Software Requirements Specification

for

Restaurant Management System

Version 1.1

Prepared by Khushi Mattu

Google

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Revision History

Name	Date	Reason For Changes	Version
Food management system	14/08/21	Initial draft	1.0
Restaurant Management System	20/08/21	Reviewed and updated	1.1

1. Introduction

1.1 Purpose

This SRS describes the software functional and nonfunctional requirements for release 1.1 of the Food management system. The purpose of our food management system is to build a website on which we can order food anytime from the restaurant we want and it will be delivered as soon as possible. In the future, we can include more restaurants on the website and the user can order from the restaurant of their preference. This document should act as a foundation for efficient and well-managed project completion and further serve as an accurate reference in the future. The primary audience of this SRS document will be the development team.

1.2 Document Conventions

In this document, the font used is Times New Roman. The font size for headings is 16, sub headings is 14 and the content under subheadings is 13. The headings and sub headings are in bold. If something extremely important is mentioned, it is highlighted with dark blue. We have used “high” or “low” priority words in this document which is mainly in the 4th section.

1.3 Intended Audience and Reading Suggestions

This project is a product for the food management system (restaurants). This document is mainly for the project managers and developer’s team to use as a reference. It explains all the requirements of the product. This project will be helpful to restaurants and users. It will be better to read this document step by step and understand every requirement This document is primarily intended to be proposed to a customer for its approval and also for further processing such as additions to be developed in later releases.

1.4 Product Scope

The main aim of the project is the restaurants to be able to deliver food to the users at any time at an affordable price. There should be occasional discounts which will attract people towards the website. Rather than keeping the project limited to one restaurant, we will try expanding it to more restaurants so people can choose their preference. There is no need to wait in lines and customers can directly order from the comfort of their homes. Monthly reports will help restaurants to know their sales and how much in profit or loss they are. Human error will be minimized. If the price of a dish is changed or a new one is added, there is no need to change the whole menu, it can be updated alone.

1.5 References

IEEE Software Requirements Specification Template
https://web.cs.dal.ca/~hawkey/3130/srs_template-ieee.doc

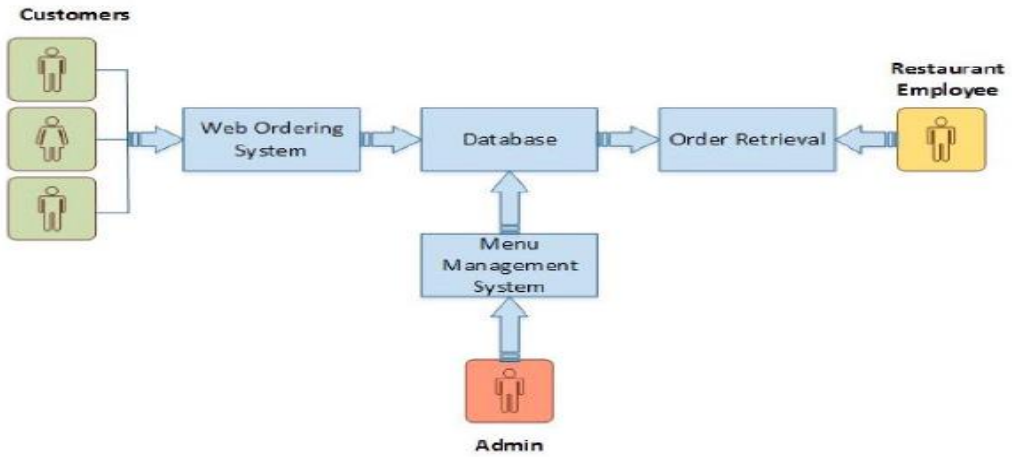
2. Overall Description

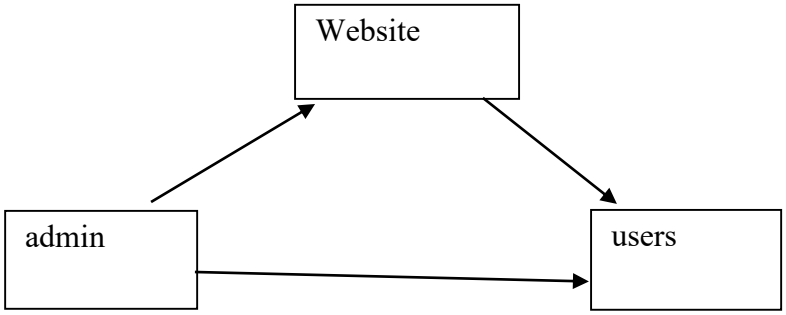
The Food Mangement System is a software package to facilitate ordering within a traditional restaurant. The customer is able to view the menu, place orders and view the final bill through the computer interface.

2.1 Product Perspective

The Restaurant management system helps the owners or the restaurant manager to manage the restaurant more effectively and efficiently by computerizing meal ordering, billing and inventory control and it also helps in increasing the sales of the restaurant by reaching a wide range of population. The system processes transaction and stores the resulting data.

It consists of two parts: a website and the other is a database. The website will be used for ordering and interacting with the inventory while the database will be used for storing the inventory and ordering related information about the food items like pending and complete order queues. Customer's interface will consist of a scrollable menu listing available items and their price. The customer can select the dishes and place the order. Head Chef's interface will be such that he is notified of the pending order and he is able to assign it to one the available queues of chefs who are then able to see the new order in their screens or on a central display in kitchen. Admin can change and modify the database like add new menus or staff, edit current inventory stock etc.





Website is handled by admin and used by user and the users account is managed by admin.

2.2 Product Functions

The Food Management system would have the following basic functions:

Ordering Function
This module provides the functionality for customers to place their order and supply necessary details.

- Create an account.
- Manage their account.
- Log in to the system.
- Navigate the restaurant's menu.
- Select an item from the menu.
- Add an item to their current order.
- Review their current order.
- Remove an item from their current order.
- Ask payment mode and provide payment details
- Place an order.
- Receive confirmation in the form of an order number.
- View order placed.

Menu Management System
This can only be accessed by the admin. It will allow the admin to

- Add/update/delete food categories to/from the menu.
- Add /update/delete food items to/from the menu.
- Update price for a given food item.
- Update additional information (description, photo, etc.) for a given food item.

Order Retrieval System
It is designed to be used only by restaurant employees, and provides the following functions:

- Retrieve new orders from the database.
- Display the orders to the employees in a systematic manner.
- The order will then be delivered to the customer.

The application will automatically fetch new orders from the database at regular intervals.

2.3 User Classes and Characteristics

Admin:

- The admin is responsible for managing the accounts of the users.
- Only the admin can update/insert/delete items in the menu.
- Only the admin can update prices of items.

Users:

- The users can place order for their items.
- Users can track their order.
- Users will receive the contact information of the restaurant so that they can contact them in case of last minute changes.

Restaurant employees:

- They can access the orders of all the customers.

All 3 classes are equally important for this product.

2.4 Operating Environment

The operating environment will have:

- Oracle database
- client/server system
- Operating system: Windows.
- database: sql+ database
- platform: html/css/javascript/flask/python

2.5 Design and Implementation Constraints

- The Online Food Order System application is a web-based system. It can be accessed using IE 10.0 and above, FireFox 31 and above and Google Chrome.
- All of the application data is stored in a Oracle database, and therefore a Oracle Database must also be installed on the host computer. As with Apache2, this software is freely available and can be installed and run under most operating systems.
- The server hardware can be any computer capable of running both the web and database servers and handling the expected traffic. For a small scale restaurant that is

not expecting to see much web traffic, an average personal computer may be appropriate.
- Once the site starts generating more hits, it will be necessary to upgrade to a dedicated host to ensure proper performance so that it can handle the traffic.
- The confidentiality of customers personal details should be taken into consideration at all times.

2.6 User Documentation

There will be helpline numbers and email of the restaurant available on the website so that the customers can receive online help in case of any discrepancy. If required, we will also provide a customer assistance chatbot on the website.

2.7 Assumptions and Dependencies

- Customers using windows or ios will be more benifited.
- In case the user forgets their password, there will be an option to form a new password.
- If there are more devices with the employees, it will ensure fast delivery of orders.
- The software will always be used on the laptops or computers that have enough resources to run the application.
- There should be a database that stores all the details.

3. External Interface Requirements

3.1 User Interfaces

The user interface will be implemented using chrome on windows. The interface will be user friendly and such that no user will face difficulty in using the website. We will also try to attach a demo video of how to use the website thoroughly on the website so that it will help the users. There will be restaurant helpline numbers and email of the restaurant in case they are still facing problems. There will be a forgot password option in case the user forgets their password. The interface will be very clear to understand and use.
Front-end: HTML/CSS
Backend: Flask/Python/javascript/PHP/SQL

3.2 Hardware Interfaces

A laptop with good memory would be required. A browser which supports languages like HTML, CSS, javascript, flask would be required. Windows operating system would be required.

3.3 Software Interfaces

Operating system	Windows
Tools	HTML,CSS, SQL, Python
Database	Oracle

3.4 Communications Interfaces

This project supports all types of web browsers. Communication version will require the internet protocol and will support HTTPS. It will also use email communication. It will use FTP for whole system with local server.

4. System Features

Restaurant management system provides users access to the home page, menu, my cart, user account and contact details. The basic function of the online food ordering system are as follows:

4.1 Login page

4.1.1 Description and Priority

This feature provides the functionality for customers to create an account or log in to their account if the account already exists. In case they forget their password, forgot password option is also there which will help them to change their password.

Priority: high

4.1.2 Stimulus/Response Sequences

If the account already exists, then the customer can simply log in to the page by simply providing username and password.

If the account does not exist then they can create an account by simply clicking on “Create an account option” and they will be directed to sign up page where they will have to provide information like name, email, password and contact number. Then click on “Register”.

Their account will be created and they can simply proceed to place their order.

4.1.3 Functional Requirements

REQ-1: The login page will have symbol and name of the restaurant.

REQ-2: “Create an account” option in login page and “Already a member” option in sign up page must be available.

REQ-3: customer agreement for terms of service should be mandatory for creating an account.

4.2 Web ordering system

4.2.1 Description and Priority

This feature provides the functionality for customers to place their order. The customers can

- Create an account.
- Manage their account.
- Log in to the system.
- Navigate the restaurant's menu.
- Select an item from the menu.
- Add an item to their current order.
- Review their current order.
- Remove an item/remove all items from their current order.
- Provide payment details.
- Place an order.
- Receive confirmation in the form of an order number.
- View order placed.

Priority: high

4.2.2 Response Sequences

Customers of the Web Ordering system will interact with the website through an easy-to-use top navigation menu.

- "Home" menu option: will allow the users to see all food items as well as select an item to place an order.
- "Menu" menu option: will allow users to see all food items per category. Item can then be added to the cart using a single button click.
- "My Cart (x)" menu option:

-It will allow users to see details of the items placed in cart. It will also allow user to Update and Delete items as per their requirements. Users can then use a 'Proceed to checkout' button to proceed further.
Once Check Out button is selected, the bill can be viewed by the customers along with the number of orders along with their name and prices and the taxes included and the delivery charge.
- Once order is placed, the user will be presented with an appropriate Order confirmation success/failure message.

4.2.3 Functional Requirements

REQ-1: Browser testing and support for Chrome, IE, NN, Mozila, and Firefox.
REQ-2: Oracle database must be installed on the host computer.
REQ-3: "Home" menu option will show food items with nice images of the food.
REQ-4: Details in the cart include product name, product image, product description, quantity, unit price, total per item and final total of the order.
REQ-5: If the user has not signed in then the software must generate sing in/sign up page before placing the order

4.3 Menu management system

4.1.1 Description and Priority

It will provide functionality for the power user-Administrator only. It will not be available to any other users of the system like Restaurant Employees or Customers.
It will allow an Admin to manage the menu that is displayed to users of the web ordering system:

- Add/update/delete food categories to/from the menu.
- Add /update/delete food items to/from the menu.
- Update price for a given food item.
- Update additional information (description, photo, etc.) for a given food item.
  Priority: high

4.1.2 Response Sequences

Similar to Web ordering system, it contains "Admin" menu with below additional options under "MyAccount" Drop down menu:

- Add Category: Allows to add a food Category name in a simple form.
- Add Product: Allows to add Product Name, Description, Price and choose
- Category in a simple form along with Product Image.
- Modify Product: Allows updating or deleting product details.
- Modify price: Updating the price of a food item.

4.1.3 Functional Requirements

Before customers can actually use this system, functionality provided by this component will have to be configured first. Once the initial configuration is done, this will be the least likely used component as menu updates are mostly seasonal and do not occur frequently.
REQ-1: system must allow the customer to increase, decrease or even remove the dish from the order any time before payment.
REQ-2: admin should be able to edit the details of food items.

4.4 Order Retrieval system

4.1.1 Description and Priority

It is designed to be used only by restaurant employees, and provides the following functions:

- Retrieve new orders from the database.
- Display the orders in an easily readable way.

Priority: high

4.1.2 Response Sequences

It will automatically fetch new orders from the database at regular intervals and display the order numbers.

- Under the “MyAccount' menu a customer will be able to see only his/her order whereas a Restaurant Employees or an Admin can see all users' orders.
- To view the details of an order, the user must click on that order number, which will display all order details This structure can intuitively be expanded and collapsed to display only the desired information.

4.1.3 Functional Requirements

REQ-1: The system must show all available and unavailable dishes.
REQ-2: The system must show which dishes are left to prepare and which have been prepared.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- Customer details will be confidential and not be leaked.
- Delivery should be as fast as possible.
- Hygiene and cleanliness should be maintained at all times.
- 24x7 food availability
- Substantial food quality
- The performance will depend upon hardware and software components and memory and other details of devices.
- Payment system will be fully secure through POS system.
- The system must be interactive, and the delays involved must be less.

5.2 Safety Requirements

Vendors should choose their database partner carefully. The software is completely environmentally friendly and does not cause any safety violations. The menu will have a flexible font that can be zoomed so as to not over constrain the eyes.

5.3 Security Requirements

- The confidential data of the customers will be safe with restaurant and not be disclosed.
- The whole system is secured. Only admin can access the data.
- This system will use secured POS system.
- This system will use HTTPS because this protocol this is more secure.
- There is a need for a proper and encrypted login authentication for head chef and admin as employee sensitive information as well as inventory should be protected from hacking.

5.4 Software Quality Attributes

- **Availability:** There can be a change in the menu. The system is up and running 24x7 and server is not down for more than a few minutes to avoid inconvenience of the customers.
- **Correctness:** The bill generated by the application must be accurate and the orders placed should exactly be the same which the user has selected.
- **Maintainability:** Software can be easily repaired if a fault occurs.
- **Usability:** Interface of the software must be easy to use.
- **Maintenance:** The site should avoid being crashed.
- **Flexibility**: If need arises in the future, software can be modified to change the requirements.
- **Reliability**: No matter how many orders are placed, system must give the correct results.
- **Reusability**: Current version can be used in the future versions with more functionality added.
- **Testability**: All the requirements are fulfilled, response time is low, and all functions are working perfectly.

5.5 Business Rules

- Customers can place order from the list of available items and can update order and pay the bill.
- Once the bill is paid the cooking starts.
- As soon as the order is ready, the delivery person will come and pick up the order and then deliver it.
- The customer can then tip the delivery person and the restaurant.
- Admin has access to perform add, delete, update operations on the database for menu, inventory, employees and no other person can modify the data in the db.

6. Other Requirements

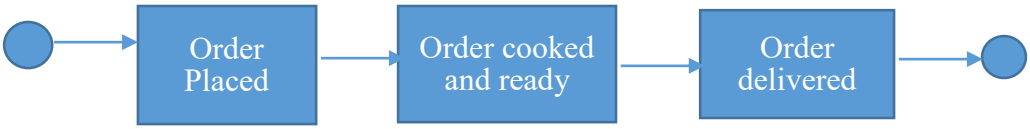
Security systems need database storage just like many other applications. However, the special requirements of the security market mean that vendors must choose their database partner carefully. The application should always be kept up to date. There should not be any abuse of power.

Appendix A: Glossary

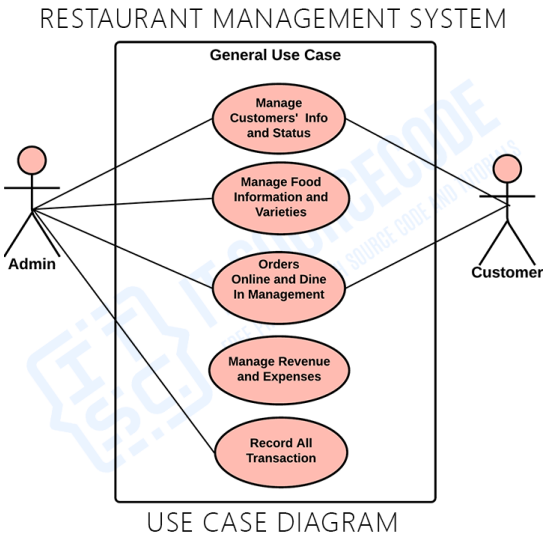
- ER – Entity Relationship
- POS- POS system is a computerized network that consists of the main computer linked with several checkout terminals and supported by different hardware features starting from barcode scanners and ending with card payment terminals. As businesses have different profiles, they need various point of sale systems as well.
- db - database

Appendix B: Analysis Models

State Diagram:

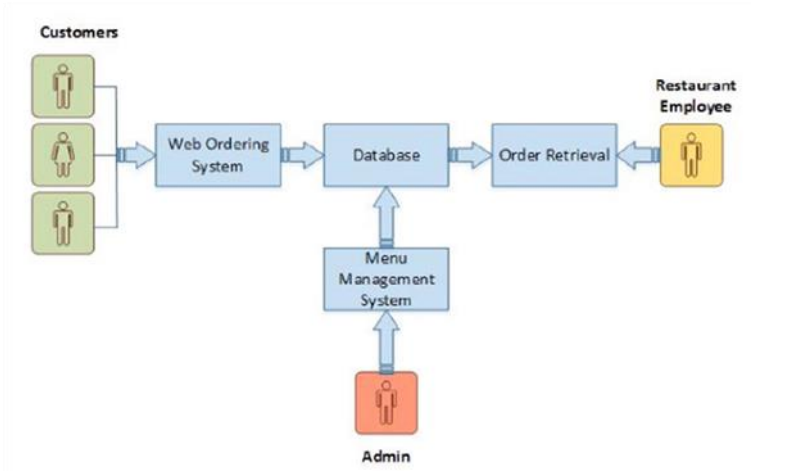


USE CASE DIAGRAM:

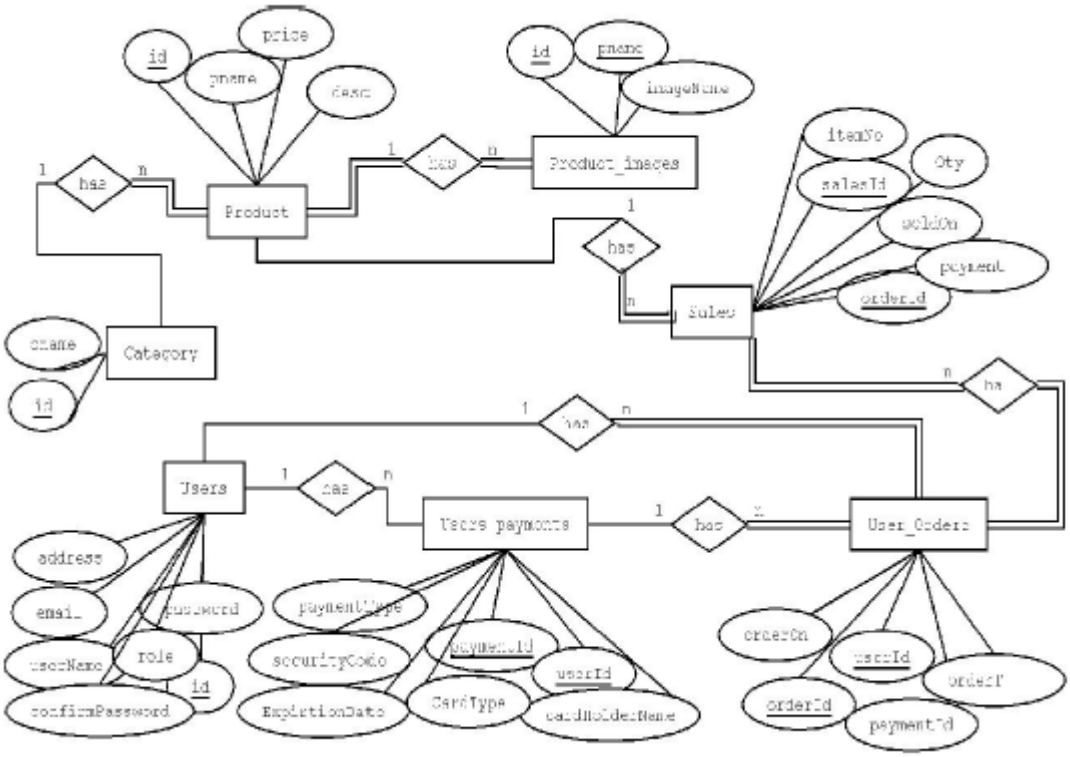


Source: Google

Analysis Model:



ER Diagram:



Appendix C: To Be Determined List

- Monthly order report is yet to be determined by the client and may need further meetings for elaboration.
- Adding POS features to the application is yet to be determined as well.
- The use of HTTPS requires most discussion.
- Prioritizing inventory stocking feature (restock the items that are most ordered often) is yet to be determined by the client and may need further meetings for elaboration.