



An Undergraduate Internship Report on Garlic & Spice, Website of a Restaurant

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9th June, 2021

**Dissertation submitted in partial fulfillment for the degree of Bachelor
of Science in Computer Science**

Department of Computer Science & Engineering

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Attestation

I(Tania Sultan Sumona, ID-1610716) hereby declare that this submission is my own work and to the best of my knowledge it contains no materials previously published or written by another person, or substantial proportions of material which have been accepted for the award of any other degree or diploma at IUB or any other educational institution, except where due acknowledgement is made in the report. Any contribution made to the research by others, with whom I have worked at IUB or elsewhere, is explicitly acknowledged in the report. I also declare that the intellectual content of this report is the product of my own work, except to the extent that assistance from others in the project's design and conception or in style, presentation and linguistic expression is acknowledged.

Signature

Date

Write Your Name Here

Name

Acknowledgement

I might want to offer our heartiest thanks to faculty advisor Md. Abu Sayed, Lecturer, School of Engineering and Computer Science, for his knowledge, tolerance, and for giving me the chance to gain from him. His direction and support were the most imperative resources that prompted the finish of this venture.

I might likewise want to thank my external supervisor Md. Shahidul Islam, (Intern Coordinator) at Decimal IT. What's more, my associates who helped me by giving useful directions.

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Finally, we proudly acknowledge the great sacrifices, good wishes, moral support, fruitful advice, inspirations and encouragements from our family members, relatives and friends during the Internship.

Letter of Transmittal

9th June, 2021

Md. Abu Sayed

Lecturer, School of Engineering & Computer Science

Independent University, Bangladesh (IUB).

Bashundhara, Dhaka - 1229.

Subject: Report submission of the internship course.

Dear Sir,

I would like to take this opportunity to thank you for the guidance and support you have provided me with during the course of this report. Without your help, this report would not have been possible to complete. With deep gratitude, I also acknowledge the help provided by my on-site supervisor (Intern Coordinator) for providing me with utmost supervision during my internship in the company.

In this report I attempted my best to present all my experiences, learning and outcome out of this course of work.

I exceedingly acknowledge and recognize the importance of this course and I trust this report will accomplish your endorsement. I would really appreciate if you would enlighten me with your thoughts and views regarding the report. Also, if you wish to enquire about an aspect of my report, I would gladly answer your queries.

Thank you again for your support and patience.

Yours Sincerely,

Tania Sultan Sumona

ID: 1610716

Evaluation Committee

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Abstract

This internship report focuses on my contribution towards Decimal IT as an intern and achievements from this internship program. This report is broadly categorized into nine different chapters. At first there is an introduction which is the first chapter of the report. It contains overview or background of the work, objective of the project, scope of the project. Chapter two describes background of the company, vision, mission, objective and corporate divisions of the company. Chapter three focuses on the literature review, relationship with undergraduate studies. This section elaborately describes the relationship between the courses I have done in the university and my work in the office. At chapter four I described the project management and financing. It contains work breakdown structure, activity wise time allocation, gantt chart, resource allocation and estimating costing of the project. The fifth chapter describes about the software development methodology. Chapter six describes the body of the project. It has work description, system analysis, system design and product features. Chapter seven is the results and analysis section. At chapter eight I described the project's engineering problem analysis. It contains sustainability of the work, social and environmental effects and analysis, addressing ethics and ethical issues. Chapter nine is the last chapter of the report. It describes future works of the project.

Finally, this report concludes with the achievements as an intern in terms of professionalism and highlights the values of the internship program.

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Chapter-1

Introduction

Independent University, Bangladesh offers undergraduate program in “Graduate in Engineering School Administration”. As a student of the undergraduate program, the program requires that we complete an internship period with a reputable company where I will be trained practically with working environment practices and get familiar with the industry.

I worked at a software company Decimal IT where I am to complete 3 months of internship. In this report, I have discussed about my internship period at Decimal IT, an overview of the company and its activities, my experiences working for a reputed organization, what I have learned and how it has helped me to develop and grow.

Firstly, I work as a junior web developer. They wanted to know how I know about developing. They wanted me to make a responsive website for a restaurant. So, I have used HTML, CSS, JS, PHP, MySQL, Bootstrap to develop the website.

Thanks to almighty for giving me patience and courage to complete this project.

1.1 Overview/ Background of the Work

Garlic & Spice is a new restaurant in town. They have a restaurant in Gazipur. They do all their works manually from taking orders to managing customer. So, they wanted a website to do all their work smoothly and easily. And also wanted to introduce their restaurant online. This website helps customer to order their food at any time. The customers will be able to order their favorite dishes at any point of time, and as we have pointed out earlier, that time is a minimal option, and restaurants must have a specified system through which they can serve a huge number of customers while making their work smoother.

Decimal IT is one of the best platforms which provides all of these platforms along with numerous innovative features which has turned countless small and large businesses into an inspiring leader in the online marketplace.

1.2 Objective of the Project

One of the main objectives of any this website is to maximize profit by increasing efficiency and de-creasing overheads without compromising customer satisfaction. And also, other objective of this system is to manage the details of item, category, food, online order, and customer. It manages all the information about item, category, customer, online order details. The project is also totally built at administrative end and thus only the administrator is guaranteed the access. The purpose is to build an application program to reduce effort of managing the item, category, food, customers. Admin can see all the order details, customer information.

1.3 Scope of the Project

In this project, there are two types of user. One is admin and the another one is the customer. Admin needs to log in to his verified email account to access the admin panel. Admin can edit the website details. There are three options in the admin panel. Categories, food item and order details. Admin can edit the categories, also can upload new categories. He can add food item under each category. Each food item has detail information about itself. Admin can edit that information. He can remove food item. Admin is able to see customer's information, order details. Admin can log out from the admin panel.

Customer can view the home page. Home page contains the search bar. He can search for his desired food to know more about it. He can view all the categories, view food items under those categories. Customer can view bestselling items. He can place his order and after placing order customer will get the confirmation of his order containing acceptance of his order, payable amount and other information.

Chapter-2

Company's Profile

2.1 Background of the Company

Founded in 2017 with packed software brains, Decimal IT is already providing software solutions, services throughout the world.

Decimal IT combines a unique blend of extensive technical expertise, state-of-the-art infrastructure, innovative offshore methodologies and well-defined development, testing and project management processes to provide clients with reliable, secure, affordable development solutions.

Decimal IT has been offering web application design and development services to the customers around the world. We specialize in web design, website development, web application development, e-commerce development, search engine optimization and customized software development and also experts in several Open Source platforms.

Decimal IT's primary focus is to provide our customers a first-class service without compromising on quality for affordable prices, hence we maintain a very high standard of service from start to finish on every step of the process from design, development to ongoing support. We like to go for quality, not quantity!

An IT solutions company with the dedication and passion to provide quality IT services. Here at Decimal IT, the group of ICT professionals thrive to provide Web and Mobile App development services, e-commerce solutions, digital marketing services, UI & UX designing services among many other fabulous things to help grow a business digitally. Decimal IT is a one stop solution for all ICT needs.

2.2 Vision, Mission & Objective

Decimal IT exists to help startups and enterprises of all sizes to build better products, reach more people and have a prominent online presence. They take the full responsibility of developing the iOS or Android app, website or infrastructural software system for startups and SMBs, so that they can pay their full attention to market their product as soon as possible and focus entirely on the business growth. For enterprises, Decimal IT builds data centric systems that are intelligent, effective and optimized to operate at any scale.

Decimal IT aims to enhancing the business growth of their customers with creative Design and Development to deliver market-defining high-quality solutions that create value and reliable competitive advantage for our clients around the world.

Our mission is to deliver optimal solutions with quality and services at reasonable prices. For us customer satisfaction is given top place. We are very friendly in our dealings to the customers and it helps us retain existing clients and expand customer circle. We always try to improve the quality of our products by exploring innovative ideas.

The vision is to build a better world with mobile first software solutions and efficient, user-friendly websites to serve humanity through positive innovation and continuous improvement for their business. The goal is to develop software systems that can enlighten and empower people and enable them to reap a better and greater value out of the digital ecosystem.

Decimal IT is thriving to develop in a constant manner and grow as a major IT service provider to become a leading performer, in providing quality Web and Software Development solutions in the competitive global marketplace. Our professional, flexible and integrated process reflects in what we do. We always guide our customers to success. We have the ability to accelerate and quickly share the great work or products of your organization or business.

The objective of the company is to provide E-commerce consultancy, then building and providing best e-commerce websites and developing mobile apps as well. Digital promotion of the company's products and clients is also a major objective of Decimal IT.

2.3 Corporate Divisions

There are basically 2 running divisions in the company – one is the tech division that handles the software systems, websites and mobile apps' development and maintenance work. This division is responsible for designing, coding and modifying websites and mobile applications, from layout to function and according to a client's specifications. The department strives to create visually appealing sites that feature user-friendly design and clear navigation.

The second department is the marketing department that is concerned with the promotional activities of the company's products and clients to build, grow and compete in the market. The department basically promotes the business and drives sales of its products or services. It provides the necessary research to identify the target customers and other audiences.

Chapter-3

Literature Review

3.1 Relationship with Undergraduate Studies

This internship program is fully related with my courses which I had to complete in my university. Some of the courses are CSC 401: Database Management, CSC 405: System Analysis and Design, CSC 455: Web Applications and Internet.

CSC 401: Database Management

In database management we learned the basic of html, css, programming language like php, for handling database we learned MySQL, how to use xampp server and so on. Using this course knowledge anyone can make database. In that course we had to develop a mid-range project with database. Now, I am using these languages in my internship project.

CSC 405: System Analysis and Design

System analysts solve business problems through analyzing the requirements of information systems and designing such systems by applying analysis and design techniques. This course deals with the concepts, skills, methodologies, techniques, tools, and perspectives essential for systems analysts. In system analysis and design, we learned about analysis, project management, specially documenting. Components like 6 element analysis, gantt chart, UML diagram and also a lot of component we were being taught in that course.

CSC 455: Web Applications and Internet

In the Web Applications course, I learned more about html, css, javascript language and also get to know about bootstrap and how to use bootstrap. These components what I learned from this course helping me a lot to fulfill my responsibilities in my office where I am working. This helped me to develop a website what I was assigned from my office.

3.2 Related Works

For understanding the problem and our work we had to go through different project, report, and research paper. There is a numerous number of paper available on online restaurant management system.

Roy Davis, Ninu Francis, Swathi K.Sukumaran, Swetha Jeevan E, Umesh Nair have a research paper on automatic restaurant management system. In that paper first they analyzed the existing system which is manual then proposed a solution for that problem. They have highlighted the advantage and disadvantage of the newly proposed system. [1]

Prof. N. M.Yawale, Prof. N. V. Pardakhe, Prof. M. A. Deshmukh, Prof. N. A.Deshmukh had a paper on online restaurant management system. The system is implemented to reduce the manual work and enhances the accuracy of work in a restaurant. This system manages and maintains the record of customers and their order online. So that Customer can add and delete the food items easily. The menu card of different restaurant consists of various food varieties available in the restaurant. Through the place ordering menu, the customer can simply click and order the food. [2]

Hanisah Binti MD Taha has a report on online restaurant management system. This report is about that how this system wakes to provide service facility to restaurant and also to the customer. The services that are provided is food ordering and reservation table management by the customer through the system online, customer information management and waiter information management, menu information management and report. Main objective to builds the system is to provide ordering and reservation service by online to the customer. With this system online, ordering and reservation management will become easier and systematic to replace traditional system where are still using paper. Furthermore, this system is applicable any time and where also customer. During the development of this, the methodology being used is waterfall model. Each process during the development process is followed by each phase in waterfall model. [3]

This report was written by Carl Abernethy. Now, this report documents the process of designing, developing and testing a software system to be used in a restaurant; usually given the name restaurant management system. The restaurant management system is there to help communication between all teams within a restaurant by minimizing the probability of human errors. [4]

Chapter -4

Project Management & Financing

4.1 Work Breakdown Structure

This website is developed by following Waterfall model, this model is only appropriate when the requirements are well-understood. Its requirements are well described and understood by stockholder. That's why it is developed by following waterfall model. Its development phases are project planning, gathering requirement, design, implementation, testing, deployment and maintenance.

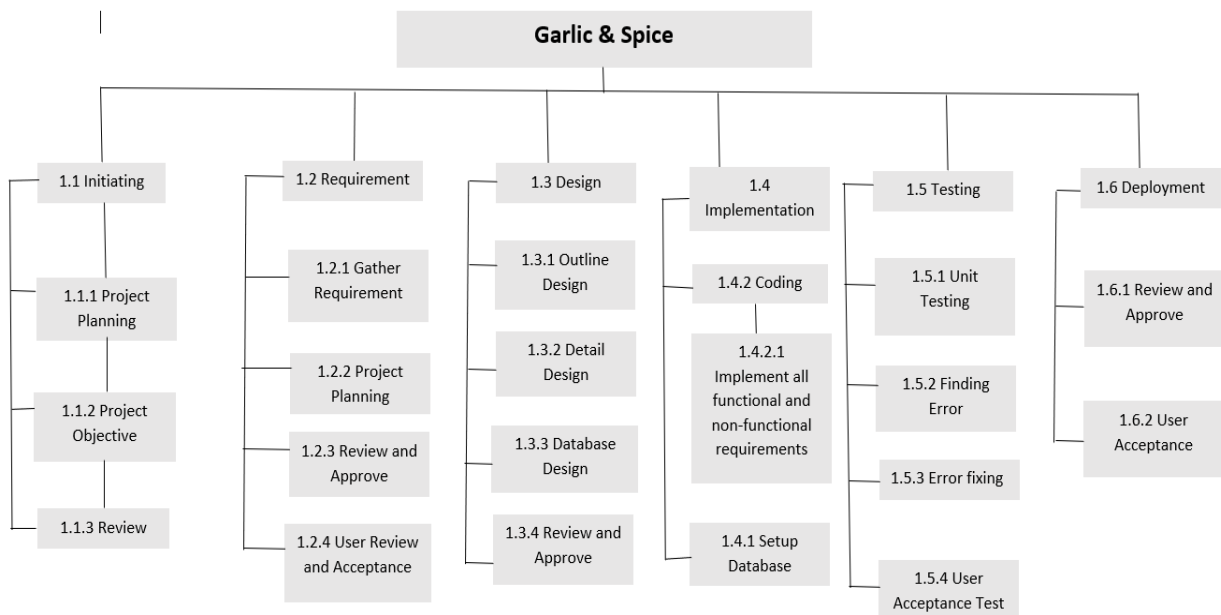


Figure 4.1: Work breakdown Structure of G&S

4.2 Process/Activity Wise Time Allocation

Project Planning:

Project planning is part of project management, which relates to the use of schedules such as Gantt charts, wbs to plan and subsequently report progress within the project environment. For our project it took 10 days to plan how the project should be build, its objective and determine the costing.

Requirements:

The purpose of the system requirements analysis is to structure the system independent of any implementation environment. This phase can determine system behavior and limitations. The system requirements analysis activity represents the second major development phase of the overall process. It took almost 11days to gather all the information for my project.

Design:

I used html, CSS, bootstrap for the designing part and for the database I have used MySQL. It took around 16 days to complete the designing part.

Implementation:

It took 21 day to implement the project. It contains the coding, implementation of functional and non-functional requirement, setting up database.

Testing:

I did unit testing for my project. I tested every unit separately, tried to find the errors to fix it. Testing part took 3 days to complete.

Process	Duration (Days)	Percentage
Project Planning	10	16%
Requirements	11	18%
Design	16	26%
Implementation	21	35%
Testing	3	5%

Table 4.2: Time allocation of the project

4.3 Gantt Chart

A Gantt chart is a project management tool assisting in the planning and scheduling of projects of all sizes, although they are particularly useful for simplifying complex projects. For my project I had to build a Gantt chart. It shows my project planning and how much time each part took to complete the whole project. The development of the project has begun at 14th February. And then we had to complete our designing part, database part, implement the project altogether, and test to find whether it contains any bug or not.

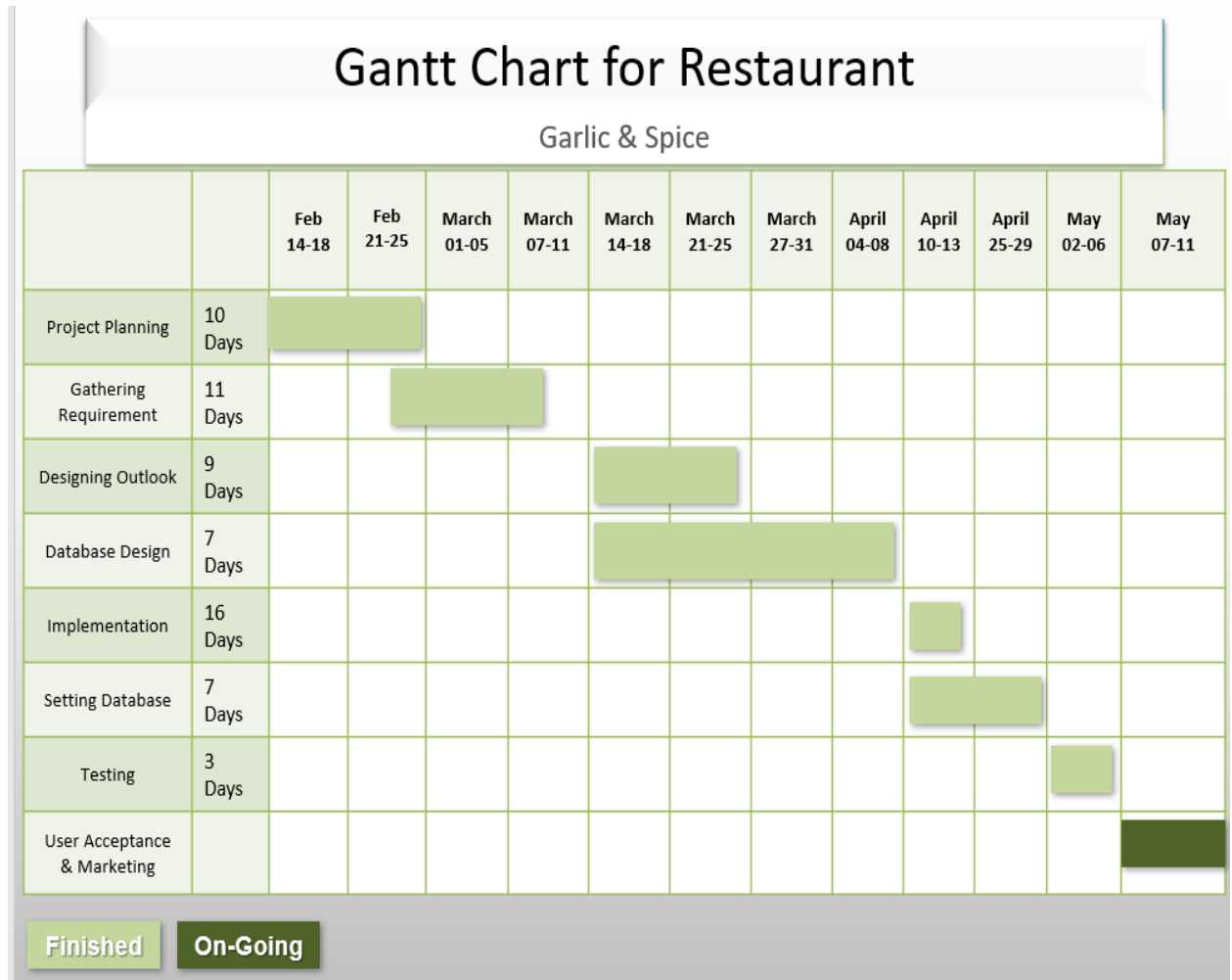


Figure 4.3: Gantt Chart of G&S

4.4 Process/Activity Wise Resource Allocation and Estimating Costing

There were many sub tasks in my assigned project. And each task was assigned to each person who was working on the project. The availability of the resources for the project makes the project easier to build. We had to use those resources carefully because it increases the estimated cost of the project. The estimated cost of our project is 25,000 Tk approximately. There will be some additional cost for the domain.

Resource	Availability Percentage	Estimated cost per hour
In house researcher	20%	300
Requirement Analyst	25%	300
Project Manager	50%	500
Project Administrator	50%	600
Architect	50%	400
Programmer	60%	300
Developer	50%	250
Quality Control Engineer	50%	300

Table 4.4: Estimating costing of the project

Chapter -5

Methodology

We chose waterfall model for our project. Actually, implementing a waterfall model within a new software project is a rather straightforward process, thanks in large part due to the step-by-step nature of the method itself. There are minor differences in the numbers and descriptions of the steps involved in a waterfall method. Regardless, the concepts are all the same and encompass the broad scope of what it takes to start with an idea and develop a full-scale, live application. The sequential phases in Waterfall model are –

- **Requirement Gathering and analysis** – First, we captured all possible requirements of the system to be developed in this phase and documented in a requirement specification document.
- **System Design** – The requirement specifications from first phase are studied in this phase and the system design is prepared. This system design helps in specifying hardware and system requirements and helps in defining the overall system architecture.
- **Implementation** – With inputs from the system design, the system is first developed in small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality, which is referred to as Unit Testing.

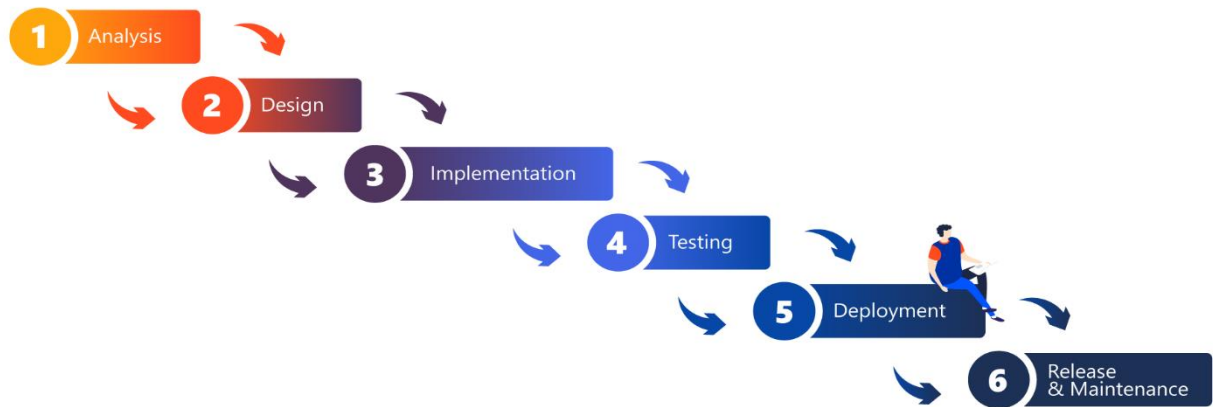


Figure 5: Waterfall Method

- ❑ **Integration and Testing** – All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.
- ❑ **Deployment of system** – Once the functional and non-functional testing is done; the product is deployed in the customer environment or released into the market.
- ❑ **Maintenance** – There are some issues which come up in the client environment. To fix those issues, patches are released. Also, to enhance the product some better versions are released. Maintenance is done to deliver these changes in the customer environment

Chapter-6

Body of the Project

6.1 Work Description

Garlic & Spice is a new restaurant in town. They wanted their own website to introduce them online. Their system is developed to provide service facility to their restaurant and also to the customer.

This restaurant management system can be used by employees as well to handle the clients, their orders.

The services that are provided is ordering food by the customer through the system online, customer information management, menu information management and so on. The restaurant menu is organized by categories (like burger, pasta, pizza, set menu and so on) of menu items.

Main objective to build the system is to provide ordering service by online to the customer. Each menu item has a name, price and associated recipe. With this system, ordering management will become easier and systematic to replace traditional system where are still using paper.

To order a meal online, the customers do not need to register themselves. They can easily access the site and order their desired food without login or register. This project is to facilitate customer for making online order.

The project is also totally built at administrative end and thus only the administrator is guaranteed the access.

6.2 System Analysis

6.2.1 Six Element Analysis

Process	Human	Non-Computing Hardware	Computing Hardware	Software	Database	Connection & Network
View the Website	Customer can see the website	None	Pc, Smart Device	www.G&S.com	phpMy Admin	Internet
View Category	Customer can see the category	None	Pc, Smart Device	www.G&S.com	phpMy Admin	Internet
Search for food	Customer can search for food	None	Pc, Smart Device	www.G&S.com	phpMy Admin	Internet
Place order	Customer can place their order	None	Pc, Smart Device	www.G&S.com	phpMy Admin	Internet
Sign in/ Sign out	Admin need sign in and sign out	None	Pc, Smart Device	www.G&S.com	phpMy Admin	Internet
Edit and add category	Admin can add new category and can edit the previous one	None	Pc, Smart Device	www.G&S.com	phpMy Admin	Internet
Upload/ Update new food	Admin can upload and update new food	None	Pc, Smart Device	www.G&S.com	phpMy Admin	Internet
Edit and see order and maintain customer	Admin can maintain customer, see order	None	Pc, Smart Device	www.G&S.com	phpMy Admin	Internet

Table 6.2.1: Six element analysis of the project

In this project, there are two types of entity. One is the customer and the other one is admin. As we can see from the six element analysis of the project the first step is that, customer views the website. He can view categories and search for food. Customers can place their order. For these processes, customers need to access the web link and needs to connect to internet to access the website. Customer can access the website from any device. To enter into the admin panel admin needs to log in to his verified account. After that he can edit website's detail, add, remove, update new categories, upload and update new food items under each category. Admin can see all the order's details. No non-computing hardware is needed in this system.

6.2.2 Feasibility Analysis

Feasibility analysis refers to the process that describes, identifies and evaluates the proposed system and selects the best system for proper functioning. For evaluating the feasibility, a feasibility analysis is conducted that helps in determining whether the system is possible to develop or not. There are three types of feasibility study, they are – technical feasibility, economic feasibility and behavioral feasibility. Studying all these feasibility helps the user and the developer to understand on what grounds their system will be made and what all features they can include in the software. The main purpose to conduct the feasibility study is to establish the reasons to develop the software that is accepted by all the users and can be modified easily as per the requirements. Some of the objectives of the feasibility study are discussed below:

- To determine whether the newly developed software can be integrated with the software that exists already.
- To analyze whether that software has the potential to be implemented with the adoption of the current technology and within the specified schedule and budget.
- To determine whether the software is able to fulfill the requirements of the organization or a user.

Technical Feasibility:

Technical feasibility helps in accessing the current resources as well as technology that is required for accomplishing the requirements of the user in the software within the allocated budget and time.

Operational/ Behavioral Feasibility:

Behavioral feasibility is studied in order to check, whether the human or employees in the business will use it or not. Operational feasibility relies on human resources and analyzes whether the software will operate after it is developed properly or not.

Economic Feasibility:

Economic Feasibility helps in determining whether the required software has the potential to generate financial gains for an organization. This type of study involves the cost incurred on the team of the software development, cost of study involved in conducting a feasibility study, estimated cost of software and hardware.

Scheduling feasibility:

It is the most important study that is used for measuring the success of the project. All the projects will fail, if not completed at specified time. In scheduling feasibility, an organization is able to estimate the time required for completing the project. The time that will be required for the development of the system, is estimated on the basis of the requirements. Once all these things are sorted, manpower is allocated their respective task and efforts are made to complete the task within the deadline.

6.2.3 Problem Solution Analysis

The systems approach to problem solving used a systems orientation to define problems and opportunities and develop solutions. We followed these steps to solve any problem that we faced:

Step 1: Identify and define the problem

State the problem as clearly as possible. Be specific about the behavior, situation, timing, and circumstances that make it a problem.

Step 2: Generate possible solutions

List all the possible solutions; don't worry about the quality of the solutions at this stage.

Try to list at least 15 solutions, be creative and forget about the quality of the solution. If you allow yourself to be creative you may come up with some solutions that you would not otherwise have thought about.

Step 3: Evaluate alternatives

The next step is to go through and eliminate less desirable or unreasonable solutions.

Order the remaining solutions in order of preference. Evaluate the remaining solutions in terms of their advantages and disadvantages.

Step 4: Decide on a solution

Specify who will take action and how the solution will be implemented and specify when the solution will be implemented.

Step 5: Implement the solution

Implement the solution as planned.

Step 6: Evaluate the outcome

Evaluate how effective the solution was and decide whether the existing plan needs to be revised, or whether a new plan is needed to better address the problem.

We faced many problems while developing the system. Such as, this website has more interfaces than we thought it would be. So, managing those interfaces were tough. Also, as we know, the more interfaces you have, the higher your costs. And it is a low budget project. So, maintaining this thing was tough. But we handled it nicely. Among the many issues and challenges, menu designing was one of the greatest. How many items should your menu have? Too many might lead to choose paralysis, while too few won't be enough variety. How are you going to price them? The questions were endless. Then we created categories and under those categories we inserted our food items. That was a difficult problem, but at the end we solved it.

6.2.4 Effect and Constraints Analysis

While gathering information, analyzing and representing them, I have faced some limitations. However, despite the limitations, I have tried hard to prepare the documentation of the project. The overall limitations I faced are mentioned below-

- There were some restrictions in disclosing some information as it was assumed to be confidential.
- Some of the information that I got from secondary sources were not arranged consistently.
- As I was not permanent employee at Decimal IT, I could not see the disadvantages of the old system.

6.3 System Design

6.3.1 Rich Picture (Proposed System)

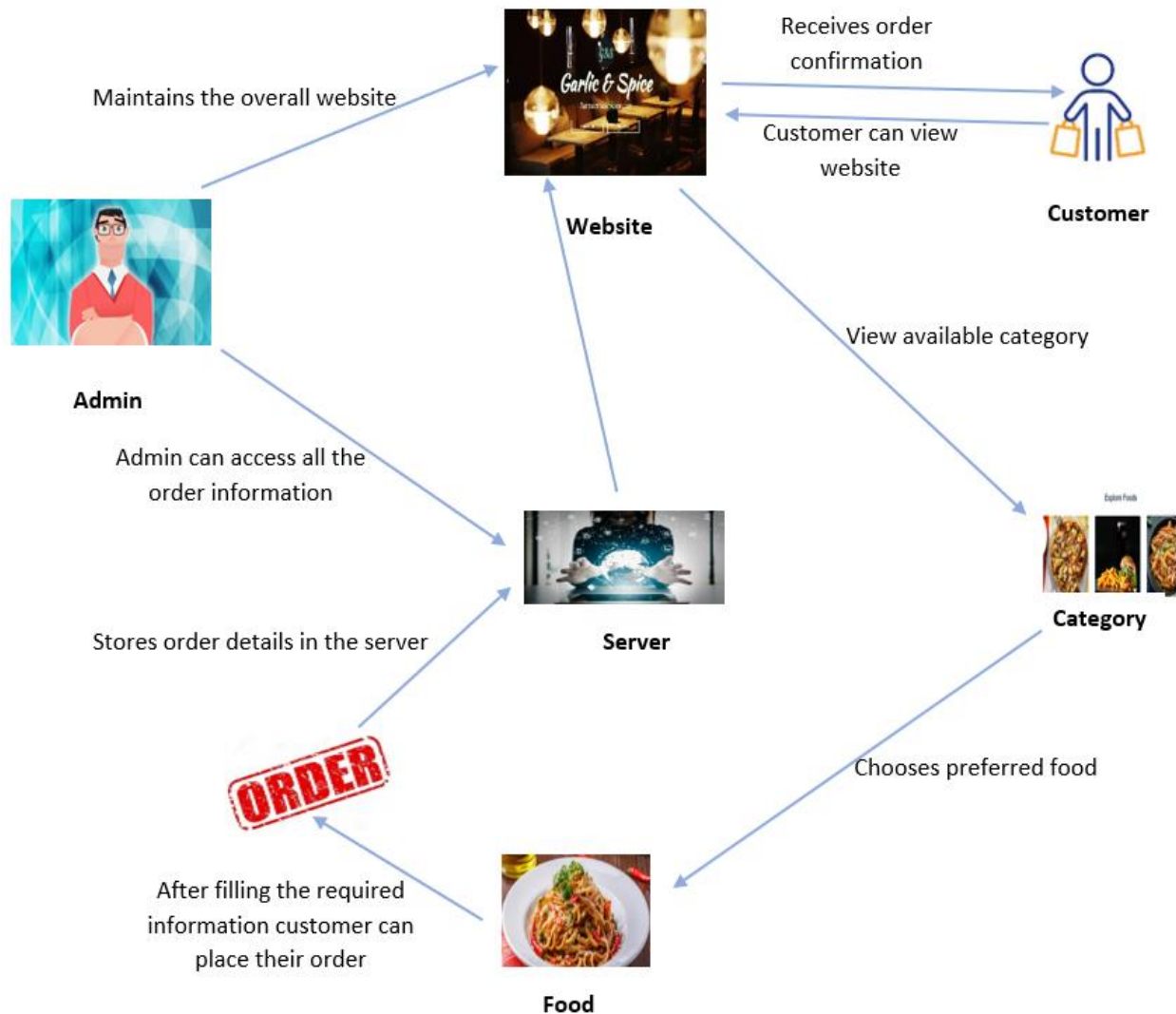


Figure 6.3.1: Rich Picture of Proposed System

This is the rich picture of the proposed system. Here customer can view the website, best-selling item, view category, select food and place their order. After the order process customer will be notified about the confirmation of their order. And their order details will be saved in the database. And admin can view their order details. Here admin can update and upload new product, maintain the overall website.

6.3.2 UML Diagrams

6.3.2.1 Entity Relationship Diagram (ERD)

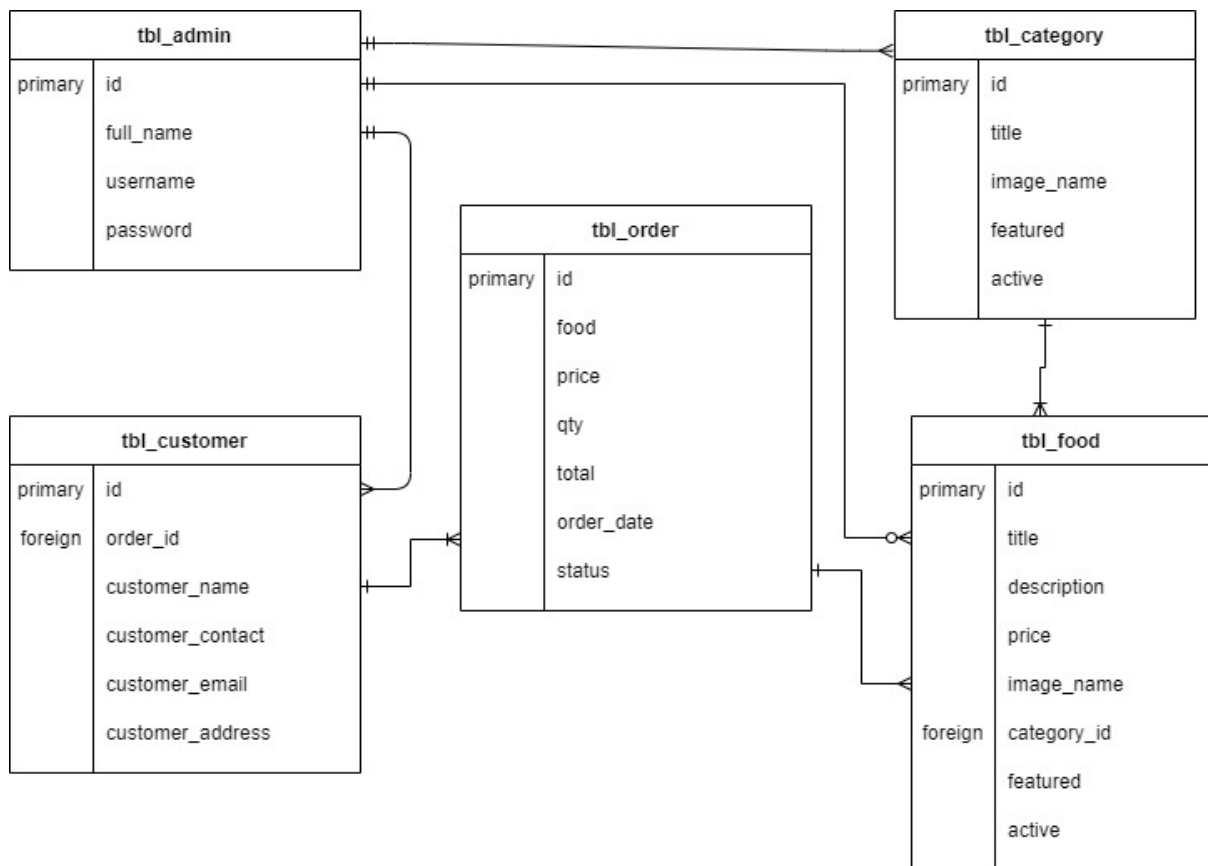


Figure 6.3.2.1: Entity Relationship Diagram for System

Entity Relationship Diagram (ER Model) is a graphical approach to database design. Here, we have five different entities. We need five tables of database for our project. Tbl_admin is for admin. It keeps all the information about admin. Tbl_customer stores information about customer and tbl_category is for category and there are food items under each category and to store food item details tbl_food is made. To store customer's order details, we have tbl_order also. Tbl_admin will access tbl_customer, tbl_category and tbl_food. Each category can have one or many food items under them. Customer can access the order details that is stored in tbl_order. Each order can have one or many food items.

6.3.2.2 Use Case Diagram

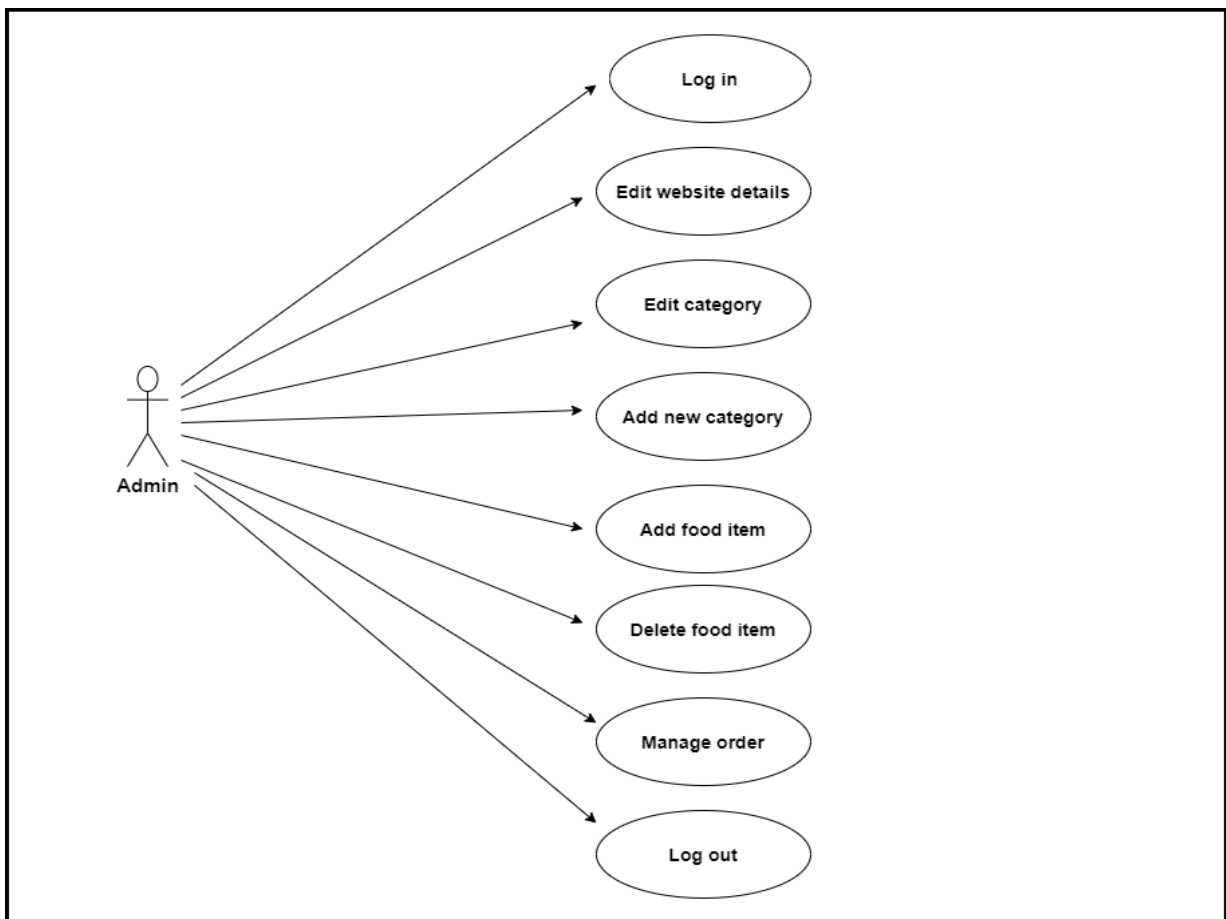


Figure 6.3.2.1: Use Case Diagram of Admin

Use case diagrams consists of actors, use cases and their relationships. The diagram is used to model the system/subsystem of an application. A single use case diagram captures a particular functionality of a system. Here there are two actors- customer and admin.

Admin can log in to their account to access the admin panel. In the admin panel there are some features included to maintain the website better. Admin can edit and add new category, add/ new food, manage order and can log out from their accounts.

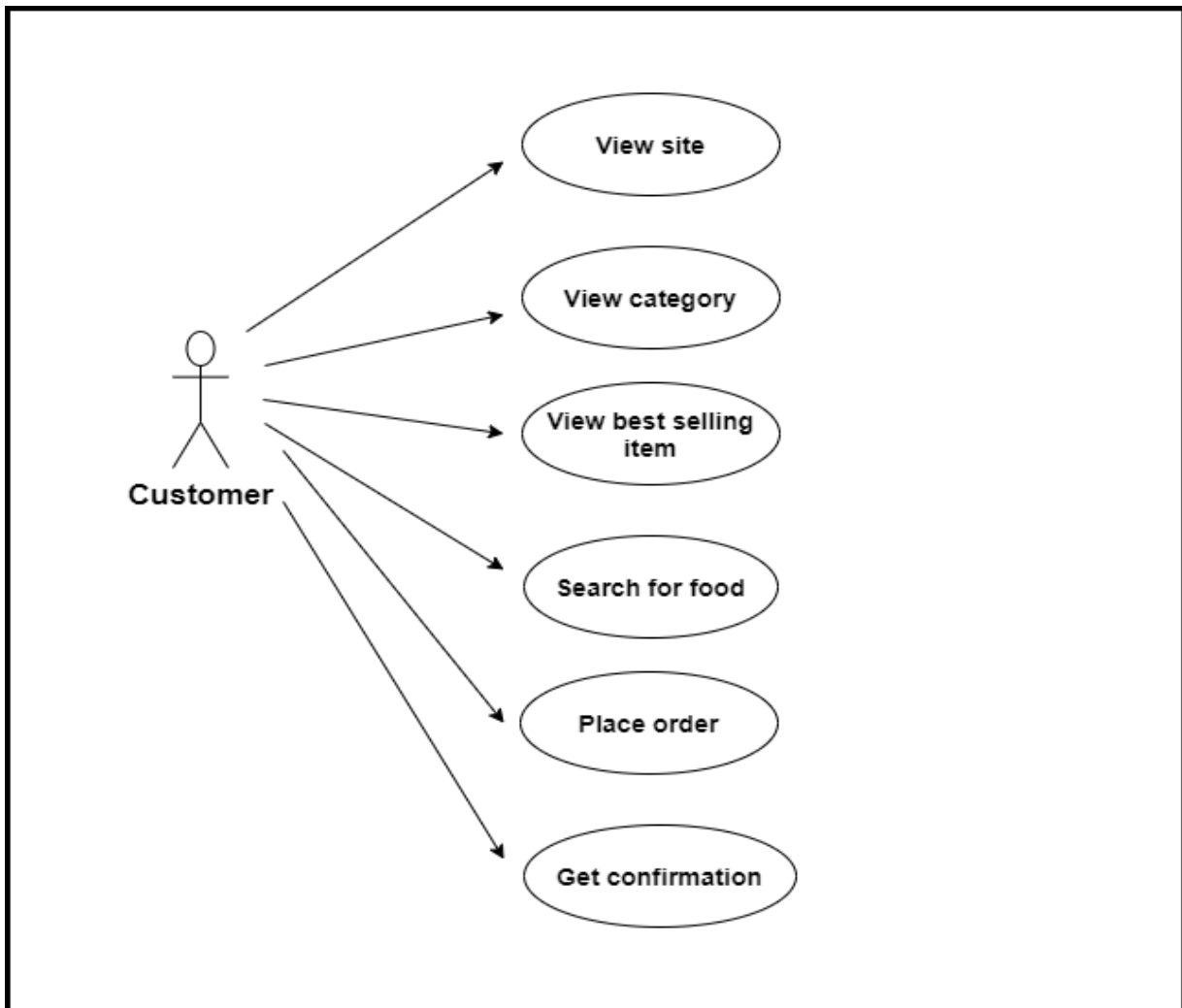


Figure 6.3.2.2.2: Use Case Diagram of Customer

At the other hand, another actor is customer. Customer can view the website, view the category, see the food menu, search for food and can place their order. Customer will get confirmation after placing their order with the information of payable amount and other information related to the orders.

6.3.3 Functional and Non-Functional Requirement

System Development Software Tools

- MySQL database to store and secure information.
- JavaScript, CSS, HTML to develop the system.
- Visual Studio Code software used as code editor.
- Apache XAMPP Server 8.0 for testing the application during development.

System Hardware Development Tools

- Microprocessor: Intel(R) Core (TM)i7-8565U CPU @ 2.3 GHz
- RAM: 8 GB of RAM
- Hard Disk: 1 terabytes (TB) and 240 GB SSD on installation drive

Operating Systems

Windows 10 Pro 64 bits Operating System for developing this system.

About System

The interface design focuses on the layout of the entire web portal that is actually visible to the users after deploying it into a real time environment. The interface design only shows the physical framework of each web page in the portal.

Functional Requirements

Admin

- Log in
- Edit website details
- Edit category
- Add new category
- Add food items
- Remove food items
- Order details
- Log out

User

- View website
- View category
- View bestselling items
- See menu
- Search food items
- Place order

Non-Functional Requirements

- **Security:**
 - Only authorized users can access the system with username and password.
- **Performance:**
 - Easy tracking of records and updating can be done.
- **User Friendly:**
 - The System is very interactive.
- **Maintainability:**
 - Backups for databases are available.
- **Service:**
 - The system will run 7 days a week, 24 hours a day.

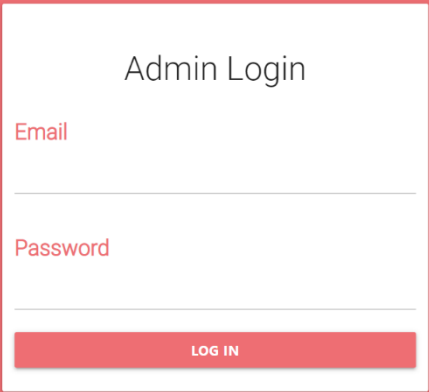
Performance Requirements

The performance of the software will be as smooth as possible with special consideration on the following parameters-

- Quality
- Easy to Operate or Navigate
- Planned approach towards working
- Accuracy
- Reliability
- No Redundancy
- Immediate retrieval of information
- Immediate storage of information

6.4 Product Features

6.4.1 Input of the project



The image shows a login form titled "Admin Login" centered on a solid red background. The form is a white rectangle with a thin grey border. It contains two input fields: "Email" and "Password", both with red labels and horizontal lines for text entry. Below these fields is a red button with the text "LOG IN" in white, uppercase letters.

Figure 6.4.1: Login page of Admin Dashboard

6.4.2 Output of the project

1.

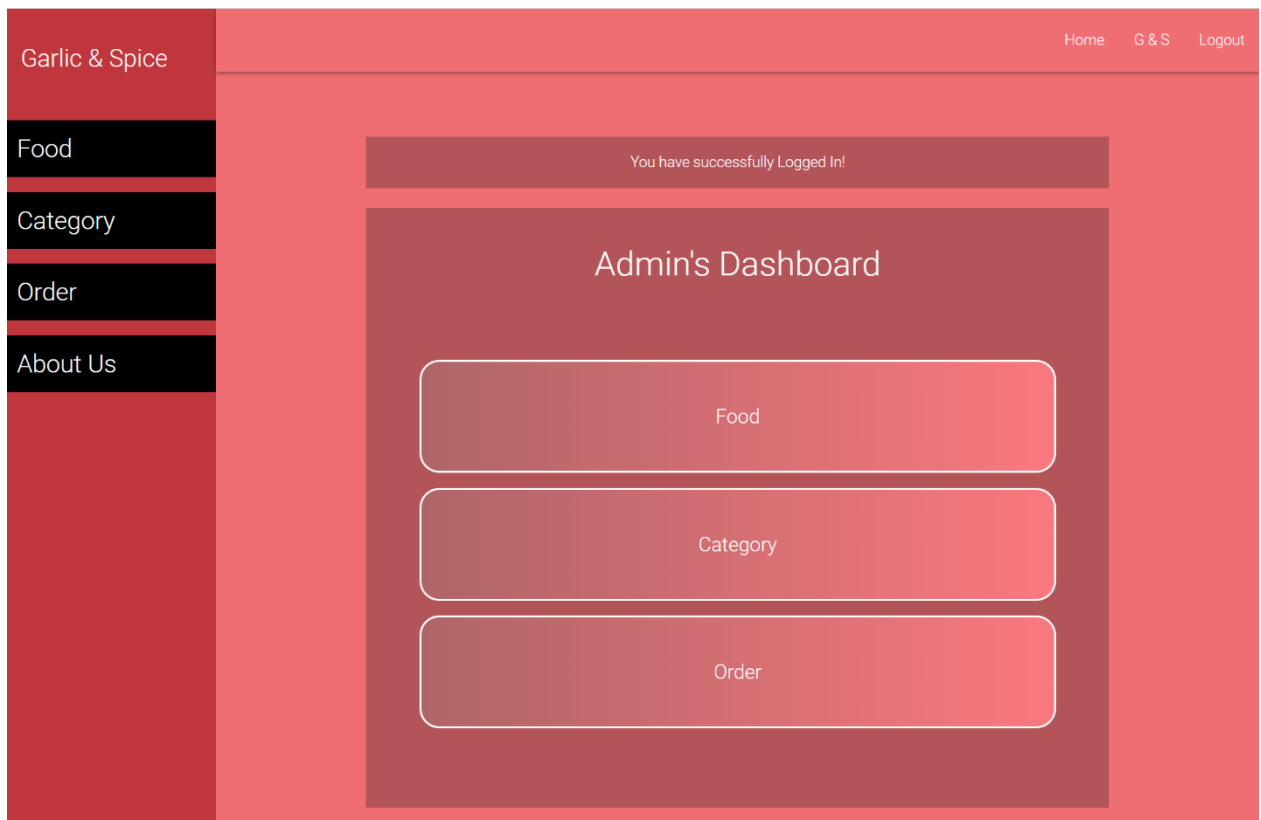


Figure 6.4.2.1: Admin Dashboard

2.

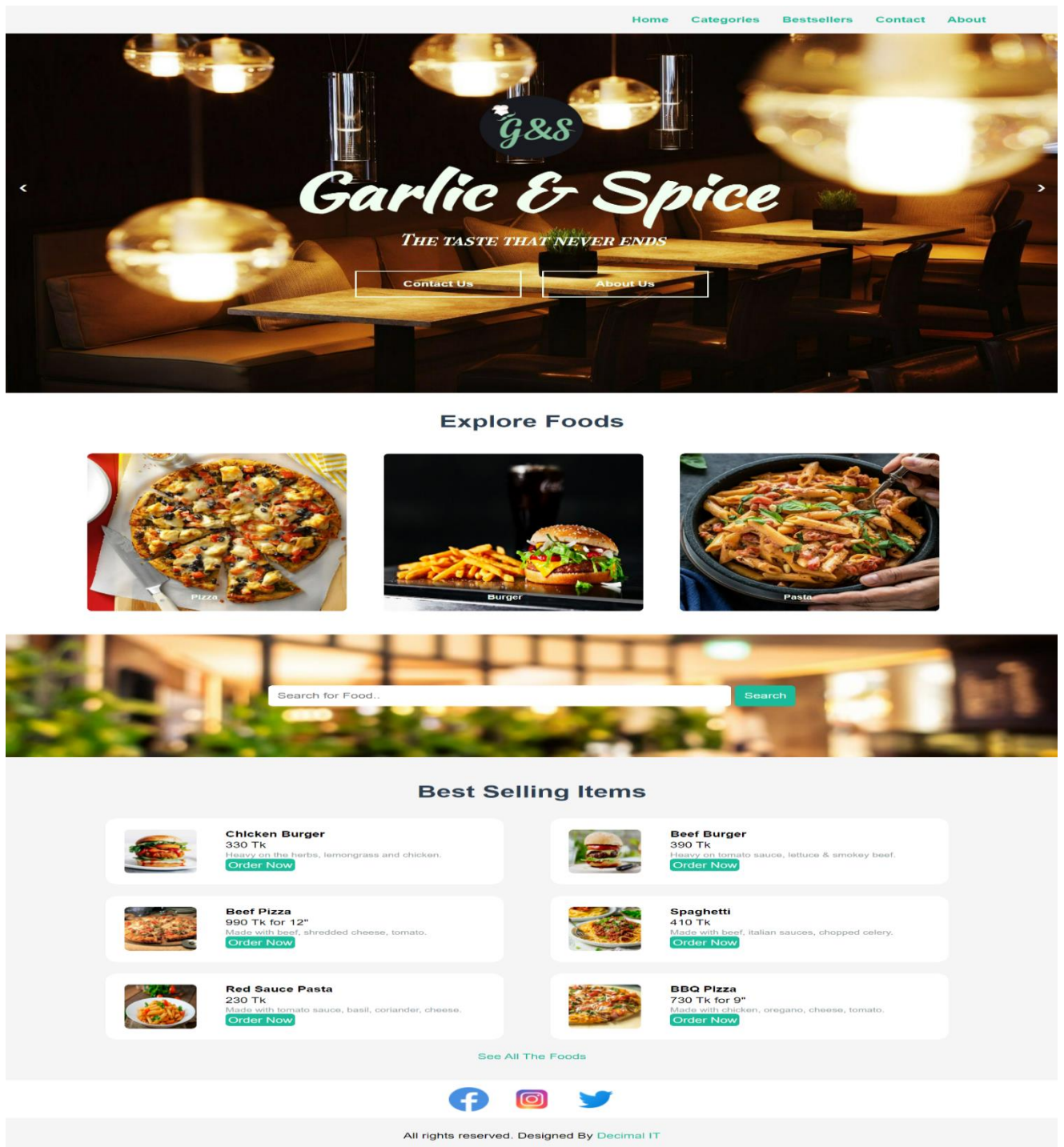


Figure 6.4.2.2: Homepage of the website

3.

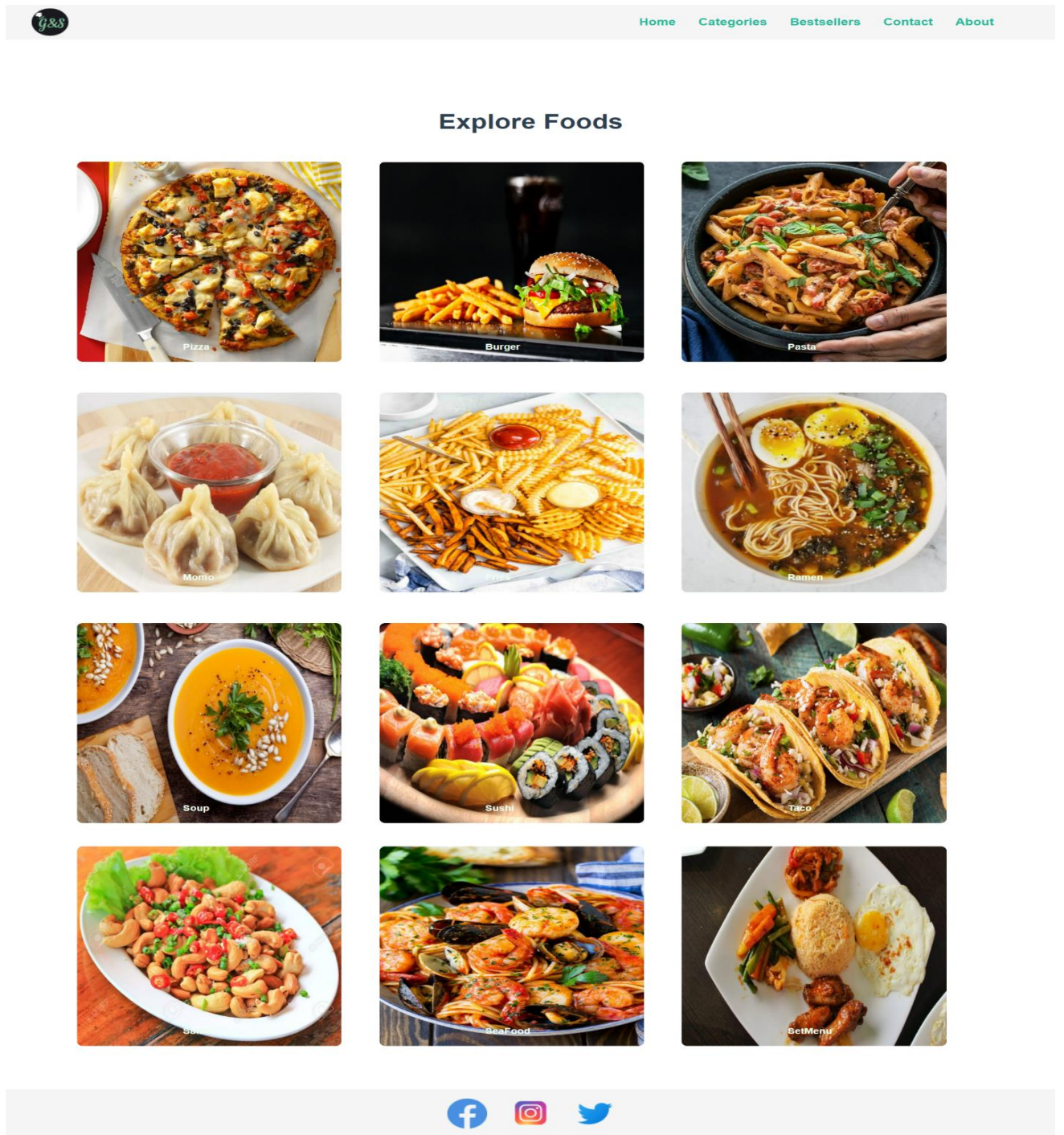


Figure 6.4.2.3: Category page of the website

4.

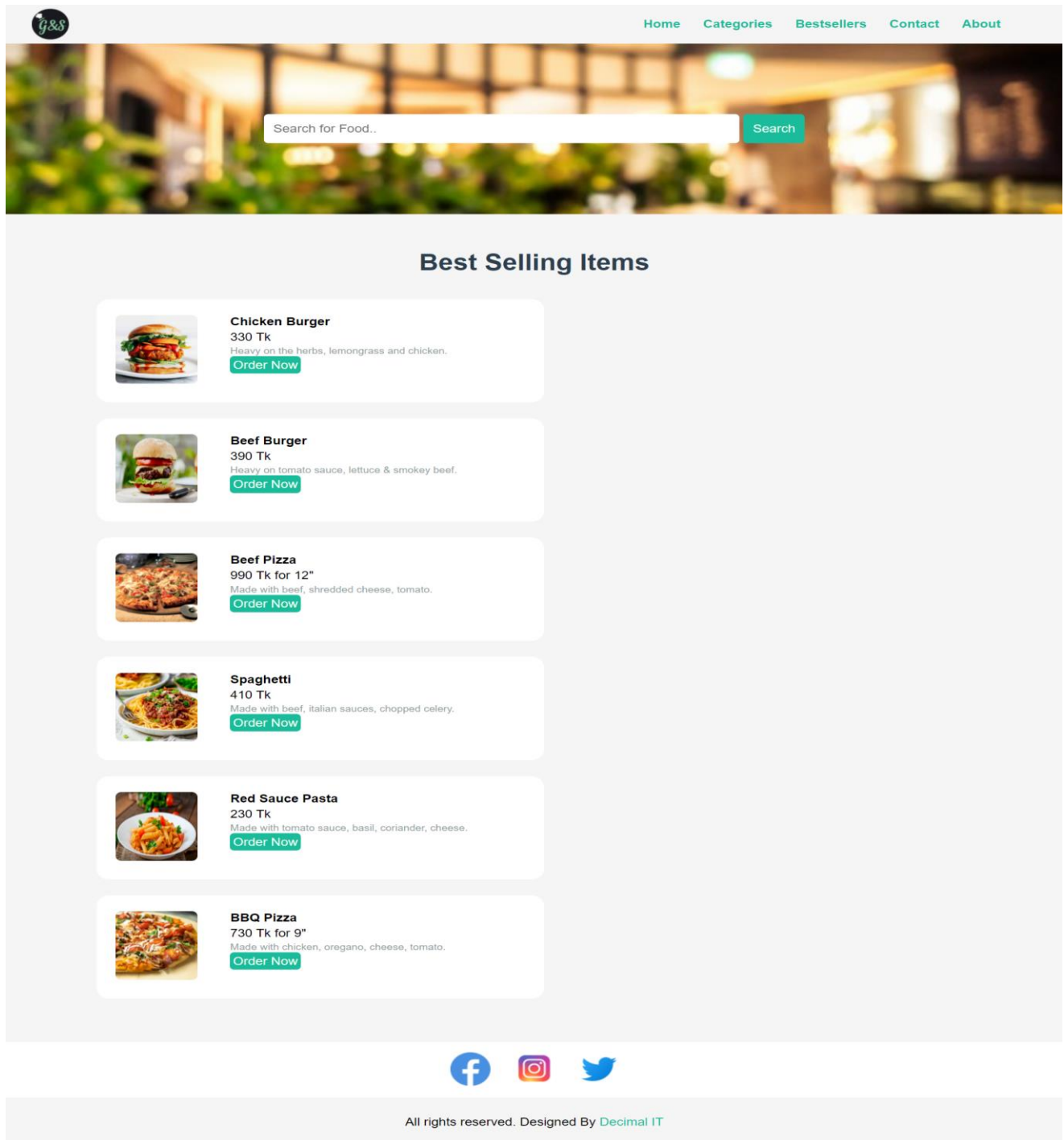


Figure 6.4.2.4: Bestselling Item page of the website

5.

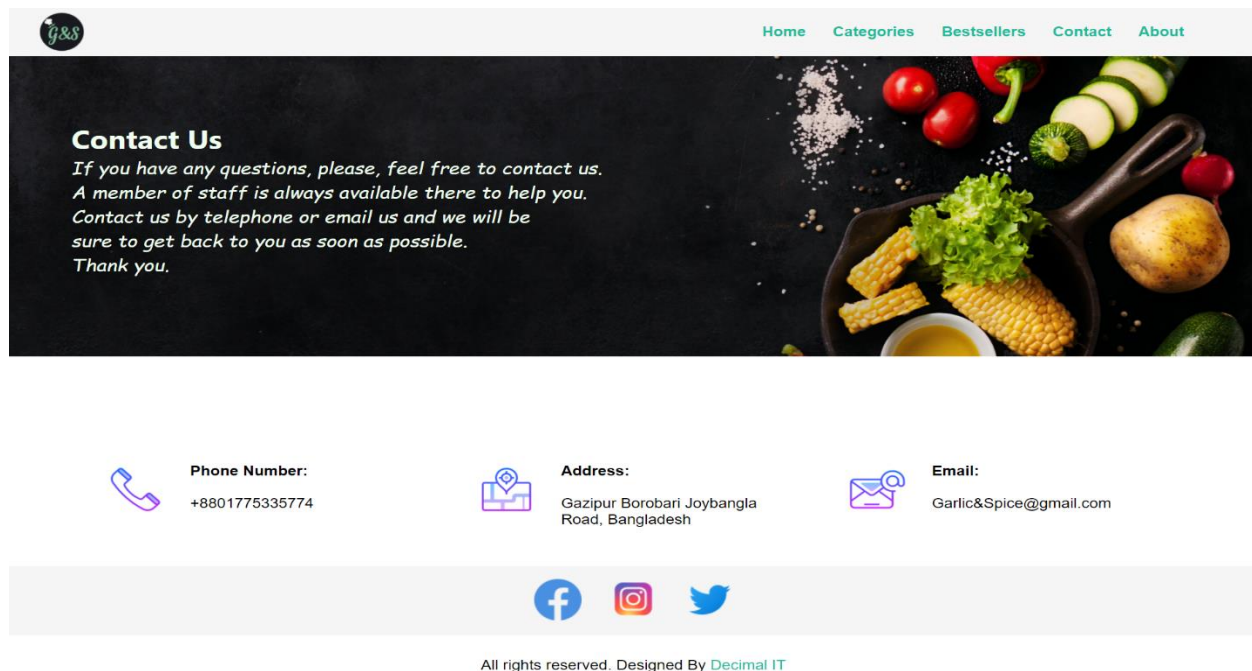


Figure 6.4.2.5: Contact Us page of the website

6.

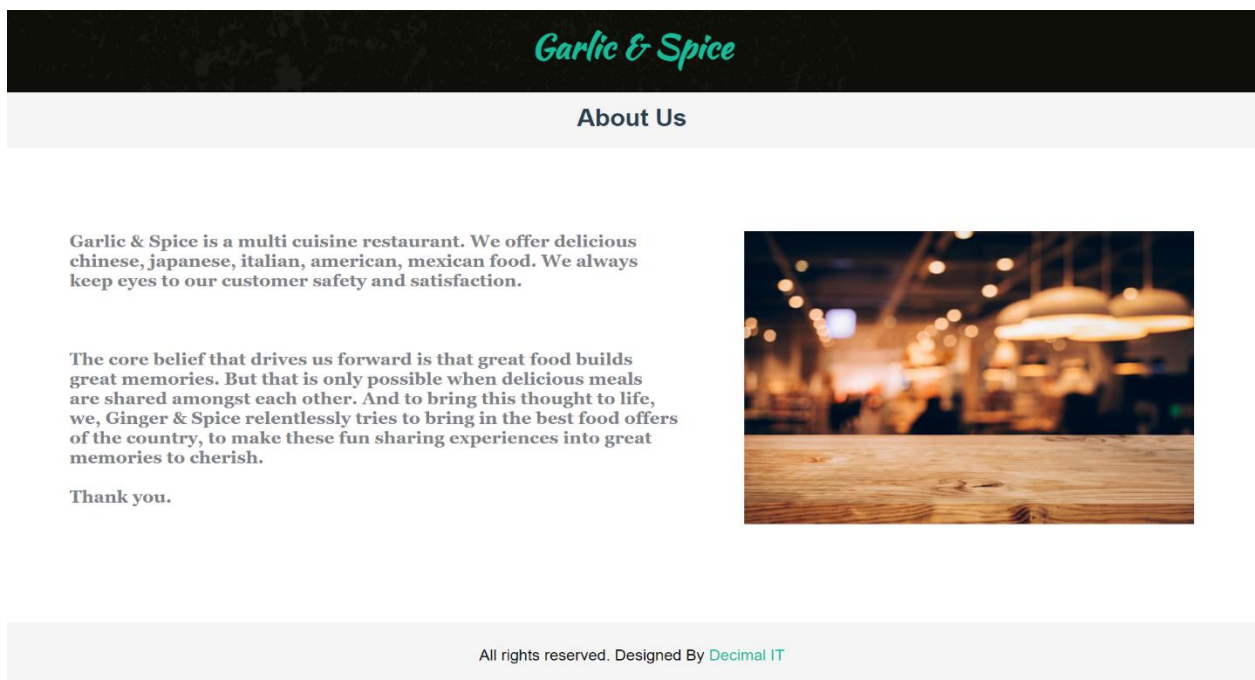



Figure 6.4.2.6: About Us page of the website

7.

g&s Home Categories Bestsellers Contact About

Fill this form to confirm your Order.

Selected Food

 **Chicken Burger**
330 Tk
Quantity
1

Delivery Details

Full Name
Name

Phone Number
+8801***

Email
1234@gmail.com

Address
Street, City, Country

Confirm Order

f i t

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Figure 6.4.2.7: Ordering page of the website

8.

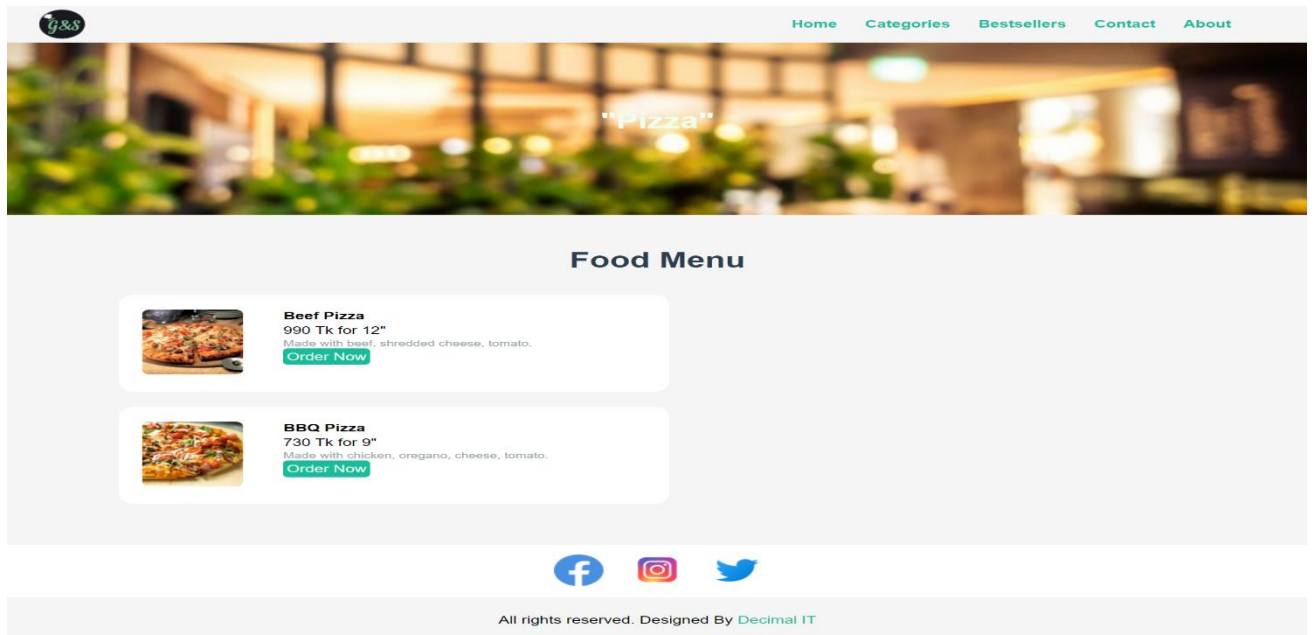


Figure 6.4.2.8: Search result of the website

9.

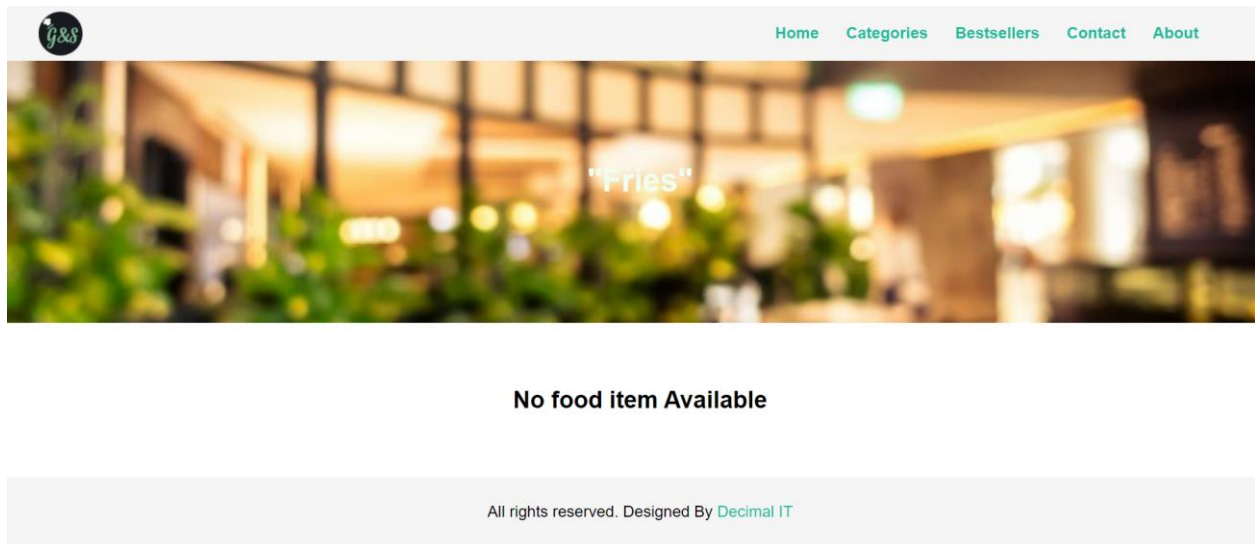


Figure 6.4.2.9: Search result of the website

6.4.3 Architecture

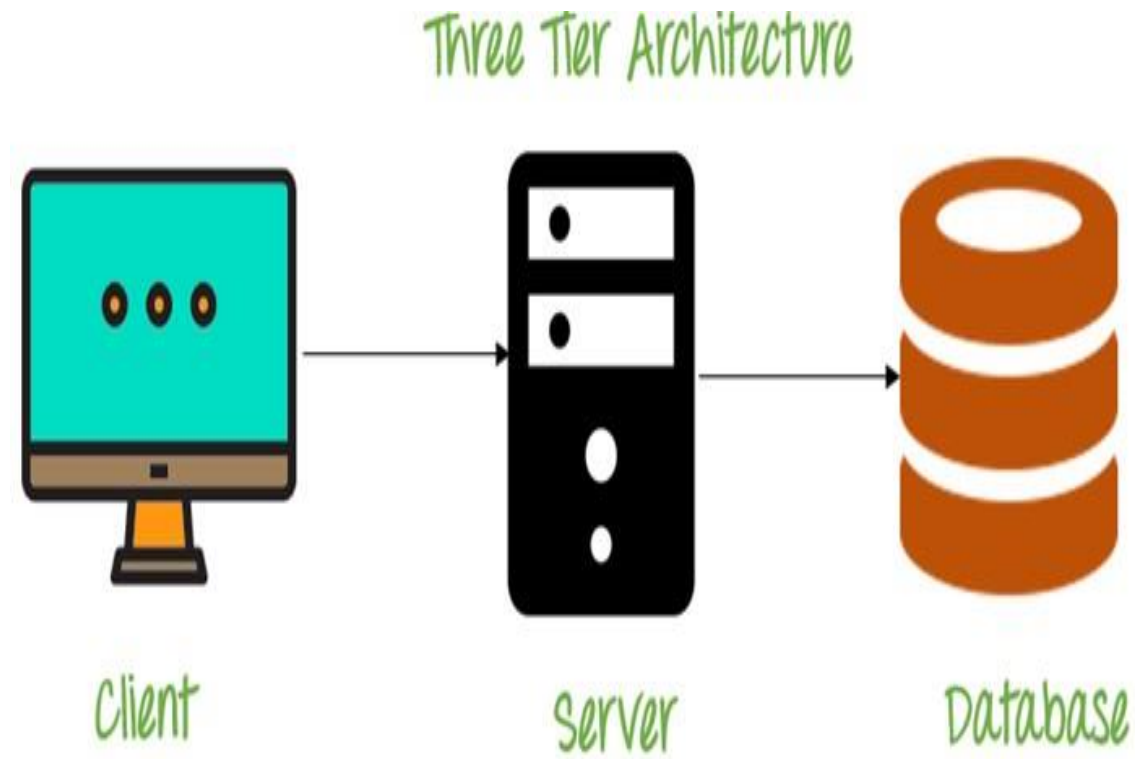


Figure 6.4.3: Architecture of the System

A 3-tier application architecture is a modular client-server architecture that consists of a presentation tier, an application tier and a data tier. The data tier stores information, the application tier handles logic and the presentation tier are a graphical user interface (GUI) that communicates with the other two tiers. The three tiers are logical, not physical, and may or may not run on the same physical server. For our project we will be using 3-tier architecture.

Presentation tier - This tier, which is built with HTML5, cascading style sheets (CSS) and JavaScript, is deployed to a computing device through a web browser or a web-based application. The presentation tier communicates with the other tiers through application program interface (API) calls.

Application tier - The application tier, which may also be referred to as the logic tier, is written in a programming language such as Java and contains the business logic that supports the application's core functions. The underlying application tier can either be hosted on distributed servers in the cloud or on a dedicated in-house server, depending on how much processing power the application requires.

Data tier - The data tier consists of a database and a program for managing read and write access to a database. This tier may also be referred to as the storage tier and can be hosted on-premises or in the cloud. Popular database systems for managing read/write access include MySQL, PostgreSQL, Microsoft SQL Server and MongoDB.

Chapter-7

Results & Analysis

Task	Description	Condition	Success rate	Error rate	Shortcomings	Status
View the website	Customers do not need to create account. They can view the whole website.	Have to have mobile phone/ smart device/ laptop/ computer and internet	100%			Working
View category	Customer can see the category of the food.	Have to have mobile phone/ smart device/ laptop/ computer and internet	100%			Working

Search for food	To place order customer can search for food.	Have to have mobile phone/ smart device/ laptop/ computer and internet	100%			Working
Place order	Customers need to choose their desired food, select the quantity of the food, must provide information like. (Full name, phone number, email, address) to place their order.	Have to have mobile phone/ smart device/ laptop/ computer and internet	100%			Working
Sign in/ Sign out	Admin need to sign in to access their account.	Have to have mobile phone/ smart device/ laptop/ computer and internet	100%			Working

Upload new food	Admin can upload new food or update food	Have to have mobile phone/ smart device/ laptop/ computer and internet	100%			Working
Maintain customer	Admin can check customer activity.	Have to have mobile phone/ smart device/ laptop/ computer and internet	100%			Working
Track order	Admin can access all the order details of the customer. And also, can delete the order if needed.	Have to have mobile phone/ smart device/ laptop/ computer and internet	100%			Working

Table 7: Result and Analysis of the project

The services that are provided by the system are order management, category management, food item information management. This project's main objective is to make the mentioned processes of the system more user friendly. These processes are considered as one task. To complete those processes, we need some extra steps. As in customers do not need to create account. They can view the whole website. Customer can see the category of the food items. To place order customer can search for food. Customers need to choose their desired food, select the quantity of the food, must provide information like. (Full name, phone number, email, address) to place their order. All the tasks of order management are working smoothly.

Now, to access the admin panel admin needs to provide his information to log in. Admin can upload new food or update food items. Admin can check customer's activity. Admin can access all the order details of the customer. And also, can delete the order if needed. All the tasks have 100% success rate and working error free.

Chapter-8

Project as Engineering Problem Analysis

8.1 Sustainability of the Project/Work

Browser Support:

It is not an issue any longer. Using the HTML means that the content of the web page is accessible on all the big browsers like Chrome, Opera, Firefox.

Fast Loading Speed:

It is one of the most important factors when it comes to client satisfaction in the front-end development business as when we try to use more design it gets more complex to maintain.

8.2 Social and Environmental Effects and Analysis

A restaurant can positively affect a community by how their experience was. If we order some food items online and find out that their service is great and as well as the food. People are going to order there and tell other people that how wonderful it is. And people do not need to go anywhere and even after that they can order and get their desired food.

If we think about the environmental effects there are a number of activities conducted at restaurants that could increase the potential for environmental exposures. One of those activities includes the disposal of food, which according to the Environmental Protection Agency (EPA) ends up in landfills and incinerators, affecting local air and water quality. So, if anyone monitors these sides of a restaurant then, the effects of a restaurant on environment will be in control. And it will have a positive impact on the environment and as well as the society.

8.3 Addressing Ethics and Ethical Issues

The restaurant industry is fiercely competitive and operates on notoriously tight margins. Success or failure can hinge on your ability to develop competitive advantages and offer your customers something that they cannot get from your competitors. Competitive advantages in the restaurant industry are sometimes a matter of offering real value, such as superior food or sustainably sourced ingredients.

Restaurant owners face ethical quandaries on a regular basis. Whether it's questions over how purchases are made (online or dine in), how staffing is determined or what happens to unused food at the end of the night, it's important to make sure your restaurant operates in an ethical manner. To do otherwise risks not only lower profits, but it also can place your business in legal jeopardy. So, whether its online or dine in restaurant authorities should focus on their food's quality, suppliers, their hospitality towards their customer, customer should feel valued from the moment they enter till the moment they depart.

Chapter -9

Lesson Learned

9.1 Problems Faced During this Period

In university all the learning is theoretical. In our courses, we have learned how the basics of business are operated. Here I got the opportunity to work with real world problems and apply my knowledge to solve them that helped me gain a firsthand experience on how an office conducts its daily operations and how it operates in its market. Although Decimal IT is relatively a small-scale company, it is a company that is successful in its field of business. Here I experienced the opportunity to work under a small-firm environment but due to the company's nature of business, I also gained the opportunity to visit other firms and interact with them on a business to business level. I was given the chance to use my learnt abilities and to put them to good use as we faced many clients with a never-ending variance of requirements and more importantly one that needed the help of such companies as the one, I was working for. I used my academic skills to aid me many times during presentations, meetings with clients and all the technical work and gained firsthand experience in client as well as office management. Through my internship experience I also learned about the existence of small firms, such as the one I worked for, and their importance in the greater economy.

Stepping into the real-world problems will bring up many unexpected challenges to be faced, as did I during my period of internship. The first to begin with was talking to clients about projects. As Decimal IT is relatively small in scale, because of which at often times meetings with most clients was not very officially done. No documentation work was done or asked to get done only because those were known clients. Words of mouth were more preferable than stated documents. Due to no documentation of previous projects being available, when I thought of using those documentation to get help for my assigned project, I didn't get anything and some of the documentation I could not access for the privacy issues, and one more thing is old clients used to come with their system to fix bugs or implement any updates,

huge back tracing was always required in order to understand the programs by someone who didn't develop it in the first place. Other than that, as the development department that I was working for used to work with few fixed frameworks, so coping up with those were much of an issue as a junior web developer.

9.2 Solution of those Problems

In most of our senior courses like Database Management, System Analysis & Design and Web Application and Design, we were taught the importance of any system development's project documentation, that how crucial it is for a good and efficient development and maintenance of the system. A proper documentation also helps to add any updates required in the future more easily, that is, maintaining project's documentation shall help with the project development and also be beneficial in the long run.

Decimal IT has a very few employees; hence, they cannot meet the manpower required at times when they undertake a project. Therefore, at times delivery of a product is not made on time which will eventually create a bad image of the company in the market. But I think they can overcome these problems, if they take some crucial steps like general working conditions ought to be improved. They should increase the manpower for quick client service. Branches can be increased in the country for local marketing. They have many attractive products and services but they do not promote their products well. They should advertise their products and services so that more people get attracted to it. Management should arrange appropriate training facilities for their staff to be always helpful, courteous and knowledgeable. They should have an official complaint management where the customers can give their feedback about the services.

Chapter -10

Future Work & Conclusion

10.1 Future Works

The project I was working on is a basic restaurant management system. It has many sides that are need to be improved in the near future. This projects delivery system is still manual. Admin will capture the orders from the admin panel and then they will work manually to deliver the food. And also, the customer cannot log in or register themselves so they will not be able to see their profiles. Though a lot of users find it very easy to order but if we think about todays world it is not updated. As the restaurant authorities don't want any payment method, even after that it is a must for any website. So, this project will also need this sides to be improved.

10.2 Conclusion

This report is made only for academic purpose and to fulfill the requirement for industrial attachment. This report has covered the direct and indirect aspects of software industry and their challenges. This report gives aninsight into the experience that I achieved from my workplace. A brief description of Decimal IT is included so that other students can get to know about the company and may decide whether it is suitable for them or not.

If internships are about gathering skills then projects are the main way of gathering them. Till writing this report I have completed one project and helped in developing the web applications for Decimal IT. The tasks, timeline and results of those specific projects are included for a better visualization of industry standard projects. An internship may not run as smoothly as it is expected. There may be a lot of challenges but there is a lot to learn from them.

The challenges that I have faced over this period of time are discussed in this document. The skills which include both technical and non-technical ones are also a vital part of this report. And last but not the least, some recommendations are proposed which if worked out may provide some benefits to the future interns going to Decimal IT.

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