

# **Restaurant Order Processing & Management on the Cloud**

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A Project  
in  
The Department  
of  
Computer Science and Engineering



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For the Degree of Master of Science in Computer Science and Engineering  
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## Approval Certificate

This project titled "**Restaurant Order Processing & Management on the Cloud**" submitted by **Md. Khairul Alam**, Student ID: 012151004, has been accepted as Satisfactory in fulfillment of the requirement for the degree of Master of Science in Computer Science and Engineering on January 8, 2018.

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## **Declaration**

This is to certify that the work entitled “**Restaurant Order Processing & Management on the Cloud**” is the outcome of the research carried out by me under the supervision of Dr. Mohamad Nurul Huda, Professor & MSCSE Coordinator.

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In my capacity as supervisor of the candidate’s project, I certify that the above statements are true to the best of my knowledge.

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## **Abstract**

We have all heard about cloud computing for once at least in our lifetime. Cloud Computing is really a fancy term which basically means your data is stored somewhere in a physical location but they are almost always accessible to you or other designated people.

The power of web or cloud computing is limitless. You can be anywhere on the planet and still have access to your files, pictures, or whatever digital data you can think of. If harnessed properly, the power of clouding computing can be used to achieve results beyond our comprehension.

In this project, I have tried to solve a very common problem in the food industry. A problem you and I face every day yet we are reluctant to solve it. A digital restaurant menu can help restaurants bring a unique feel while attaining the best possible experience for their customer. No more hassle of going through multiple pages to find the right item for your meal. You never have to ask the waiter whether the item is available or not. No waiter is going to nag you to place your order. If you have a device that is connected to the internet, you will dine in style.

On the other hand, the restaurant owner will live in serenity for the rest of his/her life knowing that he/she access to every transaction that is taking place at his/her restaurant. And no one can tamper with that data. No one can misuse the trust.

## Acknowledgement

I would like to praise and thank almighty Allah for giving me the strength, patience, time, and the intelligence that I needed to complete the requirements of this project. I would also like to thank my parents for taking care of me all these years. I would not be here if it were not for them.

This project titled “**Restaurant Order Processing & Management on the Cloud**” has been prepared to fulfill one of the requirements of Master of Science in Computer Science & Engineering degree.

I would like to thank and express my gratitude to my supervisor, **Dr. Mohammad Nurul Huda** for mentoring me and for guiding me during this project. He was always supportive and caring and has encouraged me to complete this work to the best of my abilities. It would have been difficult to complete this project without his supervision and guidance.

Finally, once again I thank Allah the exalted for allowing me to live a healthy life and giving me the opportunity to complete this project work.

## Table of Contents

|                                                         |     |
|---------------------------------------------------------|-----|
| LIST OF TABLES.....                                     | vi  |
| LIST OF FIGURES .....                                   | vii |
| 1. Introduction.....                                    | 1   |
| 2. Background Study .....                               | 2   |
| 3. Available Applications & Their Limitations .....     | 4   |
| 3.1 Limitations of the available applications:.....     | 4   |
| 4. Project Objectives .....                             | 5   |
| 5. Software Architecture .....                          | 6   |
| 5.1 Use Case Diagram .....                              | 7   |
| 6. Hardware & Software requirements for end-users ..... | 8   |
| Hardware Requirements .....                             | 8   |
| Software Requirements.....                              | 8   |
| 7. Development methodology.....                         | 9   |
| 7.1 Development platform and tools used .....           | 9   |
| 8. How the application works .....                      | 11  |
| 9. Results .....                                        | 23  |
| 10. Conclusion .....                                    | 24  |
| 11. References.....                                     | 25  |

## **LIST OF TABLES**

|                                                               |     |
|---------------------------------------------------------------|-----|
| Table 1: Comparison between desktop and web application ..... | 2-3 |
|---------------------------------------------------------------|-----|

## LIST OF FIGURES

|                                               |   |
|-----------------------------------------------|---|
| Figure 1: Software Architecture Diagram ..... | 6 |
| Figure 2: Use Case Diagram.....               | 7 |

## Chapter 1

### Introduction

We live in a digital era. Computers, Mobile phones, and internet is easily available and widely used these days. Yet we face challenges in almost every step of our daily life. Technology can be a blessing if used intellectually. Technology can make our lives easier by manifold when planned and executed properly.

The emphasis of this project has been on making our “dining” or “food shopping” experience enjoyable and smooth as breeze. I believe all of us have had bad experience in restaurants at least once in our life, it can be anything. I’ve tried to develop an application that can eliminate those bad experiences drastically.

Let’s talk about the problem. Consider the scenario “you take your family to a restaurant for a nice dinner, you find yourselves a nice and cozy table. You’re waiting for the waiter/waitress to come up with a menu or you’re shouting for someone to get their attention because the restaurant is too busy. But finally you get a menu, half torn, texts faded away, and stinky. You put everything aside and place your order. The waiter goes back with your order and returns a while later apologizing because the item you ordered is out of stock.”

Does that sound familiar? I have experienced it and so have many others at least once in their life. But what if you didn’t have to wait for a waiter to bring you a menu, what if you didn’t need to worry about choosing an item that may or may not be in stock. What if you could actually see the price and taxes before even you place your order.

Wouldn’t that make your dining experience better? Wouldn’t you feel confident using a system like this over the traditional paper based menu? I know I would. And that is what I’ve tried to achieve in this project.

## Chapter 2

### Background Study

Cloud Computing have been soaring in demand and popularity since the last couple of years and it should; because everything utilizes the power of cloud computing these days. Generally speaking, everything we see and do on the ‘web’ is being processed somewhere in the cloud. So I’ve decided to develop a ‘**Cloud based solution**’ or ‘**web application**’ for the food industry or specifically for the restaurants in Bangladesh.

Why web applications, why not a Desktop application? Both desktop and web applications have their advantages and disadvantages. But web applications offer more benefits, usability, and richer user experience. Let’s take a look at the following table and try to understand the core difference between desktop and web applications –

| Areas                  | Desktop Application                                                                                                                                          | Web Application                                                                                                                                                                                           |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Hardware</b>        | All desktop applications required a physical machine (CPU) to run.                                                                                           | You don’t need to own a Computer or any other sort of hardware to host a web application.                                                                                                                 |
| <b>Compatibility</b>   | There are many Operating Systems available in the market meaning the desktop applications needs to be developed individually for each operating system.      | There’s no compatibility issues with web applications device wise. Programming languages do upgrade but it’s a painless to procedure for web applications.                                                |
| <b>User Experience</b> | It takes time getting used to desktop applications because they’re developed to serve the general purpose of all consumers. So no personalization abilities. | People are more friendly to web application these days. Thanks to Google, YouTube, and Facebook. People have a general idea of the web works and the flow is basically the same for all web applications. |

|                      |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                    |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Accessibility</b> | Not very portable unless you're using laptop which is also not very user friendly or secure.                                                                                                                                                                      | You don't need to carry around your computer/laptop to access your web application. All you need is a 'mobile phone'.                                                                                                                                                                              |
| <b>Cost</b>          | Desktop applications costs more to develop and maintain because you'll require at least several developers for the task.                                                                                                                                          | Costs way less because usually one-two skilled developers can develop and entire web application and it only takes minutes to deploy on the server.                                                                                                                                                |
| <b>Redundancy</b>    | There's none for desktop application. Your computer crashes, you lose your application. Virus attack – you lose your application. Computer hacked – you lose your application. Most annoying part is you'll have to backup your files manually to keep them safe. | A whole lot of options available. You can backup your files and database on the cloud at a given time interval. If you choose to store the files on a cloud storage service, it basically guarantees all the safety and security of your files and you can access them from anywhere in the world. |

**Table 1:** Comparison between web and desktop application

So I think it's pretty clear why I chose to develop a web application and why I prefer web applications over a desktop application. No doubt, desktop applications will always have a place as long as we have desktop computers but web applications are undoubtedly the future because large corporations like Microsoft, and Google are focusing on cloud based applications. Desktop applications will soon be a thing of the past and that will not be surprising.

## Chapter 3

### Available Applications & Their Limitations

I haven't found application similar to my proposed application. Applications that are available in the market are mostly Desktop application. Digital presence of these applications is almost scarce. Below is a list of the ones I found after thorough research –

<http://www.mediasoftbd.com/index.php/product?id=13>

<https://arobil.com/restaurant-management-system/>

<http://zaman-it.com/restaurant-management>

<https://www.nibizsoft.com/restaurant-management-software/>

<http://www.isoftware.com.bd/bistro/>

#### 3.1 Limitations of the available applications:

We've already discussed the limitation of these applications in our background study. Following are some of the key points -

- a) User Interface is quite old fashioned and not user friendly.
- b) Desktop application meaning you'll have to create backups manually. So no redundancy policy.
- c) There's a difficult learning curve because of poor UX (User Experience) design.
- d) Quite expensive to develop and maintain.
- e) Customer will always be dependent on the product vendor because the vendors do not release product updates from time to time since it's a desktop application.

## Chapter 4

### Project Objectives

There are quite a few realistic objectives of this project. I've pointed them out below in list –

- a) Reduce human dependency to some extent
- b) Reduce paper work and walk around in the restaurant
- c) Seamless ordering process
- d) Efficient kitchen management with live monitoring
- e) Efficient and easy staff management
- f) Convenient and quick billing
- g) Most importantly, to create a digital footprint of the restaurant itself.

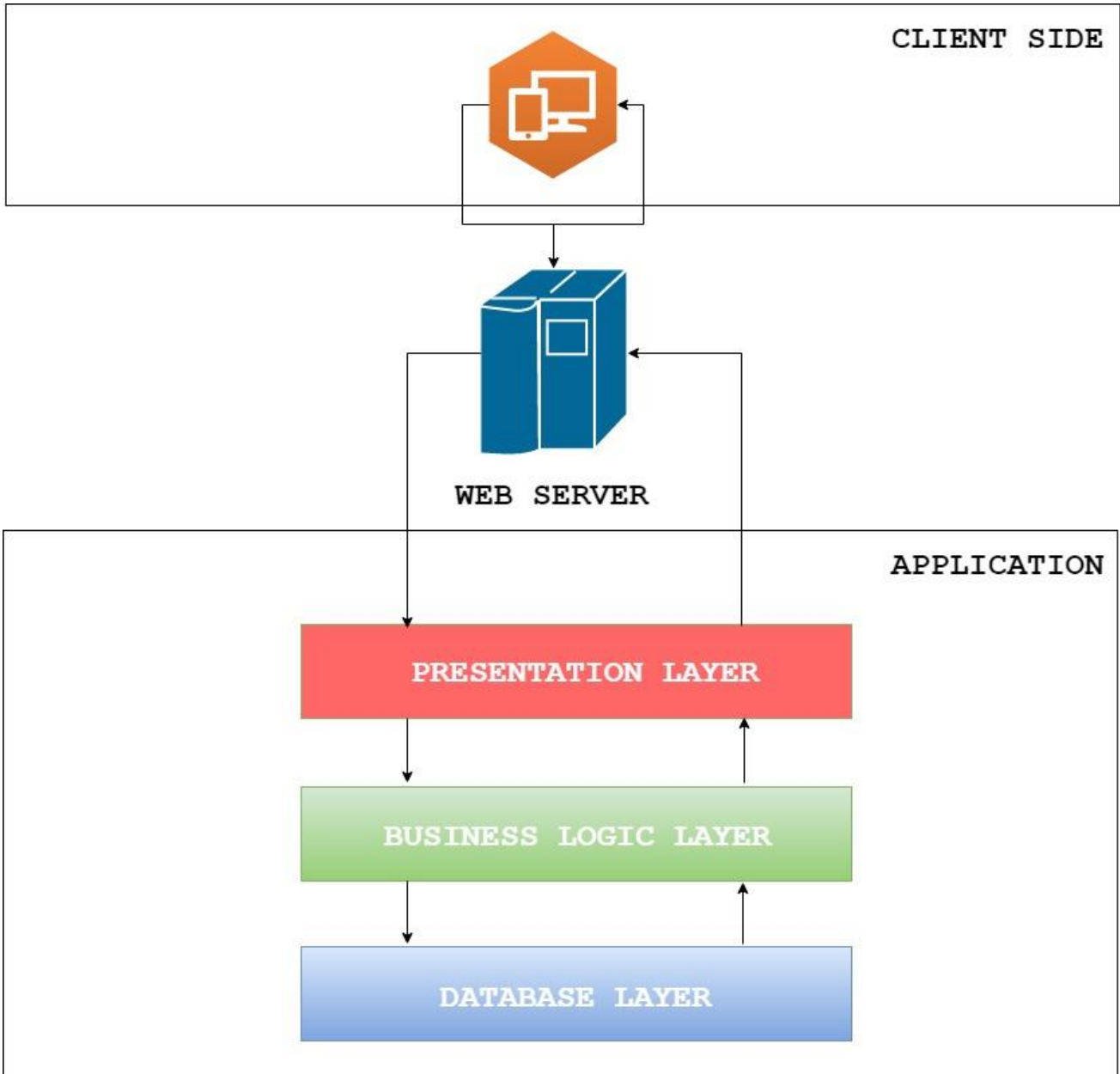
Similar to any other web application; this application will help a restaurant manage their orders effectively. Restaurants will be able to manage their stocks and will have the freedom to manage the items they sell. The restaurant owner(s) will have total control over the entire application, most importantly they'll have complete control over the financial information which is always a sensitive area.

For users or consumers, the application will bring a modern feeling as well as freedom over their dining experience. Users will be easily see the items the restaurant sell; ingredients in each item and users will know about the pricing including taxes before even placing their order which enables transparency.

## Chapter 5

### Software Architecture

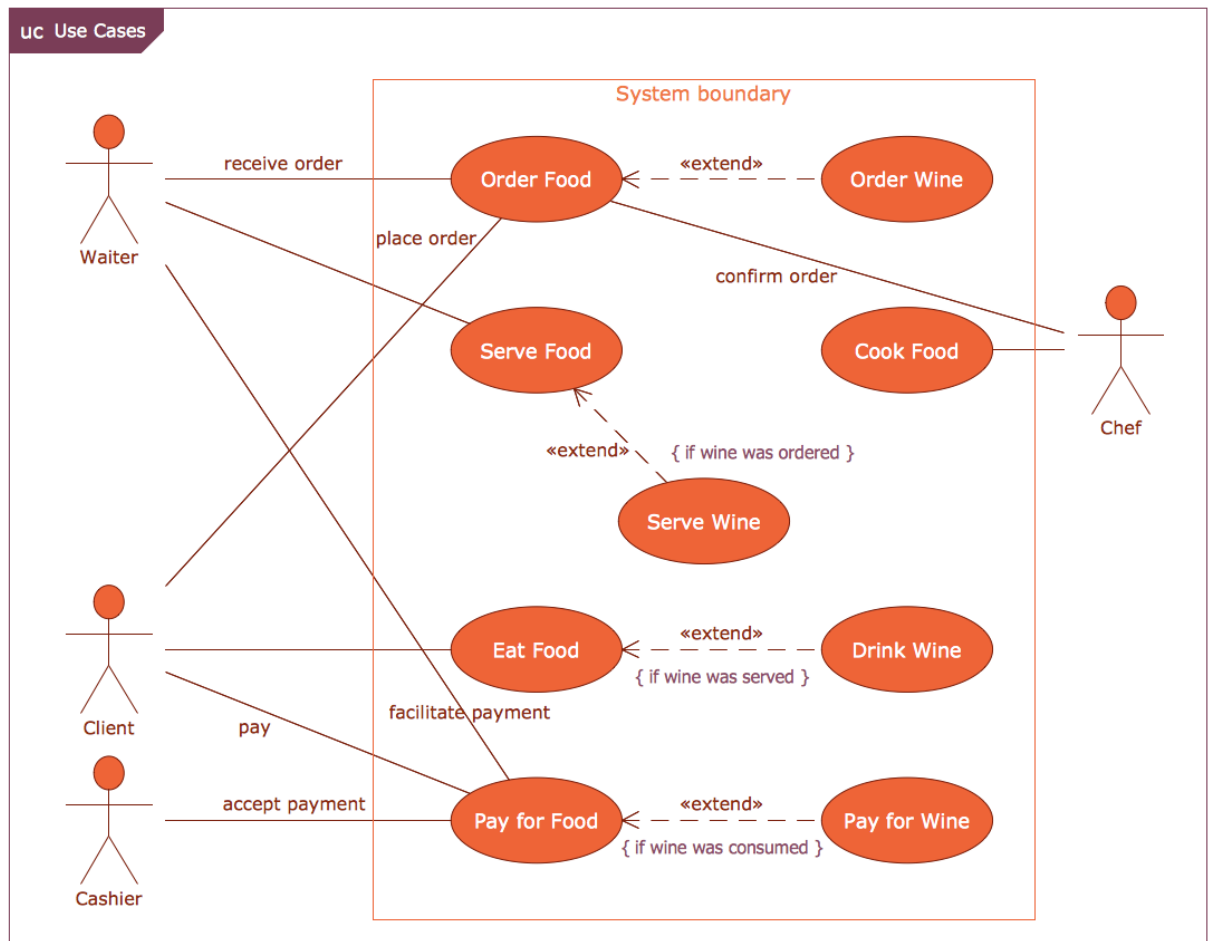
Following is the application architecture for the application. It has been designed around the renowned three-tier architecture model.



**Figure 1:** Software Architecture Diagram

## 5.1 Use Case Diagram

I have defined the following use-case diagram for this application –



**Figure 2:** Use Case Diagram

## **Chapter 6**

### **Hardware & Software requirements for end-users**

Following are the Hardware and Software that one would require to use the application.

#### **Hardware Requirements**

The consumer will need a device to access the online system. It could be a desktop, laptop, or even a tablet or mobile phone. No other hardware would be required.

#### **Software Requirements**

The consumer will only require a browser to access the online system. It can be Mozilla Firefox, Google Chrome, Microsoft Edge or any other web browser in the market.

## Chapter 7

### Development methodology

Any application development starts with a plan. Let's break down how I developed the entire application

- During the brainstorming phase I made several list of requirements and made different sketch on the layout until I decided to go with the layout I've developed
- Based on my mockup design, I made a use-case and a class diagram.
- In the third step, I made a database for the application using the class diagram that I created.
- Finally, I started coding the entire thing and put each piece together.

### 7.1 Development platform and tools used

Let's briefly go over the tools and the platform I've used to develop my application.

#### 7.1.1 Back-end

**Scripting:** I've used PHP to program the pages. The reason is simple. PHP is extremely popular, have a gigantic community, and almost 83% of all the web applications is built on PHP. That reason alone was enough for me to choose PHP over others.

**DBMS:** I've used MySQL as my Database Management System. MySQL is a Relational Database Management System. It's free and extremely powerful. Also it works very well with PHP.

**Others:** I've AJAX in different parts of the application.

#### 7.1.2 Front-end

**Twitter Bootstrap:** Twitter Bootstrap is a mobile first CSS framework which has been used to develop the front-end of the application. Twitter bootstrap enables me to develop a layout that works on all screen sizes and doesn't involve extra coding for that.

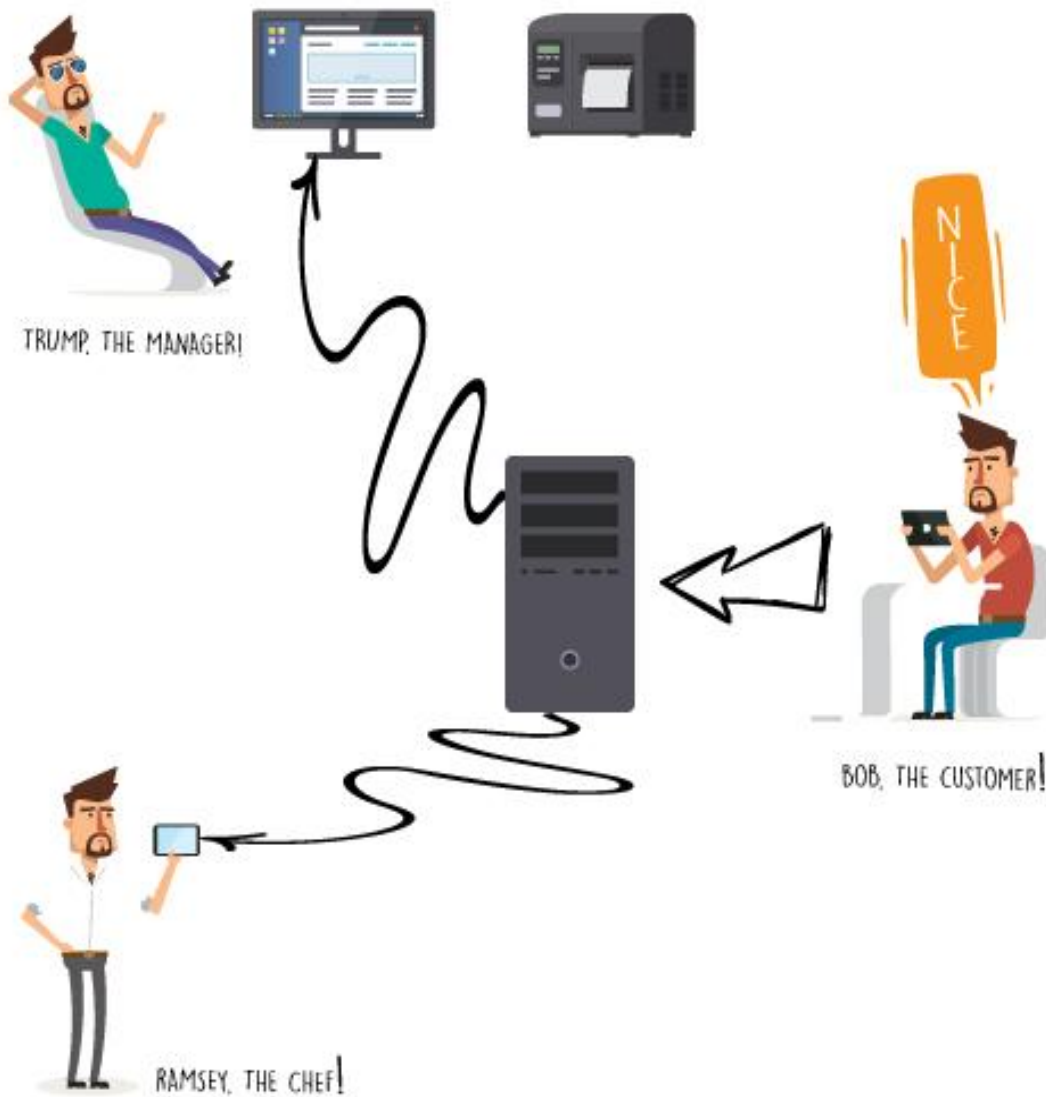
**HTML5:** I've used HTML5 for the markup to make the presentation layer of the application.

**Others:** Frequently used Javascript and jQuery throughout the application.

## Chapter 8

### How the application works

In this chapter, I will briefly go over how this application works for both users and restaurants. I'll include screenshots for your better understanding. Let's start with a infographic that describes the entire scenario.

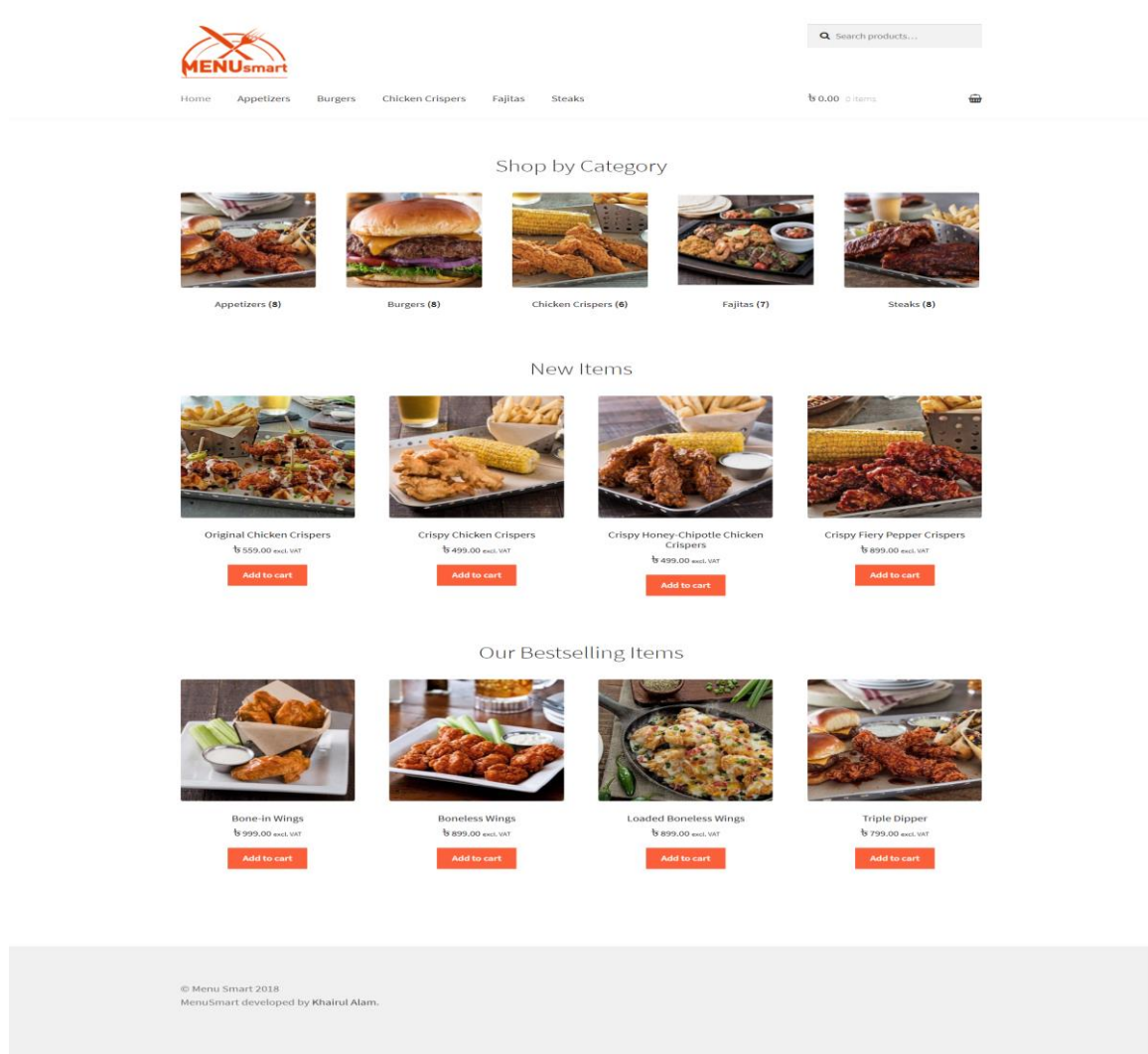


As you can see, 'Bob the customer' is going through the Restaurant menu on his iPad. He's looking for some interesting item to order and he does. The order hits our server and the server sends notifications to 'Trump, the manager' and 'Ramsey, the chef'. In the kitchen, the chef prepares the meal while the manager prepares and prints the bill.

That's the entire process in a nutshell. Of course a lot of processing is going on behind the scene. We will look into that in our coming chapter.

## 10.1 How the application works for customers

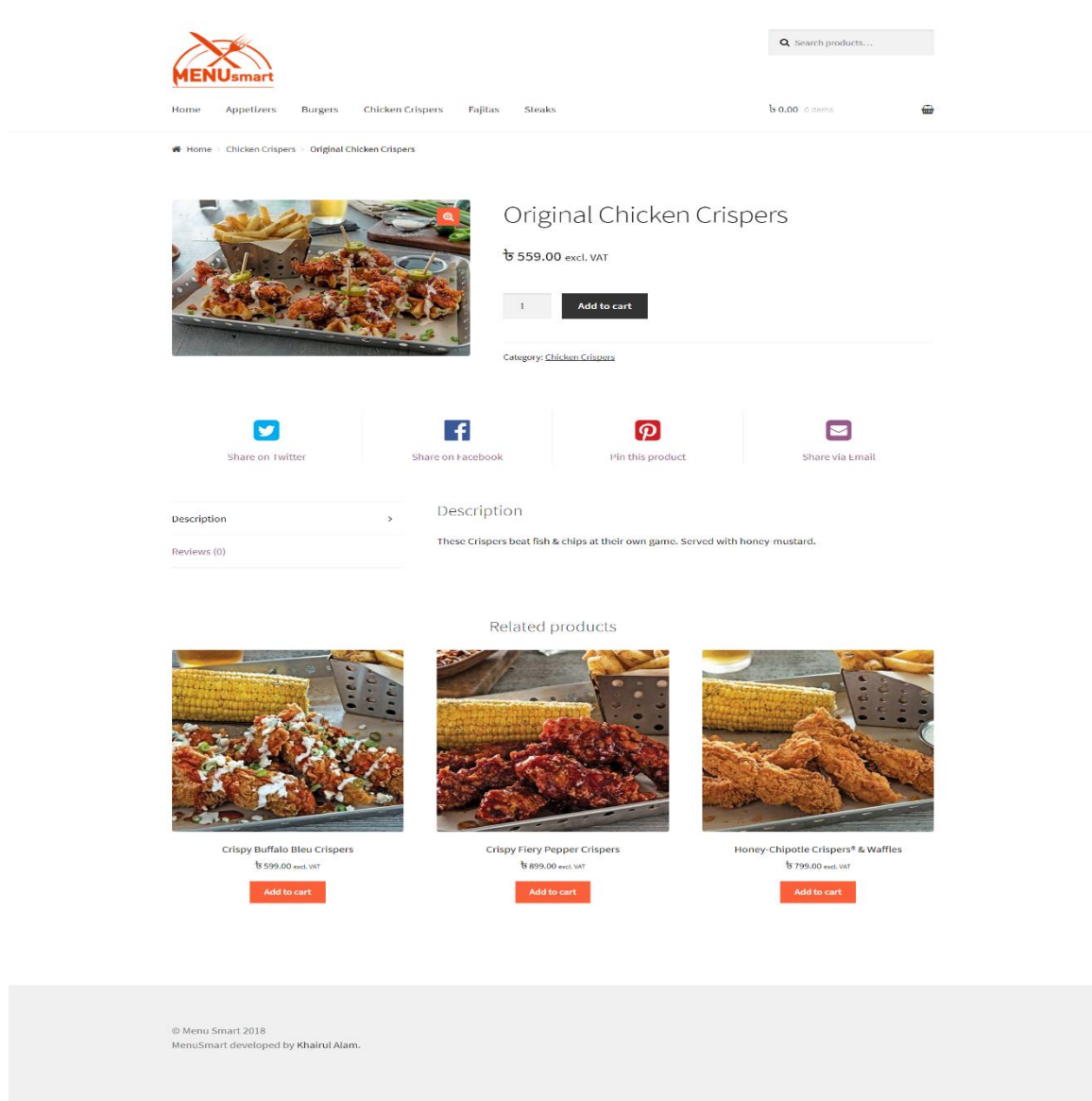
### 10.1.1 Restaurant Menu



This is the Restaurant's menu page. So the customer will be taken to this page when they scan a given QR code or directly go the restaurant URL. Customers can see all the categories of items the restaurant offers. They can click on the categories to see the items the restaurant sells under each category.

### 10.1.2 Items Details

Each item is listed with all the relative details like an image, description of the dish, ingredients of the dish, serving, price etc. You can see a screenshot of the item details page below. You'll notice the page has a set of 'social share' icons. The customer can share the item on their social profiles if they desire which drives traffic to the restaurant.



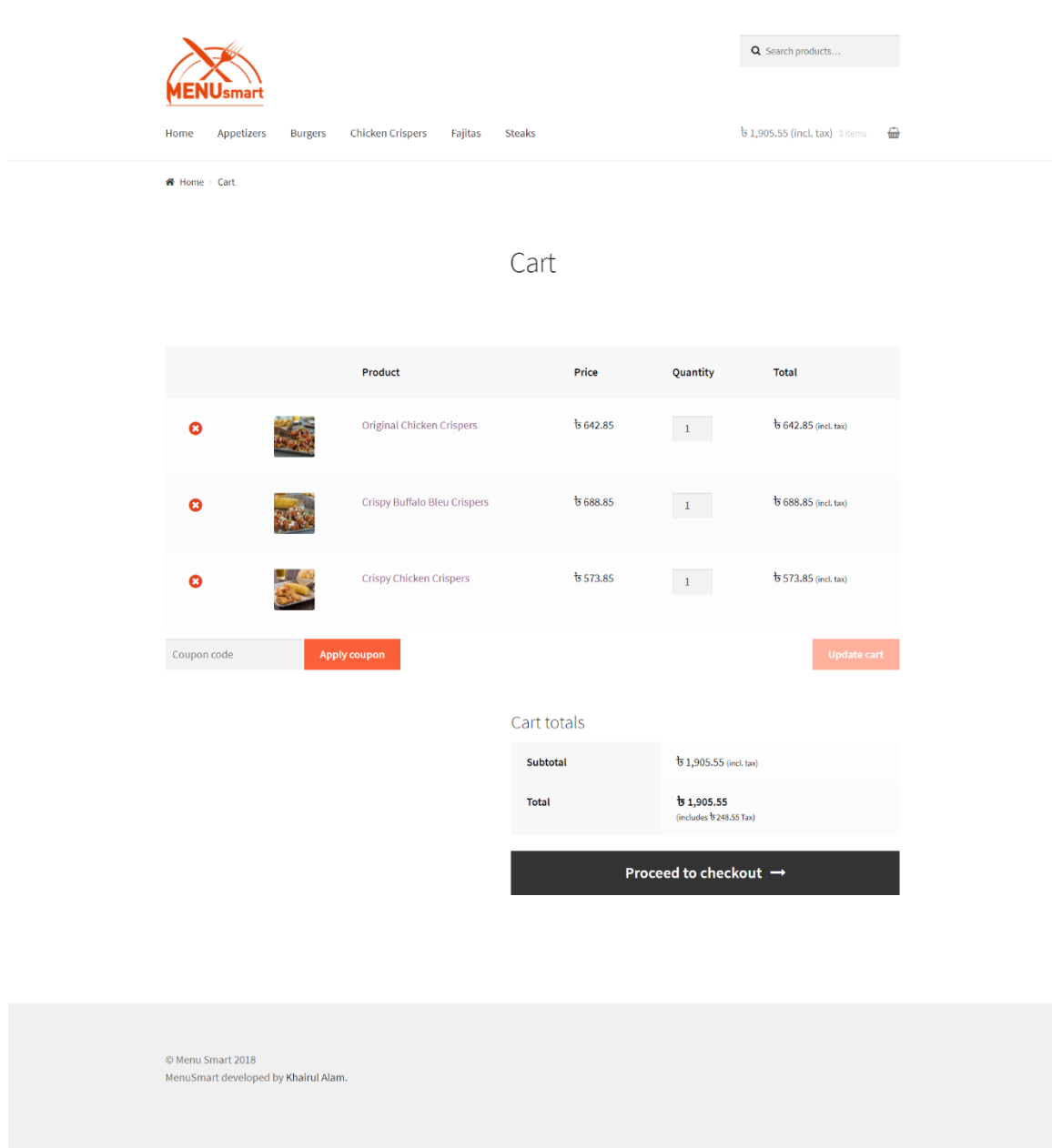
At the bottom of the page, you can see 3 related items. This is a way of promoting products to customers. In web development, we call this technique ‘Upsell’. So I incorporated the feature into my application as well.

Another feature called ‘Recommendation’ is available at user discretion. So they can do enable that feature too if they like.

### 10.1.3 Order Cart

Order cart functions like a basket. In our typical shopping experience when we buy a product we keep them in a shopping bag or in a shopping trolley. The “Cart” in this application functions the same way. If you want to order an item, you pick the items you want. The application automatically keeps all the items you check/add in the Cart. So

customer is always free to move around and remove items from the basket (Cart) or add new items or replace an existing item.



Unlike the traditional shopping systems, this application will allow the customer to see the total amount including taxes of the products they have chosen to purchase or order. This enables transparency and makes the user experience elegant.

#### 10.1.4 Checkout

During checkout, the customer simply needs to fill out a form which asks for the table number that he's sitting at. The customer has the option to select either 'Dine in' or 'Takeaway'. The food will be delivered to him based on his choice. The interesting and

important thing here is, before placing the order customer can see the total pricing including all the taxes of the order. So if the customer wants to change anything, he/she still has the option to go back and edit his cart; probably add new items and remove items from the cart.

**MENUsmart**

Home Appetizers Burgers Chicken Crispers Fajitas Steaks

₹ 1,905.55 (incl. tax) 3 items

Home Checkout

## Checkout

Returning customer? Click here to login

Have a coupon? Click here to enter your code

### Billing details

Full Name \*

Your Table Number \*

Delivery Option \*

Dine In

☐ Create an account

### Additional information

Special Instructions

Do you have anything you'd like to say?

### Your order

| Product                          | Total                              |
|----------------------------------|------------------------------------|
| Original Chicken Crispers × 1    | ₹ 642.85 (incl. tax)               |
| Crispy Buffalo Bleu Crispers × 1 | ₹ 688.85 (incl. tax)               |
| Crispy Chicken Crispers × 1      | ₹ 573.85 (incl. tax)               |
| <b>Subtotal</b>                  | ₹ 1,905.55 (incl. tax)             |
| <b>Total</b>                     | ₹ 1,905.55 (includes ₹ 248.55 Tax) |

☒ Cash

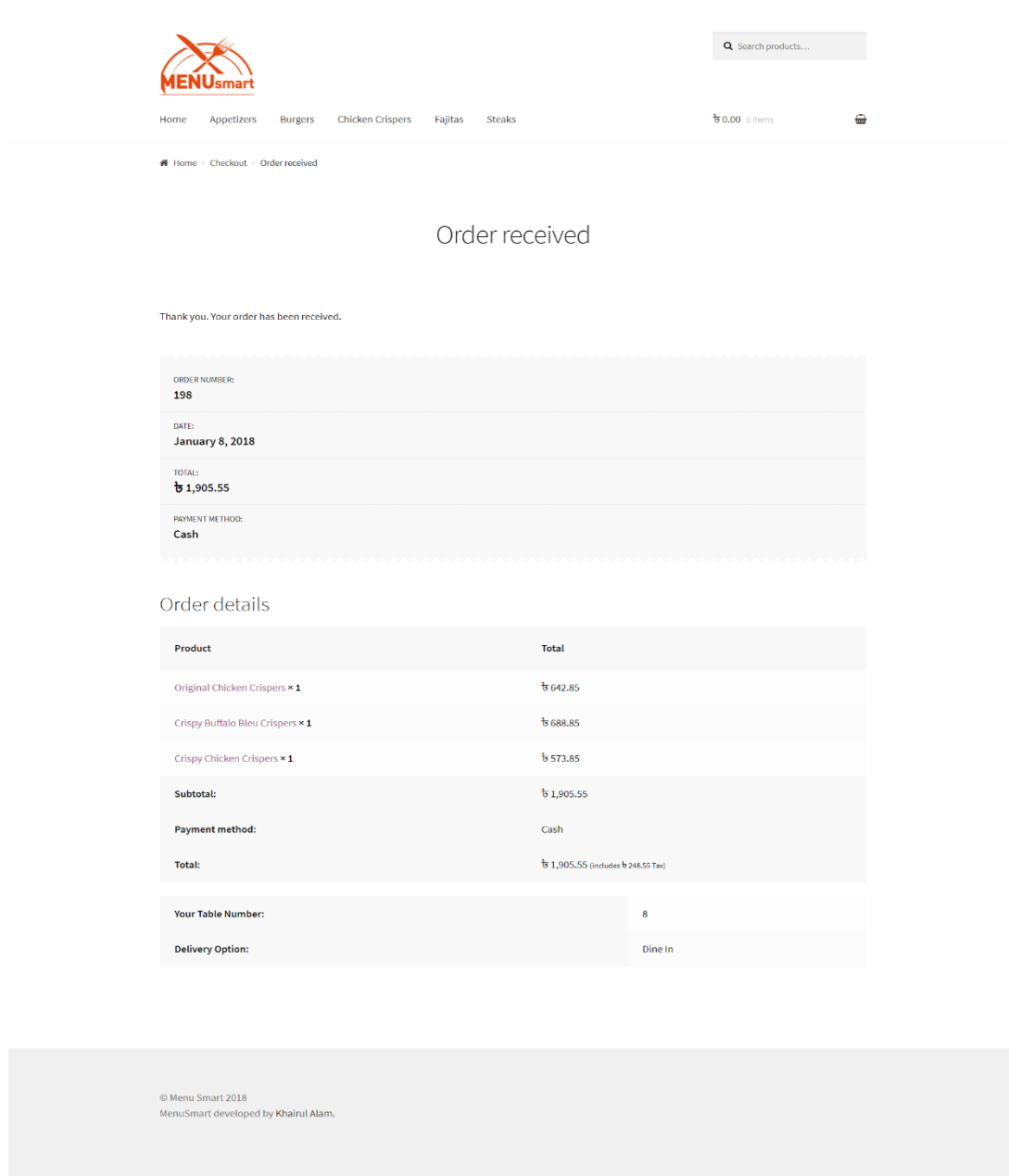
**Place order**

© Menu Smart 2018  
MenuSmart developed by Khairul Alam.

### 10.1.5 Order Finalization

Once the customer submits his order. He/she is given a confirmation for received order. The customer can store the document for his record if in case he/she requires it in the future.

Following is a screenshot of the ‘received order’ template.



That’s the end of customer part for this application.

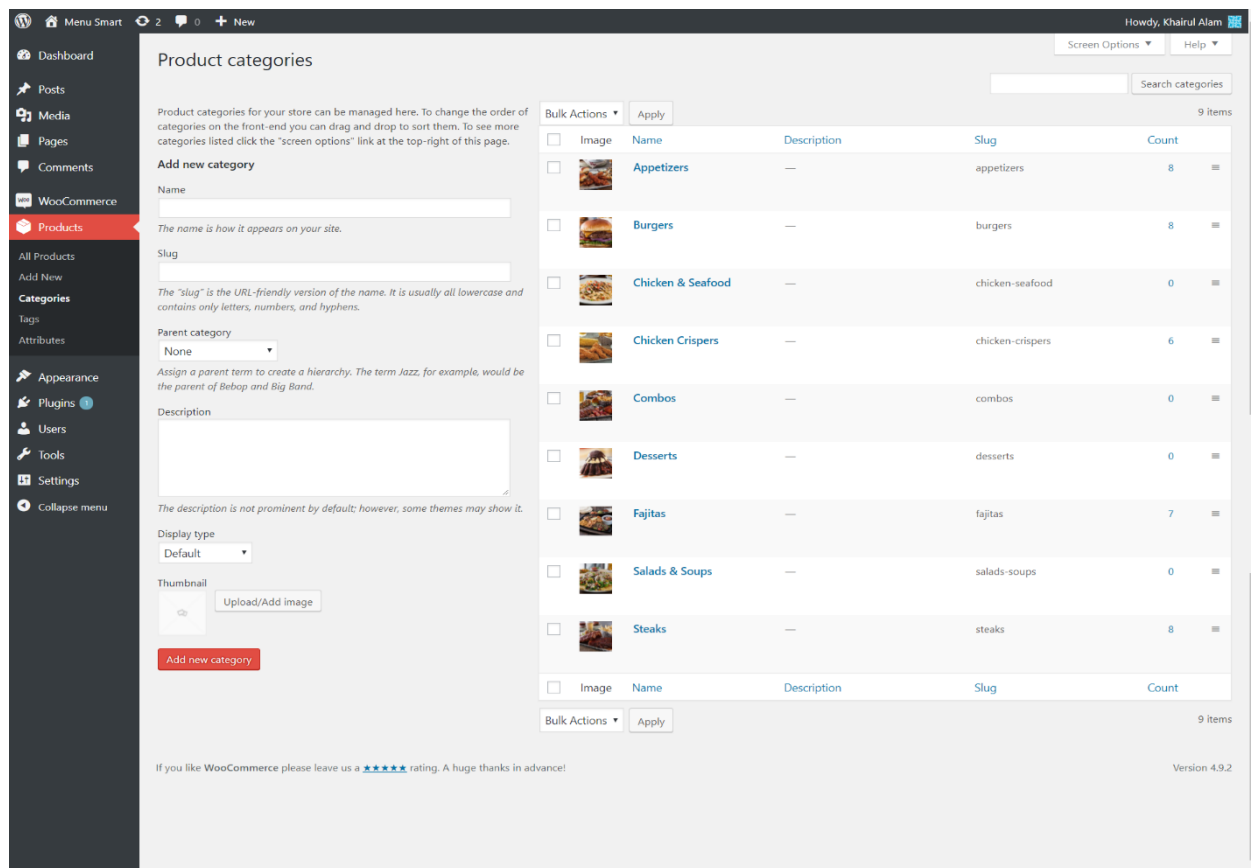
## 10.2 How the application works for Restaurant

In this and the following sections, I will briefly go over how the application works for Restaurants. I will explain how the application works in all its glory. 😊

### 10.2.1 How to add categories and items under categories

One of the most important part of this application is the food items. The entire application works around that. So this is a key element of this application. Adding food categories and items under those categories is a cinch in this application.

Let's take a look at how we can add a category –



The screenshot shows the WooCommerce 'Product categories' management interface. On the left, there is a form to 'Add new category' with fields for Name, Slug, Parent category, and Description. On the right, a table lists existing categories with columns for Image, Name, Description, Slug, and Count. The categories listed are Appetizers, Burgers, Chicken & Seafood, Chicken Crispers, Combos, Desserts, Fajitas, Salads & Soups, and Steaks.

| Image | Name              | Description | Slug             | Count |
|-------|-------------------|-------------|------------------|-------|
|       | Appetizers        | —           | appetizers       | 8     |
|       | Burgers           | —           | burgers          | 8     |
|       | Chicken & Seafood | —           | chicken-seafood  | 0     |
|       | Chicken Crispers  | —           | chicken-crispers | 6     |
|       | Combos            | —           | combos           | 0     |
|       | Desserts          | —           | desserts         | 0     |
|       | Fajitas           | —           | fajitas          | 7     |
|       | Salads & Soups    | —           | salads-soups     | 0     |
|       | Steaks            | —           | steaks           | 8     |

As you can see on the right side of the image. Those are all the categories or types of food the restaurant offers. If you want to delete any of it, you can do that from the same page. And if you want to add a new category, you simply use the form on the left. You give it a name, upload a relevant image and save it. It's that simple.

## 10.2.2 How to add a new food item

Here's an interesting thing, this application works on a Role based model. So not everyone can add/delete food items or categories. The restaurant owner specifies or designates the person responsible for managing the contents on the site.

Let's take a look at how the Restaurant or the designated person can add new food item.

The screenshot shows the 'Add new product' interface in WooCommerce. The left sidebar contains navigation links: Dashboard, Posts, Media, Pages, Comments, WooCommerce, Products (highlighted), All Products, Add New, Categories, Tags, Attributes, Appearance, Plugins, Users, Tools, Settings, and Collapse menu. The main content area is titled 'Add new product' and features a large text input field for the product name. Below this is a rich text editor with a toolbar and a 'Visual' tab. The 'Product data' section is expanded, showing the 'Simple product' type. It includes fields for 'Regular price (s)', 'Sale price (s)', 'Tax status' (set to 'Taxable'), and 'Tax class' (set to 'Standard'). The right sidebar contains several sections: 'Publish' (Status: Draft, Visibility: Public, Publish immediately), 'Product categories' (a list of categories like Appetizers, Burgers, etc.), 'Product tags' (a text input field and an 'Add' button), 'Product image' (Set product image), and 'Product gallery' (Add product gallery images). The bottom of the page has a footer with a rating request and the version number 4.9.2.

It's really a simple procedure. You give your food item a name, you put in a description with the ingredients of the items. You set a regular price and if needed a 'sale/discounted price'. You can also define serving of the dish. Also if you want, you can add variations or offer variable items of the same food all from the same page. You then add an image, select a category (that we added earlier) and simply click on publish.

## 10.2.3 List of products

Following is how restaurants see all their offered items. You can select any item from this list, sort them, edit or delete them, make them featured items to put them on the home page or in the recommended section.

The screenshot shows the WooCommerce 'Products' list page. The left sidebar contains navigation links for Dashboard, Posts, Media, Pages, Comments, and WooCommerce. Under WooCommerce, 'Products' is selected, showing options for All Products, Add New, Categories, Tags, and Attributes. The main content area displays a table of 37 products. Each product row includes a checkbox, a product image, the product name, SKU, stock status (all 'In stock'), price, categories, tags, a star icon for favorites, and a date. The products listed include various chicken crisps, fajitas, and ribs. At the bottom of the table, there are bulk action buttons and a pagination bar showing '1 of 2' pages. A footer note asks for a rating, and the version '4.9.1' is noted in the bottom right.

| <input type="checkbox"/> | Name                                                                               | SKU | Stock    | Price      | Categories       | Tags | ★ | Date                 |
|--------------------------|------------------------------------------------------------------------------------|-----|----------|------------|------------------|------|---|----------------------|
| <input type="checkbox"/> | Original Chicken Crispers                                                          | –   | In stock | ₹ 559.00   | Chicken Crispers | –    | ☆ | Published 2017/12/31 |
| <input type="checkbox"/> | Crispy Chicken Crispers                                                            | –   | In stock | ₹ 499.00   | Chicken Crispers | –    | ☆ | Published 2017/12/31 |
| <input type="checkbox"/> | Crispy Honey-Chipotle Chicken Crispers                                             | –   | In stock | ₹ 499.00   | Chicken Crispers | –    | ☆ | Published 2017/12/31 |
| <input type="checkbox"/> | Crispy Fiery Pepper Crispers                                                       | –   | In stock | ₹ 899.00   | Chicken Crispers | –    | ☆ | Published 2017/12/31 |
| <input type="checkbox"/> | Honey-Chipotle Crispers® & Waffles                                                 | –   | In stock | ₹ 799.00   | Chicken Crispers | –    | ☆ | Published 2017/12/31 |
| <input type="checkbox"/> | Crispy Buffalo Bleu Crispers                                                       | –   | In stock | ₹ 599.00   | Chicken Crispers | –    | ☆ | Published 2017/12/31 |
| <input type="checkbox"/> | Chicken Enchiladas                                                                 | –   | In stock | ₹ 1,499.00 | Fajitas          | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | Black Bean & Veggie Fajitas                                                        | –   | In stock | ₹ 1,299.00 | Fajitas          | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | Shrimp Fajitas                                                                     | –   | In stock | ₹ 1,099.00 | Fajitas          | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | Steak Fajitas                                                                      | –   | In stock | ₹ 999.00   | Fajitas          | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | Chicken Fajitas<br>ID: 172   Edit   Quick Edit   Trash   View   Duplicate          | –   | In stock | ₹ 899.00   | Fajitas          | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | Mix & Match Trio                                                                   | –   | In stock | ₹ 799.00   | Fajitas          | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | Mix & Match Fajitas                                                                | –   | In stock | ₹ 699.00   | Fajitas          | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | Honey-Chipotle Full Order Ribs                                                     | –   | In stock | ₹ 2,199.00 | Steaks           | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | Texas Dry Rub Full Order Ribs                                                      | –   | In stock | ₹ 1,499.00 | Steaks           | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | Texas Dry Rub Full Order Ribs                                                      | –   | In stock | ₹ 2,999.00 | Steaks           | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | House BBQ Half Order Ribs                                                          | –   | In stock | ₹ 1,399.00 | Steaks           | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | House BBQ Full Order Ribs                                                          | –   | In stock | ₹ 1,899.00 | Steaks           | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | Mix & Match Ribs                                                                   | –   | In stock | ₹ 1,200.00 | Steaks           | –    | ☆ | Published 2017/12/28 |
| <input type="checkbox"/> | Original Half Order Ribs<br>ID: 154   Edit   Quick Edit   Trash   View   Duplicate | –   | In stock | ₹ 899.00   | Steaks           | –    | ☆ | Published 2017/12/28 |

## 10.2.4 List of Orders

The ‘List of orders’ page displays all the orders that are in the system. The webmaster can check each order and prepare invoice against those orders. This also works in a role based model so not everyone can prepare an invoice. Only the restaurant manager or the owner can prepare and print invoices against any order.

Orders [Add order](#)

All (3) | [Trash \(1\)](#) | [Processing \(1\)](#) | [Completed \(2\)](#)

Bulk Actions [Apply](#) All dates [Search for a customer...](#) [Filter](#)

| <input type="checkbox"/> | Order                | Ship to | Date            | Total                  | Actions                                               |
|--------------------------|----------------------|---------|-----------------|------------------------|-------------------------------------------------------|
| <input type="checkbox"/> | #198 by Khairul A    | –       | January 8, 2018 | ₹ 1,905.55<br>Via Cash | <a href="#">✓</a> <a href="#">👁</a> <a href="#">🗑</a> |
| <input type="checkbox"/> | #197 by Khairul      | –       | January 2, 2018 | ₹ 2,297.70<br>Via Cash | <a href="#">👁</a> <a href="#">🗑</a>                   |
| <input type="checkbox"/> | #196 by Khairul Alam | –       | January 2, 2018 | ₹ 642.85<br>Via Cash   | <a href="#">👁</a> <a href="#">🗑</a>                   |
| <input type="checkbox"/> | Order                | Ship to | Date            | Total                  | Actions                                               |

Bulk Actions [Apply](#)

If you like WooCommerce please leave us a [★★★★★](#) rating. A huge thanks in advance!

Version 4.9.1

The “Chefs” or other stuffs in the kitchen can only see the orders. They cannot make any change. They cannot edit or remove the orders from the list.

Let’s take a look at how the order details page looks like.

Edit order [Add order](#)

Order #200 details  
Payment via Cash on January 8, 2018 @ 3:28 pm. Customer IP: ::1

**General Details**  
Order date: 2018-01-08 @ 15:26  
Order status: Completed  
Customer: Guest

**Billing details**  
Address: khairul alam  
Email address:  
Phone:

**Shipping details**  
Address: No shipping address set.

**PDF Invoice data**  
Invoice  
Set invoice number & date

| Item                           | Cost       | Qty | Total      | Tax      |
|--------------------------------|------------|-----|------------|----------|
| Honey-Chipotle Full Order 8lbs | ₹ 2,199.00 | × 1 | ₹ 2,199.00 | ₹ 329.85 |

Tax: ₹ 329.85

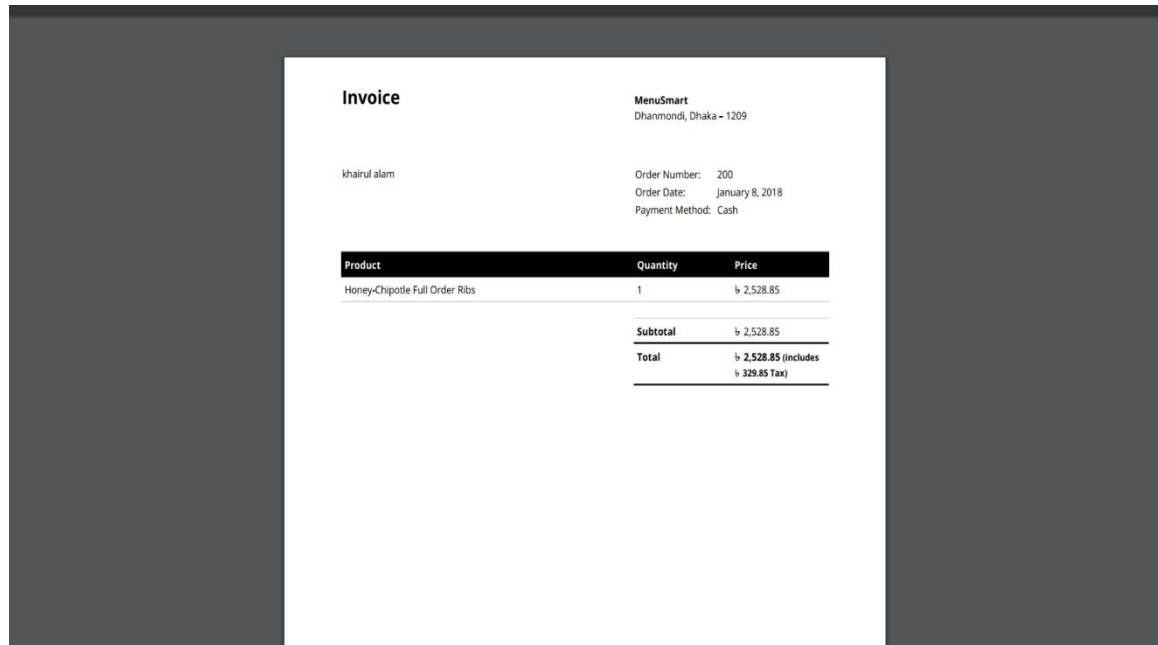
**Order actions**  
Choose an action... [Move to trash](#) [Update](#)

**Send order email**  
[Save order & send email](#)

**Order notes**  
Order status changed from Processing to Completed.  
added on January 8, 2018 at 3:28 pm by Chef Admin [Delete note](#)  
Payment to be made upon delivery. Order status changed from Pending payment to Processing.  
added on January 8, 2018 at 3:28 pm [Delete note](#)

As you can see, the order details page displays all the information relating to that particular order. The page displays the date of order, order status, billing and shipping details, then the details of ordered items with a link to each item. And finally the price. There's also an option to create PDF invoices from the order details page directly.

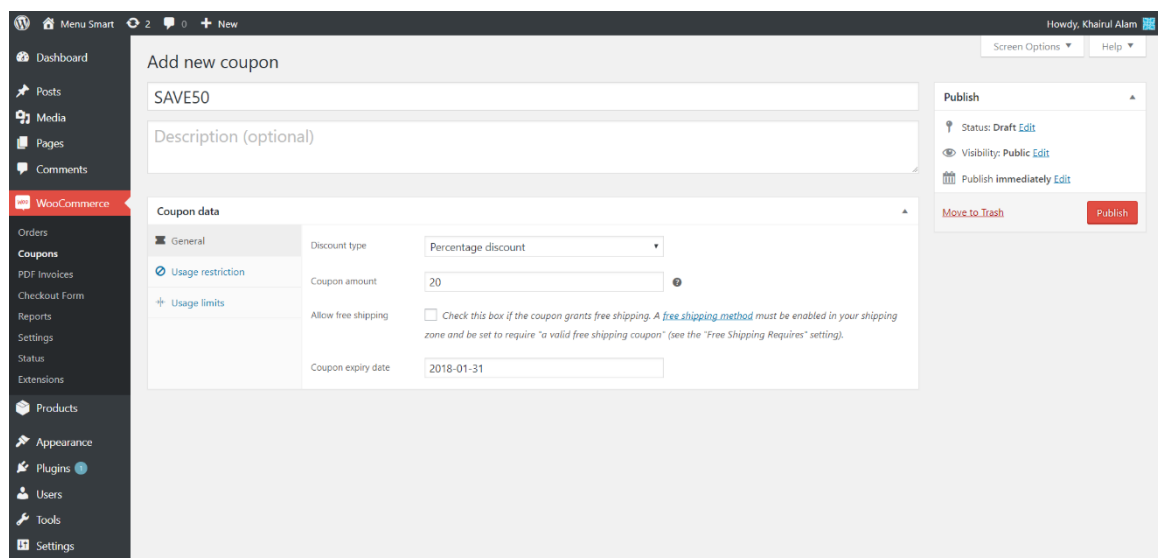
Following is the picture of an auto generated invoice using the web application –



The invoice has all the details a traditional invoice would have. It displays the tax totals and the individual pricing of each items. So no messy writing on papers anymore. 😊

## 10.2.5 Coupons

Another extremely cool feature of my application is the use of “Coupons”. Who doesn't love discounts, right?

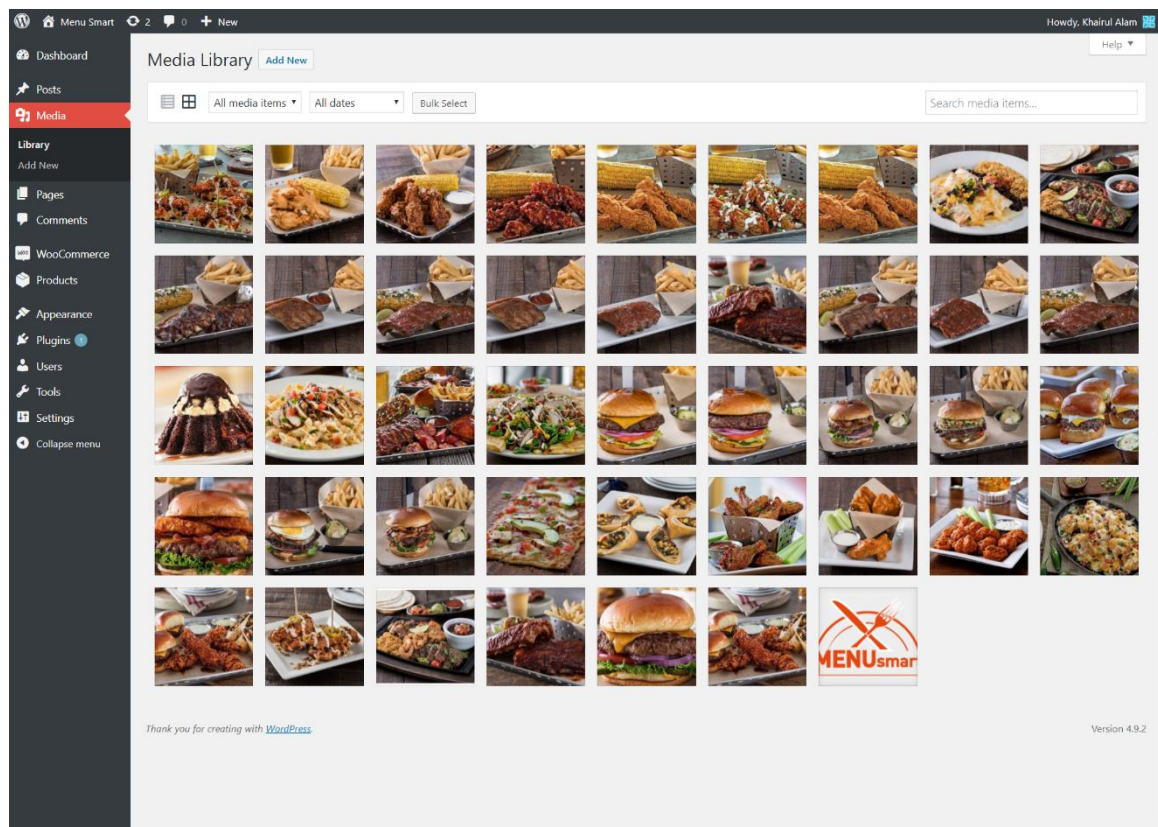


Restaurant management can offer coupons to their customers. The coupon can be set to a fixed amount or a percentage based. The management retains all the control on all the coupons. They can disband coupons any time they want, or can they change the amount on the coupon.

The coupons are also set with a validity period. So managers don't need to worry about their coupon being used over a lengthy period. Interestingly the coupons can also be set to a certain number of use.

## 10.2.6 Media Library

One of the coolest feature of any web application is the media library. A rich media library can make a website robust and much more user friendly. You can upload images, audio/video files, or any other type of files you want to use. Let's take a look at how the media library looks –



As you can see the library has all the images of our food items. Those are the images of the products I have listed on the application. Also the logo file is there too which I have used in my application.

## **Chapter 9**

### **Results**

Following is the outcome of the Web Application I've developed –

#### **For Restaurants:**

- a) Restaurants will have a complete Content Management System where they will be able to add new menu category, add new items, edit items, hide/unhide items, delete items. They will be able to publish contents and offer coupons or discounts on their products.
- b) Restaurants will have access to their order histories by daily, weekly, monthly or yearly presentation.
- c) Restaurant owner will have access to the financial information. Owner will be able to see their daily transaction and their profits.
- d) Restaurants will have access to automatic tax calculation. Meaning they won't have to manually figure out how much tax they owe to the government.
- e) Restaurants will have automatic invoicing system.

#### **For Customers:**

- a) Customers can place order using their mobile phone
- b) Customers can easily filter the products based on their interest and various food categories the restaurant serves.
- c) Customers can pick items knowing the item is available and not out of stock.
- d) Customers can see the total price including tax before placing the order.
- e) Customers can even order for takeaway without even going to the counter.
- f) Customers can easily pay through their credit/debit cards
- g) Customers can use coupons or discount codes without hassle.

## **Chapter 10**

### **Conclusion**

I have successfully achieved what I wanted to do this project. I have made a system that can definitely make restaurants manage their business efficiently while giving their customers an enjoyable experience. On the other hand, consumers can have the freedom and peace of mind while dining in a restaurant.

## **Chapter 11**

### **References**

No external resources have been used to prepare this project report. The report is hand written top to bottom so no external references are given.