Requirements Document

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1 What is The Restaurant Automation System?

The Restaurant Automation System is a comprehensive software solution designed to streamline restaurant operations, with a focus on order management and inventory tracking. Tailored for small to medium-sized establishments, this system helps restaurant managers and owners efficiently handle customer orders, monitor stock levels, and optimize daily workflows. By automating routine tasks, it reduces administrative burden and enhances overall service quality.

2 Major Features

Major features of The Restaurant Automation System include:

- Menu item creation and display
- Ingredients and stock tracking
- Order creation and display
- Automatic stock deduction on order
- Ingredient shortage notifications
- Daily and weekly report generation
- Item category and subcategory support

3 How does it work?

The Restaurant Automation System works by allowing users to create and manage menu items, each associated with a list of ingredients. Every time an order is placed, the system automatically updates the ingredient stock.
The process starts with adding items to the menu, assigning them to categories (e.g., Starter, Main, Dessert), and specifying the required ingredients and quantities.
Ingredient management allows managers to track current stock levels, refill when necessary, and receive notifications for low inventory.
When customers place an order, the system checks ingredient availability, confirms the order, and deducts the required ingredients.
Managers can view all orders placed on a particular date and generate reports accordingly.

4 Using The Restaurant Automation System

4.1 Getting Started

The Restaurant Automation System starts. It requires the user to enter a security username and password.

Figure 1 - Login Dialog

Once the user has successfully logged in, the main menu will be displayed. The user has four choices:

1. Create new order
2. Display menu
3. Manage Inventory
4. Generate Reports

4.2 A help menu is available for users on the main menu that will help them decide which selection is best their needs.

4.2 Main Menu

Figure 2 – Main Menu

Once the user chooses "Create Order" option, the following window will be displayed. This dialog allows the user to enter:

1. Table
2. Menu Item
3. Quantity

4.3 Create new order

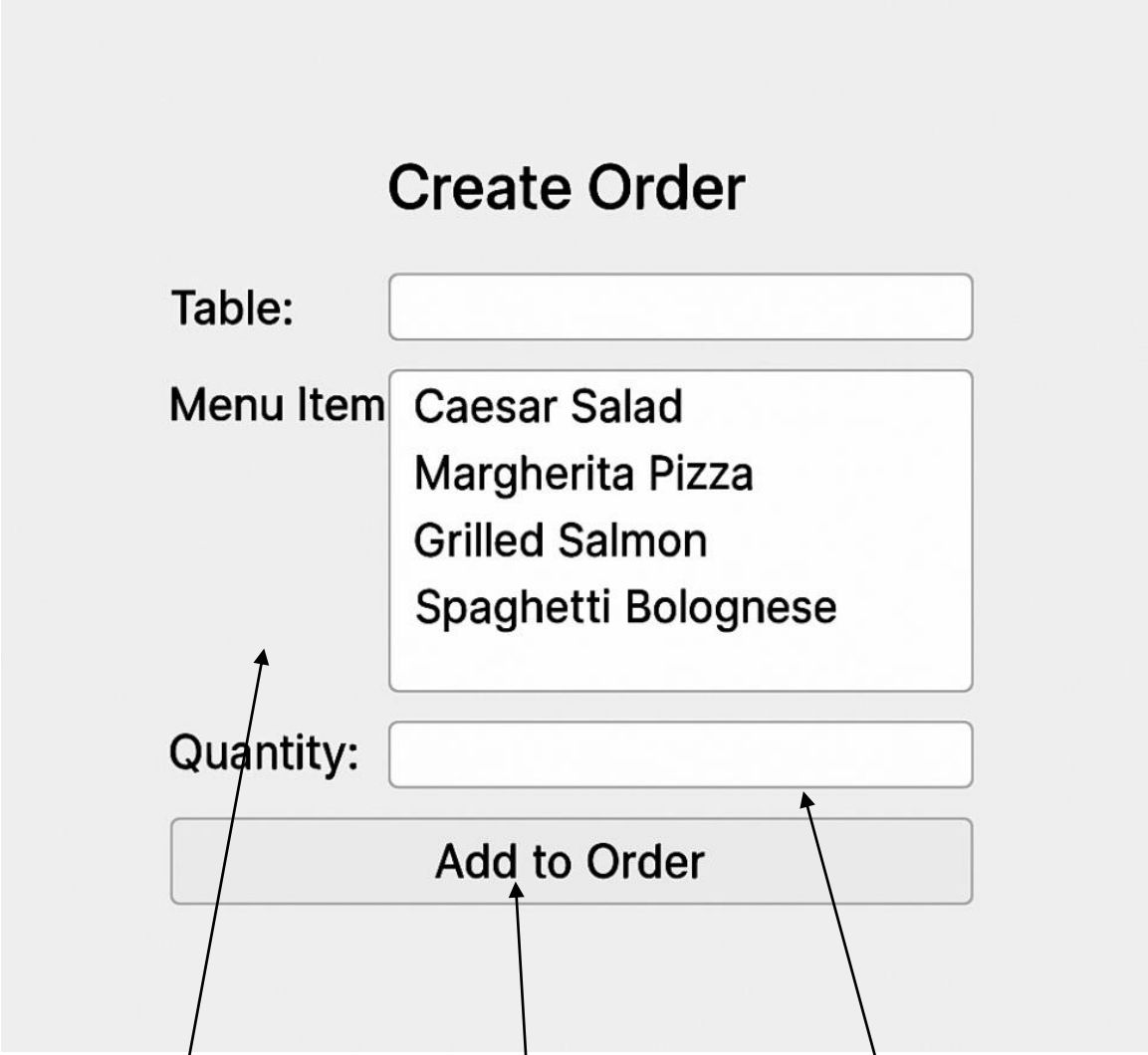

Figure 3 - Create New Order

4.4

Shows the table of the order

Shows the ordered items

Shows the quantity of the added item

4.4 View Menu

The user clicks on "View Menu" button, and following window will be displayed.

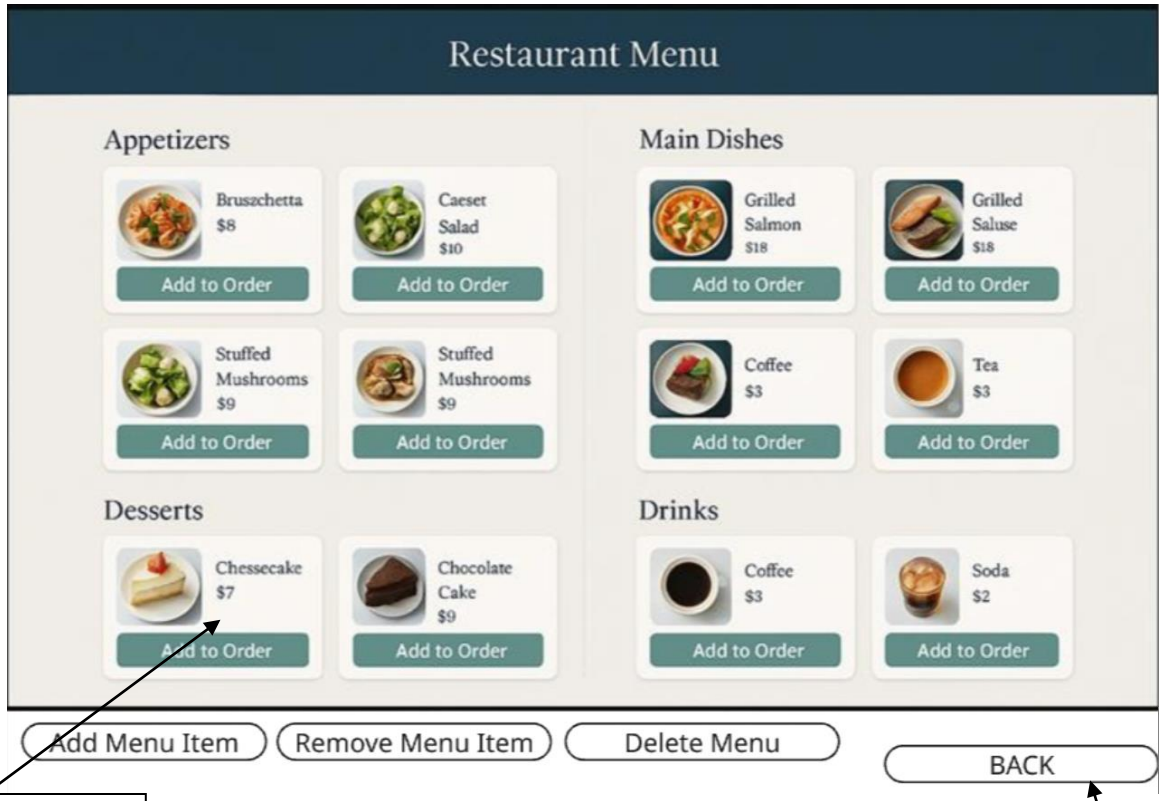

Figure 4 – Menu Properties

Order item type

By clicking on add, delete or remove button, you can add employee type, or remove order type from the list, or delete the entire menu

Directs the user into the main menu

"Back" will bring the user back to previous window.

4.4.1 Add New Menu Item

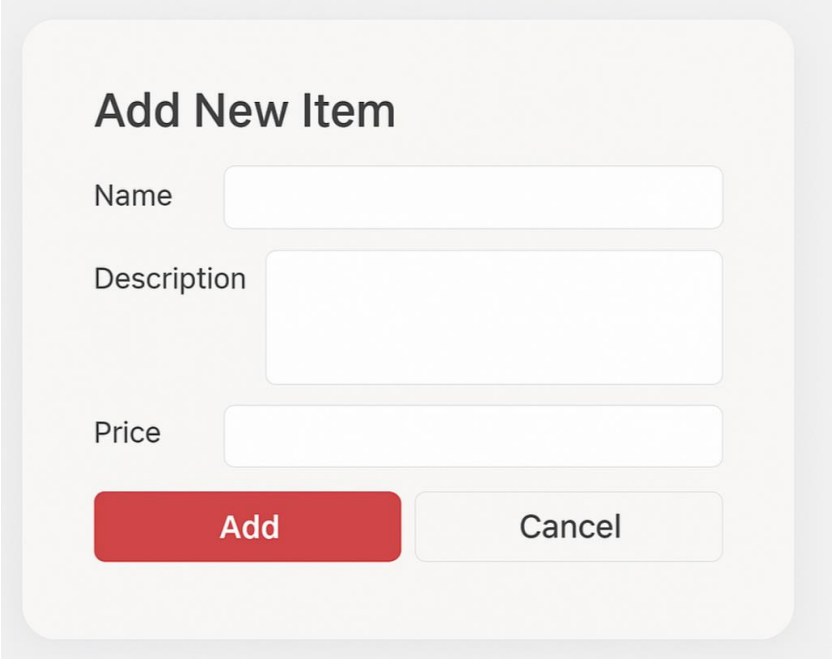

Figure 5 – Add new Item

4.4.2 Add To Order

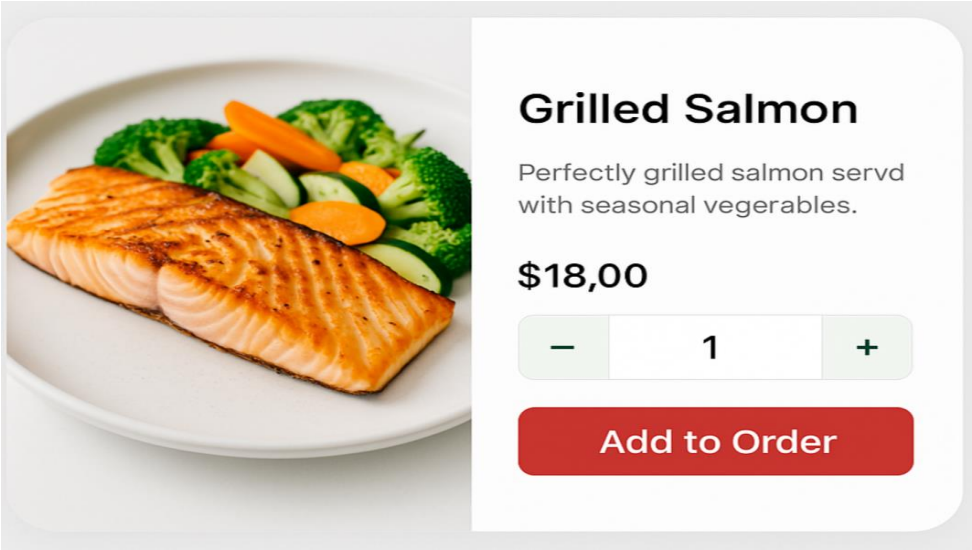

Figure 6 – Add to Order

4.5 Manage Inventory

The user clicks on “Manage Inventory” button, and following window will be displayed.

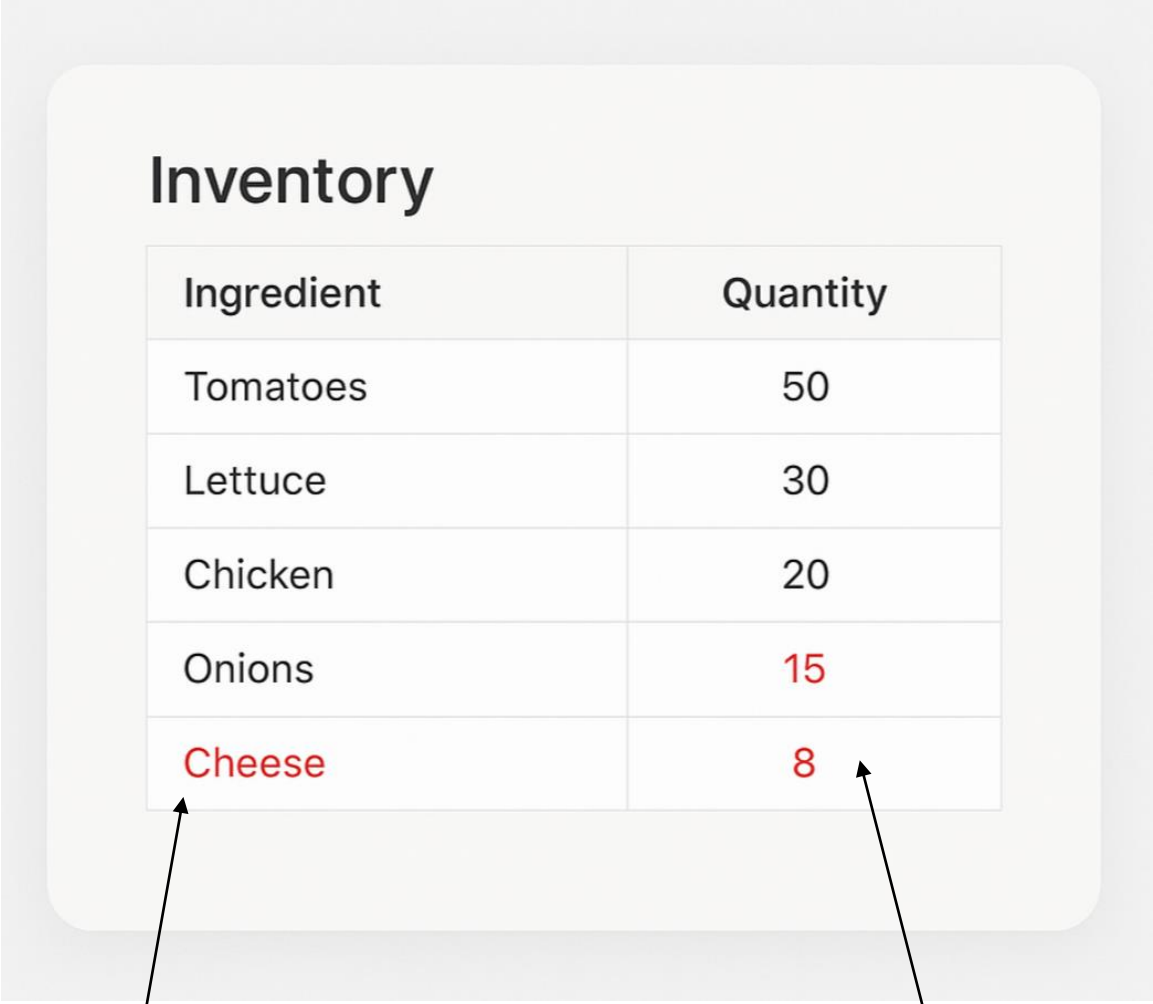

Figure 7 - Manage Inventory

4.6 Generate Reports

Shows the entire orders

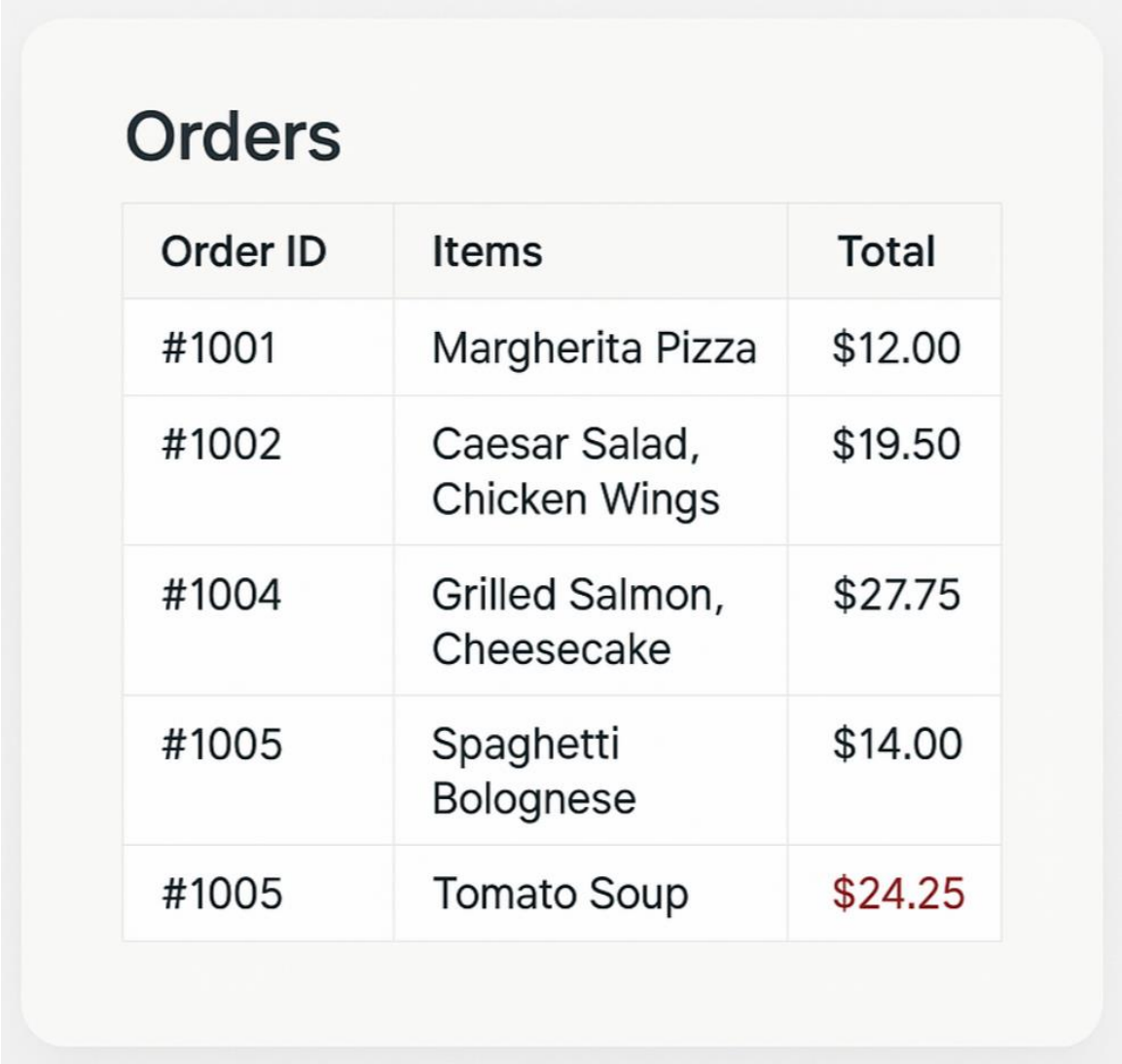

Figure 8 – Generate Reports

COCOMO Analysis

Function Point Calculator

The Madison Utilities, Department of Computer Science, James Madison University

Total	Factor	FP
101	0.83	**84**

Direct Measure	Count Simple	Average	Complex	Weighted Measure
External Inputs (EIs)	2	2	1	20
External Outputs (EOs)	2	2	1	25
External Inquiries (EQs)	1	1	0	7
Internal Logical Files (ILFs)	2	2	1	49
External Interface Files (EIFs)	0	0	0	0

Clear

Value Adjustment Factor	0	1	2	3	4	5
The system requires reliable backup and recovery.	○	●	○	○	○	○
Specialized data communications are required.	○	●	○	○	○	○
There are distributed processing functions.	●	○	○	○	○	○
Performance is critical.	○	●	○	○	○	○
The system runs in an existing, heavily utilized operational environment.	●	○	○	○	○	○
The system requires on-line data entry.	●	○	○	○	○	○
The on-line data entry requires transactions over multiple screens/operations.	●	○	○	○	○	○
ILFs are updated on-line.	●	○	○	○	○	○
The inputs, outputs, files or inquiries are complex.	○	○	●	○	○	○
The internal processing is complex.	○	○	●	○	○	○
The code is designed to be reusable.	○	○	○	○	●	○
Conversions /installation are included in the design.	○	○	●	○	○	○
The system is designed for multiple installations in different organizations.	●	○	○	○	○	○
The system is designed to facilitate change and ease of use.	○	○	○	○	○	●

Mike's Basic COCOMO Calculator!

Enter the number of estimated lines of code and the calculator will determine how much time and how many people will be needed!

4 Thousands of Lines of Estimated Code.

Perform Calculation

Organic Values

Number of Months Needed: 6.0623669 Number of People Needed: 2

SemiDetached Values

Number of Months Needed: 6.3232443 Number of People Needed: 2

Embedded Values

Number of Months Needed: 6.4142789 Number of People Needed: 3