to manager; log and alert.

UC-7 Handle Out-of-Stock and Substitutions

7.1 Preconditions

- Inventory counts maintained; items mapped to ingredients/recipes.

7.2 Main Flow

1. System detects insufficient stock during cart, checkout, or prep [Detect OOS].
2. System offers suitable alternatives [Suggest Substitutions].
3. Customer/staff selects outcome [Choose Option].
4. System updates order/cart and pricing [Apply Substitution].

7.3 Subflows

- [Detect OOS] Validate availability on add-to-cart, checkout, accept, or prep start.
- [Suggest Substitutions] Offer same-category items or modifier changes; allow removal.
- [Choose Option] Customer chooses in-app; staff confirms if discovered during prep.
- [Apply Substitution] Update line, totals, taxes; re-auth if price increases; notify parties.

7.4 Alternative Flows

- [Decline Substitution] Remove item; adjust totals; continue or cancel order.
- [Menu-Wide Stock Issue] Pause ordering/capacity; inform customers and admins.
- [Allergen Conflict] Suppress conflicting suggestions; offer compliant options only.

UC-8 Modify or Cancel Order

8.1 Preconditions

- Order exists; policies define modification/cancellation windows.
- Payment authorized or captured per policy.

8.2 Main Flow

1. Customer opens active order [Open Active Order].
2. Customer chooses modify or cancel [Select Change].
3. System validates feasibility [Validate Change Window].
4. System applies changes or cancels [Apply Change].
5. System adjusts payment if needed [Adjust Payment].
6. System notifies staff and customer [Notify Changes].

8.3 Subflows

- [Open Active Order] Navigate to order details with current status.
- [Select Change] Add/remove items, edit modifiers, or cancel order.
- [Validate Change Window] Check order status and policy (e.g., not started or partial prep).
- [Apply Change] Update order/cart; reflect on KDS; recalc ETA/pricing.
- [Adjust Payment] Incremental capture or partial refund; update ledger.
- [Notify Changes] Send confirmation of modifications or cancellation.

8.4 Alternative Flows

- [Too Late to Modify] Display policy; offer contact to support/manager.
- [Partial Prep Completed] Allow cancellation of unstarted items only.
- [Promotion No Longer Eligible] Recalculate; request customer confirmation.

UC-9 Admin Manage Menu and Pricing

9.1 Preconditions

- Admin authenticated with appropriate role.
- Menu manager enabled.

9.2 Main Flow

1. Admin opens menu manager [Open Menu Manager].
2. Admin creates/edits items and modifiers [Edit Item].
3. Admin configures pricing, taxes, allergens, and images [Configure Details].
4. Admin publishes changes [Publish Menu].
5. System propagates updates to channels [Sync Menu].

9.3 Subflows

- [Open Menu Manager] Load categories and current draft/published states.
- [Edit Item] Add, remove, or modify items; set availability windows.

- [Configure Details] Set price, tax class, tags, recipe mapping, and display order.
- [Publish Menu] Validate; version changes; schedule or immediate publish.
- [Sync Menu] Invalidate caches; update KDS and client apps; log audit trail.

9.4 Alternative Flows

- [Validation Failure] Missing required fields; highlight and block publish.
- [Concurrent Edit Conflict] Prompt to merge or overwrite with proper audit.
- [Rollback Version] Revert to prior version; notify stakeholders.

UC-10 Inventory Management (Counts, Replenishment)

10.1 Preconditions

- Inventory module enabled; items mapped to ingredients.
- Staff has inventory permissions.

10.2 Main Flow

1. Staff performs count or receives shipment [Open Inventory Task].
2. Staff updates quantities and wastage [Update Counts].
3. System updates availability and thresholds [Recalculate Availability].
4. System triggers alerts or purchase suggestions as needed [Trigger Replenishment].

10.3 Subflows

- [Open Inventory Task] Select cycle count, full count, or receiving.
- [Update Counts] Enter on-hand, received, waste/spoilage; lot/expiry if used.
- [Recalculate Availability] Update stock levels; trigger OOS/back-in-stock events; log adjustments.
- [Trigger Replenishment] Compare to par/min levels; suggest POs or notify purchasing.

10.4 Alternative Flows

- [Negative Stock Detected] Flag discrepancy; require reason and manager approval.
- [Expired Lots] Prevent use; adjust to waste; notify manager.
- [Supplier Delay Forecast] Predict stock-out; throttle capacity; inform admins and staff.