Cover Page

**Restaurant Order Management**

[https://github.com/27os/OOPFinalProject.git](https://github.com/27os/OOPFinalProject.git" \t "_blank)

Group#

Bowen Jiang

Jonathan Xiao

Date of Submission

**Table of Work**

(Please write x in the boxes to mention what each student achieved in this project)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Bowen Jiang | Jonathan Xiao |  |
| Project Description |  | x |  |
| Uses Cases Diagram(s) | x |  |  |
| Sequence Diagrams | x | x |  |
| Class diagram(s) | x |  |  |
| Implementation | x | x |  |
| Conclusion |  |  |  |

**Table of Contents**

* Terminology Glossary (If needed)
* System Analysis
  + Project Description (One Page)
    - General Description, Goals and Benefits
    - System input(s) and output(s)
    - Special requirements (Performance, Interfaces, Constraints, Reliability, if any)
* System Design
* Conclusion
* Appendix (any related reports, questionnaires, docs.. If any).

Project Description

We used java to create a restaurant Order Management System that streamlines restaurant operations through three categories: customer interface, manager interface, and supplier interface. The system uses a file-based data storage system with three text files (Data.txt, Menu.txt, and Orders.txt) to maintain operational data, menu information, and transaction records. Our goal is to create a centralized system to manage orders, provide an ordering system for customers, and maintain accurate inventory and budget tracking. There are a wide variety of benefits for customers, managers and suppliers, including:

1. Customer

* Straightforward interface for viewing menu and system
* Transparent pricing information

1. Managers

* Comprehensive order history
* Centralized control over menu and procurement

1. Suppliers

* Clear communication channel with restaurant

System Inputs & Outputs

* Inputs: Customer information and orders entered through the Customer GUI
* Inputs: Order records input via the Order GUI
* Inputs: Inventory updates and material inputs managed via Supplier GUI
* Inputs: Initial settings and data loaded from Data.txt, Menu.txt, and Orders.txt
* Outputs: Displayed in real-time to managers
* Outputs: Reflecting changes after orders are processed

Requirements:

This application should handle multiple simultaneous users, especially in scenarios where managers and customers interact concurrently. It includes an interaction between different GUI components and external data files. But there will be some constraints, which relies on Java Swing for GUI components, limiting cross-platform scalability. Also, several managers might not use at the same time as it might cause critical section failure.

System Design

Use case Analysis:

1:

Name: View Menu

Related: NA

Description: Customers can view the menu of this restaurant including the information of available products and their prices

Actor: Customer

2:

Name: Place Orders

Related: NA

Description: Customer Place order. The product and the number of items got recorded to the order.txt file.

Actor: Customer

3:

Name: Make reservatoin

Related: NA

Description: Customer reserve for a seat and the name information got recorded to the order.txt file with a message of reservation information.

Actor: Customer

4:

Name: View Menu

Related: 5 6 7

Description: manager can view the whole menu and got a chance of further editing this menu

Actor: Manager

5:

Name: Edit Product

Related:4 6 7

Description: Manager can edit certain product's price and this change will be recorded to menu.txt

Actor: Manager

6:

Name: Delete Product

Related: 4 5 7

Description: Manager can add a new product and this change will be recorded to menu.txt

Actor: Manager

7:

Name: Add Product

Related: 4 5 6

Description: Manager can delete certain product and this change will be recorded to menu.txt

Actor: Manager

8:

Name: Buy material

Related: NA

Description: Manager can buy raw material without exceeding the budget

Actor: Manager

9:

Name: view orders

Related: NA

Description: managers can view all orders stored in the orders.txt

Actor: Manager

10:

Name: Update status

Related: NA

Description: Supplier can change the price of raw material and mark it as available/unavailable

Actor: Supplier

The attached PDFs include all the diagrams for supplier, customer, and manager.