



INSTITUTE FOR ADVANCED COMPUTING AND SOFTWARE DEVELOPMENT AKURDI, PUNE

Documentation On

"ONLINE FOOD ORDERING SYSTEM" e-DAC SEP 2020

Submitted by:

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1. Introduction

It is known globally that, in today's market, it is extremely difficult to start a new small-scale business and live-through the competition from the well-established and settled owners. In fast paced time of today, when everyone is squeezed for time, the majority of people are finicky when it comes to placing a food order. The customers of today are not only attracted because placing an order online is very convenient but also because they have visibility into the items offered, price and extremely simplified navigation for the order.

Online food ordering system that we are proposing here, greatly simplifies the ordering process for both the customer and the restaurant. System contains Google Place API which helps customer to view their nearby restaurants by simply searching on search bar present on homepage or by starting their GPS. System presents an interactive and up-to-date menu with all available options in an easy to use manner. Restaurants can register themselves simply by filling just a simple form and verifying their email which is handle by SMTP server, while registering restaurants, system uses Google Geocoding API to trace latitude & longitude of their registering addresses, which will be used further for searching nearby restaurant. Customer can place one or many orders from their favorite nearby restaurants. Customer can choose one or more items to place an order which will land in the Cart Customer can view all the order details in the cart before checking out. At the end, customer gets order confirmation details. Once the order is placed it is entered in the database and retrieved in pretty much real time. This allows Restaurant Employees to quickly go through the orders as they are received and process all orders efficiently and effectively with minimal delays and confusion.

1.1 Document Purpose

The advancement in Information Technology and internet penetration has greatly enhanced various business processes between Restaurants and their customers who are ordering food online. This Online Food Ordering System is developed to provide the following services:

1.1.1 Enhance Business Processes:

With the improvement of technology, online food ordering systems are becoming popular platform. That's because we are serving the ever increasing demand for convenience. The main purpose of an online food ordering system is to provide customers for a way to place an order in nearby restaurant over the internet.

1.1.2 Online Order Management:

With a website, customers can easily browse all the dishes the restaurants have available by searching from search bar, select dishes to their requirements and place an order. It can also allow them to easily re-order from different restaurants.

1.2 Problem Statement

From the restaurants perspective, they spend time on taking the customer's order, worrying about their order management workflow. It's not easy to manage restaurant dining and online orders simultaneously and keeping the perfection on both. Many restaurants have their own delivery system, but due to lack of marketing and popularity they won't get satisfactory orders online, only customers visit there for dining and their person delivery boy gets salary without efficient work.

Using this website, restaurants will get online ordering customers and will not have to maintain the website by their own. With satisfactory numbers of online orders, their delivery boy will get efficient work, so investment of restaurants will be utilized properly and they get good returns of these investments.

1.3 Objectives

The main objective of the project of Online Food Ordering System is to manage the details and information of Restaurants, Items, Cart, Customers, Order. The purpose of the project is to build an application program to reduce the manual work for managing the Restaurants, Items, Delivery Address and Cart. It tracks all the details about the Cart, Customer, Order, Delivery status.

1.4 <u>Aim</u>

- Website will provide good business opportunities for Restaurants.
- Aim is to make existing Delivery Boys of Restaurants efficient and active.
- Aim is to provide platform for restaurants for their Delivery System.
- Users will get a single platform to order from various restaurants who were having their own delivery system and offers.
- User can easily see nearby available restaurants.

2. Overall Description

2.1 Product Perspective:

2.1.1 Existing system function:

In existing system for giving any orders, users have to visit hotels or restaurants to know about available food items and then give order and wait there for getting that item prepared and does payment. In this manual work lots of time is required for user as well as seller.

But through our website user can select their favorite restaurant who are having their own delivery system for placing the orders. User will not have to visit restaurant, while being in their comfort zone (home) they can place order in few clicks.

Seller will not have to worry about their online ordering systems and management for their business, website will handle it very perfectly.

2.1.2 Proposed System:

This system is a bunch of benefits from various point of views. As this website enables the end users to register to the system online, select the food items of their choice from the restaurant, menu list and order food online.

Also the payment can be made through online mode taken by restaurant or at the time of home delivery depending upon the customer's choice and convenience.

System is able to accommodate huge amount of orders at a time and automatically compute the bill. To evaluate its performance and acceptability in terms of security, user-friendliness, accuracy and reliability is an important objective. To improve the communication between the seller and user is one of the objective.

2.2 Benefits of Online Food Ordering System

2.2.1. Makes the ordering process easier

Traditionally, people had to make calls to place orders or drive to the restaurants for a take-out, then wait for the food to be prepared and delivered. Sometimes, placing an order on the phone means that there could be mistakes in order. Clearly, these aren't really the best solutions to order food from restaurants especially for people with busy lifestyles.

2.2.2. Efficient customer and order management

An online ordering system for Restaurants helps enhance the customer-restaurant relationship by providing end to end Customer Relationship Management (CRM) system. It provides a complete sales dashboard with information about new/active/canceled orders

2.2.3. Free and cheap marketing

By enhancing your brand's online presence in the market, you can boost your sales with additional new and returning customers.

2.2.4. Better customer's data

Who are your regular customers? What do they like ordering from your restaurant? Which food items are popular? Are they aware of the promotions and offers on the website? Do they prefer ordering from a website? These and many other related questions can be answered using analytics and insights provided by a robust online ordering system for restaurants.

2.3 <u>User's and Seller's Characteristics</u>

2.3.1 User:

- Customer Shall be able to login or skip from registration to enter the menu dashboard.
- Customer shall be able to view nearby restaurants (Specified Distance).
- Customers shall be able to choose their favorite restaurant or restaurant they wish to order food.
- Customer shall be able to view menu and categories and subcategories involved.
- Customer shall be able to search dishes from available search bar.
- Customer shall be able to order foods and add to cart.
- Customer shall be able to remove orders from cart.
- Customer shall be able to navigate between menu and can add items to cart.
- Customer shall be able to cancel the order.

2.3.1 <u>Seller:</u>

- Restaurant shall able to CRUD items from menu by simply searching that item from search bar.
- Restaurant shall be able to receive orders from customers.
- Restaurant shall be able to view the orders which has been ordered by customers.
- Restaurant shall be able accept or cancel order depends upon the order received and availability of order.
- Restaurant shall be able to update delivery status to Customer.
- Restaurant shall able to receive notifications once order delivered.

2.4 Operating Environment:

2.4.1 Server Side:

Processor: Intel® Xeon® processor 3500 series

HDD: Minimum 500GB Disk Space

RAM: Minimum 4GB **OS:** Windows 8.1, Linux

Database: MongoDB

2.4.2 <u>Client Side (minimum requirement):</u>

Processor: Intel Dual Core

HDD: Minimum 80GB Disk Space

RAM: Minimum 2GB **OS:** Windows 7, Linux

2.5 <u>Design and Implementation Constraints:</u>

- The application will use MongoDB, Express, React, Node js as main web technologies.
- Email validations using SMTP server make this web application a secured one.
- Since Online Food Ordering System is a web-based application, internet connection must be established.
- The Online Food Ordering System will be used on PCs and will function via internet in any web browser.

3. Specific Requirement

3.1 External Interface Requirements:

3.1.1 User Interfaces:

- All the users will see the same page when they enter in this website. This page asks the users a username and a password.
- After being authenticated by correct username and password, user will be redirect to their corresponding profile where they can do various activities.
- The user interface will be simple and consistence, using terminology commonly
 understood by intended users of the system. The system will have simple
 interface, consistence with standard interface, to eliminate need for user training
 of infrequent users.

3.1.2 Hardware Interfaces:

- No extra hardware interfaces are needed.
- The system will use the standard hardware and data communication resources.
- This includes, but not limited to, general network connection at the server/hosting site, network server and network management tools.

3.1.3 <u>Application Interfaces:</u>

OS: Windows 10, Linux

Web Browser:

The system is a web-based application; clients need a modern web browser such as Mozilla Firebox, Internet Explorer, Opera, and Chrome. The computer must have an Internet connection in order to be able to access the

system.

3.2 Functional Requirements:

1. Registration: If customer wants to order the food then he/she must be registered,

unregistered user can't go for ordering.

2. Login: The customer login to the system by entering valid user id and password for

ordering.

3. Display list of restaurant: User will see the nearby available restaurants from search bar

through which he/she can select their favorite restaurant.

4. Modify menu (seller): Seller can do changes in menu like adding or removing food items

according to the availability.

5. Display the menu: In the system all the items are displayed with their images and rates.

6. Select food item/s: Customer can select items by searching through search bar or the

available lists there.

7. Changes in order(user): Changes to order means the customer can make changes in order

like he/she can delete or add food item in order.

8. Order details before submitting: Before payment customer will get details of order.

Customer name, phone number, location (address), then finally order is submitted.

9. Payment: Customer can make payment in cash or done by restaurant end.

10. Provide delivery and payment details: Here bill is generated, order no. and confirmation of

delivery is done.

11. Logout: Customer can log out.

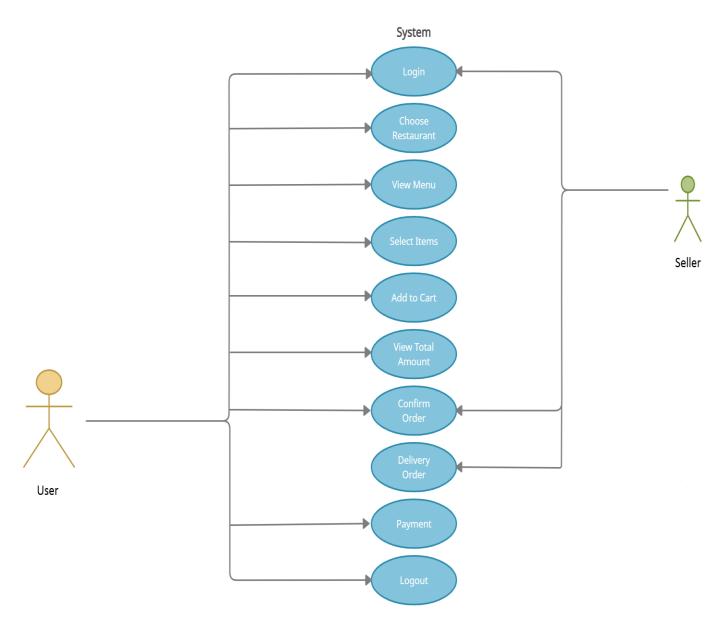
10

3.3 Non Functional Requirements:

- 1. Portability: System running on one platform can easily be converted to run on another platform.
- 2. Reliability: The ability of the system to behave consistently in a user-acceptable manner when operating within the environment for which the system was intended.
- 3. Availability: The system should be available at all times, meaning the user can access it using a web browser, only restricted by the down time of the server on which the system runs.
- 4. Maintainability: A commercial database is used for maintaining the database and the application server takes care of the site.
- 5. Security: Secure access of confidential data (customer information).
- 6. User friendly: System should be easily used by the customer.
- 7. Performance: Performance should be fast.
- 8. Efficient: System should be efficient that it won't get hang if heavy traffic of order is placed.
- 9. Safety: Data in the database of system should not loss or damage.
- 10. Privacy: Personal data of the system should not disclose to anyone

4. System Diagrams:

4.1 <u>Use Case Diagram:</u>



Use Case Diagram for Online Food Ordering System

Figure: 1

4.2 ER Diagram:

Entity Relationship Diagram - Online Food Ordering System

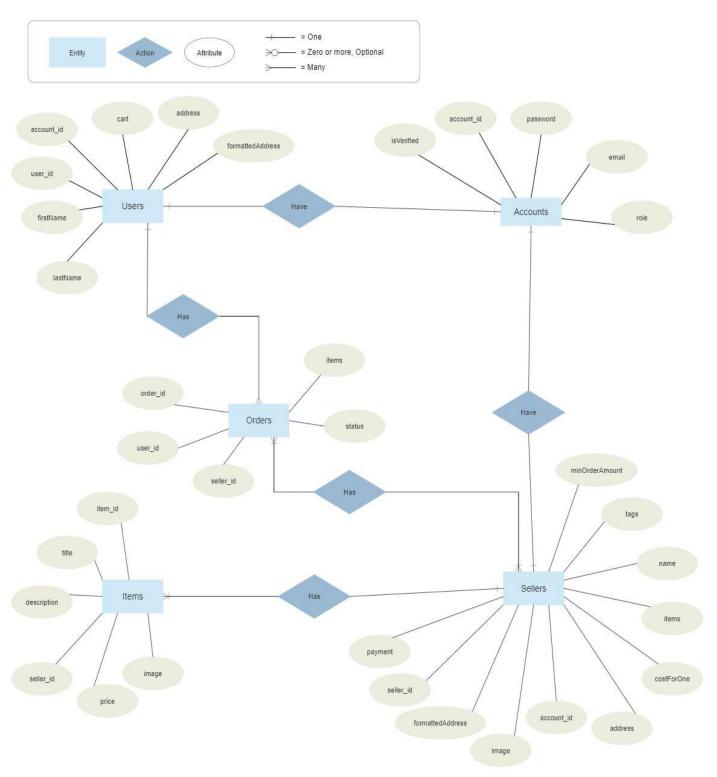


Figure: 2

4.3 Sequence Diagram:

Sequence Diagram: Online Food Ordering System

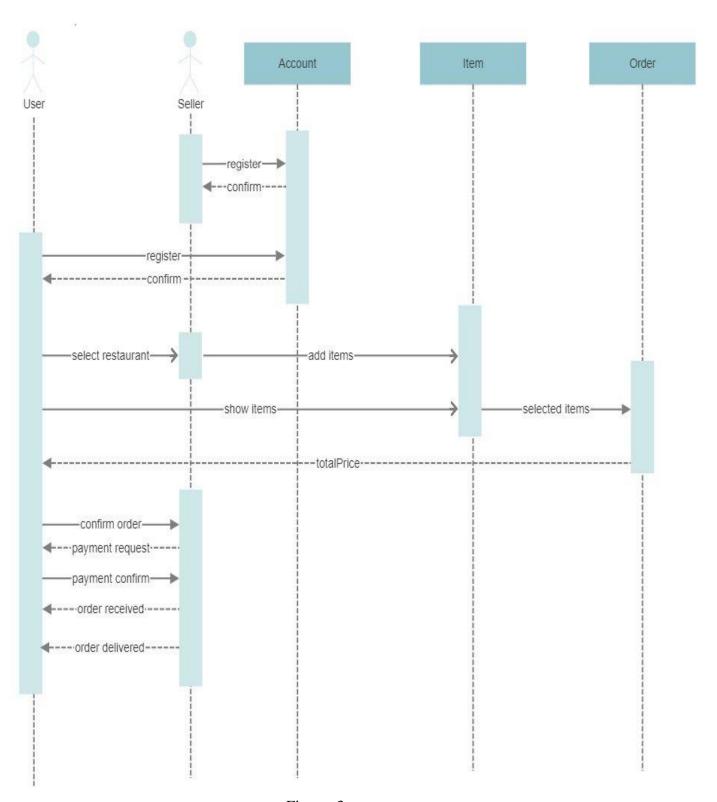
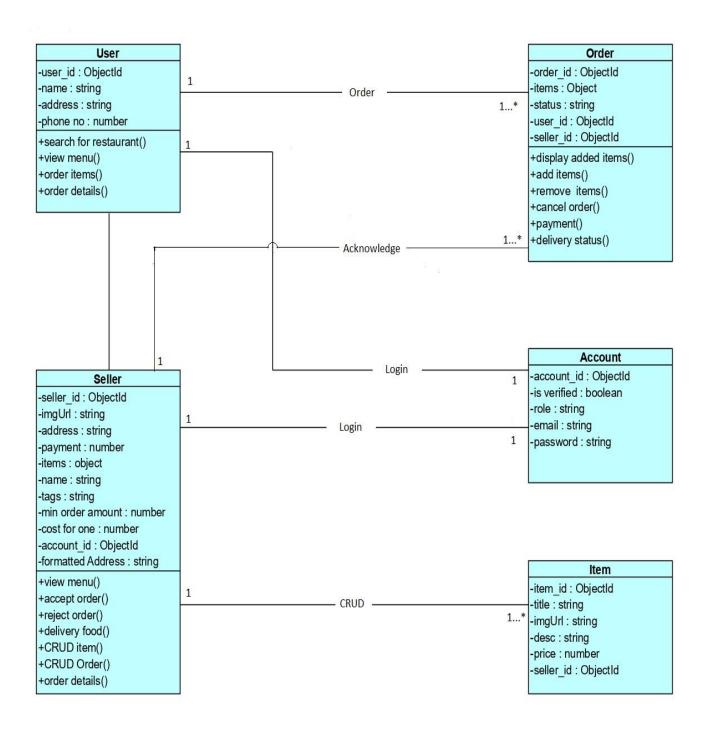


Figure: 3

4.4 Class Diagram:



Class Diagram of Online Food Ordering System

Figure: 4

5. Collections:

5.3 Account:

5.1.1 <u>User Account:</u>

```
_id:ObjectId("60564d53511d694124b7f9db")
isVerified: true
role: "ROLE_USER"
email: "madhukotwal9@gmail.com"
password: "$2a$12$7q5D6yYIWV.0YGTtcQ5DAeEyEdkDXYmyRlYAJRu9BBVkwy7ZBE5AS"
createdAt: 2021-03-20T19:30:27.175+00:00
updatedAt: 2021-03-20T19:33:05.533+00:00
__v:0
```

5.1.2 Seller Account:

```
_id: ObjectId("605646d8511d694124b7f9d5")
isVerified: true
role: "ROLE_SELLER"
email: "prakashgyan786@hotmail.com"
password: "$2a$12$geJ5gtO0qQbKE8cjDN.7MOP6VF6NISavtqYWWV04sQirEfFMnFKMq"
createdAt: 2021-03-20T19:02:48.467+00:00
updatedAt: 2021-03-20T19:05:39.970+00:00
__v: 0
```

5.2 <u>User</u>:

```
id: ObjectId("60564d53511d694124b7f9dc")
v cart: Object
  vitems: Array
 firstName: "Madhavi"
 lastName: "Kotwal"
 account: ObjectId("60564d53511d694124b7f9db")
 createdAt: 2021-03-20T19:30:27.243+00:00
 updatedAt: 2021-03-24T20:43:00.626+00:00
   v:0
v address: Object
    street: "Gaya, Bihar"
    locality: "Gol Bagicha"
    zip: "823002"
    phoneNo: 8806177444
    aptName: "Gurdwara More"
    lat: 24.8017533
    lng: 85.00294919999999
 formattedAddress: "Railway Station, Gurudwara Rd, Near, Gaya, Bihar 823001, India"
```

```
_id:ObjectId("605ba6e11a30032f58739b64")
> cart:Object
firstName: "Gyan"
lastName: "Prakash"
account:ObjectId("605ba6e11a30032f58739b63")
createdAt: 2021-03-24T20:53:53.910+00:00
updatedAt: 2021-03-24T20:53:53.910+00:00
__v:0
```

5.3 <u>Seller:</u>

```
_id: ObjectId("605646d8511d694124b7f9d6")
v imageUrl: Array
    0: "images\50759-A8duF7.jpg"
v payment: Array
    0: "cash,online"
vitems: Array
    0: ObjectId("605b96c61a30032f58739b51")
    1: ObjectId("605b97bf1a30032f58739b52")
    2: ObjectId("605b98bd1a30032f58739b53")
    3: ObjectId("605b992f1a30032f58739b54")
    4: ObjectId("605b99eb1a30032f58739b55")
    5: ObjectId("605b9ab71a30032f58739b56")
    6: ObjectId("605b9b071a30032f58739b57")
 name: "Food Stopper"
 tags: "North-Indian"
 minOrderAmount: 250
 costForOne: 250
 account: ObjectId("605646d8511d694124b7f9d5")
 formattedAddress: "White House, White House Compound, Judges Colony, Gaya, Bihar 823001, ..."
v address: Object
    street: "White House Compound, Gaya, Bihar"
    zip: "823001"
    phoneNo: 8770274957
    locality: "near IN and OUT Supermarket"
    aptName: "mirza ghalib college"
    lat: 24.790795
    lng: 84.993228
 createdAt: 2021-03-20T19:02:48.700+00:00
 updatedAt: 2021-03-24T20:03:19.850+00:00
```

5.4 <u>Item</u>:

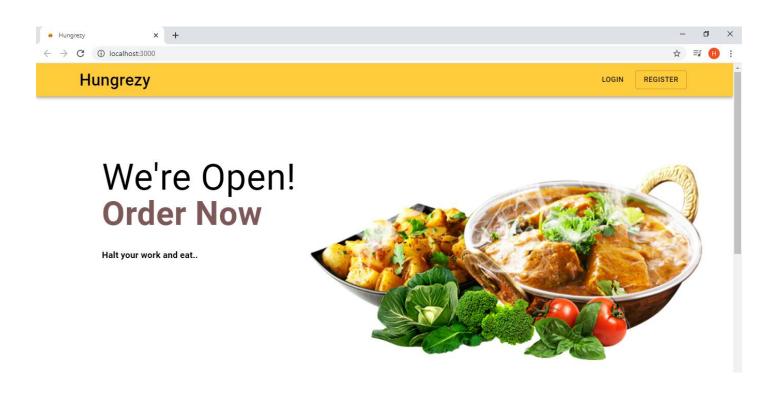
```
_id: ObjectId("605b97bf1a30032f58739b52")
title: "Gulab Jamun with Rabri"
imageUrl: "images\93092-gulab jamun with rabri.jpg"
description: "Hot gulab jamun served with rabri"
price: 130
creator: ObjectId("605646d8511d694124b7f9d6")
createdAt: 2021-03-24T19:49:19.746+00:00
updatedAt: 2021-03-24T19:49:19.746+00:00
__v:0
_id: ObjectId("605b98bd1a30032f58739b53")
title: "Masala Kulcha"
imageUrl: "images\18457-kulcha-recipe-1.jpg"
description: "Mildly leavened flatbread"
price: 45
creator: ObjectId("605646d8511d694124b7f9d6")
createdAt: 2021-03-24T19:53:33.338+00:00
updatedAt: 2021-03-24T19:53:33.338+00:00
v:0
```

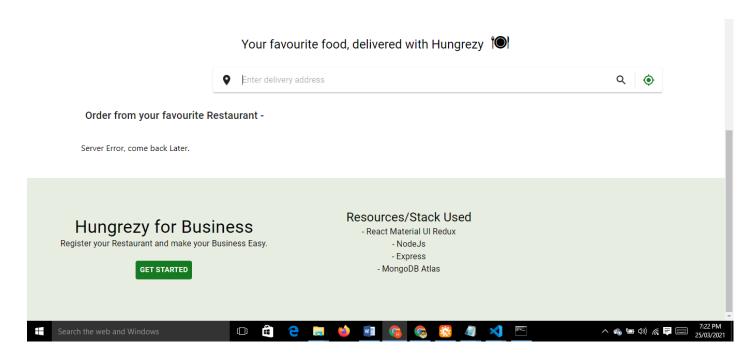
5.5 Order:

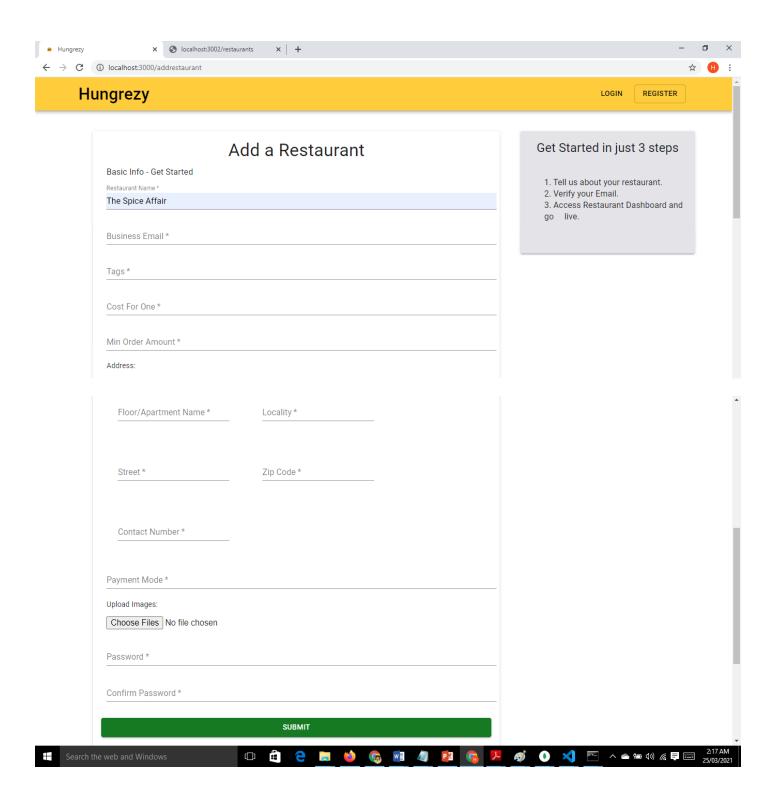
```
_id: ObjectId("60565035511d694124b7f9dd")
v user: Object
   email: "madhukotwal9@gmail.com"
    name: "Madhavi"
  > address: Object
    userId: ObjectId("60564d53511d694124b7f9dc")
vitems: Array
  > 0: Object
 status: "Completed"
v seller: Object
    name: "Food Stopper"
    phone: 8770274957
    sellerId: ObjectId("605646d8511d694124b7f9d6")
 createdAt: 2021-03-20T19:42:45.949+00:00
 updatedAt: 2021-03-24T20:45:47.813+00:00
  __v:0
  _id: ObjectId("605ba4541a30032f58739b5e")
> user: Object
> items: Array
 status: "Accepted"
> seller: Object
 createdAt: 2021-03-24T20:43:00.706+00:00
 updatedAt: 2021-03-24T20:45:15.718+00:00
  __v:0
```

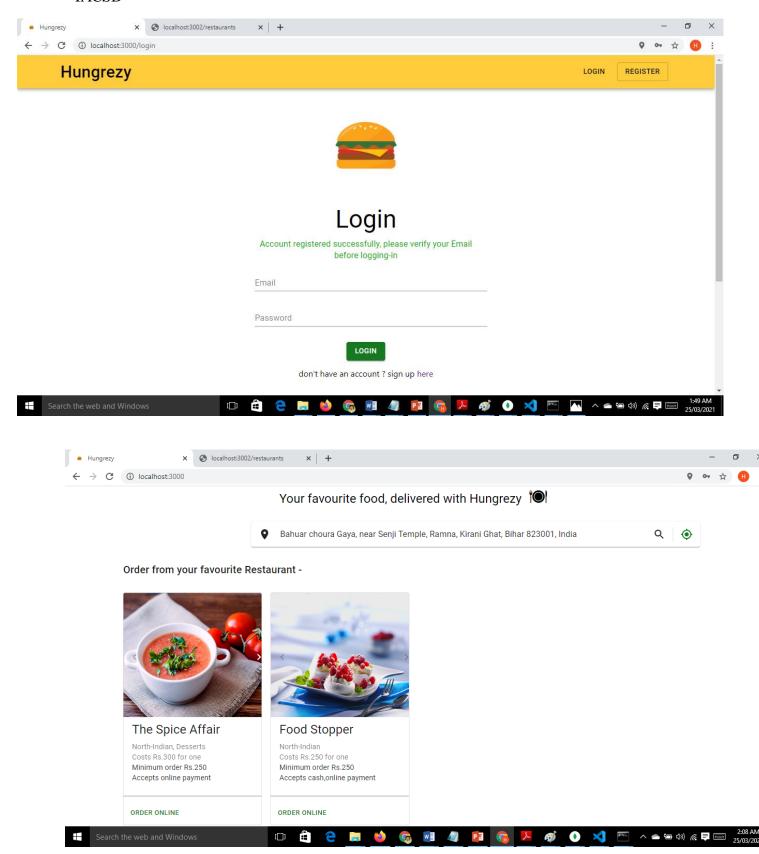
6. Website Screenshots:

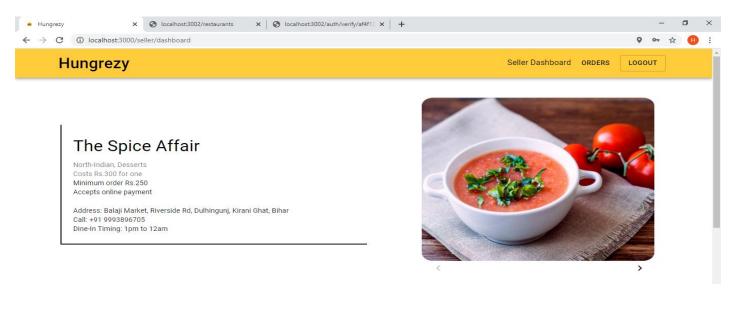
Home page:

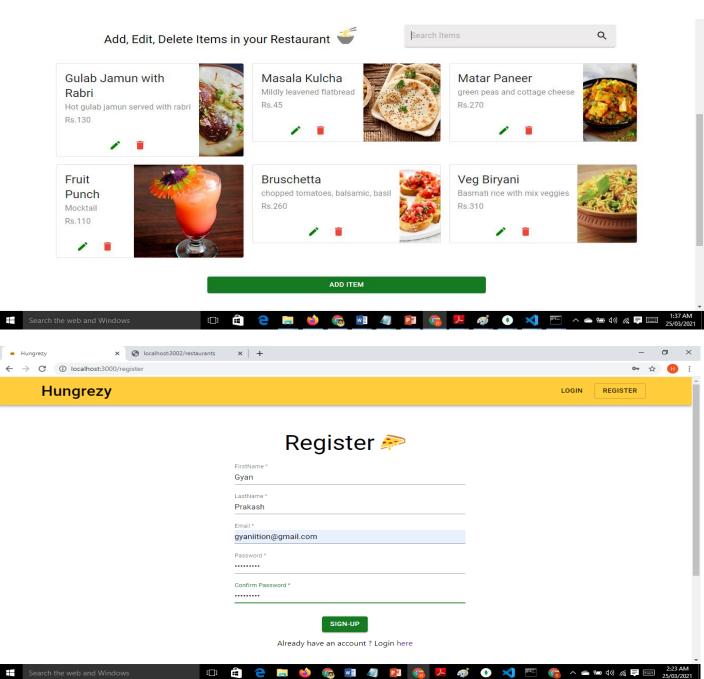


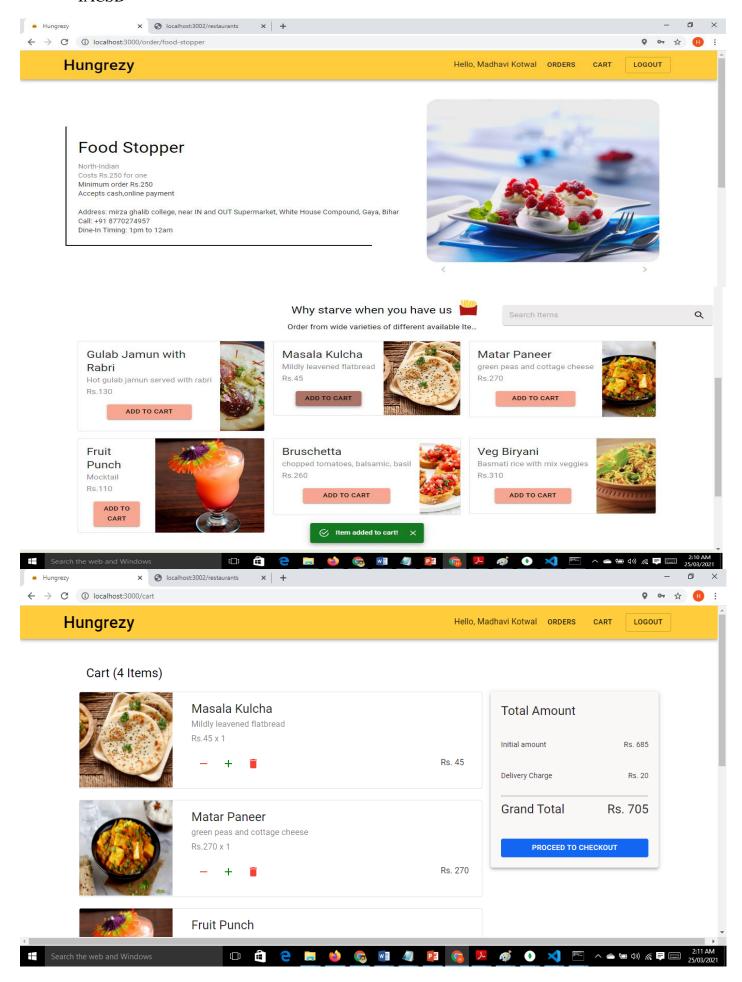


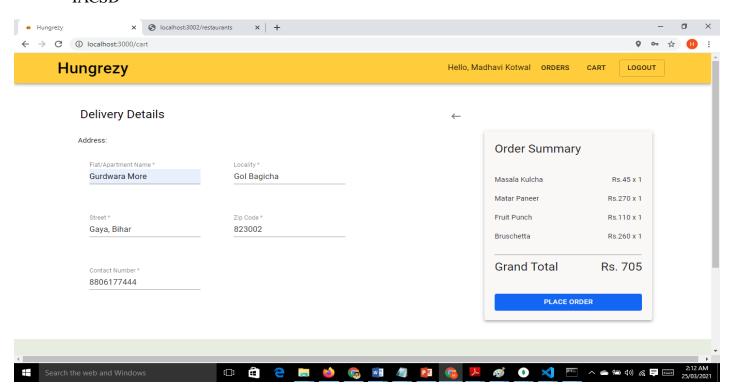


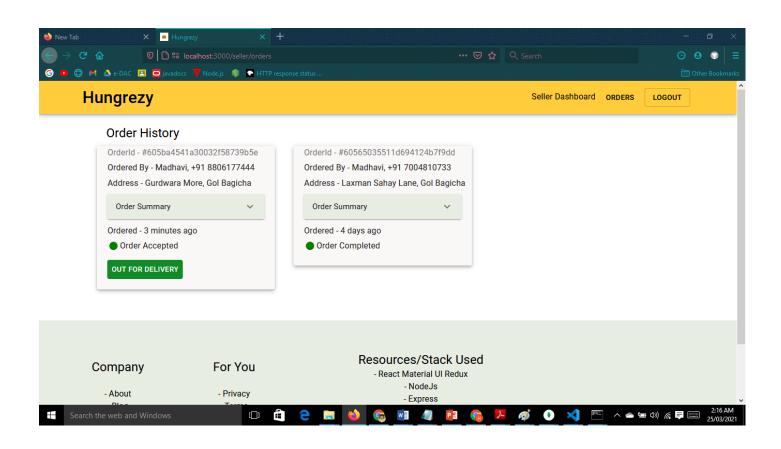












7. Conclusion

The system is developed in considering all issues related to user as well as restaurants which are included in this system. Wide range of people can use this if they know how to operate web browser. It helps customer in making order easily. The Food website application made for restaurant and can help restaurant in receiving orders, modifying its data and controlling all the Food delivery system.

With online food ordering system, a restaurant menu online can be set up and the customers can easily place order. Also with a food menu online, getting order updates is done easily, it maintains customer's database and improve the food delivery service of restaurants. The restaurants can even customize online restaurant menu and upload images easily. Having a restaurant menu on internet, potential customers can easily access it and place order at their convenience.

Thus, this system is convenient, effective and easy thereby improving the performance of restaurant's services. It will also provide quality of service and customer satisfaction. Thus, the proposed system would attract customers and also adds to the efficiency of maintaining the restaurant's ordering and billing sections.

8. Future Scope

The following section describes the work that will be implemented with future releases of the software:

- Table Booking: Add table booking facility for lunch/dining.
- Enhance User Interface: Adding more user interactive features like, provide deals and promotional offer details to home page. Provide recipes of the week/day to home page.
- Payment Options: Add different payment options such as Paytm, Gpay, Cash, Gift Cards etc. Allow to save payment details for future use.
- Delivery Options: Add delivery facility by website management.
- Order Ready notification: Send an order ready notification to the customer
- Tracking system: User can track delivery boy live through map.

9. References

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- 3. https://reactjs.org/docs/getting-started.html
- 4. https://developer.mozilla.org/en-US/docs/Learn/Server-side/Express_Nodejs/routes
- 5. https://sweetcode.io/creating-form-validations-with-react-hooks/
- 6. https://www.javatpoint.com/nodejs-tutorial