

Group name: The Innovators

Group members: Chanelle Mondesir- 816008039

Keanu Nichols- 816004003

Priya Maharaj- 816006652

Donte Francis- 815009339

Project Name: Restaurant Automation System

User Requirements

General Requirements:

- The user will be able to generate monthly reports showing the sales of food items.
- The user will be able to generate daily reports showing the sales of food items.
- The user will be able to see the tables that need to be cleaned on a tablet device.
- The user will be able to see which tables have been cleaned and ready for customers.

Restaurant Owner:

- The restaurant owner will be able to generate graphs to show the sales of food items over a period.
- The restaurant owner will be able to see the average ratings of the waiters/waitresses on a weighted scale.

Restaurant Manager:

- The restaurant manager will be able to see how often food is being sent back to the kitchen due to incorrect preparation of a meal.

Customer:

- The customer will be able to send complaints to the restaurant anonymously.

Waiter/Waitress:

- The waiter/waitress will be able to send orders to the kitchen electronically.
- The waiter/waitress will be able to update orders and send it to the kitchen electronically.
- The waiter/waitress will be able to inspect a table's bill individually for each customer and as a table in general.
- The waiter/waitress will be able to process a payment using a bankcard.

Chef:

- The chef will be able to keep track of food inventory as well as the expiration dates and food that needs replacing.
- The chef will be able to display orders coming into the kitchen.
- The chef will be able to indicate which orders are ready to be picked up by the waiters/waitresses.

System Requirements

Functional Requirements

Hosting/ Seating System

- The system shall display a pictorial representation of all “Available”, “Occupied” and “In need of cleaning” tables that is updated every 5 minutes
- The system shall allow users to select available tables.
- The system shall update table statuses within 20 seconds after updating for all.
- The system shall be able to display tables that have been cleaned.

Kitchen System

- The system shall show recently added orders onto the kitchen display tablet within 25 seconds after an order has been confirmed.
- The system should be backed up in case of failures to avoid losing inventory count and orders.
- Downtime within normal working hours shall not exceed 10 minutes in any one day.
- The system shall allow users to view inventory .

Manager System

- The system should allow only users with an administrative key to access certain content on the managerial system and make changes.
- At the last working day of every month a sales report detailing the month's expenditures will be generated and available for printing after 5:30pm.
- The system shall be able to log out all connected tablets from the system upon request.
- The system shall be able to remove a customer's meal from the active system with no expectation of payment.

Waiter System

- Time between different screens on the system should be minimized.
- The system should have a response time of 10 seconds when orders are inputted.
- The system should have consistent response time when multiple users are active.
- A waiter shall be able to log into a tablet using their assigned username and password.

Non-Functional Requirements

- The system should be designed to handle an overestimated number of users for consistent throughput and availability.
- The system should be intuitive and easy to use.
- The system should not allow users access without logging on.
- The system should be capable of restoring itself to its previous state in the event of failure, power or otherwise.
- The system should not allow a waiter to be logged on to multiple tablets at the same time.
- The system should have two levels of access where one is restricted for administrative purposes and the other is for basic employee usage.
- The system should be able to support approximately 50 concurrent connections from computers, tablets and POS systems within the business.
- The system shall be capable of supporting an arbitrary number of active orders, that is, orders shall be lost under any circumstances.
- The system shall change the password used for tablet login every three months.

Scenarios

Scenario name	Customer makes an order
Actor instances	Customer, Waiter
Flow of events	<ol style="list-style-type: none">1. Waiter notices a new customer has been seated. He approaches their table and enquiries about their order.2. The customer relays their order. The waiter enters the number of persons placing orders, the course, the menu item chosen, any additional info and drinks. Confirms input.3. The waiter informs the customer of the expected wait time.

Scenario name	Customer Requests Bill
Actor instances	Customer, Waiter
Flow of events	<ol style="list-style-type: none">1. The customer signals to a waiter and relays their request for a joint bill.2. The waiter goes to the POS system selects the table and prints the bill.3. The waiter returns with the bill.4. The customer requests to pay using a credit card. The waiter swipes the card on the mPOS system attached to the tablet. Customer enters pin.5. A receipt is printed, and transaction is complete.

Scenario name	Table needs to be Cleaned.
Actor instances	Busboy, Waiter, Hostess
Flow of events	<ol style="list-style-type: none"> 1. Waiter updates the table status that needs to be cleaned on the tablet. 2. Busboy gets an alert stating table needs to be cleaned. 3. He selects the table layout option and views the table that needs to be cleaned. 4. He cleans the table. 5. Busboy updates the table status to cleaned. 6. Hostess receives an alert that the table is available and clean.

Scenario name	Manager makes change in menu
Actor instances	Manager, Chef, Restaurant Owner
Flow of events	<ol style="list-style-type: none"> 1. Restaurant owner and Manager decides a certain item should be added to the menu. 2. The chef, restaurant owner and manager discuss and finalise the change. 3. The chef provides appropriate recipe and ingredient list. 4. The restaurant owner accesses the edit menu option and includes the dish.

Scenario name	Restaurant Closes (Monday to Thursday)
Actor instances	Chef, Manager, Busboy, Waiter, Hostess
Flow of events	<ol style="list-style-type: none">1. Restaurant closes at 9:00pm.2. Waiter clears all dishes from tables.3. Busboy cleans all the tables and updates their status.4. Hostess updates the status of all tables to available.5. The kitchen staff cleans the kitchen.6. The chef begins inventory. He updates items that need to be ordered.7. The manager counts the day's receipts, sends the credit card report, records daily sales information and locks all financial materials in the safe.

Glossary

Select An item, command, request, etc is invoked through either touching a screening or choosing an option from a menu.

mPOS Mobile Point of Sales System.

POS Point Of Sale System.