"TASTY FOOD" HOME DELIVERY AND RESERVATION SYSTEM

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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DHAKA, BANGLADESH

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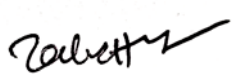

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We hereby declare that, this project is under the supervision of **Nazmun Nessa Moon**, Assistant Professor, Department of Computer Science & Engineering of DaffodilInternational University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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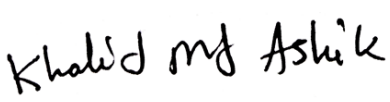

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ABSTRACT

This online based food ordering and table booking system website entitled **"Tasty Food" Home Delivery and Reservation System** provides convenience for the customers to order foods and book tables in the restaurants. The ambition behind this project is to develop and design a website primarily for use in the food delivery industry. It overcomes the drawbacks of the long-established queuing system. This system proliferates the takeaway of foods than visitors. Therefore this system amplifies the speed and standardization of taking the order from the customer. Customer can choose, order and review food alongside booking a table for later use.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

"Tasty Food" Home Delivery and Reservation System is an online web based food ordering and table booking system which will assist restaurant owners to optimized and control over their restaurant. From the management point of view, the manager will be able to control the restaurant having all the reports to hand and can manage the system by tracking each of the records and orders. From the visitor's point of view, they can give orders, book a table in the restaurant and post reviews so that the service quality is ensured.

The online based food ordering and delivery system which we are proposing here, immensely simplifies the ordering and table booking process for both customer and the restaurant. System introduces an interactive and up-to-date menu with all available options in an easy to use manner. Customer can select one or more items to place an order which will add on in the cart. All the order details and the receipt can be viewed by the customer before checking out. The customer can book tables in the specific restaurants which are displayed. At the last part, the customer gets order confirmation details. After the order is placed it is entered in the database and fetched in pretty much real time. This assists the restaurants employees to go through the order quickly as they received and process all the orders efficiently and effectively with minimal delays and confusion.

1.2 Motivation of work

While observing to the available food and restaurant web-based system and forum, we can see the advanced feature they provide. However the review approaches and nutrition information of the food products along with online table booking are still not in the tradition and this has motivated us to include individual product reviews and nutrition information along with table booking for the health conscious customers.

Besides sometimes we cannot find the appropriate food ordering service sites according to our desires so it will be convenient for us if any restaurant is providing such opportunities in one package.

1.3 Objectives

- To enable customers to operate it via computer/smartphones/tabs with the help of internet.
- To have one id for all the purchases and bookings.
- To enable them to review food individually and add food to cart accordingly.
- To enable health conscious customers can check nutrition value in first of its kind feature.
- Overall to provide a much better customer satisfaction environment in food business.

1.4 Expected Outcome

This project is to develop a website which will help people to order food and find tables for booking in the busy schedule of life. It will surely make life easier for relatively busy customers who wants all the services at their doorstep when needed. We expect the project will be a time saver in the long run for both Customers and restaurant owners. In an era of digitization, its going to be a huge step forward for restaurant owners to establish and advertise their business.

1.5 Report Layout

Chapter 1: Introduction

In this chapter the discussions are about the motivations, objectives and the expected outcome of the project. Later part the report's layout are being followed.

Chapter 2: Background

In this chapter the discussion is about the background circumstances of our project. We also talk about the related works, comparison to other candidate systems, the scope of the problem and challenges of the project.

Chapter 3: Requirement Specification

In this chapter we talked all about the requirements like business process modeling, the requirement collection and analysis, the use case model of the project and their description, the logical relational database model and the design requirements.

Chapter 4: Design Specification

This chapter is all about the prototype of the project, front-end design, back-end design, interaction design and UX and the implementation requirements.

Chapter 5: Implementation and Testing

This chapter includes the implementation of database, front-end designs, interactions and the test results of the project.

Chapter 6: Conclusion and Future Scope

We discussed about the conclusion and the scope for further developments.

CHAPTER 2

BACKGROUND

2.1 Introduction

"Tasty Food" Home Delivery and Reservation System is very instructive web based application. We can feature the necessary information about foods, nutrition of those foods in this system. The users can obtain their necessary information from here. This project will reduce money expense and consume time.

2.2 Related Work

There are many restaurant web based application available in Bangladesh. Our project is resemble with two types of system. A home delivery system and a singular restaurant system. So we can compare our works with both Pathao Foods for home delivery and KFC for singular business.

2.2.1 Pathao Foods

Pathao foods now a very popular food delivery system in Bangladesh. They deliver food from almost all the restaurants in Dhaka and Chottogram [7]. Their food delivery system is quite similar and in most cases all food deliveries follow same protocols as ours does too.

2.2.2 KFC

KFC is a singular business restaurant shop who sell chicken related items in various parts of our country [8]. They have many outlets who provides almost similar foods across. Our website is also intended to serve a similar food chain managed by one owner in different parts of the capital or elsewhere.

2.3 Comparative Studies

Our implemented website is quite different from the existing websites. Users can easily find their desired foods, book tables, order foods, see the nutrition information of the foods and can find other food delivery websites which are linked and order foods too for delivery. The system also provides individual food reviews for the service and foods and also generates order receipt. Since people now a days depends on review feedback either they visit restaurant in that particular places or through getting delivery services.

2.4 Scope of Problem

- It is hard to keep pace with so much data for a singular business model.
- Nutrition values are hard to correctly calculate.
- Handling profile information and regular updates.
- It is an open platform so user may not be interested in registering their information for a particular purchase.
- Hard to manage data across all outlets.

2.5 Challenges

- Configuring and integrating the PHP framework with template.
- Making a secured platform.
- Beautiful and effective designs.
- Creating dynamic data passing channel.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

Business Process Model (BPM) is a business model that is generally prepared by business analyst to conceptualize the interaction of software and the user to provide a clear picture of the business process as in Fig 3.1.

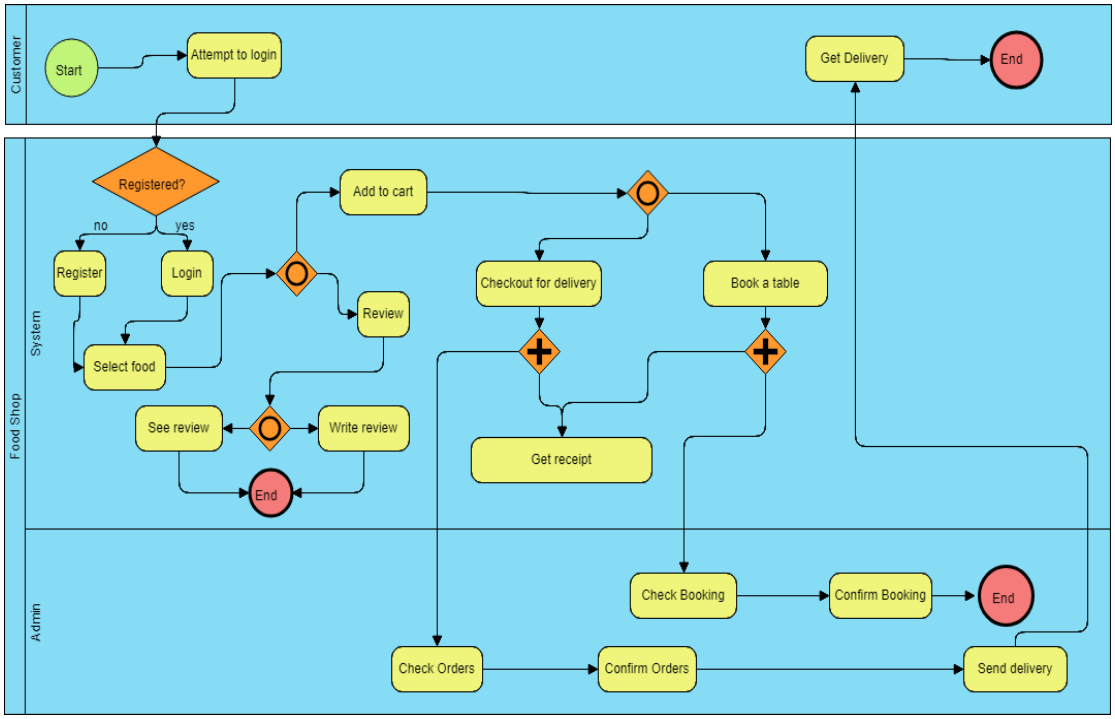

Figure 3.1: Business process model

3.2 General System Requirement

Minimum requirement for hardware and software are as follows.

- ❖ Hardware
  - Desktop or laptop computer
  - Physical server
- ❖ Software

- Windows operating system
- XAMPP control panel
- Notepad++
- Browser

❖ Language and frameworks

- HTML
- CSS
- PHP
- JavaScript
- MySQL

3.3 Use Case Model

The use case model in Fig 3.2 will represent the relationship of primary actors like users and admins with the system and various aspects of uses of the software briefly.

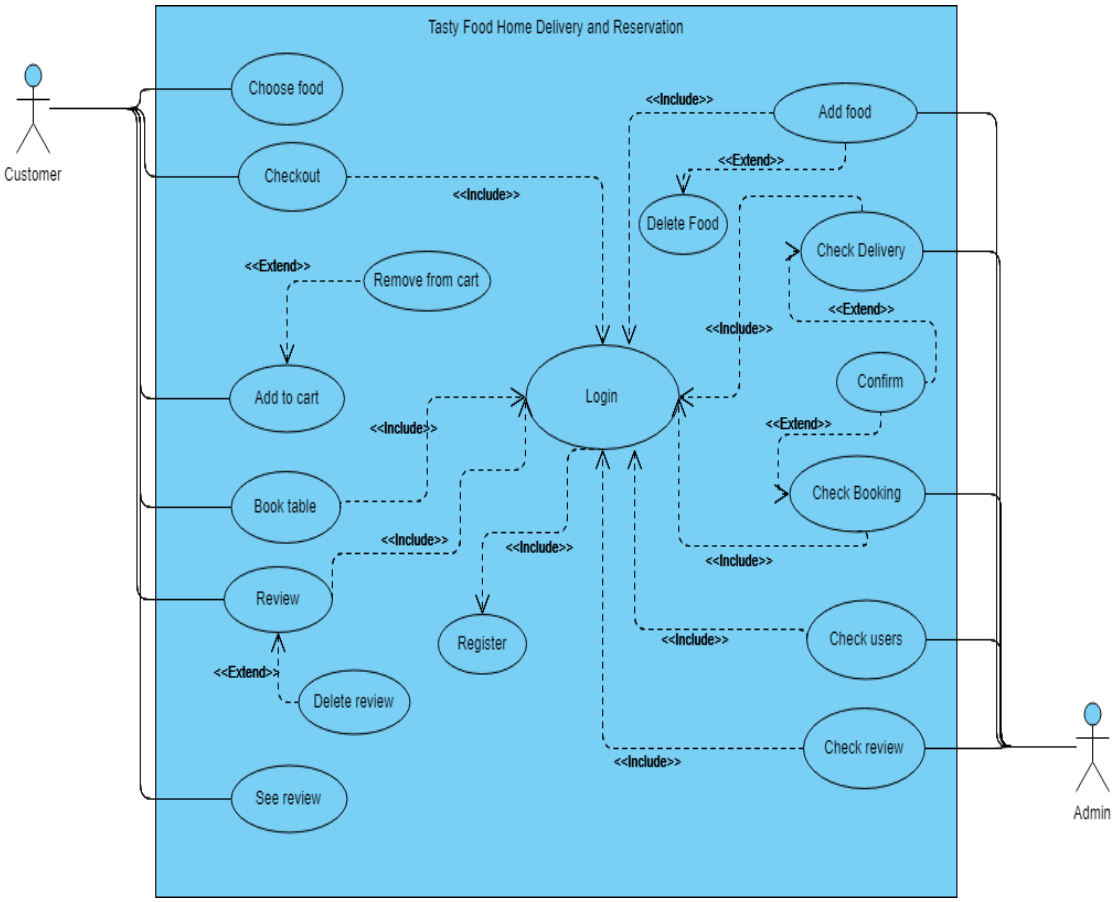

Figure 3.2: Use case diagram

3.3.1 Use Case Description

Here Table 3.1, 3.2, 3.3, 3.4 are some use cases of the software providing information in primary and secondary actor, pre and post conditions and basic scenarios.

Table 3.1: Use case description of register

Use case	Register
Primary actor	Customer
Secondary actor	System
Pre conditions	Enter the website
Scenario	• Input name • Input email • Input address
Post conditions	Registration success or fail

Table 3.2: Use case description of login

Use case	Login
Primary actor	Customer, Admin
Secondary actor	System
Pre conditions	Enter the website
Scenario	• Input email/username • Input password
Post conditions	Login success or fail

Table 3.3: Use case description of checkout

Use case	Checkout
Primary actor	Customer
Secondary actor	System, Admin
Pre conditions	Login to system
Scenario	• Choose food • Add food to cart
Post conditions	Get receipt

Table 3.4: Use case description of review

Use case	Register
Primary actor	Customer
Secondary actor	System, Admin
Pre conditions	Login to system
Scenario	• Review a food • Give rating
Post conditions	Review submitted

3.4 Logical Data Model

3.4.1 Entity Relationship Diagram

The diagram in Fig 3.3 represents relationship between various entities by means of operations done between them.

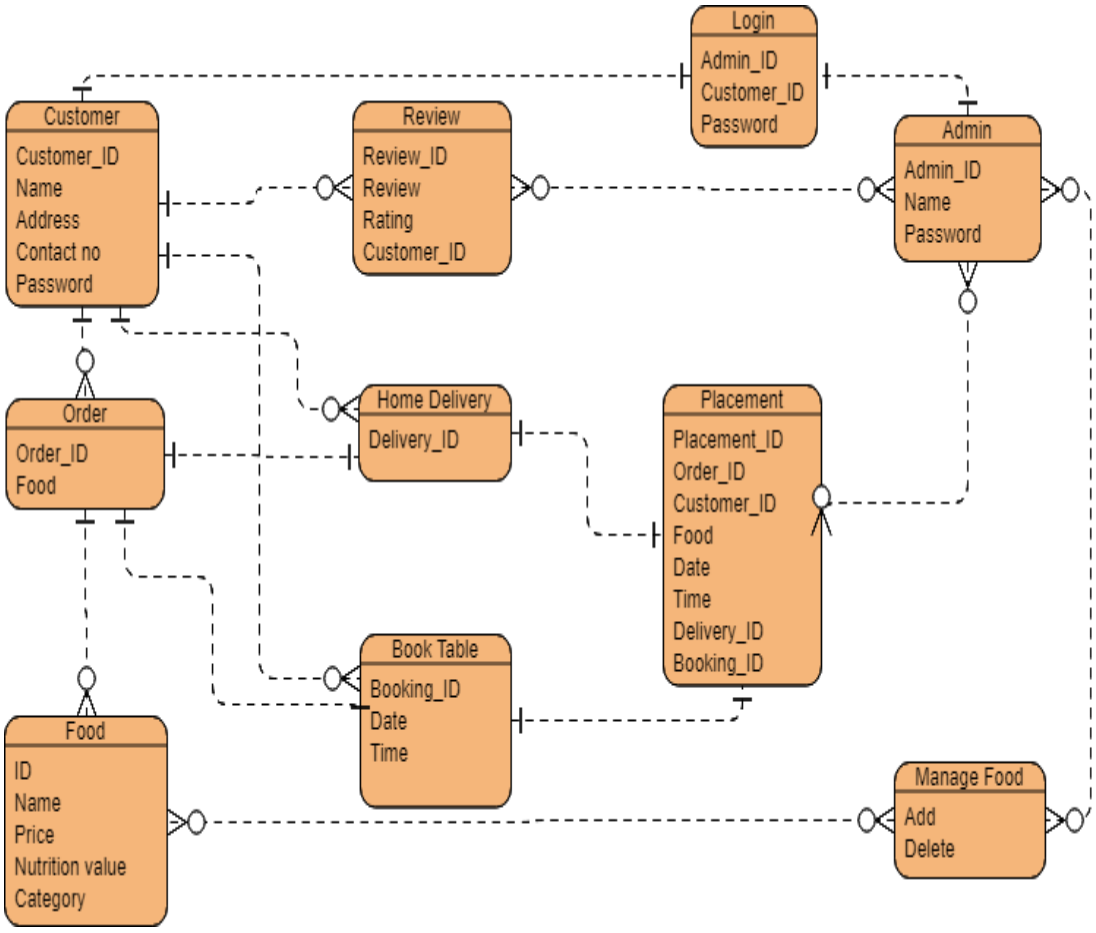

Figure 3.3: ER diagram

3.4.2 Data Flow Diagram

The flow of data among the database,system and the users is illustrated in Fig 3.4.

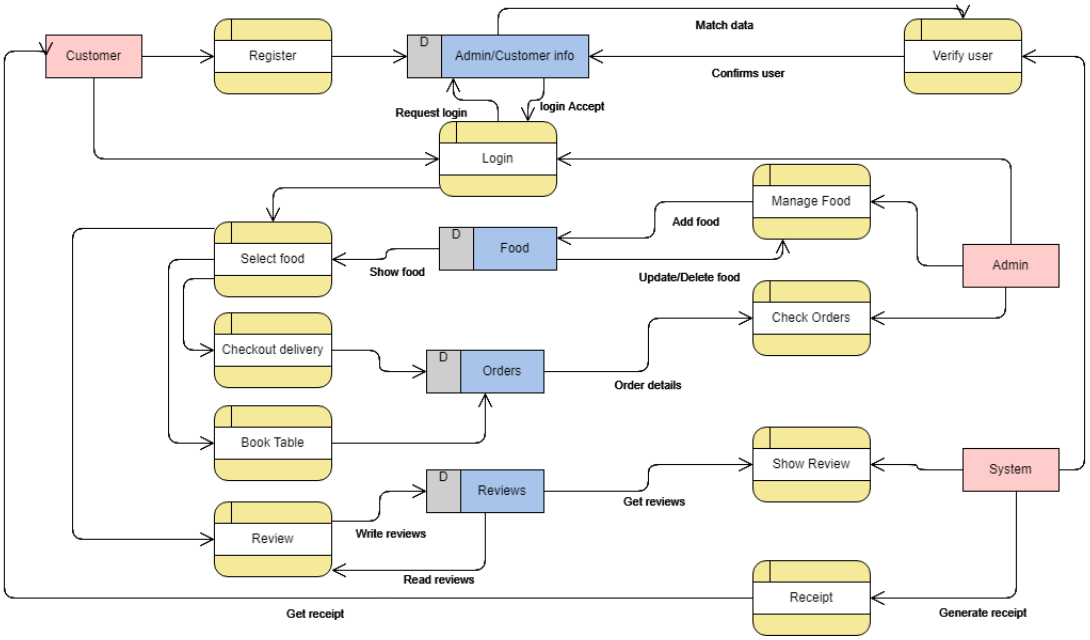

Figure 3.4: Data flow diagram

3.5 Design Requirement

- There are two types of user of the system. Customer and admin.
- Customer can choose food and add to cart.
- They can check out for home delivery and table booking.
- Check out requires registration.
- They can review and give rating to each food separately.
- They can book a table for later by providing date/time.
- They get confirmation receipt after each check out.
- Admin can add food with details and nutrition value.
- Admin can delete food.
- Admin can manage the reviews.
- Admin can check and confirm orders.

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-end Design

Front-end design is the main user interface that show the output of a system. It contains the beauty of a software. It is the main point where users directly interacts with the system. Front-end design is very important for HTML,PHP based programs. The design is the output of CSS.

4.1.1 Home Page

This is the home page that will initiate the user interface in Fig 4.1.

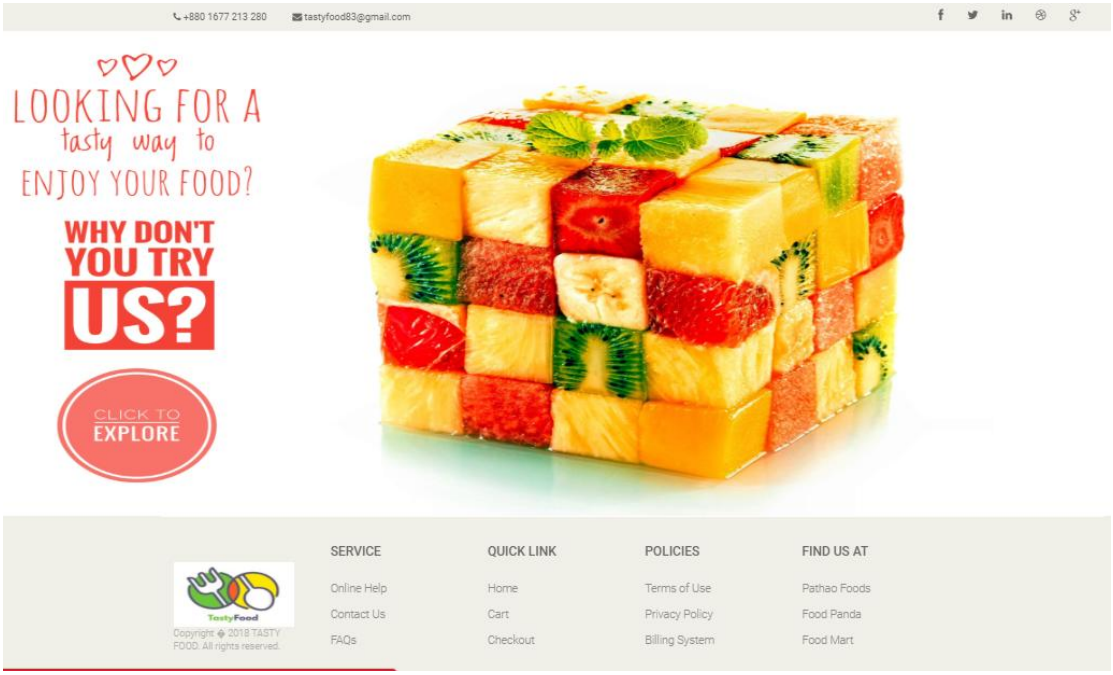

Figure 4.1: Home page

4.1.2 Main Menu (Categorized)

Food is sorted in different categories to choose from as in Fig 4.2.

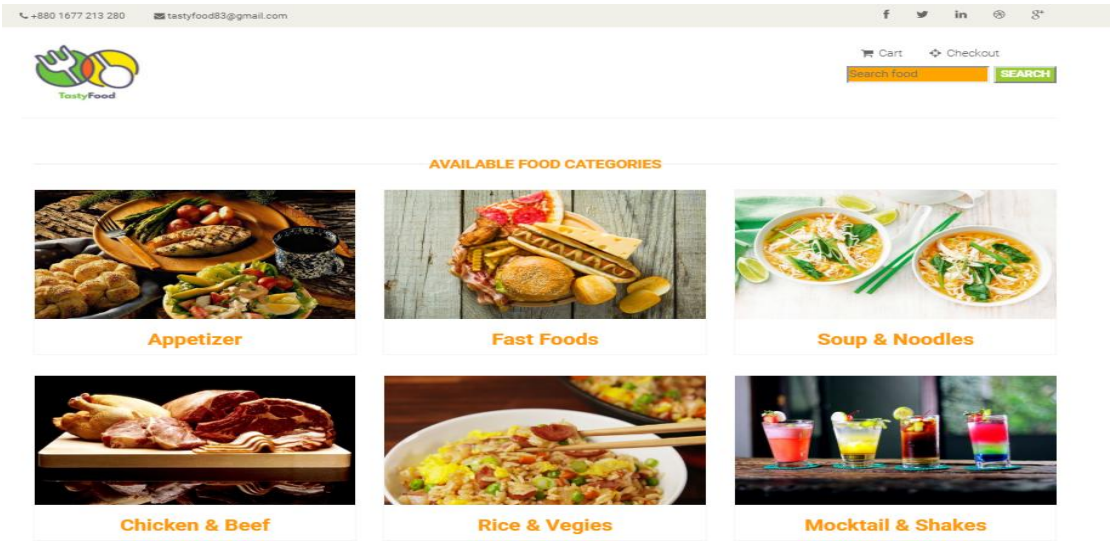

Figure 4.2: Food category

4.1.3 Main Menu (Foods)

Category wise food is shown in Fig 4.3.

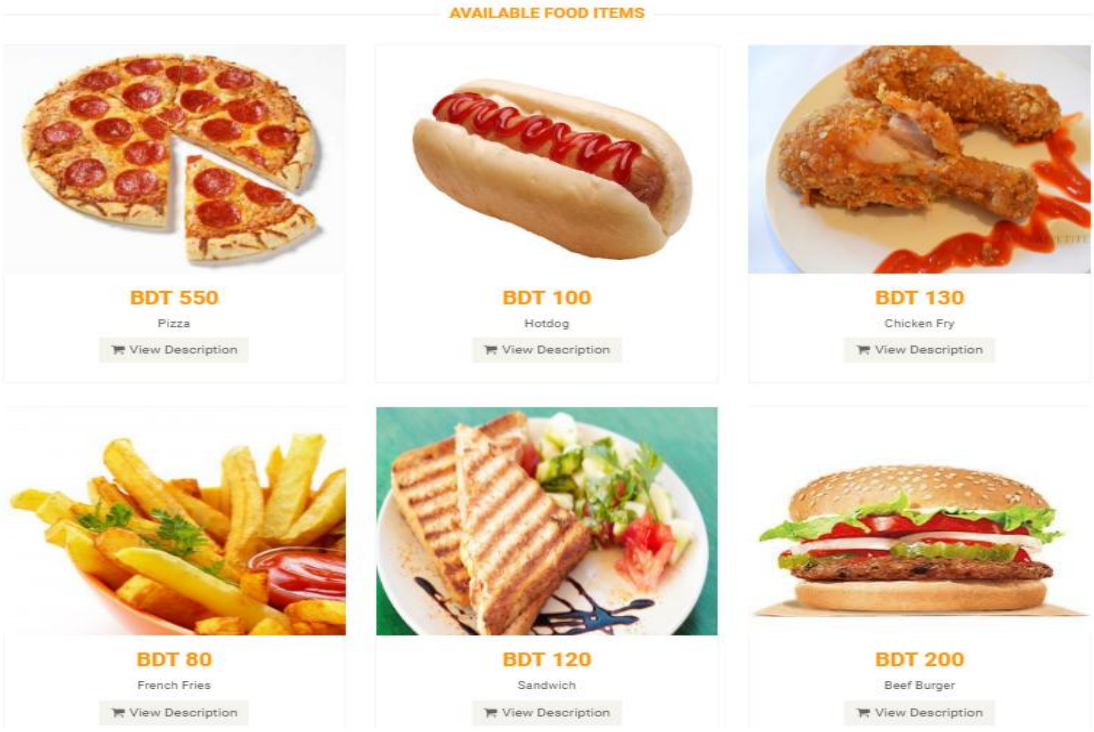

Figure 4.3: Foods

4.1.4Food Details

Nutrition value of food with other details and individual reviews are shown in Fig 4.4.

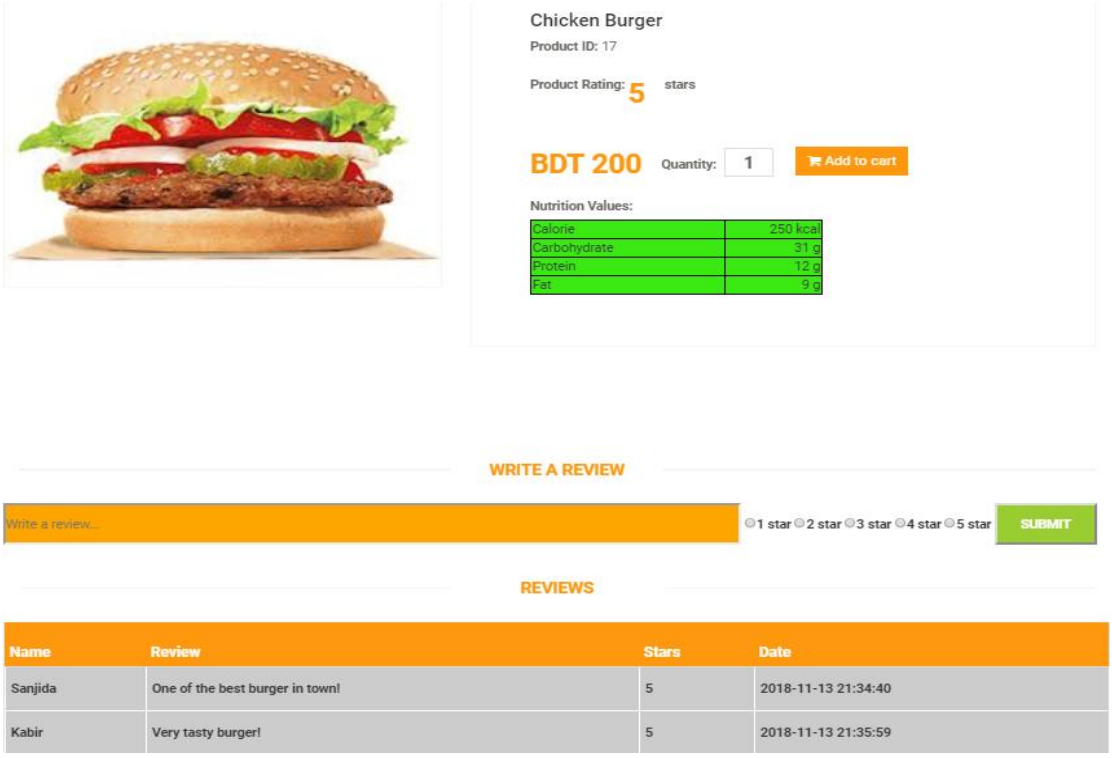

Figure 4.4: Food details

4.1.5 Cart

Fig 4.5 shows items in cart with detailed price.

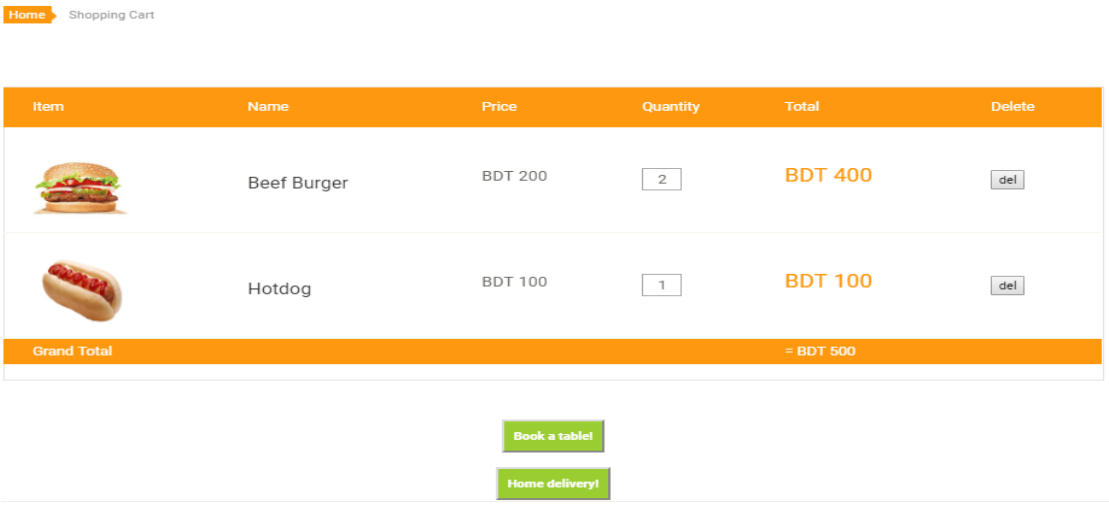

Figure 4.5: Cart

4.1.6 Home Delivery Checkout

Customer can directly view price and checkout as in Fig 4.6.

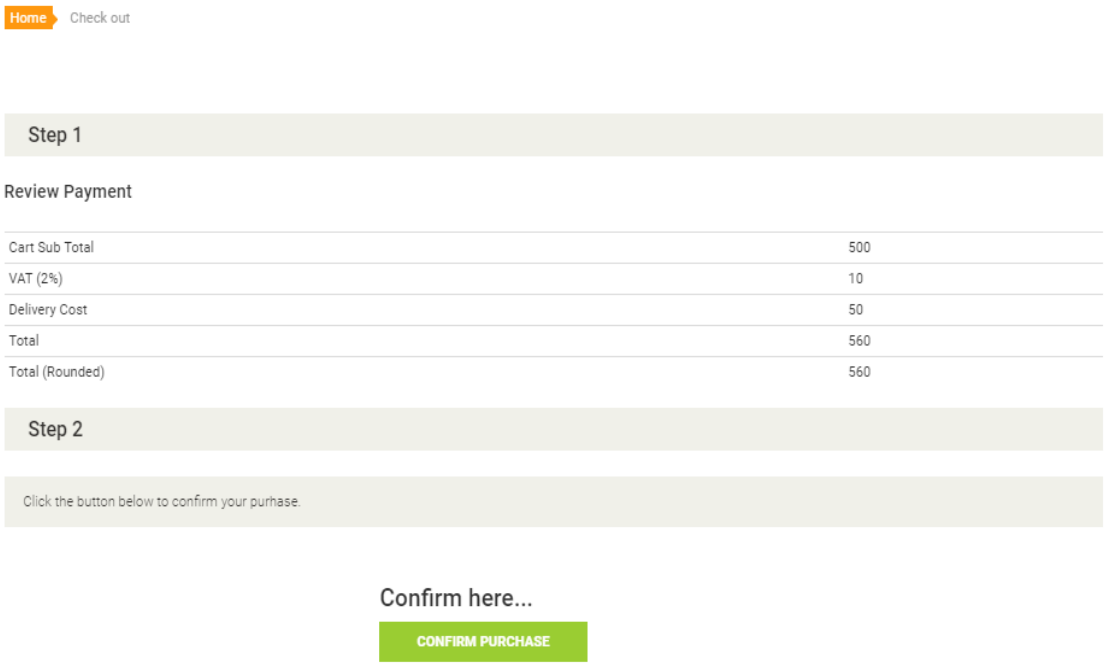

Figure 4.6: Checkout (Home delivery)

4.1.7 Booking Checkout

Customer gives booking details to book a table for future as in Fig 4.7.

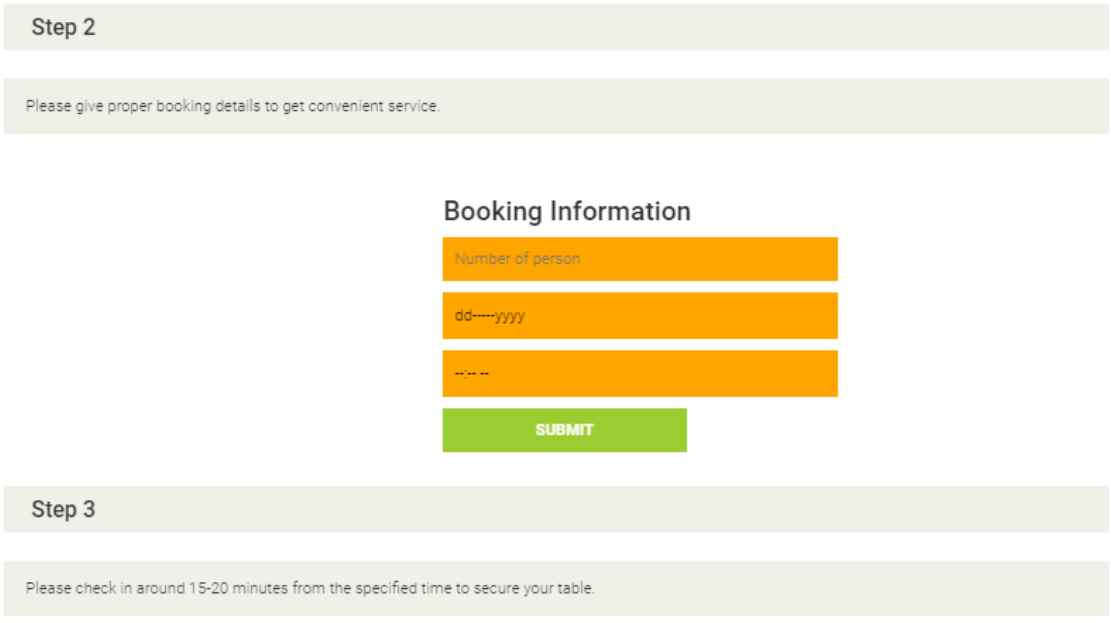

Figure 4.7: Checkout (Table booking)

4.1.8 Receipt

Automated receipt is generated for both home delivery and booking for security like Fig 4.8.

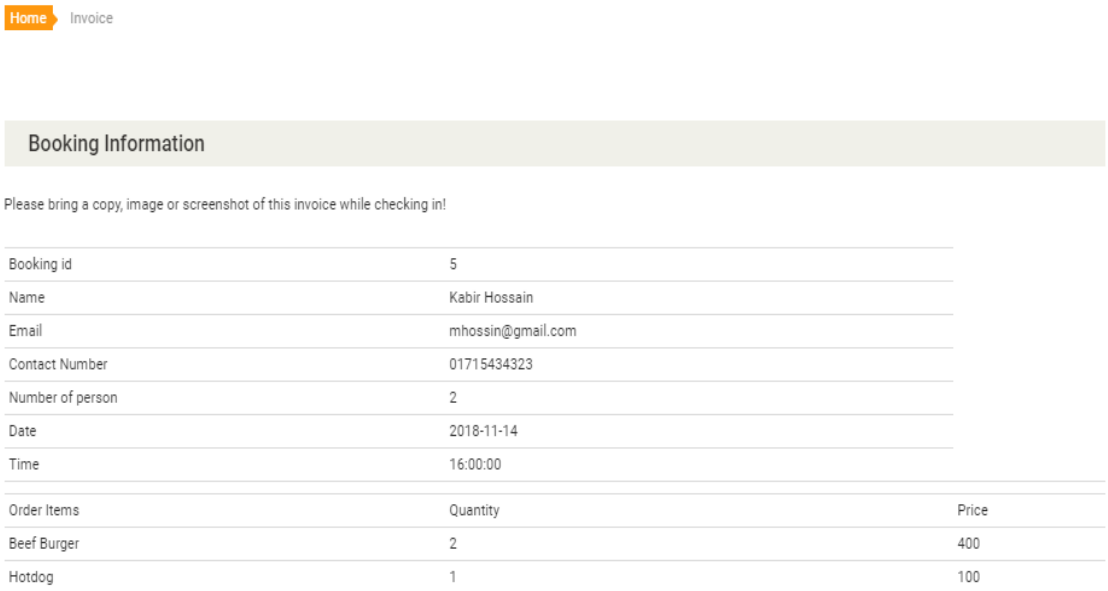

Figure 4.8: Receipt

4.1.9 Customer Registration

Customer must register before checking out in a screen like Fig 4.9.

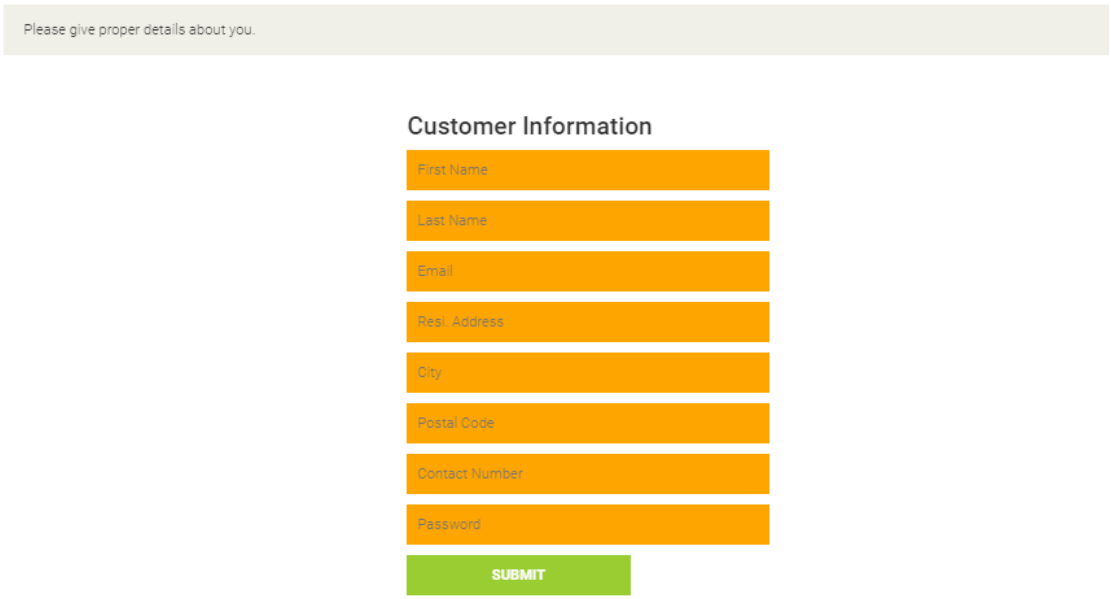

Figure 4.9: Registration form

4.1.10 Admin login

Admins can login from this screen in Fig 4.10.

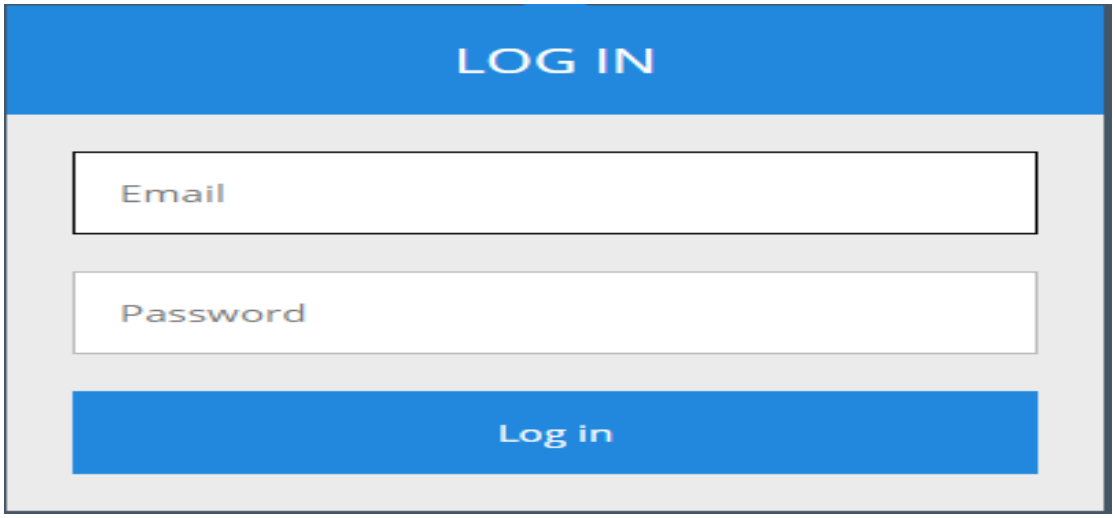

Figure 4.10: Login

4.1.11 Dashboard

A customized and detailed dashboard for admin to view statistics, managing foods, checking orders and so forth as in Fig 4.11.

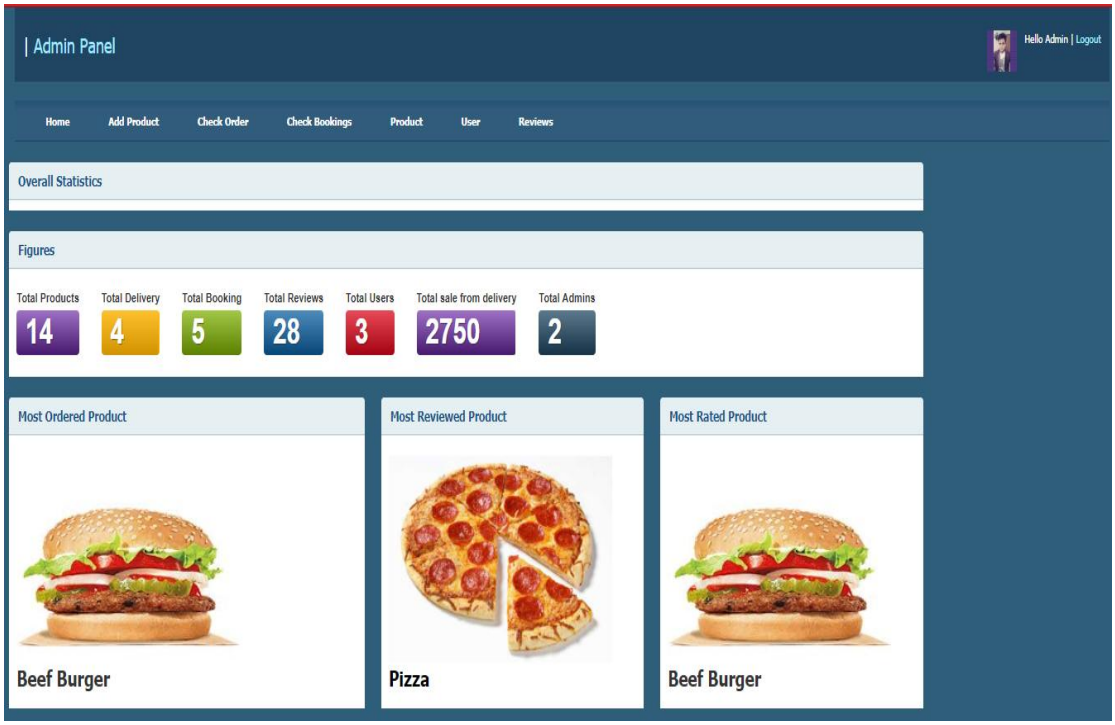

Figure 4.11: Dashboard

4.1.12 Add Food

Admin can add food with details price, category and nutrition values as in Fig 4.12.

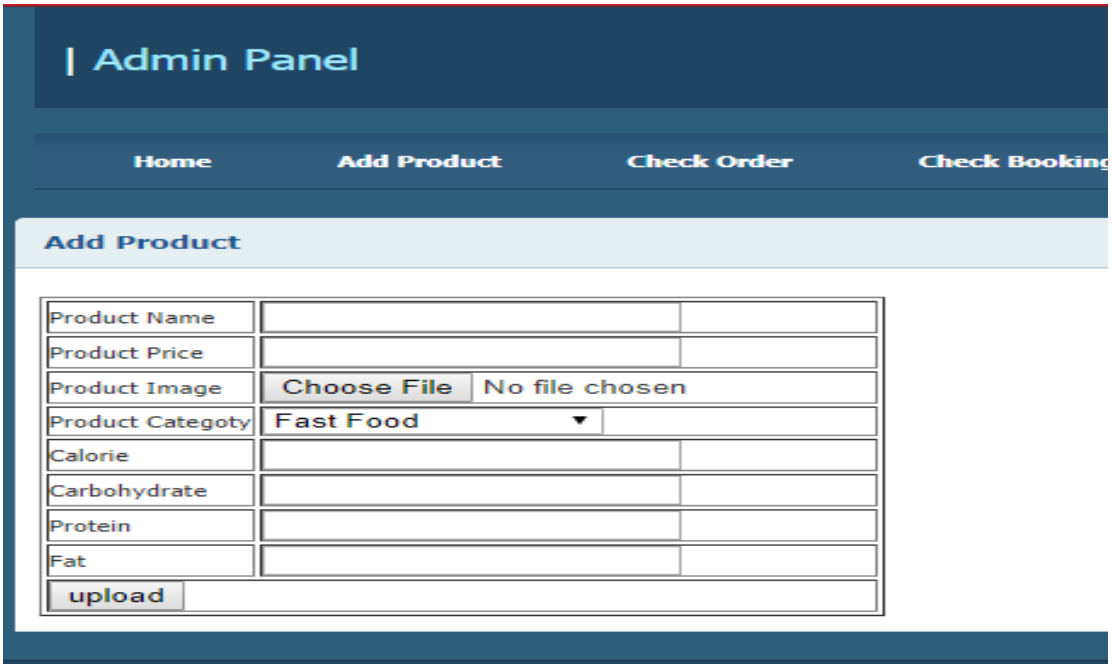

Figure 4.12: Food adding screen

4.2 Back-end Design

All the logical part of a software and implementations happens in the back-end. This is definitely not the visible part of the program but this is indeed the most important part. It is responsible for all the cases that takes place in the software from user to admin. Fig 4.13 shows the database.

Table	Action	Rows	Type	Collation	Size
admin_login	Browse Structure Search Insert Empty Drop	2	InnoDB	latin1_swedish_ci	16 KiB
booking_order	Browse Structure Search Insert Empty Drop	11	InnoDB	latin1_swedish_ci	16 KiB
booking_placement	Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	16 KiB
checkout_address	Browse Structure Search Insert Empty Drop	3	InnoDB	latin1_swedish_ci	16 KiB
display_order	Browse Structure Search Insert Empty Drop	7	InnoDB	latin1_swedish_ci	16 KiB
order_placement	Browse Structure Search Insert Empty Drop	4	InnoDB	latin1_swedish_ci	16 KiB
product	Browse Structure Search Insert Empty Drop	14	InnoDB	latin1_swedish_ci	16 KiB
review	Browse Structure Search Insert Empty Drop	28	InnoDB	latin1_swedish_ci	16 KiB
8 tables	Sum	74	InnoDB	latin1_swedish_ci	128 KiB

Figure 4.13: Database

4.3 Interaction Design and UX

We designed our website using the bootstrap 4 framework, jQuery and font-awesome [5]. These components help the design to be responsive and visuallybetter experience which is also user friendly. The user experience depends on the customer satisfaction and better interaction with the front-end. The design is focused on creating enthusiastic web interaction with logic and thought-out actions. We kept in mind that, successful interactive design uses technology and principles of good communication with customer to create best user experiences.

4.4 Implementation of Requirements

- UI design implemented with PHP frameworks [2].
- Databases stored in MySQL [4].
- Linux based platform hosting.
- Invalid data input displays error message.
- Required data fields are checked to get full information.
- JQuery, Bootstrap for specific design.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

Because of PHP we need different types of table in database which describe about the content's attribute and the data type. In this process MySQL query was needed to preform actions. In the model, user and admin data were taken frequently with verifications. There are 7 tables in the database.

Admin_login: Admin details.

Order_placement: All the home delivery placements.

Booking_placement: All the booking placements.

Booking_order: Food details for table booking.

Checkout_address: All the customer details.

Display_order: Food and price details for home delivery.

Product: All the product details.

Review: Individual product reviewinginformation.

5.2 Implementation of Front-end Design

It is very tough and challenging to create a simple UI design for the users, we tried to make as simple as possible. We developed our website's interface with the help of HTML [1], CSS[3], Java Script [5],PHP [2], jQuery and Bootstrap framework technology. There are some factors of implementing the front-end design is given below.

- There are two types of users Admin, Visitor/User.
- Admin must be registered by filling up the required information field which are given.
- Admin can add product with details and image.

- User can visit, purchase food and book table as much as they want.
- User can provide necessary personal information for better transaction.
- User can review each food separately.

5.3 Implementation of Interaction

In order to make our website more interactive we use advance CSS. The system design of our website is much user friendly. Both visitors and restaurant owners will be able to use the features as long as they are logged in.

5.4 Testing Implementation

Testing implementation is a procedure of testing upcoming implementation of a system, where the tester or system architect will see cases and specification, whether it is implemented or have limitations. Table 5.1 includes some of the testings.

Table 5.1: Test case evaluation.

Test Case	**Test Inputs**	**Expected Outcome**	**Obtained Outcome**	**Pass/Fail**	**Tested On**
1. Login	Login via Various devices	Successfully login	Successfully login	pass	27-10-2018
2.Add product	Product name Price Category Nutrition value	Product will be added to database	Added in database	Pass	27-10-2018
3. Product Image	Image file	Randomized variable will be added for image	Variable added in database	Pass	27-10-2018
4.Customer Information for delivery	Customer details Address	Information taken into database	Show and update information successfully	Pass	27-10-2018
5.Customer	Customer	Restaurant	Restaurant post	Pass	27-10-

information for reservation	details Date and time Number of person	List post has been created.	created successfully		2018
6.Food search	Search keyword	All relevant foods shown	Foods matches the search successfully	Pass	28-10-2018
7.Receipt	On clicking submit button	Customized receipt generated	Receipt generated successfully	Pass	27-10-2018
8.Review	Name Review Rating	Review posted and shown	Postedsuccessfully	Pass	28-10-2018

5.5 Test Result and Report

The test was externally done by our supervisor and some of our qualified classmates in extreme situations and the result came out very satisfactory. We also tested the system ourselves a lot of time throughout the development of the project. We found problems and we tried our best to solve those to create a better and hassle free user interface. So finally we are very satisfied and confident enough about the testing and outcomes.

We have added some of the test cases above and more others we did which we could not add. But we can assure that the system is already usable at its best condition.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

The system will construct communication between Visitors and restaurants. This system helps the users to choose their desired foods and order them through online. It will consume time and reduce complexity. Besides they can review their feedbacks, see nutrition information about the displayed foods. There is a login/signup option for both the user through which the procedure of this system happens. Users can order foods, book a table and review the services which are provided. Admin can monitor the activities and they can upload new items or delete the old one and provide the nutrition information of the foods which are displayed. The system generates the order receipt for the customer. The system will come with more upgrades and new features in the future. It will be upgraded with its web interface layout.

6.2 Scope for Further Development

The project is largely created to satiate customer appetite and user experience. So the design and functionality is limited to user interaction only. But we aspire to create a better admin experience too including more features in the dashboard and give a better visual experience. We are looking forward to adding

- More detailed and accurate nutrition values.
- More customizable logged in user profile.
- More functionality in admin panel.
- A better roster to create hassle free order tracking.
- GPS based map integration through smartphones.
- Any constructively suggested opinion from users will be considered.

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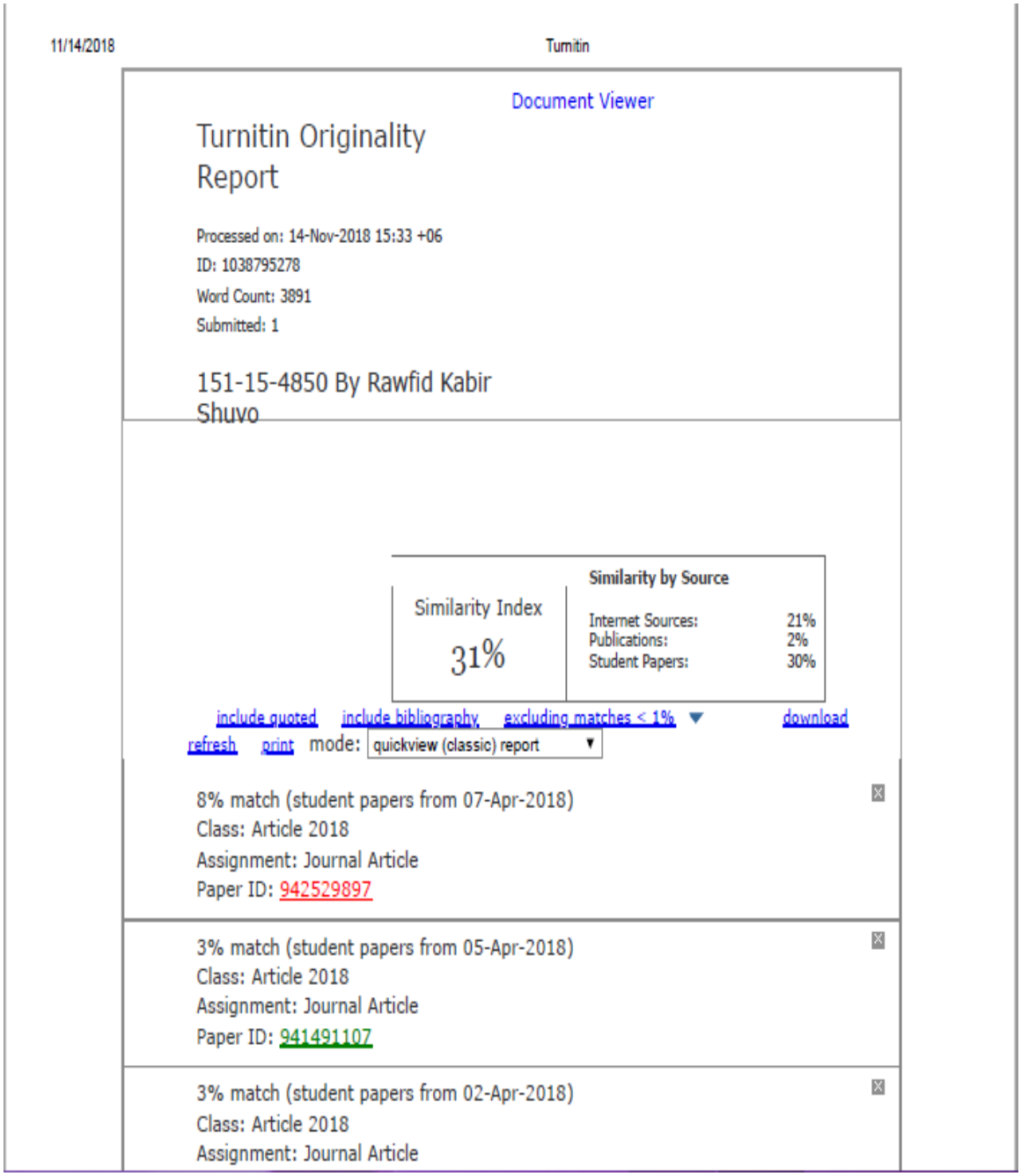

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