THE BURGER HUB

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Introduction:

Our restaurant management system named "The Burger Hub" has been proposed to be implemented to replace the manual system.

The main aim of this project is computerization of all processes which happens in the Restaurant. It enables a restaurant to better serve its customers.

Scope:

In this restaurant management system, we will provide an application that can be used by the customers to order food. This will ultimately lead to hire less waiters, serving food faster and create an opportunity to appoint more chefs.

Technologies:

Front End

The interface would be completely GUI based. The front end of the system would be windows form running on Microsoft Windows Platform. The language used to develop the system would be C-Sharp.

Back End

For the back end and database, we'll use Oracle SQL Plus for storage and retrieval of data. The logics will be driven via SQL queries.

Additional / Overall Applications:

- Oracle SQL Plus
- C-Sharp Language
- Windows

System Constraints:

Hardware Limitation

There are certain Minimum hardware requirements for the system to perform smoothly, which includes:

- Intel Core 2 Duo 2.00 GHz
- 4 GB Ram DDR2
- 10 GB hard disk space
- DirectX 11 capable video card

Software Constraints

The system will require Microsoft windows.

Related Work:

Existing systems contains all the basic features that are required for Hotel Management System. The following are the related systems:
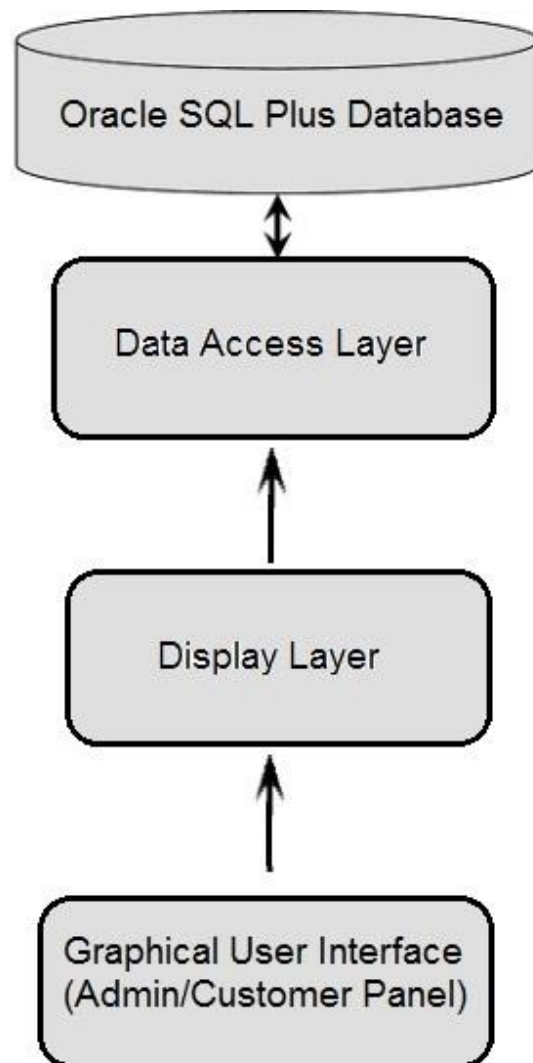
Toast Restaurant: https://pos.toasttab.com

Woodberry Kitchen: https://www.woodberrykitchen.com

Kebabistan Restaurant: http://www.kebabistan.com.pk

Application Overview:

System Architecture

Sub Components:

Modules are the sub-systems of the software on which the project is based. It is a categorical view of the system. Restaurant Management System would be based on the following modules:

There will be two main panels in our software:

1. Admin Panel
2. Customer Panel

Admin Panel:

To login in an admin panel requires username and password, once the user has entered password correctly, he/she can use the functionalities of our software which includes:

Login/Log out button.

Viewing sales history.

Adding/deleting staff members and editing their details.

Adding/deleting product in our menu or editing the details of our products e.g. price.

Adding/deleting an item in our inventory or to edit our item's quantity.

Customer panel:

Customer panel is for dine in and take away customers, it will have the following functionalities:

 Menu will be shown to the user from which he/she can place an order by selecting items from the menu, adding them to the cart and then clicking on the order button, the user can also delete an item from the cart if he/she has not clicked on the order button. Once the order button is clicked the receipt will be generated.
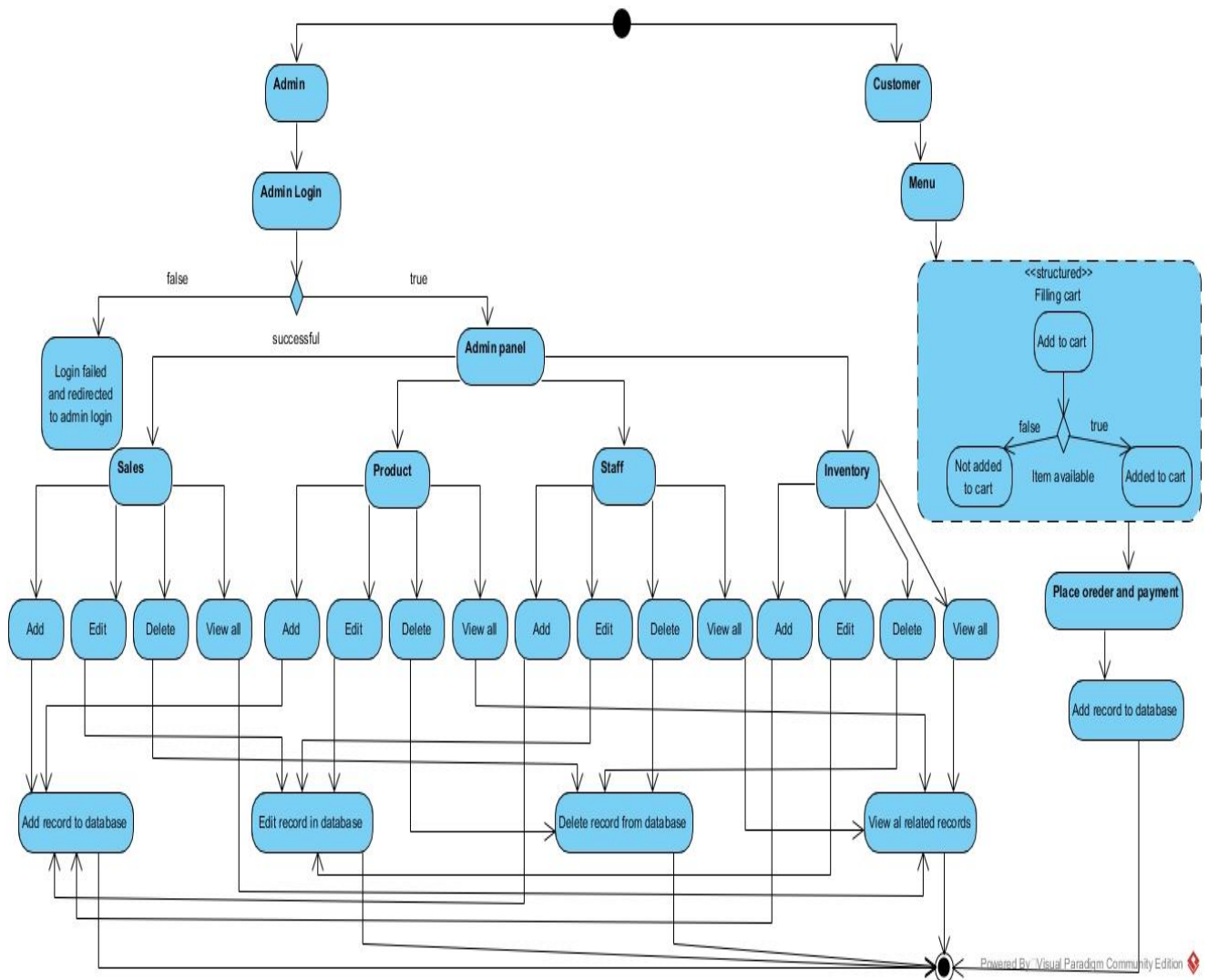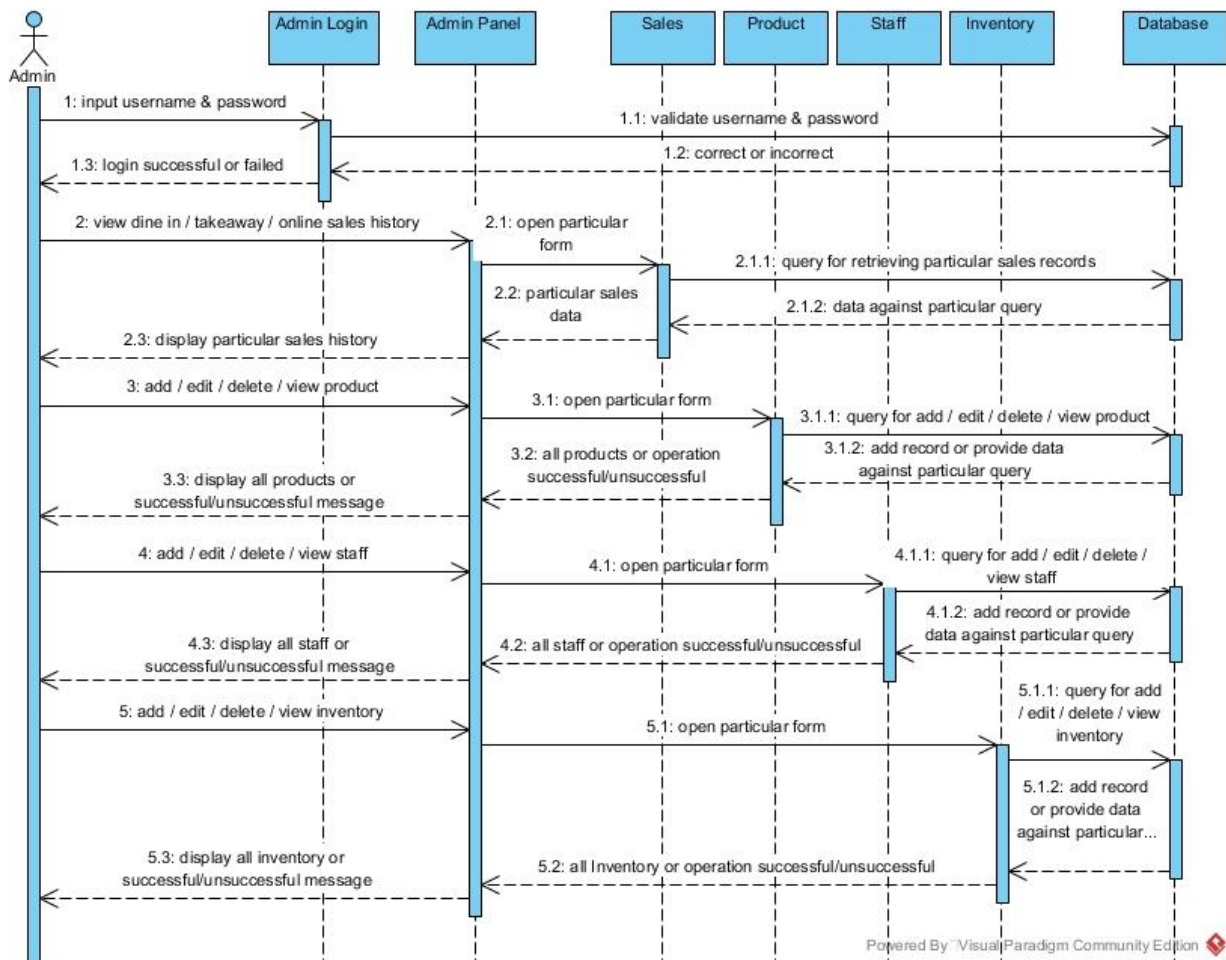
Use Case Diagram
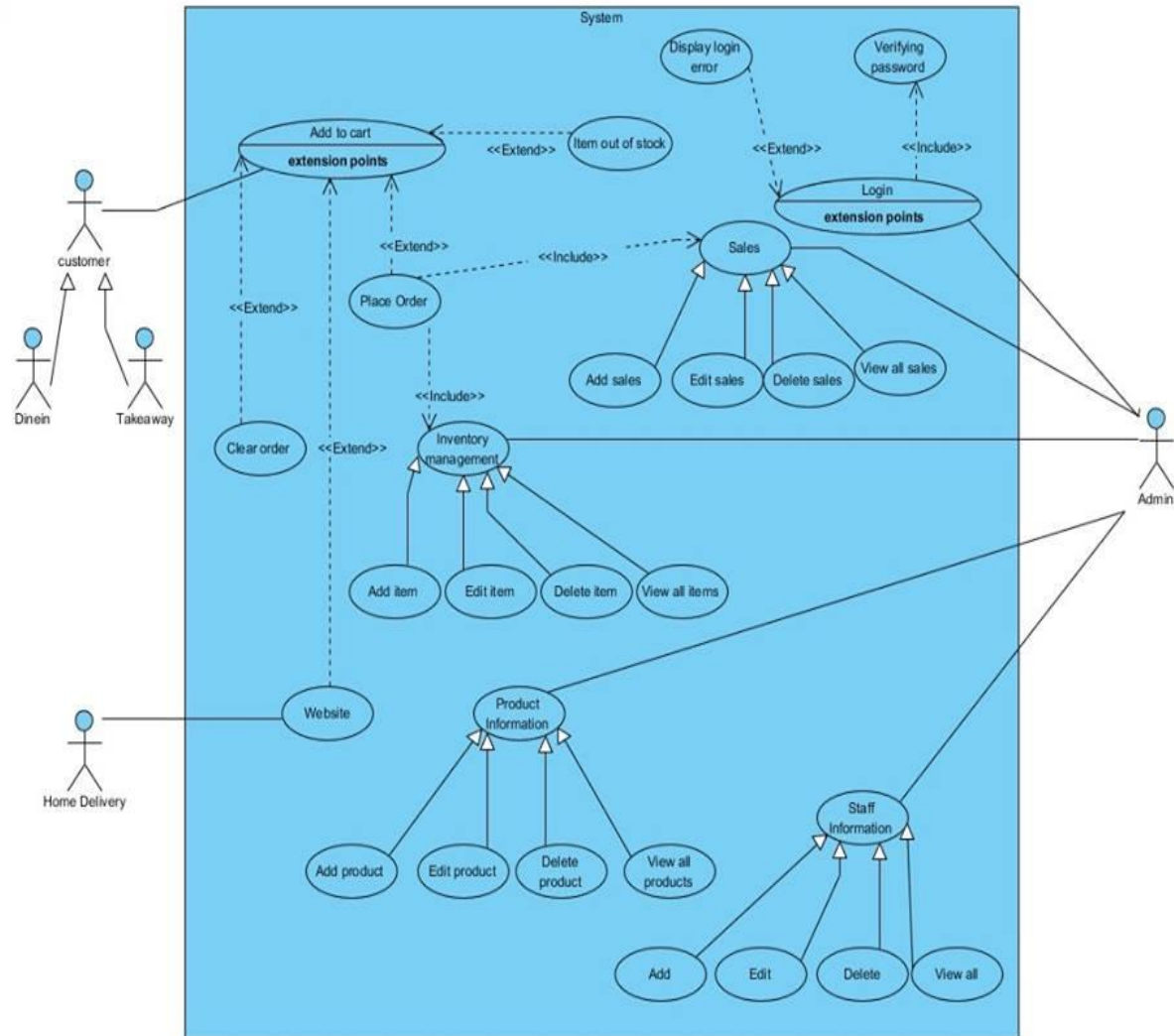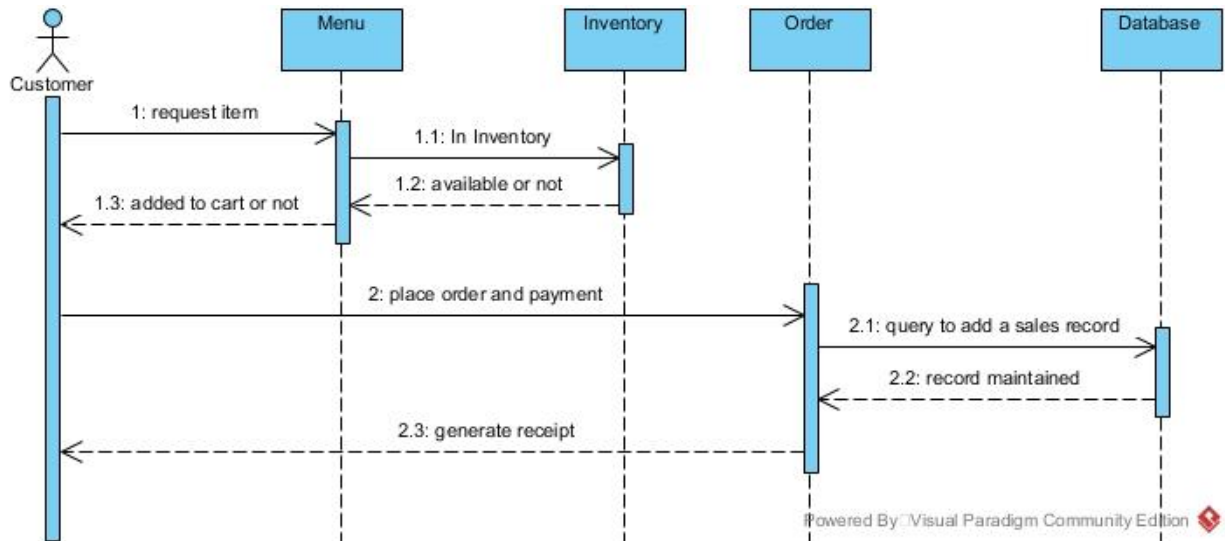
Class Diagram
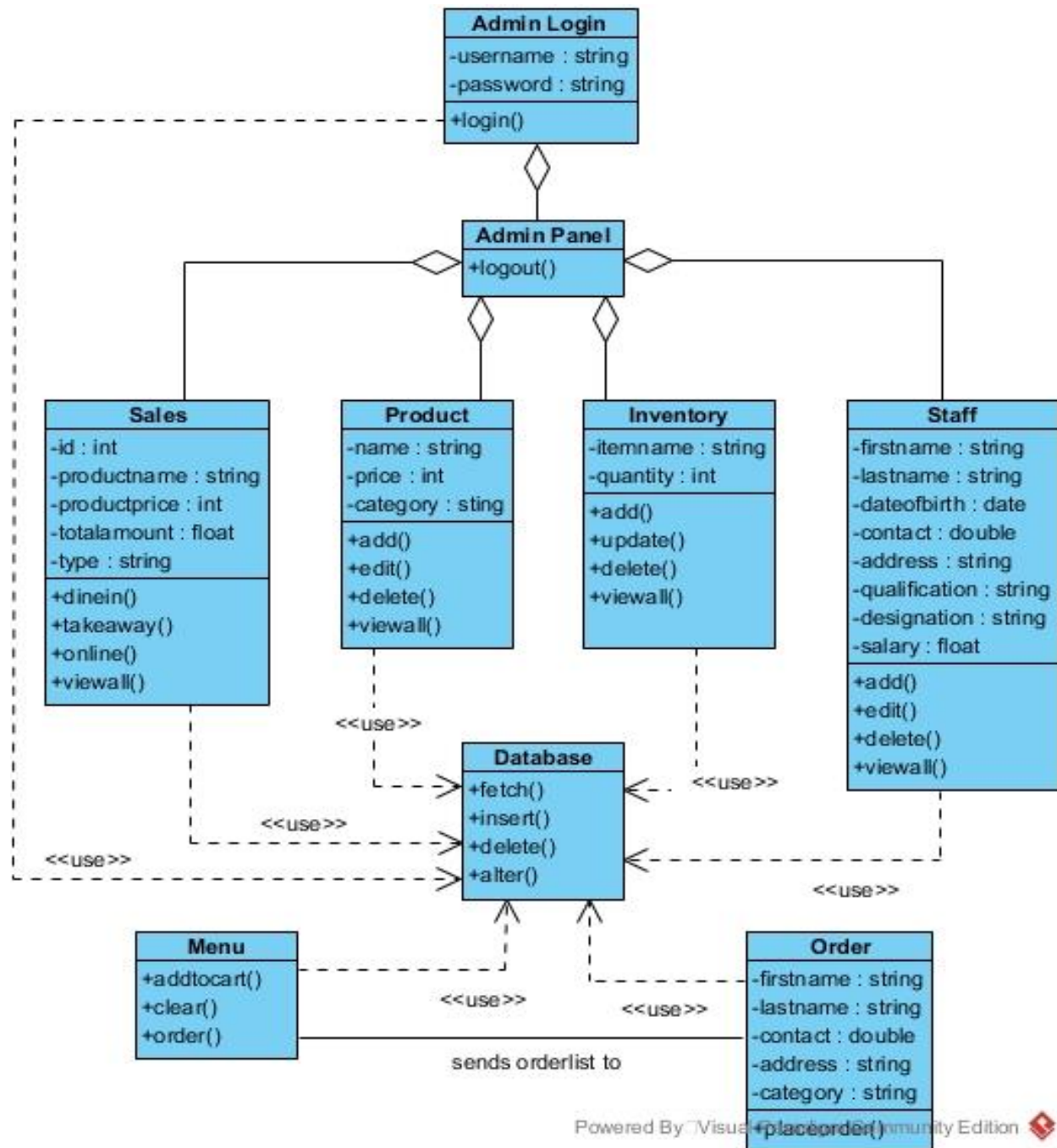
Activity Diagram

Sequence Diagrams

Admin Flow:

Customer Flow:

Functional Requirements:

Functional Hierarchy

A complete restaurant management software comprises of two major sections; one for user to order and other for admin to track and maintain inventory & staff information etc. This software will facilitate the end users to order their food without waiting for waiter to come and take their order.

The Burger Hub will be having features like:

- Making Orders (dine In, Take Away, Delivery) and generating bills.

- To manage Inventory about the Billing of customers.

- To manage the inventory for the current bill of a customer to be paid.

- Security of All data (staff info, sales history) in Sign in Form.

- To manage the Products inventory of a Restaurant.

- Online Food ordering for a customer At home to save Time.

- To have a proper Database to handle all orders as well as Inventory of the products.

Our system comprises of two sections:

1. **Admin:** Admin actually have access to all over the system including inventory, staff, and sales history.

2. **Users:** Users are of two types:

   i. **Dine In & take away:**
       These users directly approach to the counter and place order using monitor.
   ii. **Home delivery:**
       These users approach our website and place order there and can track their order details.

Non-functional Requirements:

Performance Requirements

The performance requirements are discussed in each of the categories below:

Speed:

The system will be accessed by a lot of users, which will inadvertently affect the speed of the software. This Load factor on the server of handling so many users at the same time has to be considered so that the speed of the system is not affected in any way.

Response Time:

The time in which the request of a user (item unavailable or order has been placed etc) is completed has to be considered so that the user does not have to wait too long to get a response from the system.

Throughput:

The system has to cope with handling a lot of user requests at the same time. The system should be able to complete a lot of client's requests at the same time in order to keep the efficiency level of the system at a high level

Safety Requirements

A virus can influence the system so an anti-virus must be parched to inshore the any possible virus attack. The backup of the database should maintain regularly.

Security Requirements

Admin must keep their logins private and secure to avoid any misuse as they would be given rights to modify the inventory, change in menu/its price, staff information etc.

User Documentation

A copy of all the deliverables-Software Requirements Specification, Functions Specification will be given to the client.

A document mentioning the guidelines of how to use the system will be provided to the client which will be the user manual.

Project Management Tools:

Methodology

Methodologies are the collection of methods in software development required to complete the process of developing the software. We've used agile methodology for the development of our software and keep optimizing it in each sprint till we got the final one.

Repository Management

Code management done on git hub.

Conclusion:

This project tends to introduce user friendliness in the various activities such as ordering food, maintaining, searching and other information. The searching of record has been made quite simple as all the details of the customer or staff can be obtain by simply typing in the identification of the customer or staff. The whole management system is designed for a general computerized restaurant. It also enables the platform to serve the needs of emerging technology trends.

Future Work:

The Burger Hub can be enhanced with the feature of tracking all past orders of a customer just by searching his name (or customer id to avoid duplication), for example suppose a customer ordered a meal by any means 6 times in one month in your restaurant so by seeing that he is visiting your restaurant frequently so you can offer him a discount coupon code as a gesture of goodwill.

Another functionality which we are planning to add is that when a customer orders same item twice then the item should be displayed in one line in "Add to cart" portion by showing the quantity 2, our system is currently displaying same item ordered twice in two different lines in "Add to cart" portion meaning that it lacks the adding quantity feature.

References:

- https://burgerlab.com.pk

- https://www.bk.com/

- https://burgeroclock.onlineorder.pk/

- https://www.mcdonalds.com.pk/

- https://www.kfcpakistan.com/

- https://www.stackers.pk/

- https://www.cairnsburgercafe.com

- https://www.freshburgercafe.com/

- https://www.burgerjointny.com/

- https://caliburger.com/