Restaurant Management System

Project Title: Restaurant Management System.
Course: CSC 478 – Software Engineering Capstone
Team Name: Error 404
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Document: Programmer's Manual Requirements

Programmer's Manual

This section explains the way the system is supposed to operate as far as the developer is concerned. There are Requirements split into Functional Requirements and Non-Functional Requirements.

1.1 User role Requirement (UR)

Requirement ID	Requirement Description	Explanation
UR-H1	Host must log into the system at the front of house.	The host must log in to access tools for seating and table management. This ensures only authorized staff make changes to table statuses.
UR-H2	Host can view open and occupied tables.	The host needs to see which tables are open or occupied at all times. This helps in managing guest flow and preventing double-seating.
UR-H3	Host can greet customers and assign them to a table.	The host greets customers and assigns them to available tables. This ensures fast, organized seating and smooth customer intake.
UR-H4	Host can mark a table as occupied.	When guests sit, the host marks the table as occupied. This updates real-time availability for waiters and managers.
UR-H5	Host can mark a table as open when customers leave.	The host marks a table as open after customers leave. This immediately frees the table for seating new guests.

1.2 Waiter role Requiememt (WR)

Requirement ID	Requirement Description	Explanation
UR-W1	Waiter logs into the system.	Logging in gives the waiter access to their assigned tables. This ensures accountability for service.
UR-W2	Waiter inputs customer orders.	Orders are entered digitally to ensure accuracy. This speeds up communication with the kitchen.
UR-W3	Waiter modifies orders for preferences.	Allows updates like "extra cheese" or "no onions." Ensures orders reflect customer needs.
UR-W4	Waiter adds additional orders later.	Supports dessert orders and late additions. Improves flexibility during service.
UR-W5	Waiter sees which table an order belongs to.	Ensures food goes to the correct table. Prevents mix-ups during serving.
UR-W6	Drinks are tracked separately.	Enables refill tracking and better drink service. Helps ensure customers are well-attended.
UR-W7	Waiter takes customer payments.	Waiters handle checkout directly. This reduces delays and improves customer experience.
UR-W8	Waiter sees only their assigned tables.	Ensures clear responsibility and avoids confusion. Supports efficient workflow.

1.3 Chef role Requirement (CR)

Requirement ID	Requirement Description	Explanation
UR-C1	Chef logs into kitchen system.	Chefs log in through back-of-house terminals. This ensures access only to cooking-related features.
UR-C2	Chef views incoming orders.	Orders display immediately as they are placed. This keeps kitchen workflow efficient.
UR-C3	Chef prioritizes orders.	Chefs select which dishes to cook first. This helps manage rush periods and timing.
UR-C4	Chef marks items as in-progress.	Indicates cooking has started. Notifies waiters to prepare for serving.
UR-C5	Chef marks items as complete.	When finished, dishes are marked ready. Waiters are alerted to deliver food quickly.

1.4 Manager role Requirement (MR)

Requirement ID	Requirement Description	Explanation
UR-M1	Manager performs all waiter actions.	Manager can enter orders, take payments, and assist staff. Useful during rush hours.
UR-M2	Manager adds or removes workers.	Allows hiring and termination adjustments in system roles. Ensures accurate staff representation.
UR-M3	Manager assigns tables to waiters.	Ensures every table has a responsible waiter. Supports efficient service zones.
UR-M4	Manager marks prices for specials.	Allows temporary promotional pricing. Helps run daily or seasonal offers.
UR-M5a	Manager adds new menu items.	Used when adding new dishes. Keeps menu updated.
UR-M5b	Manager removes menu items.	Removes discontinued dishes. Prevents customer confusion.
UR-M5c	Manager changes menu prices.	Adjusts pricing as needed. Supports dynamic menu control.

1.5 Owner role Requirement (OR)

Requirement ID	Requirement Description	Explanation
UR-O1	Owner performs all manager actions.	Owner has complete operational access. Controls all restaurant functions.
UR-O2	Owner adds/removes managers.	Maintains leadership roles in system. Ensures proper authority structure.
UR-O3	Owner accesses business reports.	Enables reviewing performance metrics. Helps identify improvements.
UR-O4a	Report: Quantity of items ordered.	Shows which items sell most. Helps menu planning and inventory prep.
UR-O4b	Report: Total revenue.	Displays total income from payments. Supports financial decisions.

1.6 System role Requirement (SR)

Requirement ID	Requirement Description	Explanation
SR-1	System supports user login.	Ensures secure access for each user role. Prevents misuse of features.
SR-2	Role-based permissions enforced.	Users only see features relevant to their role. Protects sensitive actions.
SR-3	Sensitive actions trigger approval.	Higher-level actions require manager/owner approval. Prevents errors.
SR-4	System supports role switching.	For users with multiple roles. Simplifies workflow flexibility.
SR-5	System supports submitting orders any time.	Allows service to continue smoothly. No restrictions during busy hours.
SR-6	Orders support categories.	Helps chefs manage different dish types. Improves kitchen organization.
SR-7	Orders sent to chef UI in real time.	Reduces delay between ordering and cooking. Improves service speed.
SR-8	Order status tracking.	Shows progress from pending → completed. Keeps staff informed.
SR-9	System tracks table status.	Updates seating availability live. Prevents scheduling conflicts.
SR-10	System tracks waiter-table assignment.	Ensures correct waiter is accountable for each table.
SR-11	System processes payments.	Allows final billing and checkout. Essential for completing service.
SR-12	System supports tipping.	Includes optional tip entries. Matches standard restaurant payment flows.
SR-13	System generates reports.	Provides revenue and sales insights. Helps improve business operations.