An Undergraduate Internship Report on Food Ordering Web Application

Submitted By

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Autumn, 2020

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In partial fulfillment of the requirements for the degree of Bachelor of Science
In Computer Science and Engineering

Independent University, Bangladesh

January 27, 2021

Originality Statement

This is to declare that this paper is my own, and all quotations and summaries to support my analysis are duly acknowledged

_____

January 27, 2021

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Acknowledgement

First of all I convey my gratitude to the almighty Allah for giving me the opportunity to complete this internship paper.

I would like to convey my heartfelt thanks and gratitude to the Lecturer Md. Abu Syed, my supervisor, who instructed me to prepare this internship paper and provided me his all-out efforts despite being busy with her daily schedules. I am very much grateful to his for his cordial contribution.

I am also grateful to my external supervisor and my mentor Shahid Alam Sushan who helped me to complete this internship report providing necessary information.

Finally, I proudly acknowledge the great sacrifices, good wishes, moral support, fruitful advice, inspirations, and encouragement from my family members, relatives, and friends during the Internship.

Letter of Transmittal

January 27, 2021

The Internship Supervisor

Md. Abu Syed

Lecturer

Department of Computer Science & Engineering

Independent University, Bangladesh

Subject: Submission of the Internship Report on Food Ordering Web Application

Dear Sir,

It is my pleasure to submit an internship report on 'Food Ordering Web Application' as a partial requirement of the BSc program under the Department of Computer Science & Engineering. I have tried to present my work, activities & result here.

I completed my internship in "Slingshot" which is a Software Company. During my remote internship period, I have not only gained real-life work experience but understood the process of the department and its various aspects. The following report is based on my experience and the work I did in this company. This report also includes a detailed review of the office as well as the functionalities of the department. As a document of my effort during the internship periods I have conducted all the project works that I have done during my internship periods, especially their requirements, functionalities, and technical specifications.

Therefore, I will be highly encouraged and would remain grateful if you authorize the paper.

Sincerely,

Mohasina Akter

Evaluation Committee

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Supervisor

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Abstract

The online food ordering system provides convenience for the customers. It overcomes the disadvantages of the traditional queuing system. This system increases the takeaway of foods than visitors. Therefore, this system enhances the speed and standardization of taking the order from the customer. It provides a better communication platform. The user's details are noted electronically.

The online food ordering system set up menu online and the customers easily places the order with a simple mouse click. Also with a food menu online you can easily track the orders, maintain customer's database and improve your food delivery service. This system allows the user to select the desired food items from the displayed menu. The user orders the food items. The payment can be made online or pay-on-delivery system. The user's details are maintained confidential because it maintains a separate account for each user. An id and password is provided for each user. Therefore it provides a more secured ordering.

Contents

Chapter 1

1. Introduction

FoodDay is an online based food ordering website for customer to provide more interactive menu so that the ordering process could be carried out. Ordering food online is designed for its more flexibility and performance, some website are make sure that the system has enough navigation function. Basically, this online ordering projects illustrate how to supervise for good performance and better service for the users.

1.1 Background of the Work

Food Ordering System is an application which will help restaurant to optimized and control over their restaurants. For customer it helps them to get their desire food at their own place which will make their life easier. For the waiters, it is making life easier because they don't have to go kitchen and give the orders to chef easily. For the management point of view, the manager will able to control the restaurant by having all the reports to hand and able to see the records of each employees and Orders. Food Ordering System reduces manual works and improves efficiency of restaurant. This application is helping Food Ordering s to maintain the stock and cash flows and there are many more functionalities, like.

- To store records.
- Control orders and services.
- Billings.
- Helps Manager to control each part of the restaurant.
- Customer get their food easily
- Saves customer time

The main goal is to maintain the restaurant's functions in an effective and accurate manner and also it is reducing the use of manual entries. This software helps food orders to maintain day to day records in system. It is keeping a proper record of the database.

1.2 Objectives

Our proposed system is an online food ordering system that enables ease for the customers. Our proposed system is a medium to order online food hassle free from restaurants as well as mess service. This system improves the method of taking the order from customer. The online food ordering system sets up a food menu online and customers can easily place the order as per their wish. Also with a food menu, customers can easily track the orders. This system also provides a feedback system in which user can rate the food items. Also, the proposed system can recommend hotels, food, based on the ratings given by the user, the hotel staff will be informed for the improvements along with the quality. The payment can be made online or pay-on-

delivery system. For more secured ordering separate accounts are maintained for each user by providing them an ID and a password.

1.3 Scope of the Project

Features available to user and administrator after developing this web application are:

i. User Signup page
ii. User and Admin Login page
iii. Admin panel
iv. Restaurant Details
v. Food Details
vi. User profile edit
vii. Change Password
viii. Restaurant information and other information edit
ix. System include cancel option if any mistakes occur

1.4 COMPANY PROFILE

LEARN. COLLABORATE. INNOVATE. REPEAT

1.4.1 Background of the Company

Slingshot is a software development company that consists of a software development team and where the members of the team learn, collaborate and innovate together. The company was founded in 2019 at Rampura, Dhaka, Bangladesh.

Contact: http://slingshotbd.net/beta_version/

1.4.2 Mission, Vision, Values

The main mission of the company was to produce high-quality software products by training software engineers who can contribute locally and internationally. The company offers mentorship and internship programs besides hosting regular workshops and tech sessions to engage local developer communities and inspire a cultural knowledge of skill transfer.

1.4.3 Product and Services

Slingshot provides good quality products and services. It provides Web/Mobile Application development services and event hosting.

- Web Development: Full-stack JavaScript web application development and hosting
- Mobile Development: Hybrid mobile application development for Android/iOS
- Event Hosting: Host events aimed at sharing with the local community

1.4.4 Company Departments

The company maintains a flat organizational structure. Teams and responsibilities are generally formed and assigned around specific projects.

Chapter 2

2 Literature Review

Online food ordering is the process of ordering food from a website or other application. The product can be either ready-to-eat or food that has not been specially prepared for direction consumption. Now a days it's one the most common things for young generation, especially in Dhaka.

The first online food order was a pizza from Pizza Hut in 1994. The first online food ordering service, World Wide Waiter (now known as Waiter.com), was founded in 1995. The site originally serviced only northern California, later expanding to several additional cities in the United States. [1] [2]

2.1 Online Food Ordering Application in Bangladesh

1. Foodpanda: Foodpanda is operating in more than 10 countries around the globe and recently started its operation in Bangladesh. Currently, it is offering delivery service in Dhaka, Chittagong, and Sylhet with more cities to cover in future. Over 650 restaurants and cafe are available to order from Foodpanda. [3]

2. Hungry Naki: It is the first Bangladeshi online food delivery service. At present, it offers service to hungry people in Dhaka, Chittagong, and Sylhet, while it aims to develop its service to other cities as well. [4]

2.2 Online Food Ordering Application in World

1. DoorDash: DoorDash operates in Australia, Canada, and the United States.

- Founded: 2013
- DoorDash Revenue: USD 900 million
- DoorDash Market Cap: USD 16 billion
- DoorDash Headquarters: California, USA
- DoorDash Number of employees: 7,549
- DoorDash Delivery Service Fee: $5.99 flat fee [5]

2. GuruHub:

- Founded: 2004
- Grubhub Revenue: USD 1.31 billion
- Grubhub Market Cap: USD 6.92 billion
- Grubhub Headquarters: Chicago, USA

- Grubhub Number of employees: 2,773
- Grubhub Delivery Service Fee: Set by restaurant [5]

2.3 Relationship with Undergraduate Studies

CSE-309 Web Application

In this course, I got introduced to HTML, CSS, and JavaScript language. Since I have been working with HTML, CSS, and JavaScript, to create a website. For this reason, this course has been of great help. In the meantime, I got acknowledged about GitHub from this course that I had to use this in my Internship Program.

CSE-303 Database Management

In this course, I got introduced to MySQL Database. Since I have been working with Xampp server, to create a website. For this reason, this course has been of great help. In the meantime, I got acknowledged about GitHub from this course that I had to use this in my Internship Program.

CSE 307: System Analysis and Design

This course examines the tools and techniques used for the design and analysis of information systems. In this course I learned Systems and models; Project management; Tools for determining system requirements; data flow diagrams; decision table and decision trees; Systems analysis: systems development life cycle models. Object oriented analysis: use-case modeling, Unified Modeling Language. Feasibility analysis, structured analysis; systems prototyping; system design and implementation: application architecture, user interface design. Front-end and backend design; database design; software management and hardware selection. Case studies of Information Systems.

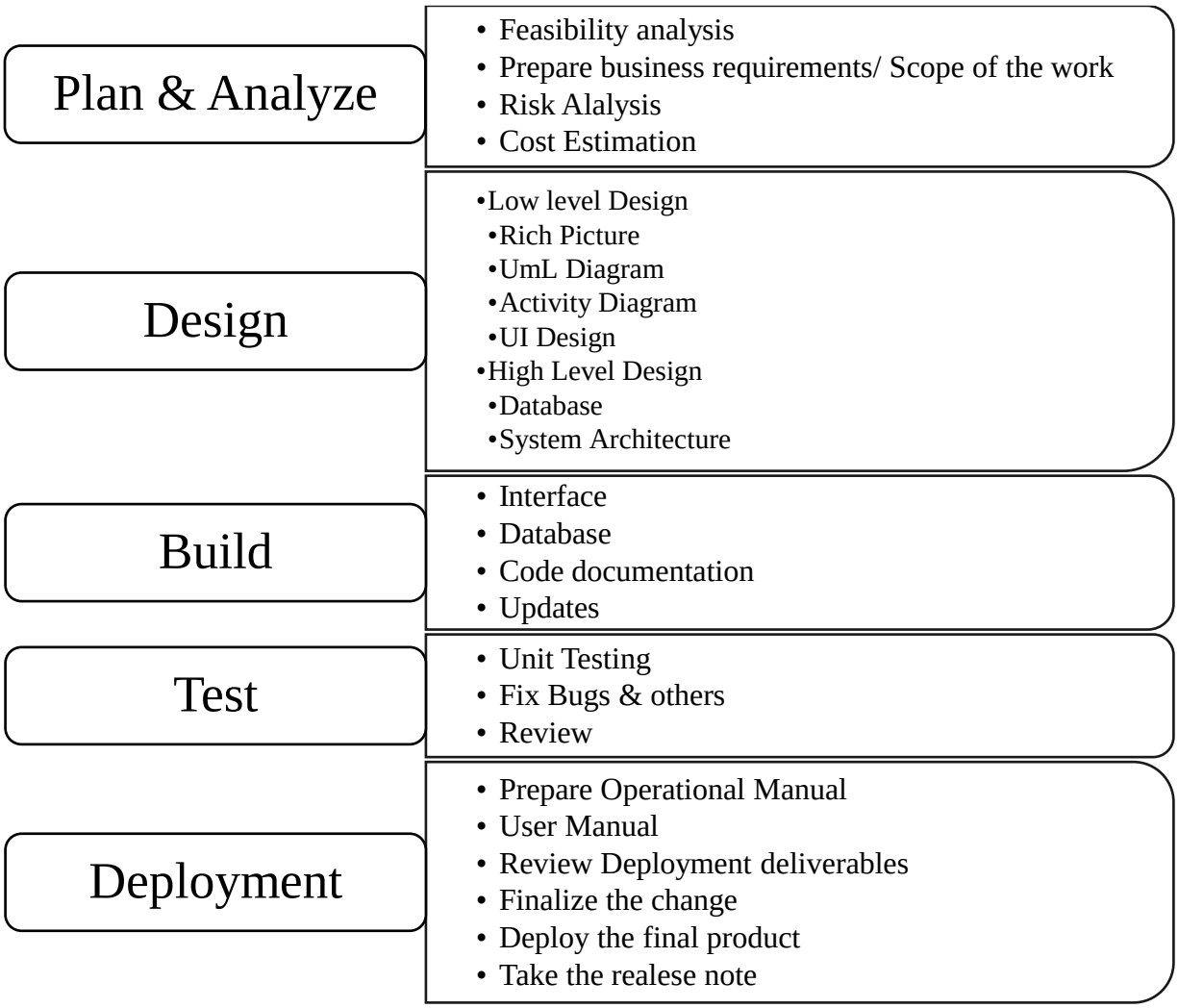
CSE 451: Software Engineering

This course is designed to provide you opportunity to gain knowledge and skills necessary to analyze, design and implement complex software engineering projects. . In this course I learned Software as product and process; Project management and planning; tracking and scheduling; risk analysis and quality assurance techniques; configuration management; Project and process metrics, size and function oriented metrics; Software testing techniques: black box and white box techniques, Testing strategy: unit, integration and system testing; Concepts of object-oriented, event-driven and network programming, client-server architecture, web engineering.

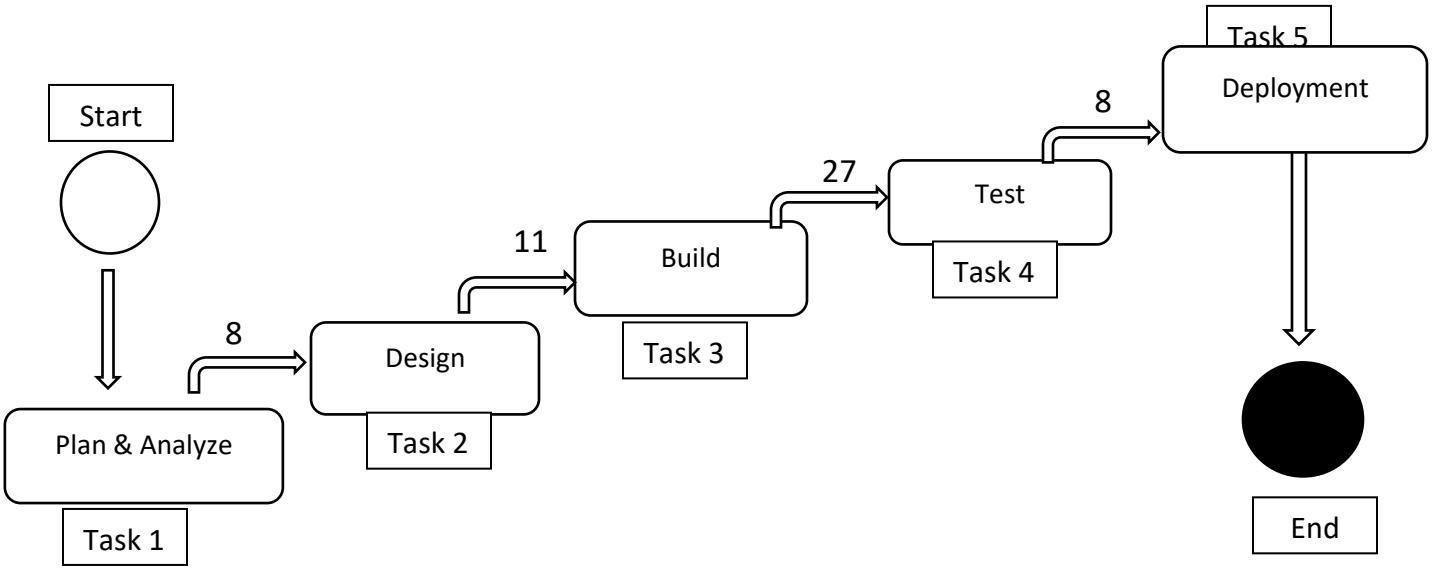
Chapter 3

3 Project Management & Financing

3.1 Work Breakdown Structure

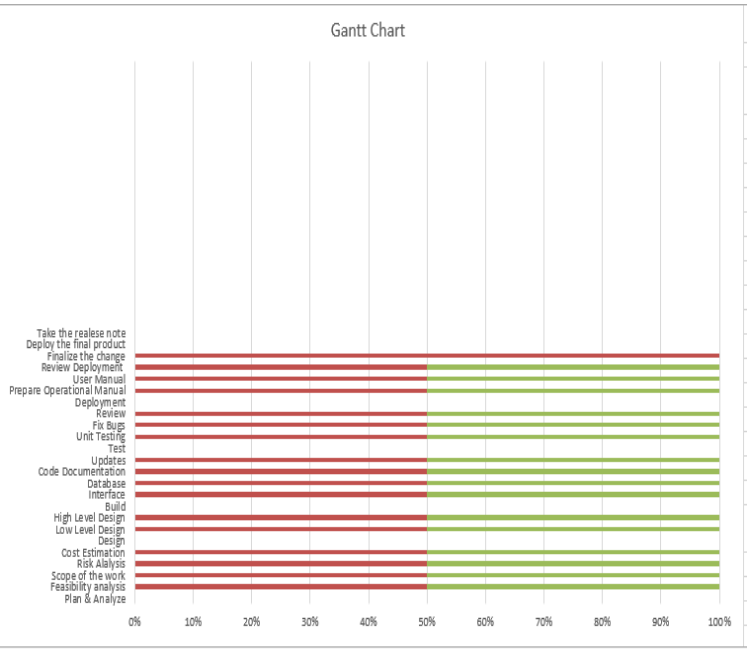


3.2 Activity wise time distribution (Critical Path Method)



3.3 Gantt Chart

TASK	ASSIGNED TO	PROGRESS	START	END
Plan & Analyze				
Feasibility analysis	Mohasina & Shahid	100%	11/1/20	11/3/20
Scope of the work	Mohasina & Shahid	100%	11/4/20	11/5/20
Risk Alalysis	Mohasina & Shahid	100%	11/8/20	11/10/20
Cost Estimation	Shahid	100%	11/10/20	11/12/20
Design				
Low Level Design	Mohasina	100%	11/15/20	11/19/20
High Level Design	Mohasina	100%	11/22/20	11/30/20
Build				
Interface	Mohasina & Shahid	100%	12/1/20	12/17/20
Database	Mohasina & Shahid	100%	12/20/20	12/24/20
Code Documentati	Mohasina & Shahid	100%	12/27/20	12/30/20
Updates	Mohasina & Shahid	100%	12/31/20	1/7/21
Test				
Unit Testing	Mohasina & Shahid	100%	1/10/21	1/13/21
Fix Bugs	Shahid	100%	1/14/21	1/18/21
Review	Mohasina & Shahid	100%	1/18/21	1/19/21
Deployment				
Prepare Operational Manual	Mohasina & Shahid	100%	1/20/21	1/21/21
User Manual	Shahid	100%	1/24/21	1/25/21
Review Deployment	Shahid	100%	1/26/21	1/26/21
Finalize the change	Mohasina & Shahid	60%	1/27/21	
Deploy the final produc	Shahid	0%		



3.4 Estimated costing

Cost estimation is the process of estimating all of the costs associated with completing a website within scope and according to its timeline. It depends on the size, requirements, functionalities and design of the website. This includes pre-designed themes, logo design cost, the cost for home page sliders, search-engine optimization and many other tools that were used to build this website. The cost of developer and resources used were also taken into note. The approximate cost estimated is Tk. 1, 50,000. If service support is required after 1 year of deployment, then an additional charge will be taken for hosting and domain.

Chapter 4

4 Methodology

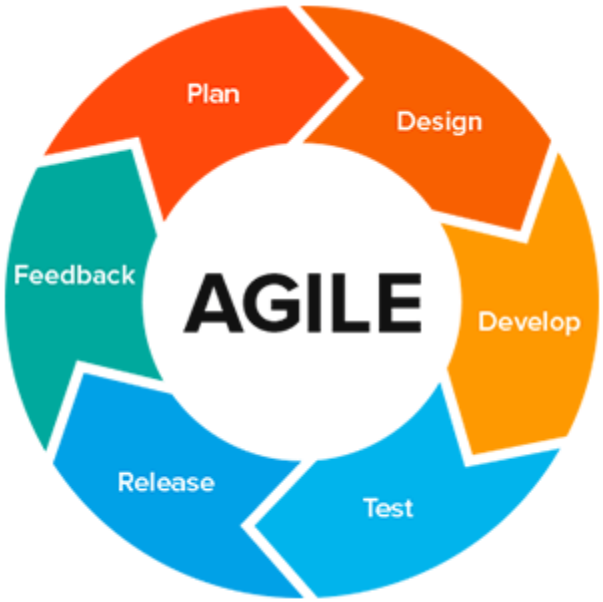
A software development methodology or system development methodology in software engineering is a framework that is used to structure, plan, and control the process of developing an information system.

There are several software development methodology. Such as

- Waterfall Model
- Prototype Methodology
- Rapid Application Development
- Dynamic System Development Model Methodology
- Agile Software Development Methodology
- Spiral Model

We choose agile process as methodology for this project.

The Agile Methodology is based on iterative and incremental development instead of a linear approach. It does not build an entire system at once, but rather develops incrementally. Less time is invested upfront for documentation and analysis, as clients are constantly seeing and testing the product and providing feedback. The development and feedback process adds accountability (tangible milestones of completed work, not just documentation), and tends to improve client satisfaction by allowing ongoing input.



There are several reasons for choosing agile process.

Better product quality: Agile methods have excellent safeguards to make sure that quality is as high as possible by

- Taking a proactive approach to quality to prevent product problems
- Embracing technological excellence, good design, and sustainable development
- Defining and elaborating on requirements just in time so that knowledge of product features is as relevant as possible
- Incorporating continuous integration and daily testing into the development process, allowing the development team to address issues while they're fresh
- Taking advantage of automated testing tools in order to develop during the day, test overnight, and fix bugs in the morning
- Conducting sprint retrospectives, allowing the scrum team to continuously improve processes and work
- Completing work using the definition of done: developed, tested, integrated, and documented

Higher customer satisfaction: Agile project teams satisfy customers by

- Keeping customers involved and engaged throughout projects.
- Having a product owner who is an expert on product requirements and customer needs.

- Keeping the product backlog updated and prioritized in order to respond quickly to change.
- Demonstrating working functionality to customers in every sprint review.
- Delivering products to market quicker and more often with every release.
- Possessing the potential for self-funding projects.

Customized team structures: Self-management puts decisions that would normally be made by a manager or the organization into scrum team members' hands. Because of the limited size of development teams — five to nine people — agile projects can have multiple scrum teams on one project. Self-management and size-limiting mean that agile projects can provide unique opportunities to customize team structures and work environments.

More relevant metrics: The metrics agile project teams use to estimate time and cost, measure project performance, and make project decisions are often more relevant and more accurate than metrics on traditional projects. On agile projects, you provide metrics by

- Determining project timelines and budgets based on each development team's actual performance and capabilities
- Having the development team that will be doing the work provide effort estimates for project requirements
- Using relative estimates, rather than hours or days, to tailor estimated effort to an individual development team's knowledge and capabilities
- Refining estimated effort, time, and cost on a regular basis, as the development team learns more about the project
- Updating the sprint burn down chart every day to provide accurate metrics about how the development team is performing within each sprint
- Comparing the cost of future development with the value of that future development, which helps project teams determine when to end a project and redeploy capital to a new project

Improved performance visibility: On agile projects, every member of the project team has the opportunity to know how the project is going at any given time. Daily scrum meetings, daily sprint reviews, and visible progress charts offer concrete ways to see progress.

Increased project control: The many opportunities to inspect and adapt throughout agile projects allow all members of the project team — the development team, product owner, scrum master, and stakeholders — to exercise control and ultimately create better products.

Improved project predictability: Agile project management incorporates several practices, artefacts, and tools for improved predictability:

- Keeping sprint lengths and development team allocation the same throughout the project allows the project team to know the exact cost for each sprint.
- Using individual development team speed allows the project team to predict timelines and budgets for releases, the remaining product backlog, or any group of requirements.
- Using the information from daily scrum meetings, sprint burn down charts, and task boards allows the project team to predict performance for individual sprints.

Reduced risk: Agile techniques virtually eliminate the chance of absolute project failure:

- Developing in sprints, ensuring a short time between initial project investment and either failing fast or knowing that a product or an approach will work
- Always having a working product, starting with the very first sprint, so that no agile project fails completely
- Developing requirements to the definition of done in each sprint so that project sponsors have completed, usable features, regardless of what may happen with the project in the future
- Providing constant feedback on products and processes through daily scrum meetings and constant development team communication, sprint reviews and retrospectives, and releases in which the end user can see and react to new features on a regular basis
- Generating revenue early with self-funding projects, allowing organizations to pay for a project with little up-front expense.

Chapter 5

5 Body of the Project

5.1 Work Description

FoodDay is an online food delivery platform that helps to manage food delivery activity efficiently. The website is mainly divided into three parts. Customer, Admin & Restaurant Owner.

In the customer section, they can get their desire food at their own place by ordering from the listed item. Customer need to create an account for ordering food. With the easy interface they can use the website in a hassle free method. Customer search by their location name and the restaurant which is registered in that area will be shown. They can choose their desire food from that restaurants. Customer can cancel their order if any mistake happen.

The admin management interface is a crucial part of the system. It's responsible for notifying the restaurants of new orders and helping them manage the order fulfilment process. An admin can manage the user and the restaurant owner account. If any problem occur admin can delete their account.

The restaurant owner need to be create their profile to show their restaurant to the customer. They can added their food item in the menu list. They have also option to edit or delete their menu. They can also generate their delivered food list.

From all the three sections my work was mainly in Customer and Admin panel section. I also did the restaurant owner interface. All the details of the project are included in this report. The features that I had done on this project are:

For Customer	For Admin	For Restaurant owner
✓ Sign Up page ✓ Log In section ✓ Search for restaurant ✓ Order food ✓ Cancel order	✓ Manage Customer ✓ Manage Restaurant ✓ Manage order ✓ Manage Admin profile ✓ Change password	✓ Create account ✓ Listed item in menu ✓ Edit or delete item from menu ✓ Generate report

✓ Manage profile	✓ Add new Admin	

5.2 System Analysis

5.2.1 Six Element Analysis

Process	System Roles					
	Human	Non computing Hardware	Computing Hardware	Software	Database	communication
Registration	User, Restaurant owner	Paper, pen	Computer	Any office software	RDBMS	WAN
Login	User, Restaurant owner	N/A	Computer	Any office software	RDBMS	WAN
Order food	User	Paper, pen	Computer	Any office software	RDBMS	WAN
Cancel order	User	Pen	Computer	Any office software	RDBMS	WAN
Update menu	Admin, Restaurant owner	Pen	Computer	Any office software	RDBMS	WAN
Manage user	Admin	Records	Computer	Any office software	RDBMS	WAN
Manage restaurant	Admin	Records	Computer	Any office software	RDBMS	WAN
Manage Admin	Admin	Records	Computer	Any office software	RDBMS	WAN
Manage order	Admin	Records	Computer	Any office software	RDBMS	WAN

5.2.2 Feasibility Analysis

An important outcome of the preliminary investigation is to determine the feasibility of the project. The main aim of the feasibility study activity is to determine whether it would be financially and technically feasible to develop a project. The feasibility study activity involves the analysis of the problem and collection of all relevant information relating to the product such as the different data items which would be input to the system, the processing required to be carried out on these data, the output required to be produced by the system as well as the various constraints on the behavior of the system. During feasibility study most of the high level architectural design decisions are made.

- Operational Feasibility: The proposed project is beneficial only if it is turned into information systems that will meet the organization's operating requirements. This test of feasibility asks if the system will work when it is developed and installed. A factor considered for operational feasibility is that the proposed project be beneficial to users because it offers greater support to potential members and pin regards to interface friendliness, easy access and easy in understanding the flow of the system. This project meets operational feasibility as it has information that is being continuously updated.
- Technical Feasibility: Technical feasibility involves the software and hardware requirements to develop this website. Hardware is not an issue as it runs on any computer which is connected to the Internet. The proposed technology has to meet all software requirements, by considering factors like, the browser support for PHP along with basic web technologies. This web application are developed using PHP or HTML. All the requirements are successfully meet with open source technologies.
- Economical Feasibility: Suitable budget, financial benefits, investment vs. profit are big factors for economic feasibility. This web application needs less people than before who can control Website. Thus any extra man-power to maintain the site is not required. Also as this project was developed using open source technology no additional funding is needed for technology. So, this project is perfectly economically feasible.

5.2.3 Problem Solution Analysis

There are various steps to solve problems. We follow these steps to solve the problem.

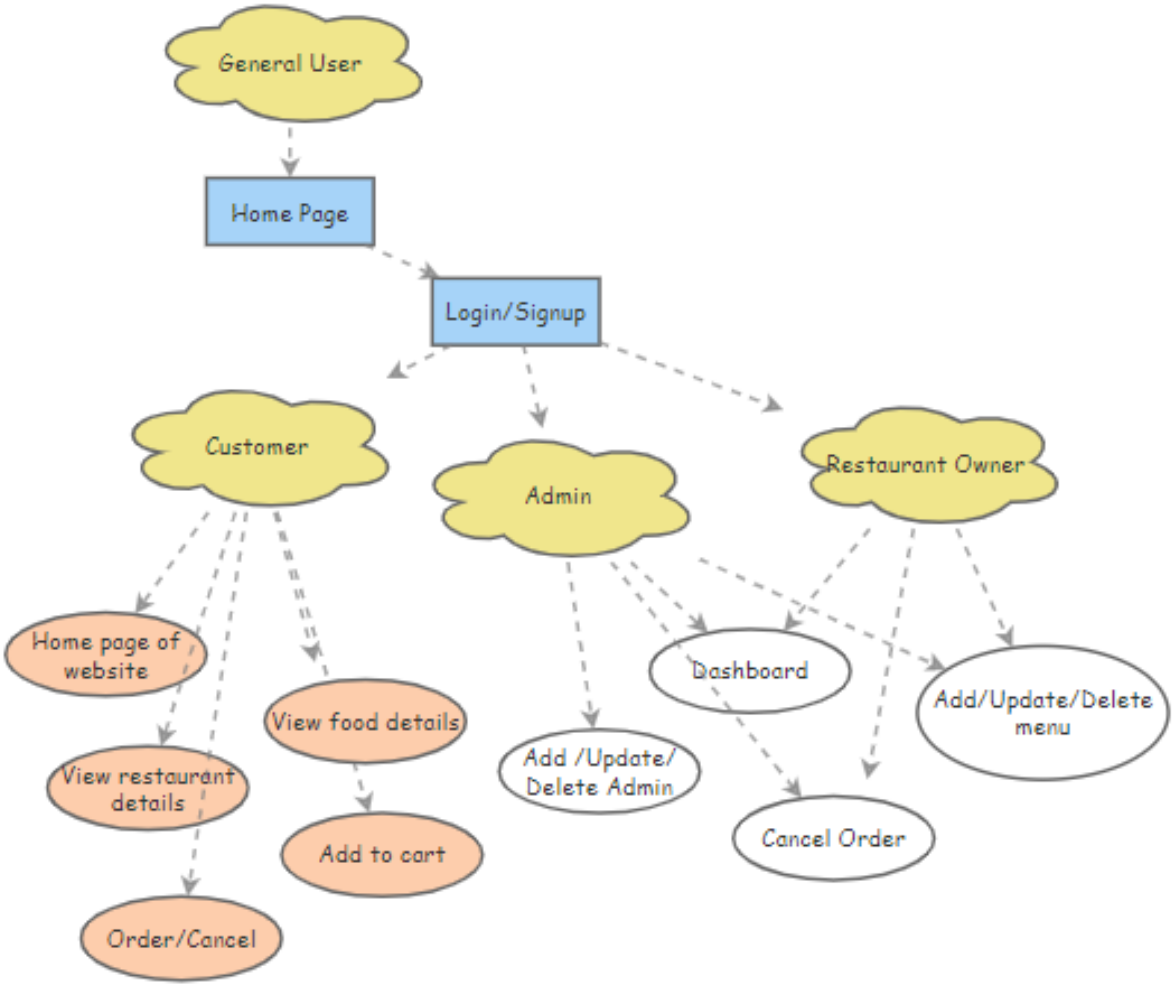
- Identify and define problem: This step is very critical since it is important to clearly understand problem so as to focus all energy on it. We can't actually focus our efforts into solving a problem that we can't even understand.
- Analyze the problem: At this level, we made an effort of investigating the defined problems fully by studying the gathered information. View the problem from all perceptions so as to establish a stable analysis.
- Identify possible solutions: This refers to the act of looking for alternative solutions to the impending problem

- Select best solutions: After identifying various possible solutions, then we sit back and choose the one that can solve our problems in an effective and efficient manner.
- Evaluate solution: This step has to do with the act of rating the level at which our problem might be solved. This can be done using various evaluation techniques such as giving out questionnaires.
- Establish an action strategy: An action plan will enable you to duly forge ahead in the process of solving problems. With an action plan, our problem solved in a very simple manner.
- Implement the solution: This happens to be the last step in problem solving and it has to do with application of the established solutions to the impending problems in real life situation.

5.3 System Design

5.3.1 Rich Picture

Rich Picture: A Rich Picture is a way to explore, acknowledge and define a situation and express it through diagrams to create a preliminary mental model. A rich picture helps to open discussion and come to a broad, shared understanding of a situation.

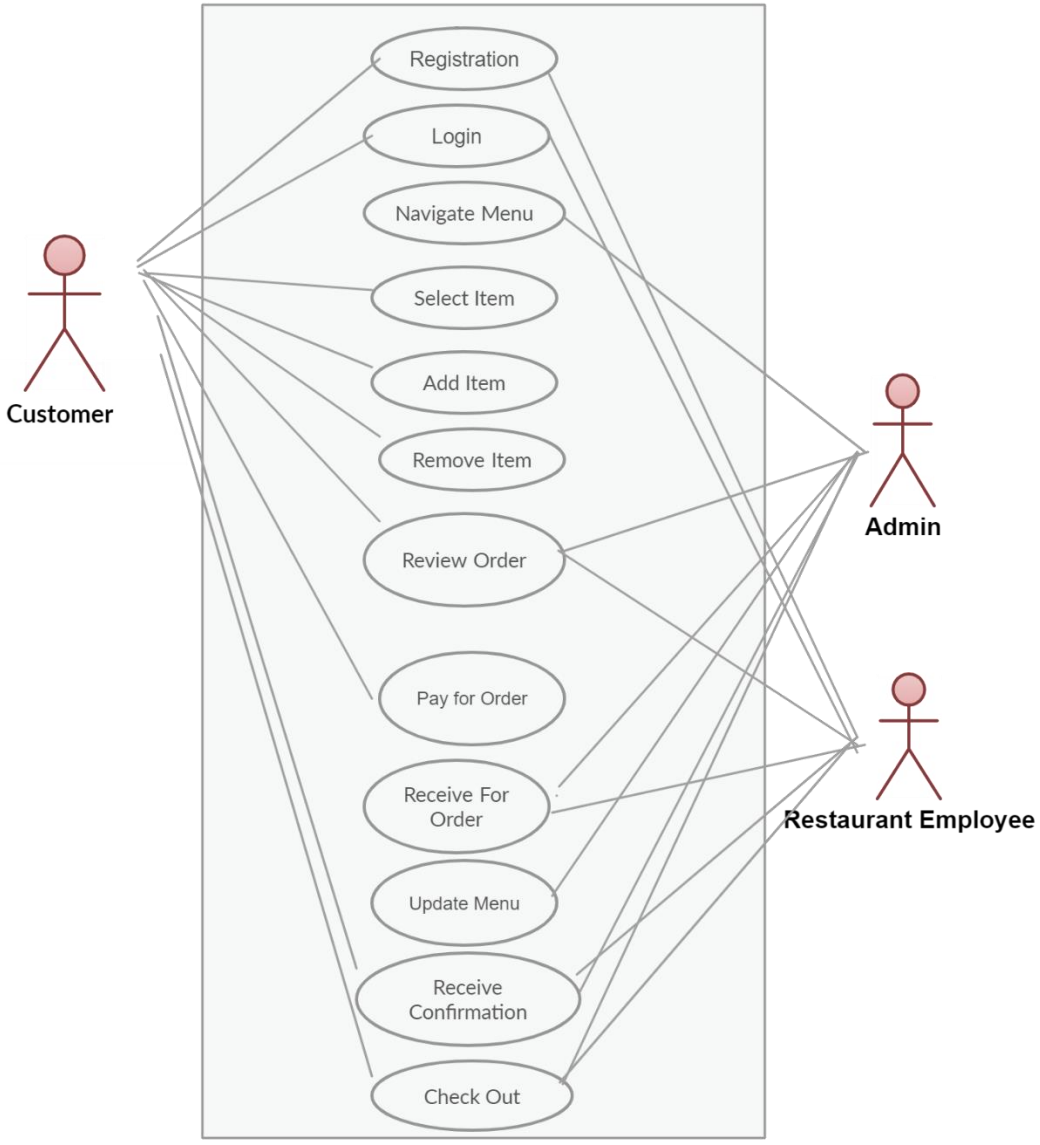


5.3.2 UML Diagrams

UML is a way of visualizing a software program using a collection of diagrams. The current UML standards call for 13 different types of diagrams: class, activity, object, use case, sequence, package, state, component, communication, composite structure, interaction overview, timing, and deployment.

Use Case Diagram

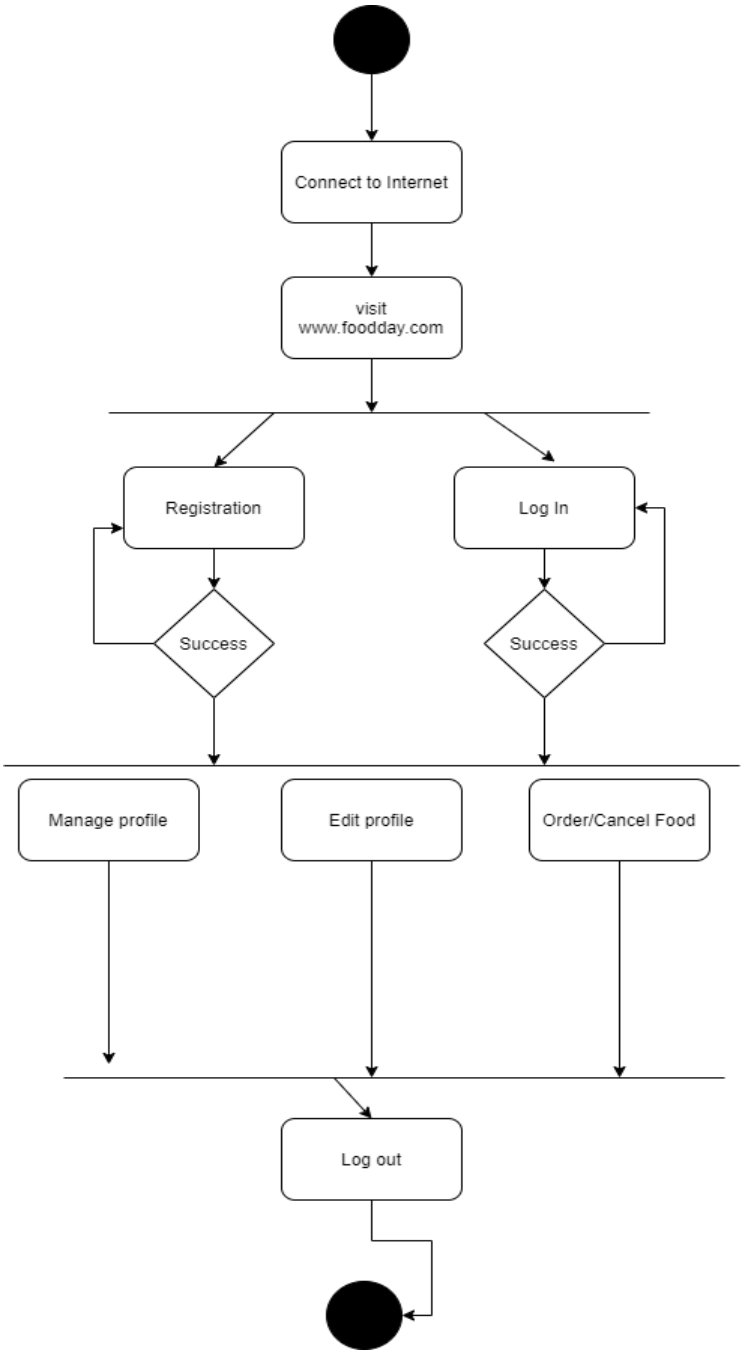
A use case diagram is a dynamic or behavior diagram in UML. Use case diagrams model the functionality of a system using actors and use cases. Use cases are a set of actions, services, and functions that the system needs to perform.



Activity Diagram

The activity diagram is an important UML diagram that shows the flow of one activity to another. The activity diagram of the user and admin help to visualize the activity in graphical form.

Activity Diagram for User



Activity Diagram for Admin

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5.3.3 Functional and Non-Functional Requirements

Functional requirements

For this project the functional requirements are mostly specific since the requirements are in proper manner.

Moreover the functional requirements will be based on the information and functionality of the online system.

The functional requirements which will occur are listed below:

- The customer has to able to make user account in order to manage and view the offers provided by the restaurants.
- The system should provide appropriate list and API in order to constantly update the schedule.
- Users will be able to search through all the databases in order to get food information.
- Admin will see all the details about the user with their unique User ID and information and all the customer orders in a list order and will be able to accept or reject.
- The system shall provide guest viewers to see through the items and all the offers made by restaurant in the website and the application.
- The system shall allow the admin the ability to export any graph generated to an image file of the selected format to see overall process of application.
- Admin and developer hired by the agency will be allowed to update and manage database with proper access.

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- **Name of the Function:** The customer has to able to make user account in order to manage and view the offers provided by the restaurants

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Input:

1. Customer ID
2. Customer Name and Other information.

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Process:

1. Verify and make account of user through email.
2. Verify the client ID.
3. Update user information.
4. Organize the input in a structured UI and database.

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Output:

1. Make a user account.

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Precondition:

1. User has to be able to give information in a proper manner.
2. User Interface should be simple and easier to understand.

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Post condition:

1. The system should be able to extract the data in a properly structured database.
2. The User interface should return to the user account when the account is verified through email.

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Alternate Options:

1. If the user information is not valid the system gives response to the user.
2. If the email confirmation is not done then the user should see error message.
3. When the account is verified the user should see and manage their account.

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Side Effects:

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- **Name of the Function:** The system should provide appropriate list and API in order to constantly update the schedule

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Input:

1. Customer Information
2. Offer Information.

</td><td>

Process:

1. Make a reservation through Customer and offer ID.
2. Verify the client and offer ID.
3. Check offer availability.
4. Update tour schedule through international API.
5. Save information onto the database system and update accordingly.

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Output:

1. Make a reservation.

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Precondition:

1. The offer has to be checked constantly and dynamically.
2. The Customer has to be logged in using ID and Password.
3. The APIs generated online has to be dynamically updated to the system.

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Post condition:

1. The system should be able to extract the data in a properly structured database.
2. In order to make an order the information should be updated to the restaurant owner interface.

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Alternate Options:

1. If the user information is not valid the system gives response to the user.
2. If there are no seats available the user should see accordingly.

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Side Effects:

1. Updates The information through all the database.

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</table>

<table>
<tr><td colspan="3">Name of the Function: Users will be able to search through all the databases in order to get food information.</td></tr>
<tr><td>Input:

1. Customer Information

2. Offer Information.</td><td>Process:

1. Get the searched string.

2. Search through database according the searched query.

3. Find offers as searched and update UI as needed.

4. Show customer the information.</td><td>Output:

1. Show appropriate offers according search query.</td></tr>
<tr><td colspan="3">Precondition:

1. Searched string has to be checked for proper inputs.
2. Offer type has to be available for search query.

3. A predefined search query should be implemented in order to minimize search time.</td></tr>
<tr><td colspan="3">Post condition:

1. The system should be able to receive the data from a properly structured database to minimize time.
2. The user Interface has to be dynamically updated.</td></tr>
<tr><td colspan="3">Alternate Options:

1. If the search query doesn’t match the user should be notified.
2. If the tour information was removed the Interface should show accordingly.</td></tr>
<tr><td colspan="3">Side Effects:</td></tr>
</table>

<table>
<tr><td colspan="3">Name of the Function: Admin will see all the details about the user with their unique User ID and information and all the customer orders in a list order and will be able to accept or reject</td></tr>
<tr><td>Input:

1. Customer Information
2. Admin information
3. Offer Information</td><td>Process:

1. An Admin account sees through the reservation saved onto the database.
2. Admin checks through the client and offer information and decides and approve or reject.
3. Admin notifies the restaurant owner.

4. Admin notifies the customer.</td><td>Output:

1. Accept or reject.</td></tr>
<tr><td colspan="3">Precondition:

1. The information has to update to Admin interface.
2. The database holding the information has to be saved as a history for further usages.</td></tr>
<tr><td colspan="3">Post condition:

1. The system should be able to update all these together.</td></tr>
<tr><td colspan="3">Alternate Options:

2. If the order is accepted or rejected the customer has to be notified.
3. The whole database should be saved history as properly structed data.</td></tr>
<tr><td colspan="3">Side Effects:</td></tr>
</table>

Name of the Function: *The system shall provide guest viewers to see through the schedule and all the offers made by restaurant owner in the website and the application.*		
Input: 1. Web view	**Process:** 1. Only needs to update the applications dynamically. 2. 24/7 active domain server.	**Output:** 2. Online data service.
Precondition: 1. Proper active server and dependable database has to be used.		
Post condition: 1. Proper user friendly interface will help user to understand the whole process.		
Alternate Options:		
Side Effects:		

Name of the Function*:* *The system shall allow the admin the ability to export any graph generated to an image file of the selected format to see overall process of application*.		
Input: 1. Admin Information 2. Customer information 3. Offer Information	**Process:** 1. Admin sees all the automated graph and whole history of the application. 2. Manage and edit information.	**Output:** 1. Manage and edit data.

Precondition: 1. The information has to update to Admin interface. 2. The system should auto implement data and able to generate graph.
Post condition: 1. The system should be able to update all these together. 2. The admin should be able to manage all the data.
Alternate Options: 1. If the data is not properly accurate then it should be notified to developer. 2. The whole database should be saved history as properly structed data.
Side Effects:

Name of the Function*:* *Admin and developer hired by the agency will be allowed to update and manage database with proper access*.		
Input: 1. Admin Information 2. Customer information 3. Offer Information	**Process:** 1. Admin and developer has to be able to update and manage all the data. 2. Manage and edit information and update database system.	**Output:** 1. Manage and edit data.
Precondition: 1. The information has to update to Admin interface and the developer has to be able to manage. 2. The program has to be properly commented in order to developer to understand properly. 3. The system should auto implement data and able to generate graph.		

Post condition: 1. The system should be able to update all these together. 2. The admin and developer should be able to manage all the data.
Alternate Options: 1. If the data is not properly accurate then it should be notified to developer. 2. The whole database should be saved history as properly structed data. 3. The coding should follow international standards.
Side Effects:

Non-functional requirements

Non-functional Requirements (NFRs) define system attributes such as security, reliability, performance, maintainability, scalability, and usability. They serve as constraints or restrictions on the design of the system across the different backlogs. Three types of non-functional requirements are available. These are

- Product requirements
- Organizational requirements and
- External requirements

So here for the travel agency we will proposed some non-functional requirements which will make the system more easier to use and will be helpful for the developers.

Product requirements

RELIABILITY

The extent to which the software system consistently performs the specified functions without failure.

Example: Users have to trust the system, even after using it for a long time.

It's including requirements that make it easier to monitor system performance.

EFFICIENCY

The extent to which the software system handles capacity, throughput, and response time.

Example: At least 20 percent of the processor capacity and storage space available to the system shall be unused at peak load seasonal periods.

The initial system shall be able to handle the entry of orders by customers at a minimum rate of 10 per second.

Any interface between a user and the automated system shall have a maximum response time of two seconds.

USABILITY

The ease with which the user is able to learn, operate, prepare inputs, and interpret outputs through interaction with a system.

Example: New policy management system shall be evaluated by 90 percent of the user community to be at least as easy to use as the existing system.

Frequently used functions should be tested for usability, as should complex and critical functions. Be sure to create a requirement for this.

PORTABILITY

The ease with which a software system can be transferred from its current hardware or software environment to another.

Example: The system is portable as it logged into from any device.

Organizational requirements

ACCESSIBILITY

The extent to which the software system can be used by people with the widest range of capabilities to achieve a specified goal in a specified context of use.

The system shall be accessible by people with specific vision needs

AVAILABILITY

The degree to which users can depend on the system to be up (able to function) during “normal operating times”.

Example: The Online order shall be available for use between the hours of 8:00 a.m. and 11:00 p.m.

A new installation of the system shall be available for first-time use within 24 hours of the start of the install.

The online registration system shall permit backing up of the registration database while other registration activities are going on.

FLEXIBILITY

The ease with which the software can be modified to adapt to different environments, configurations, and user expectations.

Example: Provisions shall be made for the future usage of multiple languages.

No piece of text that might be displayed to a user shall reside in program source code

The billing system shall be able to process invoices and payments in multiple different currencies.

MAINTAINABILITY

The ease with which faults in a software system can be found and fixed.

Example: The customer service call center shall analyze 95% of the problem reports within 2 hours. Items classified as "urgent" shall be repaired within 3 business days in 98% of the reported cases.

A maintenance developer shall be able to modify existing statements to conform to revised regulations from the federal government with 24 labor hours or less of development and testing effort.

The system shall not be shut down for maintenance more than once in a 24-hour period.

INSTALLABILITY

The ease with which a software system can be installed, uninstalled, or reinstalled into a target environment.

Example: It shall be possible for the system's main server software to be installed by a competent system administrator who has no previous knowledge of the system or of the third-party products it uses, but who is familiar with the operating system of the machines on which it is to be installed.

Installing an upgrade shall not modify existing configuration values.

REUSABILITY

The extent to which a portion of the software system can be converted for use in another system. Example:

Example: Web applications shall be developed to adhere to HyperText Markup Language (HTML) guidelines and standards.

All software that runs on a client device shall be written in a prevalent programming language such that the software can be run on a personal computer without having to download a supporting environment.

External requirements

ACCESS SECURITY

The extent to which the system is safeguarded against deliberate and intrusive faults from internal and external sources.

Example: Employees shall be forced to change their password the next time they log in.

Users must change the initially assigned login authentication information (password) immediately after the first successful login.

Employees shall not be allowed to update their own salary information, and any such attempt shall be reported to the security administrator.

CONFIDENTIALITY

The degree to which the software system protects sensitive data and allows only authorized access to the data.

Example: Any types of personal data are stored secured.

INTEROPERABILITY

The extent to which the software system is able to couple or facilitate the interface with other systems.

Example: The system must be able to interface with any HTML (HyperText Markup Language) browser.

The base lined version 2 of the spreadsheet must be able to access information from the previous baselines version.

All timestamps recorded by the transaction processing system shall be in UTC (Universal Time Coordinated) when placed into permanent storage.

INTEGRITY

The degree to which the data maintained by the software system are accurate, authentic, and without corruption.

Example: All monetary amounts must be accurate to two decimal places.

The integrity of the system data area must be checked by the internal audit system twice per second; if inconsistencies in the data are detected, the system operation should be disabled.

SURVIVABILITY

The extent to which the software system continues to function and recovers in the presence of a system failure.

Example: If the audit trail function fails before the user saves updates to the contract, the system shall be able to recover all changes made in the contract being updated up to one minute prior to the failure.

When an update failure is detected all updates performed during the failed session shall be rolled back to restore the data to pre-session condition.

5.4 Product Features

5.4.1 INPUT DESIGN

Input design is a part of overall system design. The main objective during the input design is as given below:

- To produce a cost-effective method of input.
- To achieve the highest possible level of accuracy.
- To ensure that the input is acceptable and understood by the user.

5.4.2 INPUT STAGES

The main input stages before the information gets stored in the database media:

- Data recording
- Data transcription
- Data conversion
- Data verification

- Data control
- Data transmission
- Data validation
- Data correction

5.4.3 Output

Here I am include some output of my project.

Admin Panel:

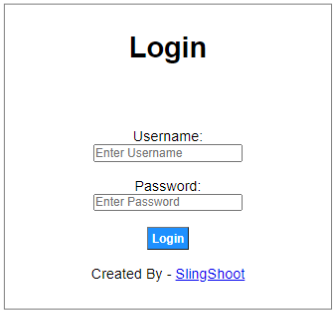


Fig 5.1: Admin Login Page

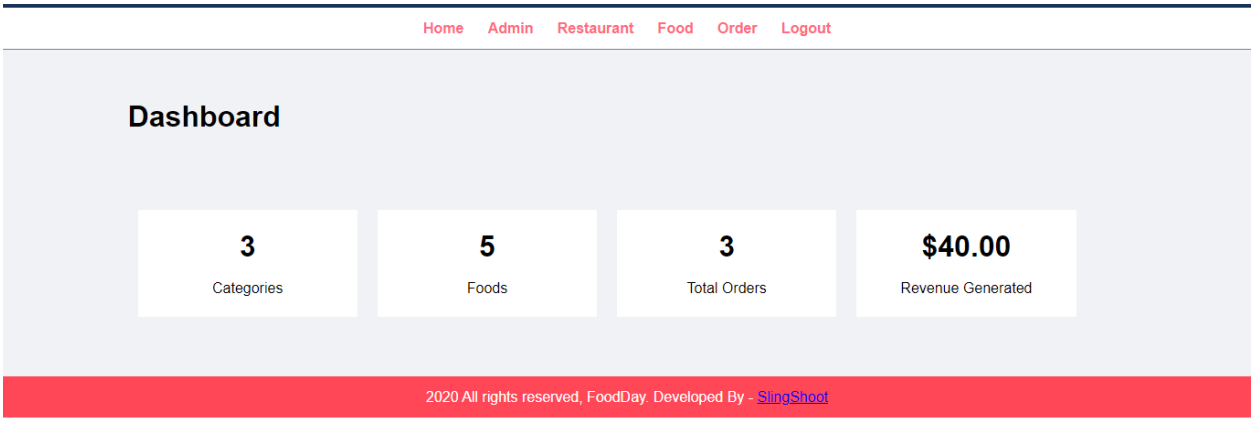


Fig 5.2: Admin home Page

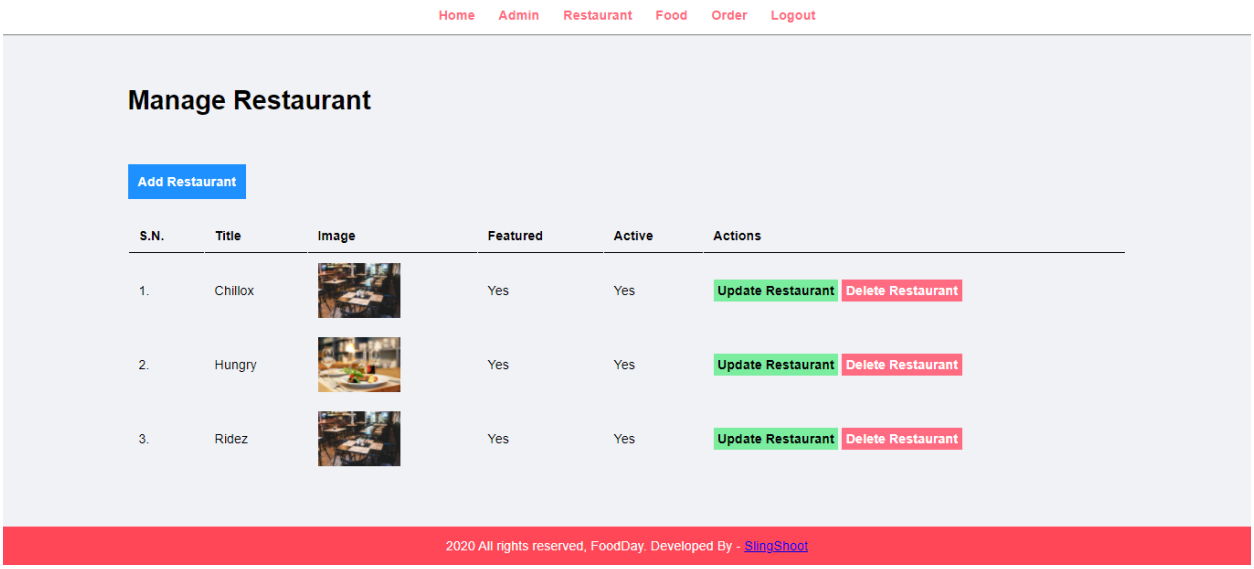


Fig 5.3: Admin Manage Restaurant Page

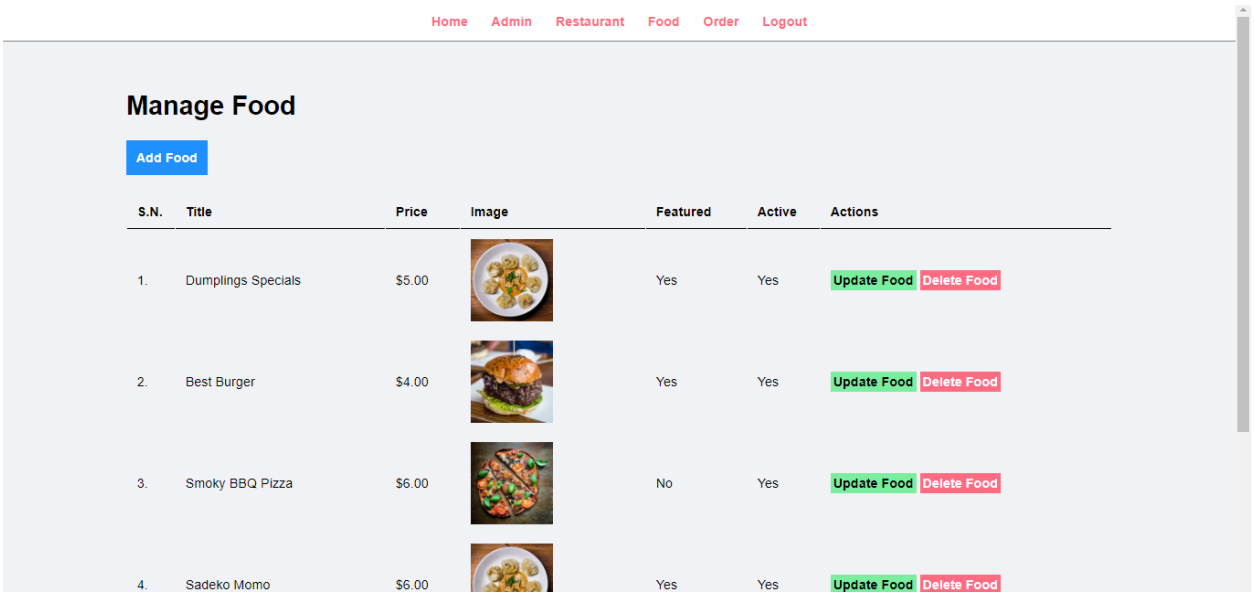


Fig 5.4: Admin Manage Food Page

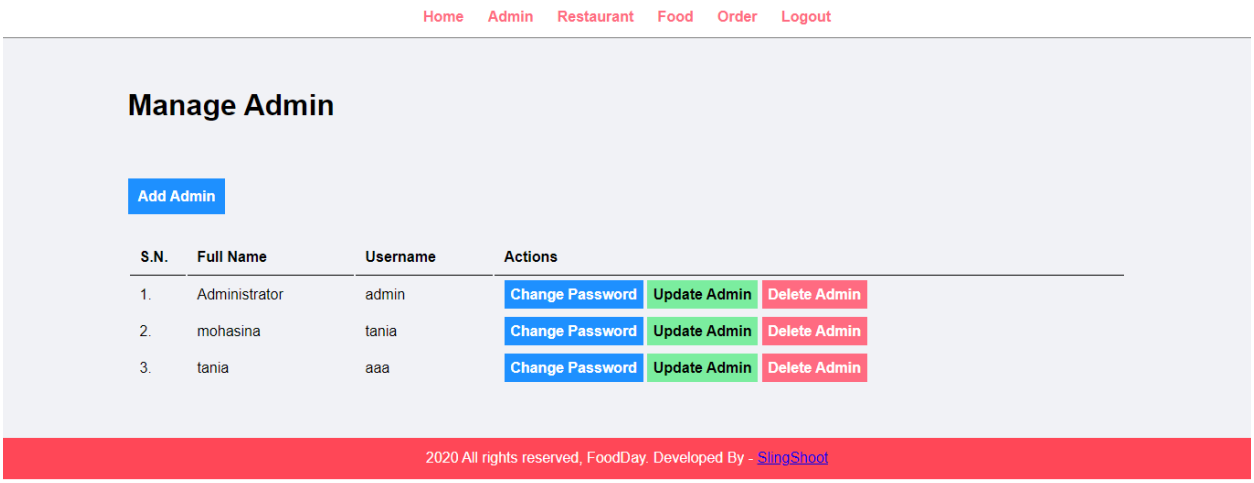


Fig 5.5: Manage Admin Page

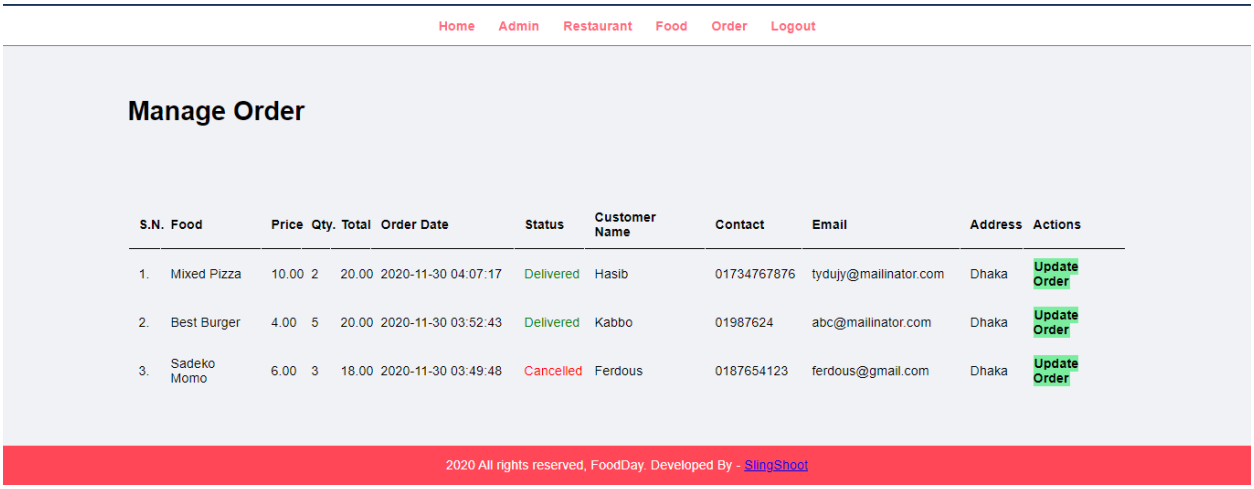
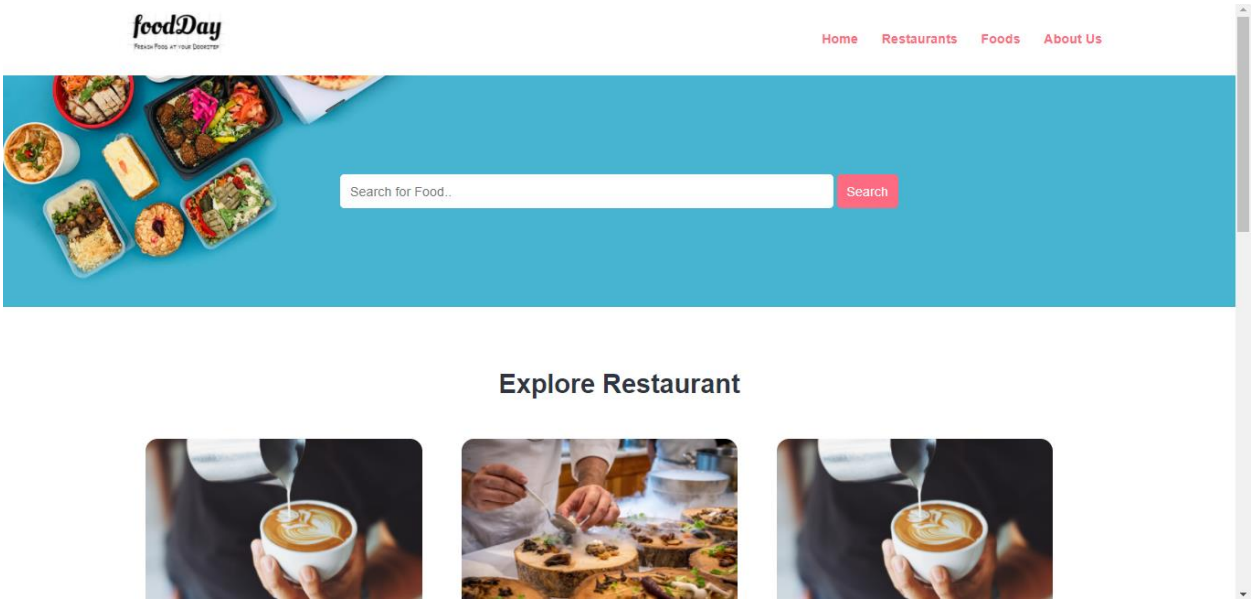


Fig 5.6: Admin Order Manage Page

Customer Panel:



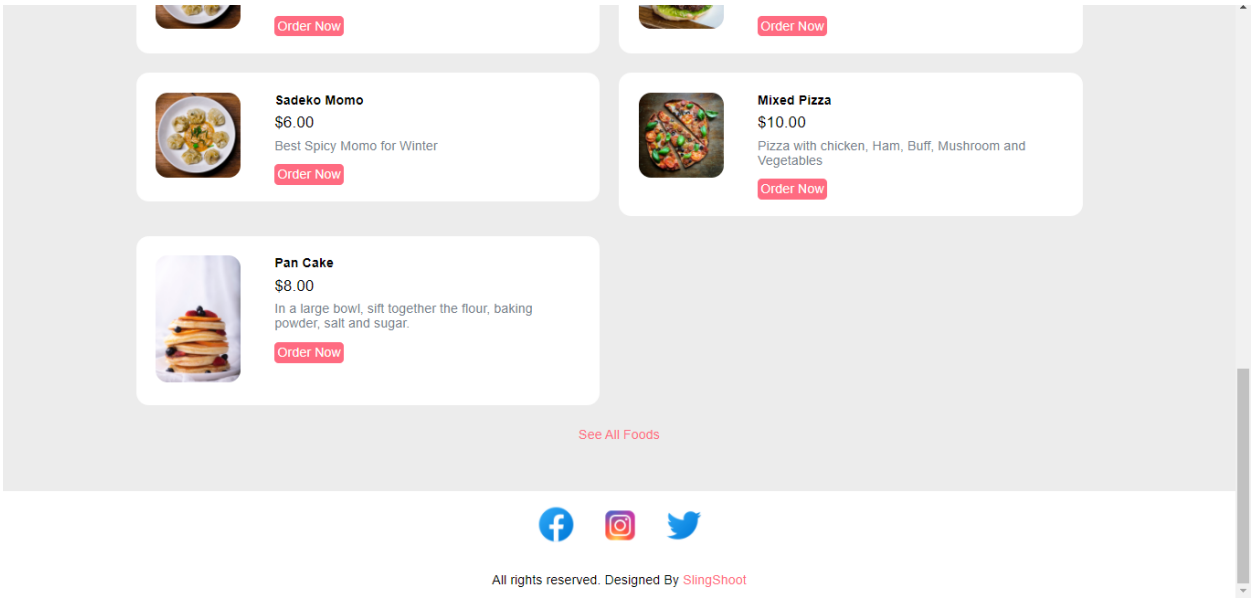


Fig 5.7: Customer Home Page

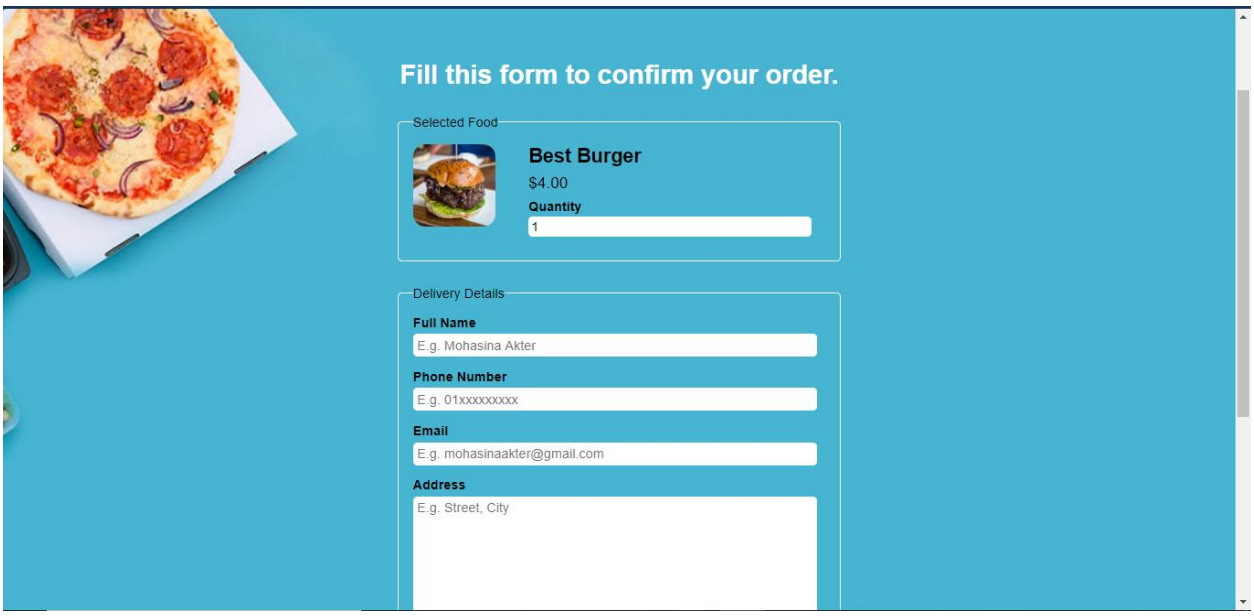


Fig 5.8: Customer Order Page

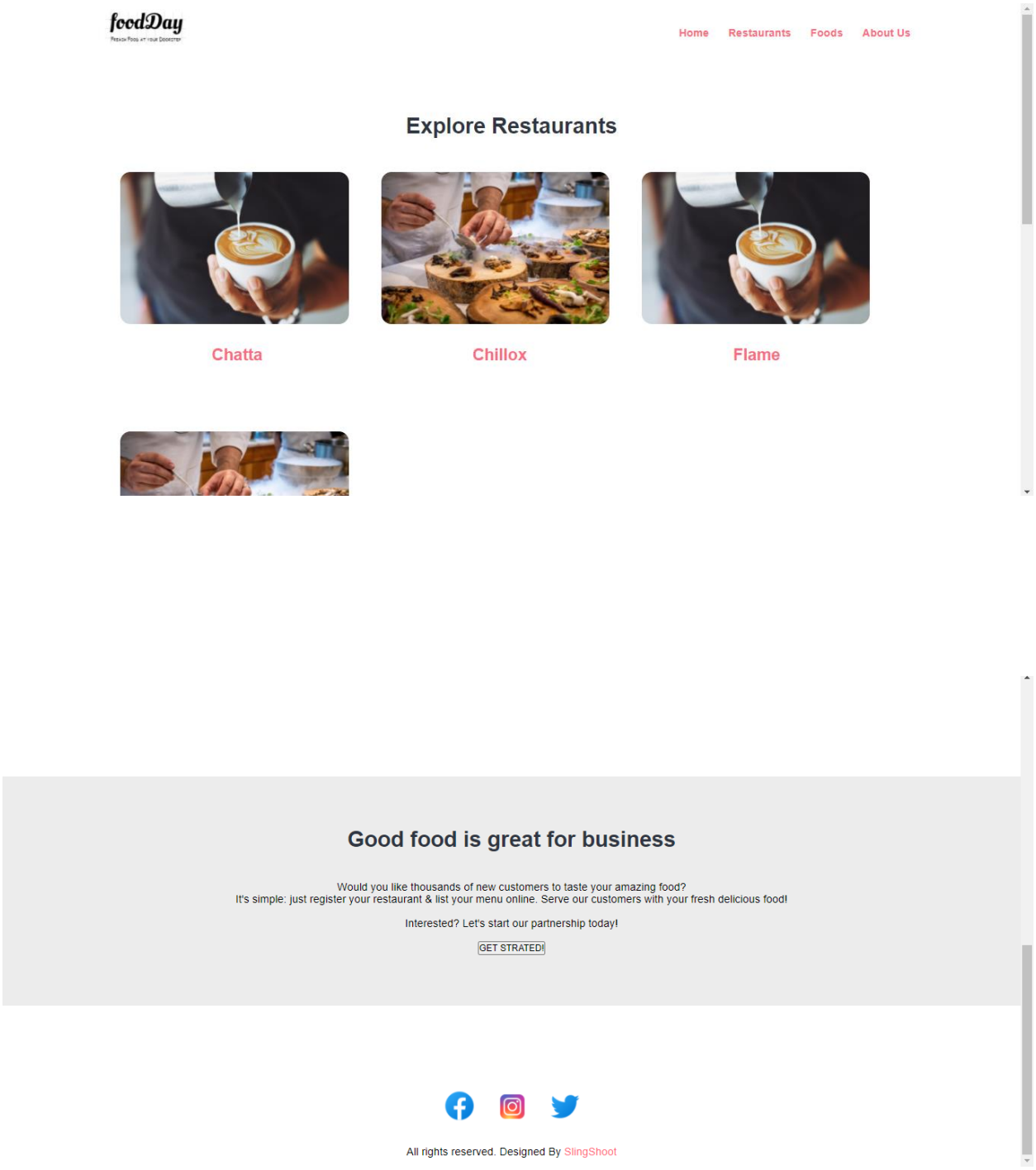


Fig 5.9: Customer Restaurant Page

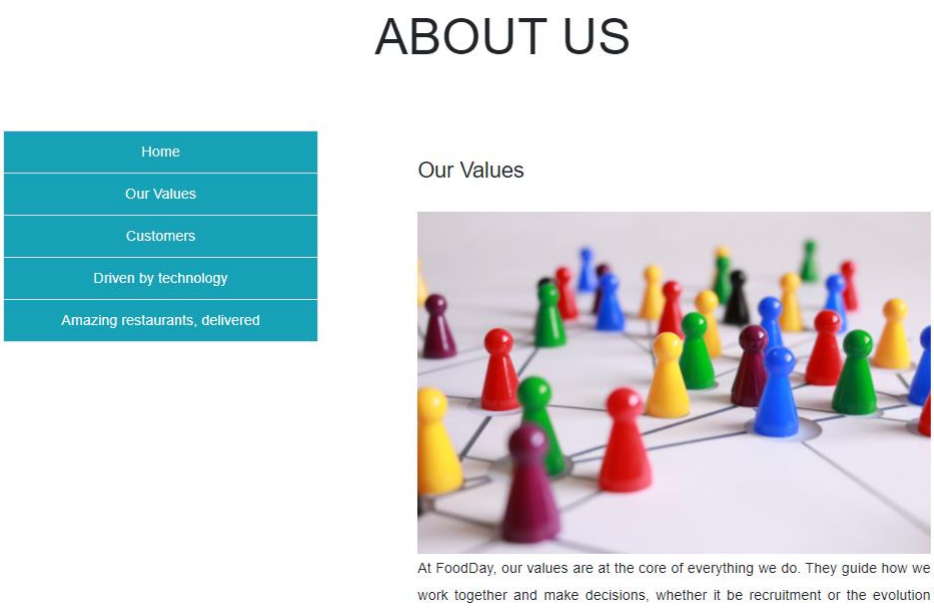
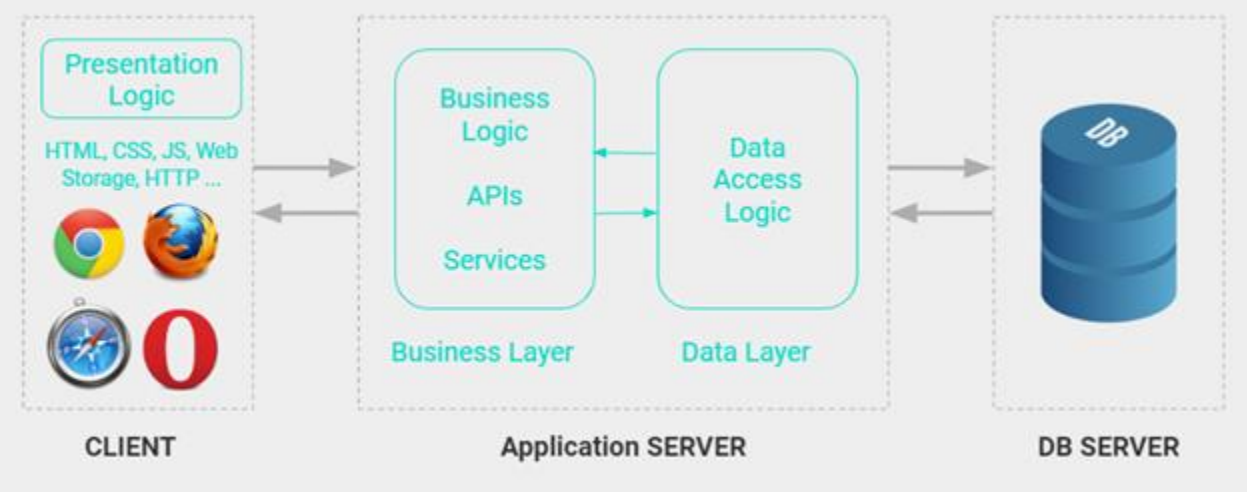


Fig 5.10: Customer About Us Page

5.4.4 Architecture

System Architecture

We will be following a Three Tier Architecture, which is a client-server architecture. It is a multitier architecture (often referred to as n-tier architecture) which consists of three physically separated layers- presentation (client), application processing (application server), and data management (database server). The layers are independent making it easier to maintain, faster development as there is division of word (web designer does the presentation, software engineer does logic, and database admin does the data model), and component are reusable.



5.5 Implementation

For developing this project the technical requirements are

- Operating system
- Server
- Browser
- Xampp
- Code editor (Sublime text)
- HTML5
- CSS3
- JavaScript
- PHP
- Bootstrap
- MySQL

5.5.1 phpMyAdmin

phpMyAdmin is used to control administration of MySQL database.

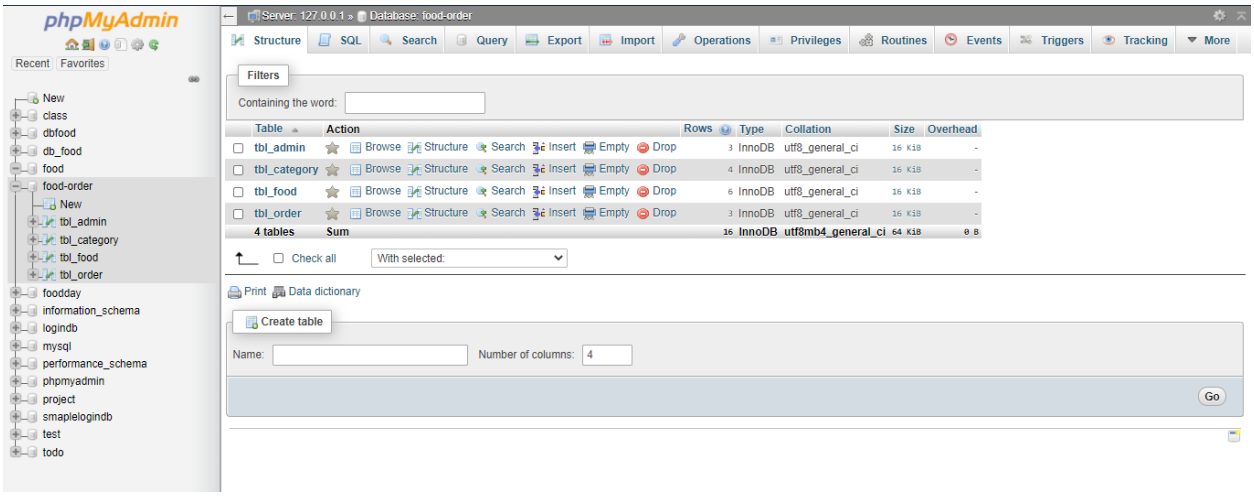


Fig 5.11: Database

Chapter 6

6 Results & Analysis

Here, I have given the results of tasks that I have worked on. Each task performs successfully if it meets the conditions that are provided. At the beginning we found some bugs but after several tested we fixed it. All these tasks are tested on local hosting. Some of these tasks have some shortcomings which are not implemented yet have been mentioned above. These will be worked later on.

After the project is completed and before going live, it will be tested again and changes will be made if required.

Table 6.1 Result and Analysis for User

Task	Description	Conditions	Success rate	Error rate	Shortcomings	Working or not
Registration/ Sign In/Login	User need to create an account and logged into it for ordering food	User needs to have a computer, laptop or smart phone connected to an Internet.	100			Working
Search	User can search for the restaurant	User needs to have a computer, laptop or smart phone connected to an Internet.	100			Working
Order	User can order food	User needs to have a computer,	100			Working

		laptop or smart phone connected to an Internet. User needs to Login.				
Cancel	User can cancel order	User needs to have a computer, laptop or smart phone connected to an Internet. User needs to Login.	100			Working
Manage profile	User can read or edit his/ her profile	User needs to have a computer, laptop or smart phone connected to an Internet. User needs to Login.	100			Working

Table 6.2 Result and Analysis for Admin

Task	Description	Conditions	Success rate	Error rate	Shortcomings	Working or not

Statistical information for Admin	Admin can see the total number of Users, Restaurant till date.	Admin needs to have a computer, laptop or smart phone connected to an Internet. Admin needs to Login.	100			Working
Manage accounts	Admin can manage the customer and restaurant owner account	Admin needs to have a computer, laptop or smart phone connected to an Internet. Admin needs to Login.	100			Working
Notification	Admin can get notification of getting and completing order	Admin needs to have a computer, laptop or smart phone connected to an Internet. Admin needs to Login.	100			Working
Forget	Admin can	Admin	100			Working

password	recover password	needs to have a computer, laptop or smart phone connected to an Internet. Admin needs to Login.				
Create new admin	Admin can add new admin	Admin needs to have a computer, laptop or smart phone connected to an Internet. Admin needs to Login.	100			Working

Chapter 7

7 Project as Engineering Problem Analysis

7.1 Sustainability of the project

We tried to make the website as much sustainable as possible

1. Growth of Business: This website helps restaurant owner to develop their business dynamically.

2. User Friendly Interface: We have kept the website as simple as possible so that users do not find it difficult to use the website.

7.2 The Impacts of Online Food Delivery

The impacts of online Food Delivery was organized according to the three pillars of the sustainability framework.

Economic Impacts

The rise of the online Food Delivery industry has provided job opportunities for many people across a range of types of employment including as chefs and administrative staff in restaurants, delivery people or as programmers behind the Apps/online platforms. there is no doubt that the online Food Delivery industry has provided many jobs, especially in the delivery sector, there has been concern expressed about the poor working conditions that delivery people are subjected to, including the standardized nature of their job, their high workload, the limited training many receive and the risks they experience to their personal safety during the process of delivering the food.

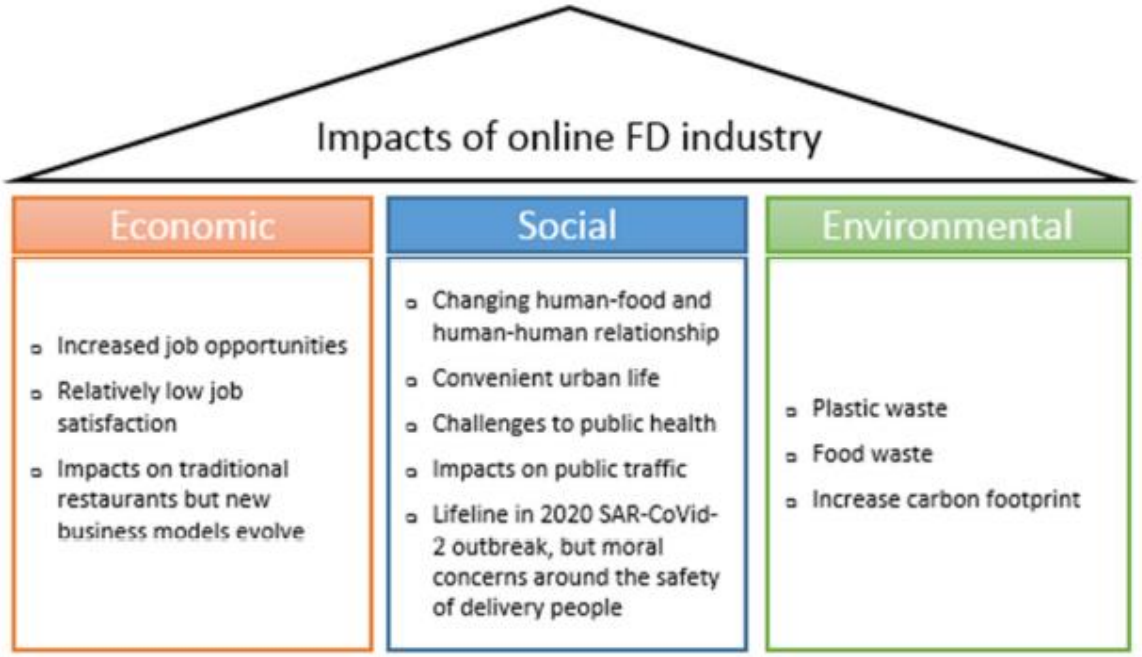
Social Impacts

Online Food Delivery impacts the relationship between consumers and their food by changing the way consumers obtain, prepare and consume food. In turn, these changes impact the human to human relationships, which has led to considerable debate on whether online Food Delivery enhances or reduces the quality of family time and community interactions.

Environmental Impacts

One of the most pressing environmental concerns evident from the dramatic increase in online Food Delivery is the sheer volume of plastic waste generated and how to deal with it. The effectiveness in which different countries are dealing with the plastic waste generated by online

Food Delivery is dependent on how well developed their recycling infrastructure is and the speed at which online FD has grown.



7.3 Addressing Ethics and Ethical Issues

Ethics are a set of standards governing the conduct of members of a profession. Ethics establish basic values for responsible actions and practices within a professional community. Although there may be no punishment for violating ethical standards, some practices (such as spamming and sending viruses) are being written or will be written into law.

The generally agreed-upon ethical standards for Web professionals have developed from years of experience, and many have been inherited from other professions. Examples of ethical behavior for Web professionals include the following:

- Do not send unsolicited bulk e-mail, or spam.
- Do not buy domain names that you do not intend to use (a practice also known as domain squatting or cyber-squatting).
- Do not knowingly spread malicious program code such as viruses or worms.
- Do not pass along chain e-mail messages, especially those that imply threats.
- Be honest with your customers, and do not overcharge for technical services that they may not understand.

Chapter 8

8 Future Work & Conclusion

8.1 Future Works

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

- Customize orders: Allow customers to customize food orders
- Enhance User Interface by adding more user interactive features. Provide Deals and promotional Offer details to home page. Provide Recipes of the Week/Day to Home Page
- Payment Options: Add different payment options such as Bkash, Cash, Gift Cards etc. Allow to save payment details for future use.
- Allow to process an order as a Guest
- Delivery Options: Add delivery option
- Order Process Estimate: Provide customer a visual graphical order status bar
- Order Status: Show only Active orders to Restaurant Employees.
- Order Ready notification: Send an Order Ready notification to the customer
- Restaurant Locator: Allow to find and choose a nearby restaurant
- Integrate with in store touch screen devices like iPad

8.2 Limitations

- Application won't be able to send some notification about any report or any delivery system to owner or customer.
- Application will required the java, MySQL and three different system which should be connected to one network for using application to its full functionality.
- User won't able to change the skin or any functionality of application.
- User can only get the reports in some formats only

9 Conclusion

Web development is one of the most challenging and satisfying jobs in the IT industry. This industry is gradually increasing. Nowadays in Bangladesh, it has a very high demand in every sector as more and more advanced devices are adding to the private/government companies.

When I started working as an Intern I had some basic idea but the professional sector is completely unique and different. I also had no clue where to start. It's all about dedication and passion so I start asking questions to the senior, sat beside them to see what they are doing by this I have come to learn and know new unknown things.

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