



# **Independent University, Bangladesh**

An undergraduate internship report submitted by

Mehedi Hasan Shihab(Student ID: 1631291)

In consideration of the partial fulfillment of the requirements for the degree of  
**BACHELOR OF SCIENCE**

in

**Computer Science and Engineering**

Department of Computer Science and Engineering

Spring 2021



Website development of “ Above & Beyond Cleaning “  
at Dingi Technologies limited

An undergraduate internship report submitted by

Mehedi Hasan Shihab

has been approved on --/--/--.

Romasa Qasim

Internship Supervisor & Lecturer

Department of Computer Science and Engineering School of Engineering &  
Computer Science Independent University, Bangladesh



## Attestation

I certify that this report is my own work, based on my personal work by me during my Internship. And that I have acknowledged all material and sources used in this report.

I also certify that this report has not previously been submitted for assessment in any other unit and that I have not plagiarized the work of other students or persons. However, following the internationally accepted academic guideline of using other's written work and/or software (in the form of code) in my University project is properly cited if used in any part of this work.

-----  
Signature:

-----  
Date:

-----  
Name:



## Acknowledgements

First and foremost, I desire to express my deepest sense of gratitude to Almighty Allah, it is because of His mercy and blessing that I have come so far. It has been a great privilege to work for Dingi Technologies limited as an Intern. I have received so much support and encouragement from the individuals of Dingi Technologies limited who have years of experience in Website, Mobile application and Software Development. I would like to thank the members of Dingi Technologies limited for spending their valuable time and knowledge which was essential for the completion of this report.

I express my gratefulness to my internal supervisor, Romasa Qasim, Lecturer, Department of Computer Science and Engineering, Independent University, Bangladesh (IUB) and my external supervisor Anick Saha, Tasfiqul Gani and Kamrul Islam, Software Engineer, Dingi Tech, for there invaluable instructions, continuous guidance, support and motivation during my internship period and preparation of this report.

My gratitude also extends to all other employees of Dingi Tech who helped me learn so much in my own skill development process and made me fit right in the environment. Many many Thanks to the co-developers of this project effort and expert skills.

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

Mehedi Hasan Shihab

May, 2021



# Letter of Transmittal

3rd May 2021 Romasa Qasim,

Department of Computer Science and Engineering, Independent University,  
Bangladesh

Subject: Letter of Submission for Internship Report, Spring 2021

Dear Ma'am,

This is to inform that with due honor and respect, I, Mehedi Hasan Shihab (ID: 1631291) from Internship Course of Spring 2021 Semester, Section 7, would like to submit my Internship report. This report is based on my internship program and the project I have worked on. My internship was conducted from 1st February 2021 to 31st April 2021 and it has been completed at Dingi Technologies limited.

This report is based on my experience and the work I did at Dingi Technologies limited during my internship program. The primary goal for my internship was to gain experience from working in the software engineering industry and familiarize myself with all the different technology related fields of the company, including research and development, documentation, software development and to get acquainted with software development processes and practices.

Over the period of my internship at Dingi Technologies limited, I had to learn and adapt to the evolving technologies being used in different situations and requirements and to be able to apply them in real life projects. I hope the following report can achieve your approval and is adequate.

Sincerely,

-----  
Mehedi Hasan Shihab

Email: [Shihab.hasan543@gmail.com](mailto:Shihab.hasan543@gmail.com)



## Evaluation Committee

**Signature:** .....

**Name:** .....

**Supervisor:** .....

**Signature:** .....

**Name:** .....

**Internal Supervisor:** .....

**Signature:** .....

**Name:** .....

**External Supervisor:** .....

**Signature:** .....

**Name:** .....

**Convener:** .....



## Abstract

With the growing of corona virus people are getting afraid of germs and virus.

People are getting effected by covid 19, spreading germs in office, home party center, and so many places as well. So it's a highly chance to get positive by covide 19.

In this case we (our company) had a great chance to create a website for a cleaning company which is called "Above & Beyond". They clean office, home, party center and others places. So this company needed a website of there own and luckily for us they wanted us to create this website for them. People can hire them or can contact with them by this website. Also now days every company trying to built there own website because everything is moving on online platform.

To create this website a certain group of developers at Dingi tech; including myself have working on this project. About this website will be discussed in detail in this report. Company Profile of Dingi technologies limited will also be addressed.



## **Table of Contents**

**Attestation**

**Acknowledgements**

**Letter of Transmittal**

**Evaluation Committee**

**Abstract**

**Chapter 1 Introduction -----**

Background

Objectives

Scope of the Project Company Background Mission Vision and Values

Company Department

Product and Services

Operation Details

Clients of the Company

Address and Contact Information

**Chapter 2 Literature Review -----**

Project relation to under graduation courses

Related Works

**Chapter 3 Project Managements and Financing -----**

Work breakdown Structure

Process Activity wise Time Distribution Gantt Chart

Process Activity wise Resource Allocation

Estimated Costing

**Chapter 4 Methodology -----**

Software Methodology and Management

Extreme Programming Methodology

Extreme Programming Advantages

Website Development

Back End Development

Development Tools Used Html5, Css3, JavaScript, Php, MySQL, Git





# **Table of Contents**

## **Chapter 5 Project Body**

Description of the Project System Analysis

Six Elements Analysis Feasibility Analysis

Problem Solution Analysis System Design Architecture of the System Client

Server Architecture Entity Relationship Diagram Use Case Diagram Rich

Picture Requirements Functional Requirements

Non Functional Requirements

## **Chapter 6 Result & Analysis**

## **Chapter 7 Project as Engineering Problem Analysis**

Sustainability of the Project/Wise

Social and Environmental Effects and Analysis

Ethics and Ethical Issues

## **Chapter 8 Future Work and Conclusion**



# Chapter 1: Introduction



## Background

With the growing of corona virus people are getting afraid of germs and virus.

People are getting effected by covid 19, spreading germs in office, home party center, and so many places as well. So it's a highly chance to get positive by covide 19.

Above & Beyond is a cleaning service company which clean office, party center, home and many other places if they needed. Because of this corona virus people are afraid of this germs and virus. Above & Beyond team will clean your property as smooth as possible.

Now days people are moving towards to internet and we getting know things from internet very much. For that Above & Beyond decided to upgrade themselves to joining internet market like creating their own website.

In this website anyone can contact with them. If people need to hire them, they can hire them by this website. This website will work as a marketing sector as well. People can see what kind of working they are doing on real world and get to know them very well.



## Objectives

- **User friendly:** this website will be user friendly. Customers can easily see what kind of service this company provides on.
- **Can see the work:** Customer can select there works in this website to see what did they done before. They can see the review of previous customers.
- **Contact:** Customer's can contact with the company by this website.
- **Book for cleaning:** Customers also can book for cleaning service from this website. They can select which type of cleaning types they want.

## Scope of the Project

Features available to the user after the development of this Above & Beyond :

- ❖ Landing page screen.
- ❖ Photos gallery screen.
- ❖ Videos gallery screen.
- ❖ Contact page.
- ❖ Blog page.
- ❖ Service page.
- ❖ Help line page.

## Company Profile



### Dingi Technologies Limited

Dingi Technologies Limited is a location-intelligence based service company focused on providing location aware services with enriched experience of service through enhanced map, intuitive applications, business friendly APIs and localized specialization through state- of-the- art artificial intelligence techniques. “Stay Smart, On the GO” – is our tag line. We want our customer to be more aware, safer and efficient when they are using our services. We don’t only talk about IoT and AI; we are gearing up as the most able AI based IoT solution provider in Bangladesh.

#### Clients



## **Background of the Company:**

Dingi Tech is a software and hardware company. It was founded in the year of 2017. Dingi Tech is comprised of a small team of software craftsmen who learn, collaborate, and innovate together. They host regular live events (workshops, meetups & talks) that are geared towards sharing with the local community. Dingi Tech is all about the dream to provide the best web solutions and create a unique user experience. Each completed project makes us more hungry, hungry for designs, more and at least some more twinkles.

Also Dingi tech owns some business like FollowR and Daily plus.

FollowR is a tracking device and Daily Plus is a grocery e-commerce platform.

## **Mission, Vision and Values:**

The company was set up with the intention to produce high quality software products by training software engineers who can contribute locally and internationally. To engage local developer communities and encourage a culture of knowledge skill transfer. Dingi Tech offers mentorship and internship programs besides hosting regular workshops and tech sessions.

## **Company Departments:**

Dingi Tech maintains a flat organizational structure. Teams and responsibilities are generally formed and assigned around the nature and requirements of specific projects.



## **Product and Services:**

**Web Application Development:** Full stack JavaScript web application development and hosting

**Mobile Application Development:** Hybrid mobile application development for Android/iOS

**Event Hosting:** Host events aimed at sharing with the local community

## **Operation Details:**

The nature of work conducted at Dingi Tech is research and development focused, using both cutting-edge and proven technologies as required for a given project. The Dingi Tech team works on a range of projects which include tracking device service which working with GP and also e-commerce website Daily-Plus.



## **Address and Contact Information:**

**Address:** Floor 4, Wakil Tower, Ta 131  
Gulshan Badda Link Road  
Dhaka 1212  
Bangladesh.

## **Contact:**

[contact@dingi.live](mailto:contact@dingi.live)

+8809606500801





# Chapter 2: Literature Review



## Project relation to Undergraduate Courses

Knowledge and skills gained from undergraduate courses have helped in the development of “Above & Beyond” project. It would have proven more difficult if these courses were not covered before working on this project. Some of the courses are:

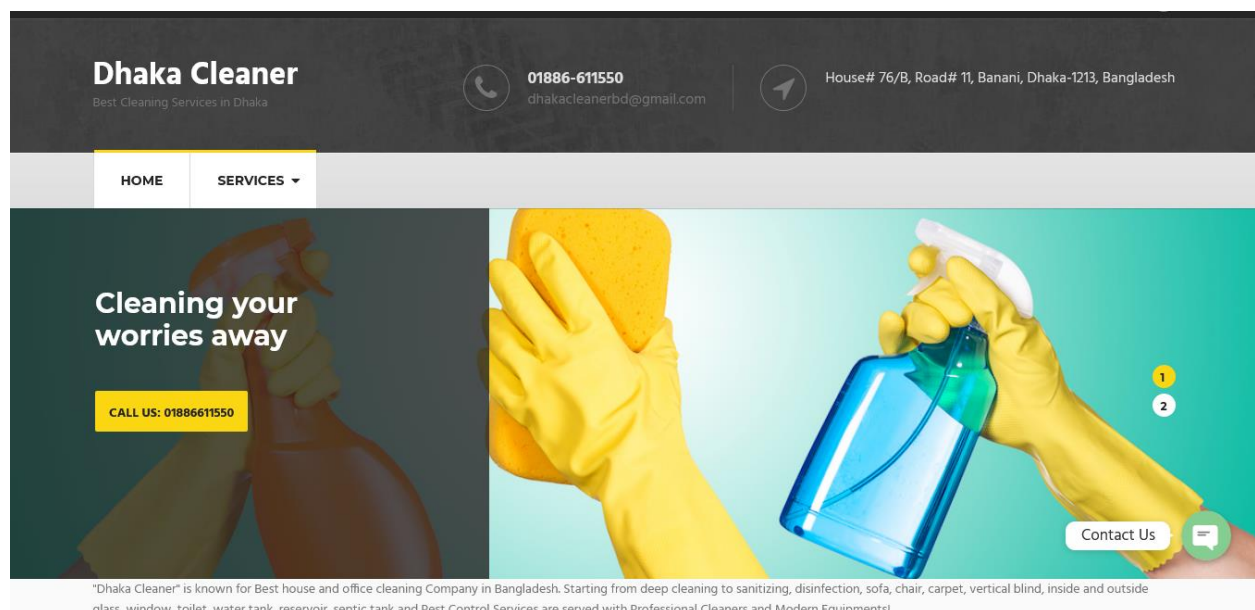
- **CSE 203 Data Structure:** This course was about teaching how to handle and manipulate complex arrays, objects, classes, array of objects, objects of array, nested arrays, nested objects, etc. As “Above & Beyond” involves many complex data structures, the skills gained from this course made handling them much easier.
- **CSE 213 Object-Oriented Programming:** This course is a deep dive into classes and its objects of programming. It also taught how to write modular programs which made codes less repetitive and more reusable. It helped to design “Above & Beyond” code in a modular format. Also, as the application grew bigger, this practice helped avoid writing new modules from scratch by using parts of old modules and adding new functions to them.
- **CSE 303: Database Management:** This was the first course which taught how to design and plan a project. It covered popular planning and strategy practices such as System Development Life Cycle, Rich Picture, Requirement Analysis, Entity Relationship Diagram, Business Process Model and Notation Diagram and many more. These techniques helped in the development planning and strategy of “Above & Beyond!” and also they helped in writing this report.



● **CSE 309: Web Applications and Internet:** This is the course where the development of web applications was taught. It covered very important technologies that are highly in demand in the industry, such as HTML, CSS, JavaScript, jQuery, View Engines (Handlebars and embedded JavaScript), PHP MySQL. The tools and technologies learned from this course immensely contributed to the development of “Above & Beyond” as it is a mobile application built with similar web technologies and it has a backend server which had to be deployed to the cloud server as well.

## Related Works

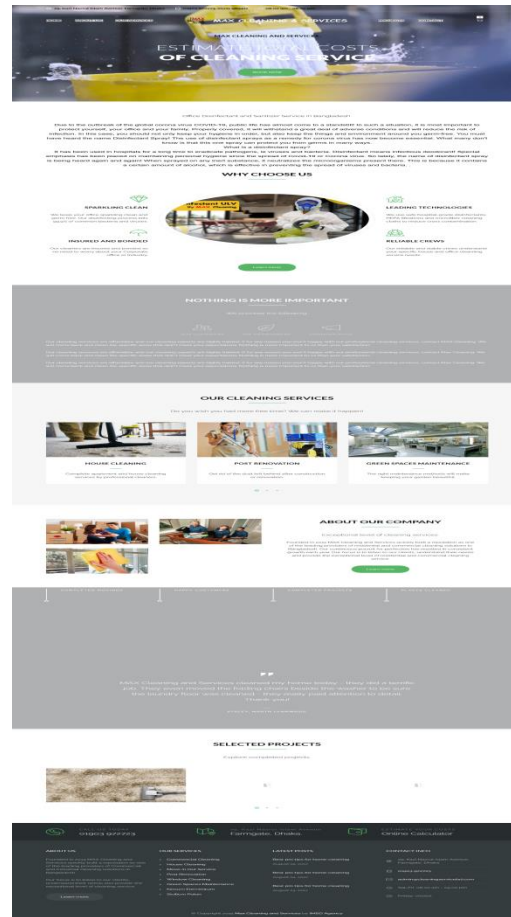
### Dhaka Cleaner:



**Figure 2.1:** UI screenshot of Dhaka Cleaner website.

Dhaka cleaner website is a online platform where they can keep connect with their customer by internet. Customer can book online. Same as our website "Above & Beyond". This both company are doing same job.

## Max Cleaning & Services:



**Figure 2.2:** UI screen shot of Max Cleaning & Services.

“Max Cleaning & Services” also a cleaning website like “Above & Beyond”. This is a Bangladeshi company. They also work for office, party center house and many other places.

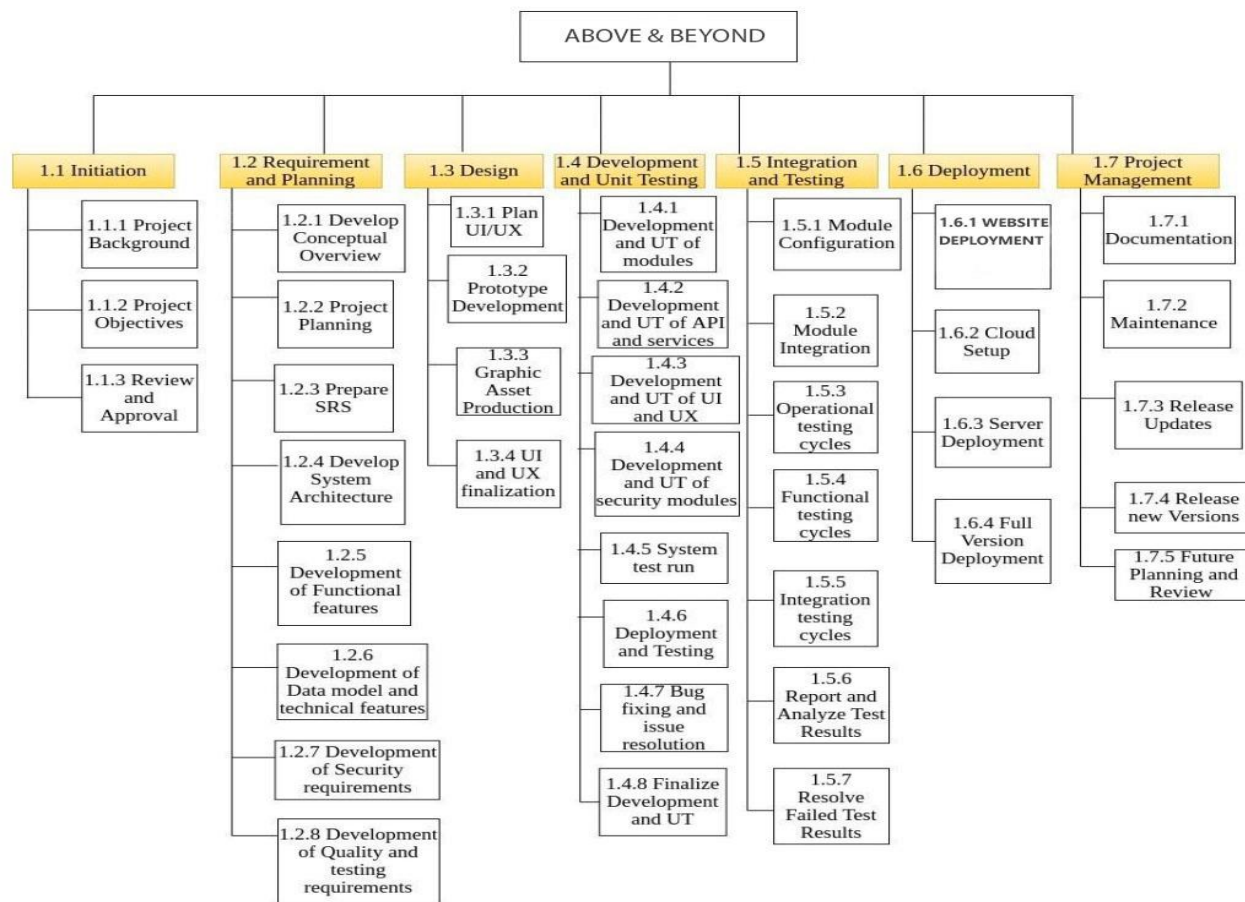


# **Chapter 3: Project Management and Financing**

## Work breakdown Structure

The WBS is a method for getting a complex, multi-step project done. It is a way to divide and conquer large projects, so things are done faster and more efficiently.

Work breakdown structure (WBS) is a hierarchical tree structure that outlines a project and breaks it down into smaller portions. The goal of a WBS is to make a large project more manageable. Breaking it down into smaller chunks means work can be done simultaneously by different team members which leads to better team productivity. Below is the WBS of “Above & Beyond”



**Figure 3.1:** Work breakdown Structure of “Above & Beyond”



## Time Distribution Table

Work Breakdown Structure is collected where all the activities are included. We attempted to total these works in a time outline. Along working with a group extend, overseeing the time and working nearby with group individuals time planning. This entire work is isolated among the venture group. To preserve this workflow conveyance time is assessed is nearly 9 days for the project.

| Serial | Activity            | Days | Work Percentage |
|--------|---------------------|------|-----------------|
| 1      | Project Manager     | 7    | 10%             |
| 2      | UI/X Designer       | 7    | 10%             |
| 3      | Front End Developer | 28   | 30%             |
| 4      | Back End Developer  | 33   | 30%             |
| 5      | Testing Process     | 10   | 5%              |
| 6      | Result and Analysis | 7    | 5%              |
| 7      | Deployment          | 5    | 10%             |
|        | Total               | 97   | 100%            |

**Table 3.1:**Time Distribution Table

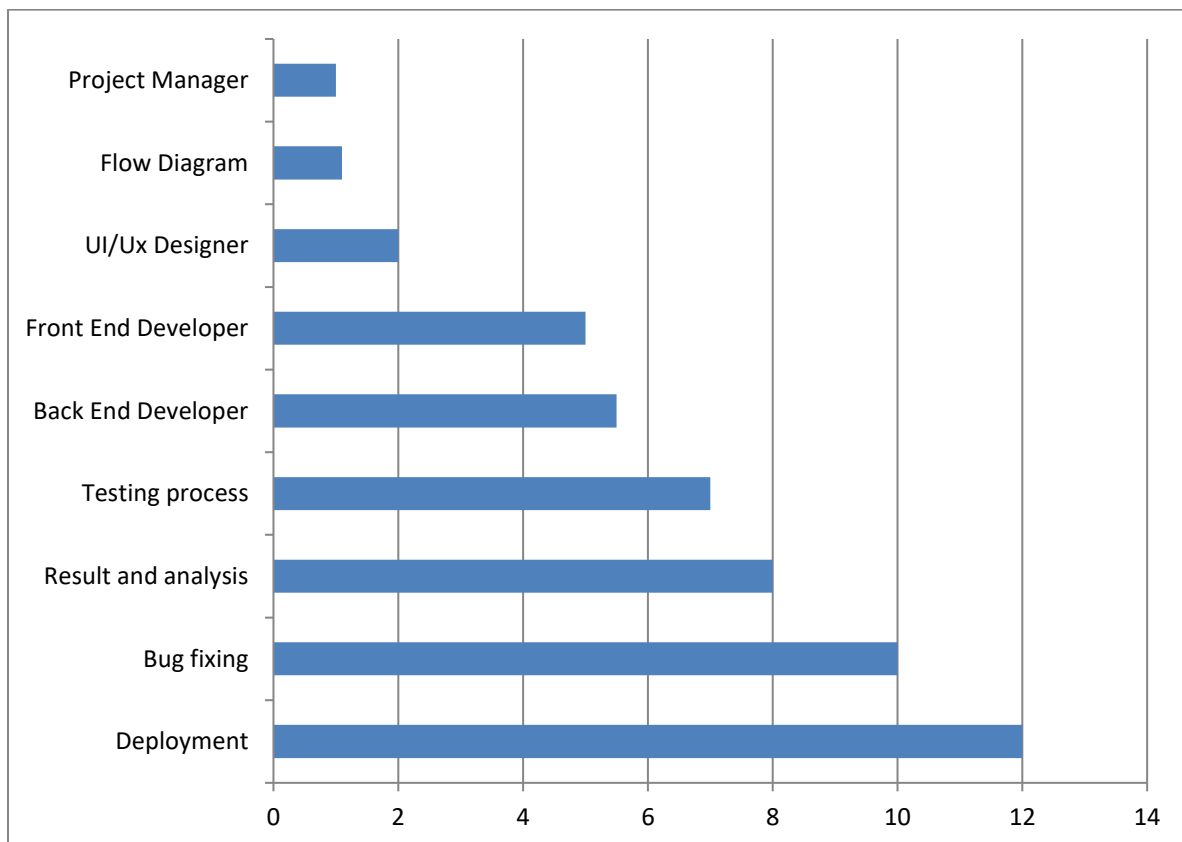


## Gantt chart

A Gantt chart has been produced to help plan and schedule project tasks. It helped assess how long the project should take, determine the resources needed and plan the order in which tasks will be completed. It also helped in managing the dependencies between tasks.

The Gantt chart was also useful for monitoring the project's progress once it has started. It helped in having a clearer vision of what should have been achieved by a certain time frame and when the project fell behind schedule; appropriate actions were taken to bring it back to course.

Below is the produced Gantt chart for “Above & Beyond”.



**Figure 3.2:** Gantt Chart of “Above & Beyond”

## Estimated Cost

The starting Evaluated Costing was around nearly 99,000 BDT. This is the approximate cost of the project. It can be expanded on the changes in the website and keeps up fetched.

| Serial | Activity            | Days | Costing    |
|--------|---------------------|------|------------|
| 1      | Project Manager     | 7    | 15,000 BDT |
| 2      | UI/X Designer       | 7    | 25,000 BDT |
| 3      | Front End Developer | 28   | 15,000 BDT |
| 4      | Back End Developer  | 33   | 15,000 BDT |
| 5      | Testing Process     | 10   | 12,500 BDT |
| 6      | Result and Analysis | 7    | 7,500 BDT  |
| 7      | Deployment          | 5    | 9,000 BDT  |
|        | Total               | 97   | 99,000 BDT |

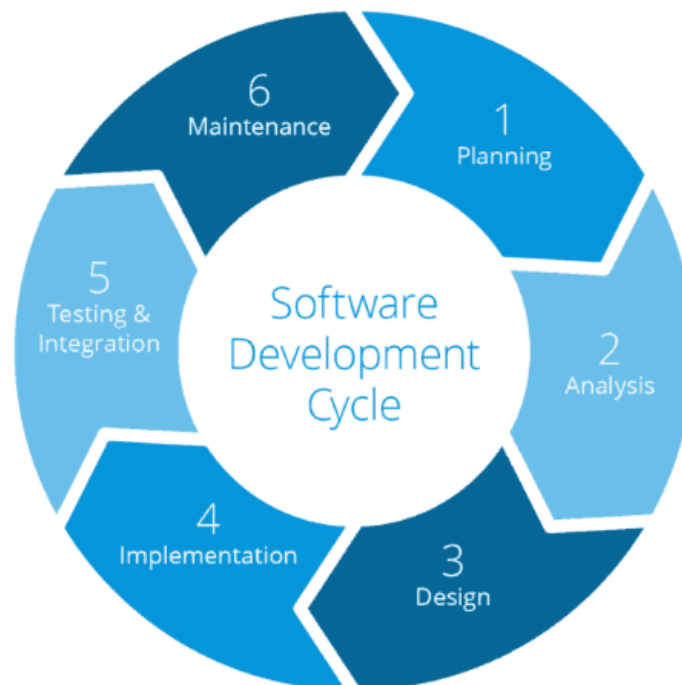
**Table 3.2:** Estimation Cost of the Project



# Chapter 4: Methodology

## Software Development Methodology

In software engineering or computer programming, a software development process is the process of dividing software development work into distinct phases to improve design, product management and project management. It is also known as a system development life cycle (SDLC). We can characterize SDLC as a framework or structure that describes the activities performed at each stage of a System Development Project. So, it has some basic stages to be followed during the development phase.



**Figure 4.1:** Software Development Life Cycle (SDLC)



The methodology may include the pre-definition of specific deliverables and artifacts that are created and completed by the project team to develop or maintain an application. Fundamentally, programming or framework advancement approach is a system that is utilized to structure, plan, and control the way toward building up a data framework. There are several system development methodologies or models that are used in developments; among them, some of the most used are given below:

- Waterfall Model
- Prototyping
- Agile
- Spiral Model
- Rapid Application Development
- V-Model
- Incremental
- Evolutionary Model

## Extreme Programming (XP) Methodology

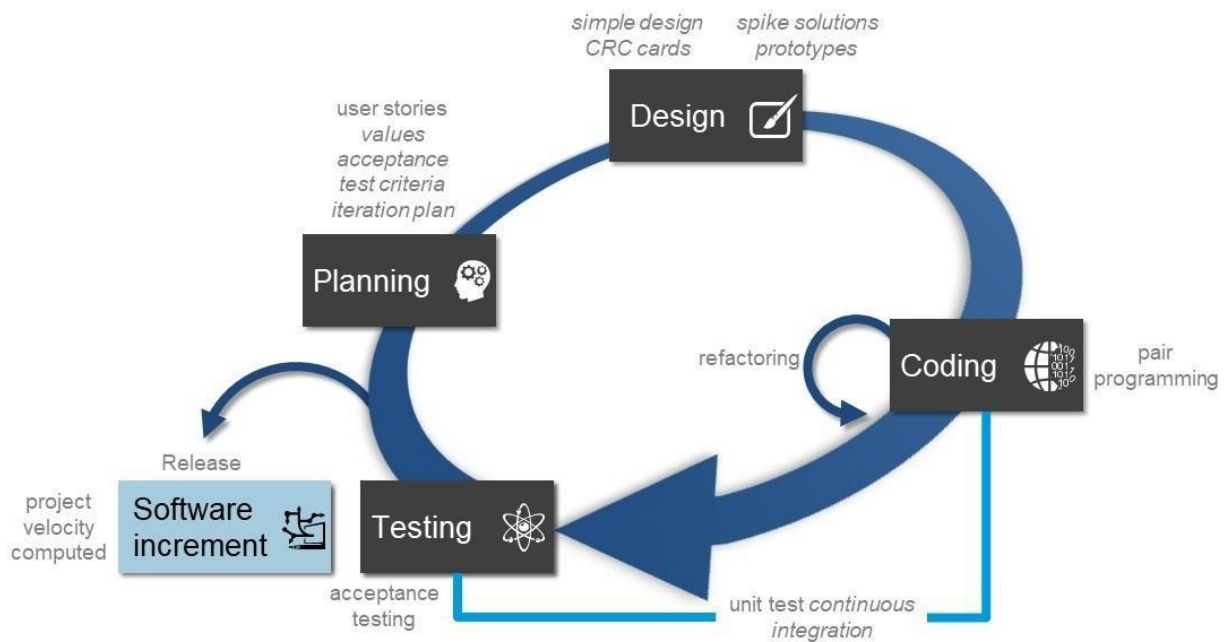
For methods, the developers of Dingi Tech follow the most current methods of system development methodologies, that is the React method. To be more specific, we follow the Extreme Programming (XP) method which is a React software development framework that aims to produce higher quality software, and higher quality of life for the development team. XP is the most specific of the react frame works regarding appropriate engineering practices for software development. The teams are expected to be self-organized, hence Extreme Programming provides specific corepr actices where each practiceis simple and self-complete & combination of practices produces more complex and emergent behavior.

The five values of XP are communication, simplicity, feedback, courage, and respect:

- **Communication:** XP stresses the significance of the proper sort of correspondence through group gatherings, team meetings and conversations.
- **Simplicity:** do only absolutely necessary things such as keep the design of the system as simple as possible so that it is easier to maintain, support, and revise.
- **Feedback:** Through constant feedback about their previous efforts, teams can identify areas for improvement and revise their practices. It also supports simple design.
- **Courage:** raise issues that are hampering workflow, stop doing something that does not work and try something else, accept and act on unpleasant feedback, etc.

- **Respect:** members of the team need to respect each other in order to communicate with each other, provide and accept feedback and to work together to identify simple designs and solutions.

## XP Workflow



**Figure 4.2:** Extreme programming Methodology

## Extreme Programming Advantages

Extreme Programming solves the following problems often faced in the software development projects:

- **Slipped Schedule:** ensure timely deliveries.
- **Cancelled projects:** focus on continuous customer involvement ensures transparency with the customer and immediate resolution of any issues.
- **Costs incurred in changes:** extensive and ongoing testing makes sure the changes do not break the existing functionality. A running working system always ensures sufficient time for accommodating changes such that the current operations are not affected.
- **Production and post-delivery defects:** emphasis is on the unit tests to detect and fix the defects early.
- **Misunderstanding the business and/or domain:** making the customer a part of the team ensures constant communication and clarifications.
- **Business changes:** changes are considered to be inevitable and are accommodated at any point of time.
- **Staff turnover:** intensive team collaboration ensures enthusiasm and good will. Cohesion of multi-disciplines fosters the team spirit.



## Website Development

Website development is the building and maintenance of websites; it's the work that happens behind the scenes to make a website look great, work fast and perform well with a seamless user experience.

Web developers, or 'devs', do this by using a variety of coding languages. The languages they use depends on the types of tasks they are performing and the platforms on which they are working.

Web development skills are in high demand worldwide and well paid too – making development a great career option. It is one of the easiest accessible higher paid fields as you do not need a traditional university degree to become qualified.

The field of web development is generally broken down into front-end (the user-facing side) and back-end (the server side).

## Comparing Front-End and Back-End Development

**A front-end dev takes care of layout, design and interactivity** using HTML, CSS and JavaScript. They take an idea from the drawing board and turn it into reality.

What you see and what you use, such as the visual aspect of the website, the drop down menus and the text, are all brought together by the front-end dev, who writes a series of programmes to bind and structure the elements, make them look good and add interactivity. These programmes are run through a browser.



**The backend developer engineers what is going on behind the scenes.** This is where the data is stored, and without this data, there would be no frontend. The backend of the web consists of the server that hosts the website, an application for running it and a database to contain the data.

The backend dev uses computer programmes to ensure that the server, the application and the database run smoothly together. This type of dev need to analyse what a company's needs are and provide efficient programming solutions. To do all this amazing stuff they use a variety of server-side languages, like PHP, Ruby, Python and Java.

## Development Tools Used

In the development of the website, “Above & Beyond” several modern development tools were used.

### HTML 5:



**Figure 4.3:** HTML 5 logo

HTML5 is the latest version of Hypertext Markup Language, the code that describes web pages. It's actually three kinds of code: HTML, which provides the structure.

HTML5 can be used to write web applications that still work when you're not connected to the net; to tell websites where you are physically located; to handle high definition video; and to deliver extraordinary graphics.

### **CSS 3:**



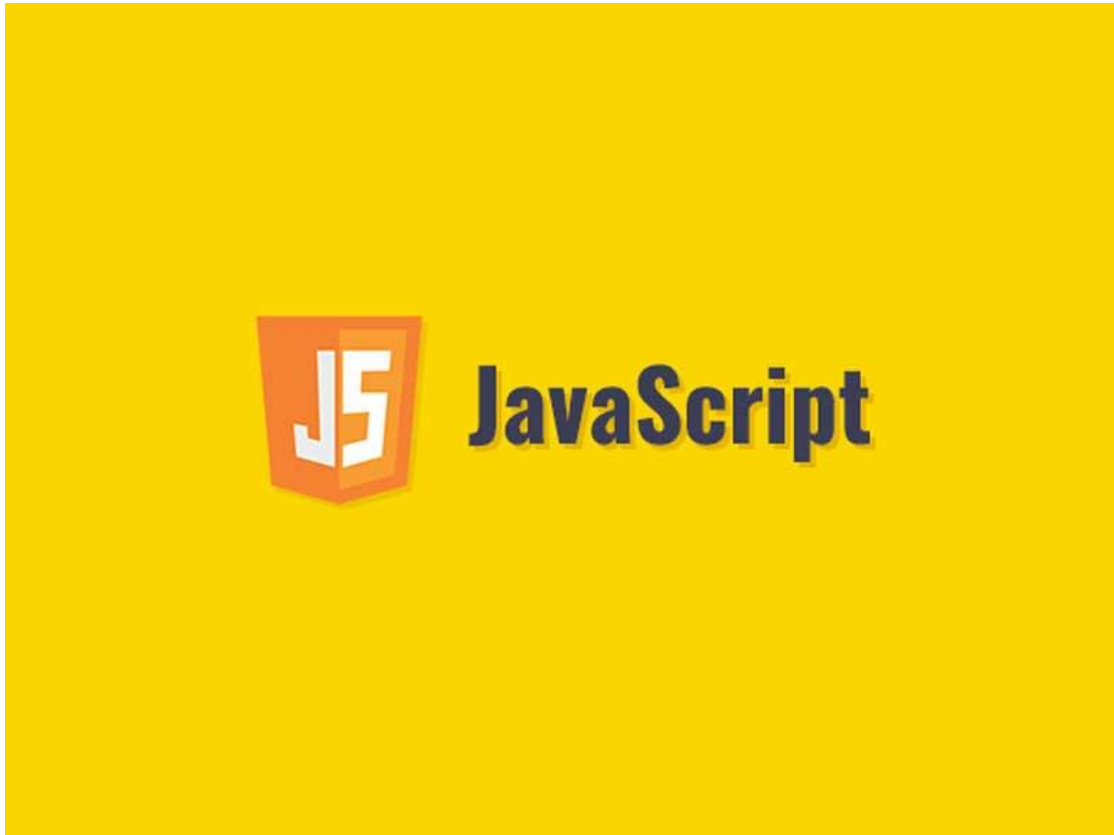
**Figure 4.4:** Css 3 logo.

**CSS3** is the latest evolution of the Cascading Style Sheets language and aims at extending CSS2. 1. It brings a lot of new features and additions, like rounded corners, shadows, gradients, transitions or animations, as well as new layouts like multi-columns, flexible box or grid layouts.

**CSS3** is **used** with HTML to create and format content structure. It is responsible for colours, font properties, text alignments, background images, graphics, tables, etc. It

provides the positioning of various elements with the values being fixed, absolute, and relative.

### **JavaScript:**



**Figure 4.5:** JavaScript logo.

JavaScript is a scripting or programming language that allows you to implement complex features on web pages — every time a web page does more than just sit there and display static information for you to look at — displaying timely content updates, interactive maps, animated 2D/3D graphics, scrolling video jukeboxes, etc. — you can bet that JavaScript is probably involved. It is the third layer of the layer cake of standard web technologies, two of which (HTML and CSS) we have covered in much more detail in other parts of the Learning Area.

- HTML is the markup language that we use to structure and give meaning to our web content, for example defining paragraphs, headings, and data tables, or embedding images and videos in the page.
- CSS is a language of style rules that we use to apply styling to our HTML content, for example setting background colors and fonts, and laying out our content in multiple columns.
- JavaScript is a scripting language that enables you to create dynamically updating content, control multimedia, animate images, and pretty much everything else. (Okay, not everything, but it is amazing what you can achieve with a few lines of JavaScript code.)

## PHP:



**Figure 4.6:** Php logo.

PHP is a server side scripting language. that is used to develop Static websites or Dynamic websites or Web applications. PHP stands for Hypertext Pre-processor, that earlier stood for Personal Home Pages. PHP scripts can only be interpreted on a server that has PHP installed.

PHP is a recursive acronym for "PHP: Hypertext Preprocessor". PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites.

## **My SQL:**



**Figure 4.7:** MySQL logo.

MySQL is an Oracle-backed open source relational database management system (RDBMS) based on Structured Query Language (SQL). MySQL runs on virtually all platforms, including Linux, UNIX and Windows.

MySQL is a relational database management system based on SQL – Structured Query Language. The application is used for a wide range of purposes, including data warehousing, e-commerce, and logging applications. The most common use for mySQL however, is for the purpose of a web database.

## Git:



**Figure 4.8:** Git Logo

Git is a free, open-source distributed version control system. It is used for tracking changes in source code during software development. It is designed for coordinating work among programmers, but it can be used to track changes in any set of files. Its goals include speed, data integrity, and support for distributed, non-linear workflows. Version control is a system that records changes to a file, or set of files, over time so that specific versions can be recalled later.





# Chapter 5: Project Body

## Description of the Project

The website “Above & Beyond ” will start when user get into our website by connected via internet. In search engines they have to search for Above & Beyond, and so they can find our website. After getting into website user will be in landing page of our website. User can front-end design as landing page.

User can use menu bar to find out other pages as well. The website has few more section like about this company. In that section people can know about the company and gain more knowledge about the company. User can book for cleaning in booking section. All they have to give some information and rest will take care the company.

There is also a contact section where user can contact with the company for more information.

User can see company other works and also review from other customer. User can select what they want to clean as if it is house or office or party center or anything else.

They can choose best budget clean for their property.

## Systems Analysis

It is a process of collecting and interpreting facts, identifying the problems, and decomposition of a system into its components. System Analysis is conducted for the purpose of studying a system or its parts in order to identify its objectives. It is a problem-solving technique that improves the system and ensures that all the components of the system work efficiently to accomplish their purpose. Analysis specifies what the system should do. This chapter contains parts of System Analysis that will help understand the project better.

## Six Element Analysis

| Process      | System Roles |                        |                    |             |            |                 |
|--------------|--------------|------------------------|--------------------|-------------|------------|-----------------|
|              | Human        | Non computing hardware | Computing hardware | Software    | Database   | Comm. & Network |
| Landing page | Use          | N/A                    | Web                | Html,Css,Js | Php, MySQL | WAN/LAN         |
| Services     | Use          | N/A                    | Web                | Html,Css,Js | Php, MySQL | WAN/LAN         |
| About        | Use          | N/A                    | Web                | Html,css    | N/A        | WAN/LAN         |
| Booking      | Use          | N/A                    | Web                | Html,css,js | Php, MySQL | WAN/LAN         |
| Blog         | Use          | N/A                    | Web                | Html,css,js | Php, MySQL | WAN/LAN         |
| Contact      | Use          | N/A                    | Web                | Html,css,js | Php, MySQL | WAN/LAN         |

**Table 5.1:** Six Elements Analysis of “Above & Beyond”

# Feasibility Analysis

Feasibility Study is a study to evaluate feasibility of a proposed project or system. Feasibility study is the feasibility analysis or it is a measure of the software product in terms of how much beneficial product development will be for the organization in a practical point of view. Feasibility study is carried out based on many purposes to analyze whether software products will be right in terms of development, implantation, contribution of project to the organization, etc.

Main parts of Feasibility Study :

- **Technical Feasibility:** In Technical Feasibility, current resources; both hardware and software along with required technology are analyzed/assessed to develop the project. This technical feasibility study gives a report whether there exists correct required resources and technologies which will be used for project development. Along with this, feasibility study also analyzes technical skills and capabilities of technical team, existing technology can be used or not, maintenance and up-gradation is easy or not for chosen technology, etc.

“Above & Beyond” is built using JavaScript, Php, Html, Css. These are the technologies that are very popular in the modern industry and everyone involved in the making of this project had the skills to work with at least one of the technologies mentioned. Hence, it can be concluded that the project is Technically Feasible.

- **Operational Feasibility:** In Operational Feasibility degree of providing service to requirements is analyzed along with how easy the product will be to operate and maintain after deployment. Along with these, other operational scopes are

determining usability of the product and determining whether a suggested solution by the software development team is acceptable or not etc.

Above and Beyond is a cleaning website for office, home, party center and other places. Even if a user is confused on how to use the website, they can simply refer to the “About Above & Beyond on Website” section to have a much clearer idea of how the website works; and so the project can be determined as Operationally Feasible.

## System Design

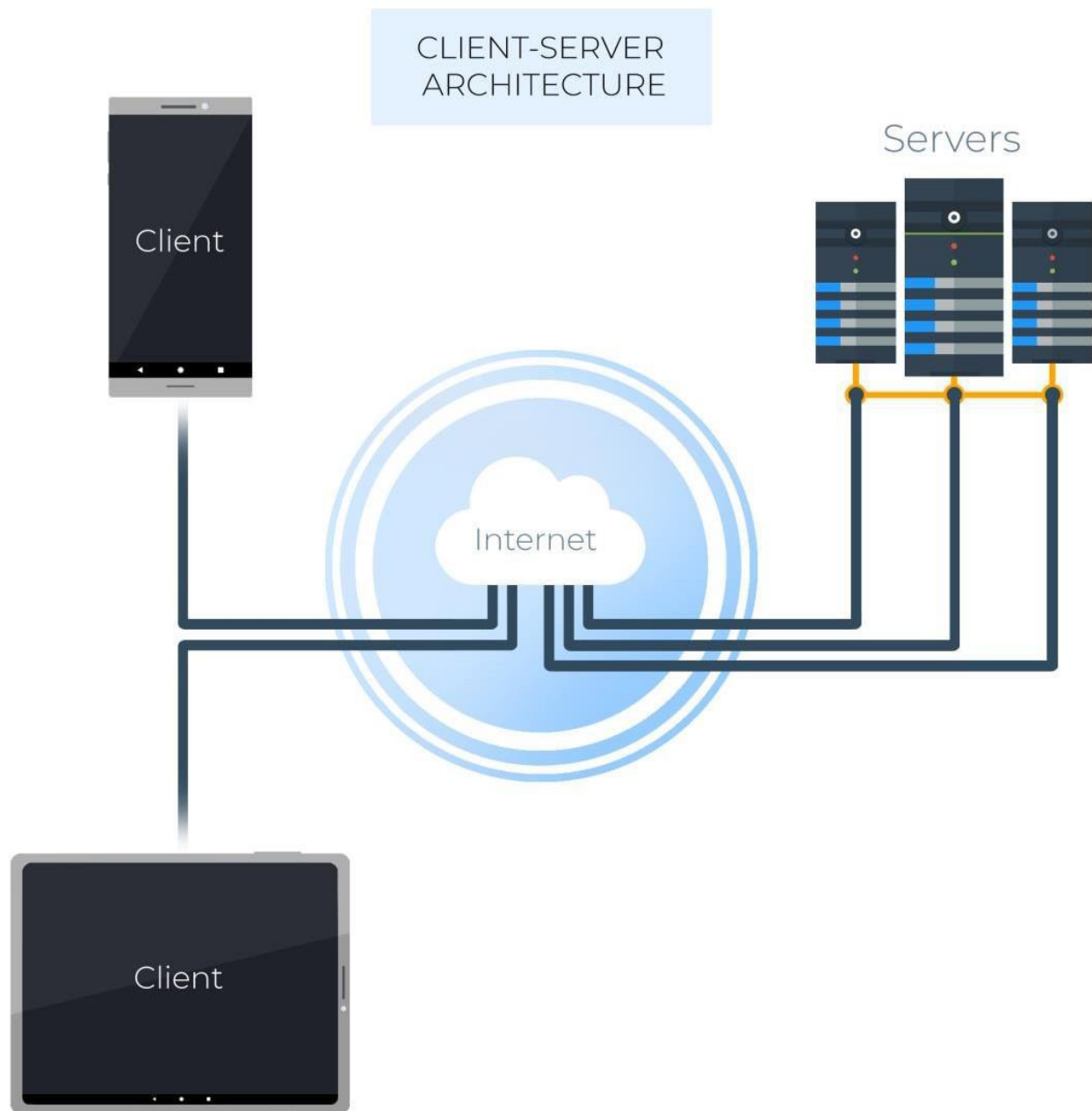
System design is deriving a solution which satisfies software or system’s requirements. We can define software design as translating requirements into software components and interactions among them. Any design may be modelled as a directed graph made up of entities with attributes which participate in relationships. Design represents the system, how it will work and how it can be assessed for quality. Design is the way to translate client’s requirements into a system or software product accurately. Software architecture provides an abstract representation of the overall structure of software. This chapter contains numerous design level diagrams to have a clearer understanding of the system and flow of data.

# Architecture of the System

Software architecture is what defines and structures a solution that meets technical and operational requirements. Software architecture optimizes attributes involving a series of decisions, such as security, performance and manageability. It describes the organization and interaction of software components. There are many types of architectures that are used among them. We are using the client server architecture for our “Above & Beyond” for customer’s safety website application system.

## Client server architecture

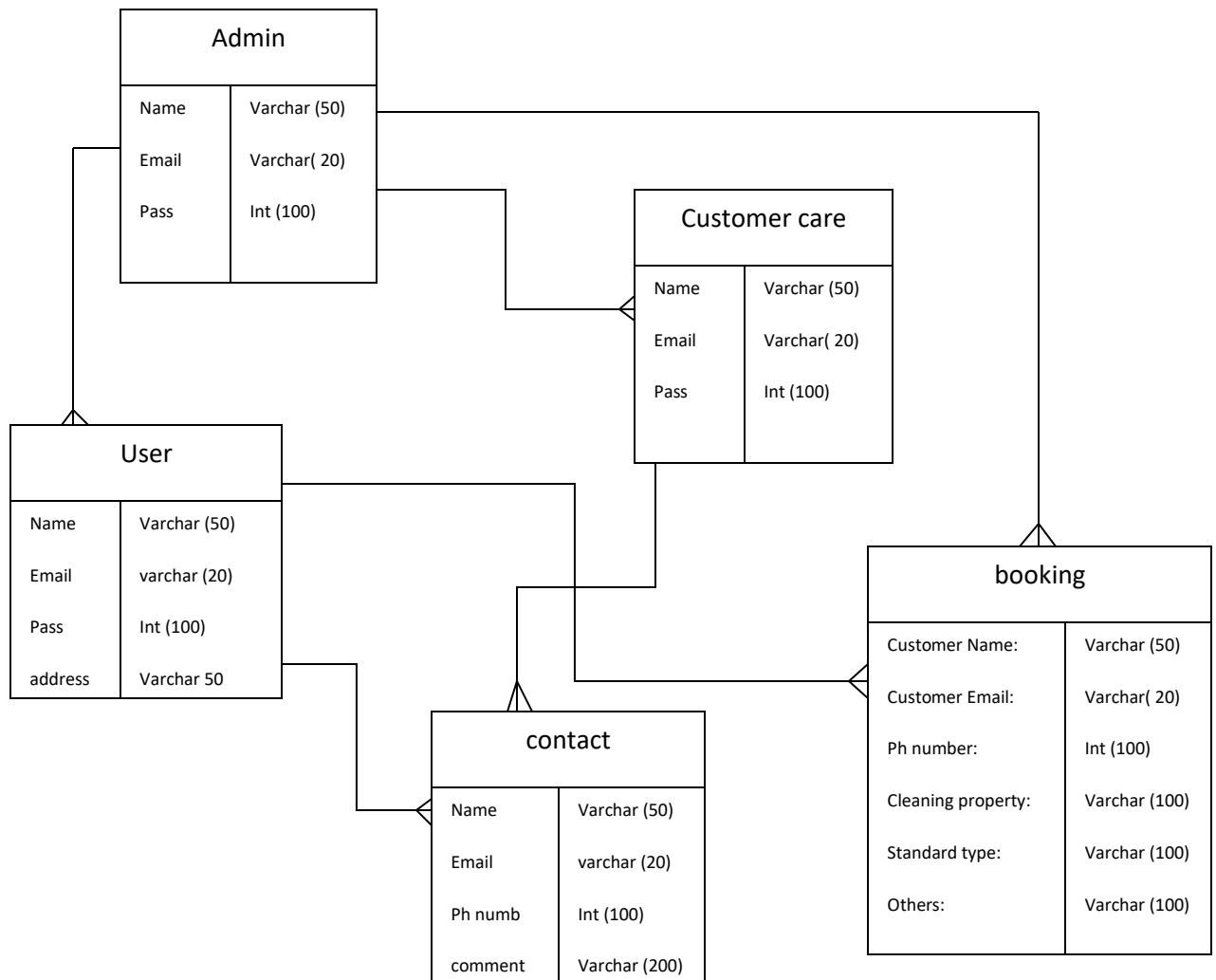
Client server architecture is one kind of distributed system architecture. Distributed systems are where the system or software runs on a loosely integrated group of cooperating processors linked by a network. It means a set of separate devices that are capable of autonomous operation, linked by a network. Client server architecture is the application that is modelled as a set of services that are provided by servers and a set of clients that use these services. In this network where many clients (remote processors) request and receive service from a centralized server. Client devices provide an interface to allow the user to request services of the server and to display the results the server returns. Servers wait for requests to arrive from clients and then respond to them.



**Figure 5.1:** Client Server Architecture

## Entity Relationship Diagram (ERD)

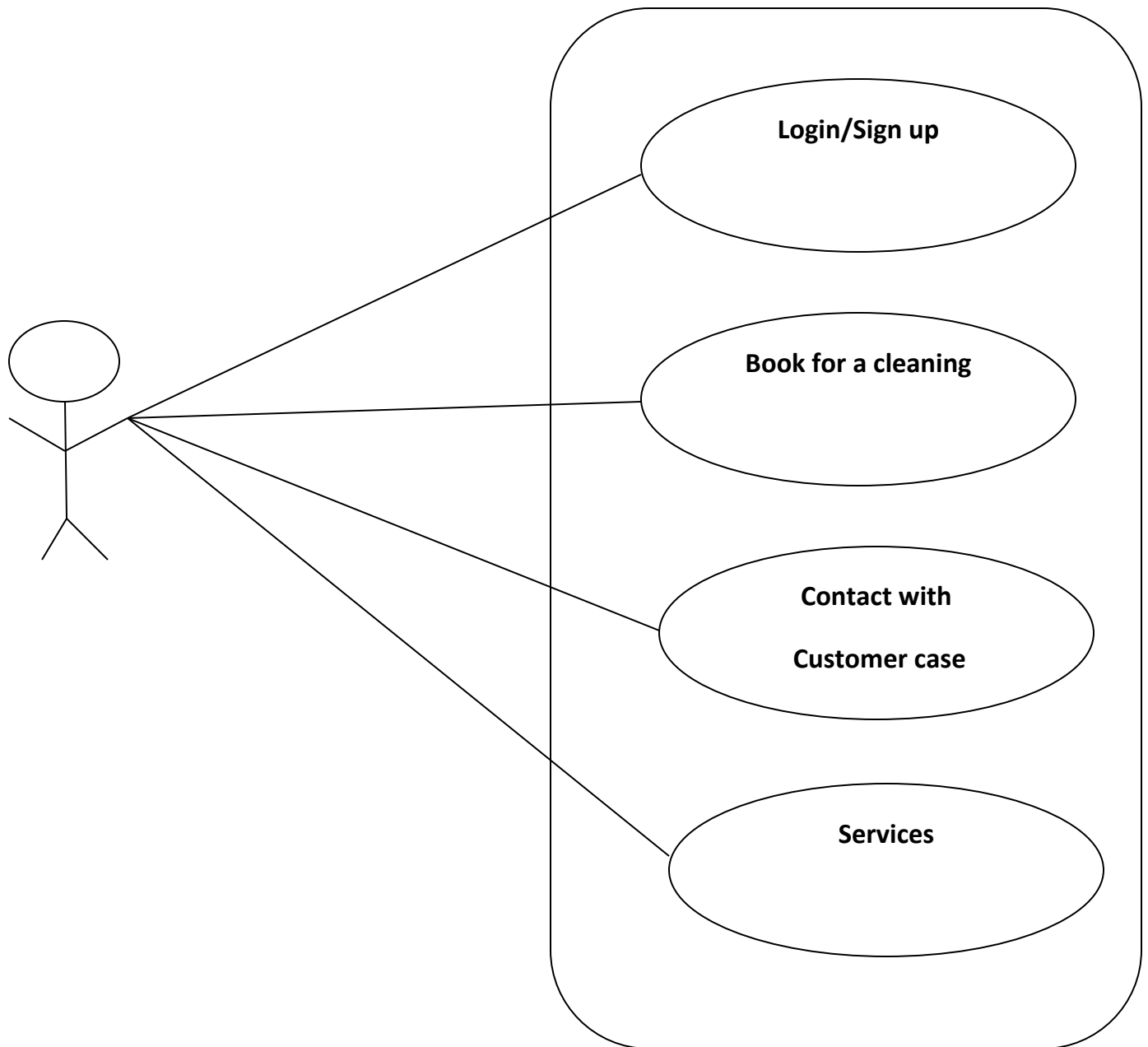
ER Diagram



**Figure 5.2:** Entity Relationship Diagram of “Above & Beyond”

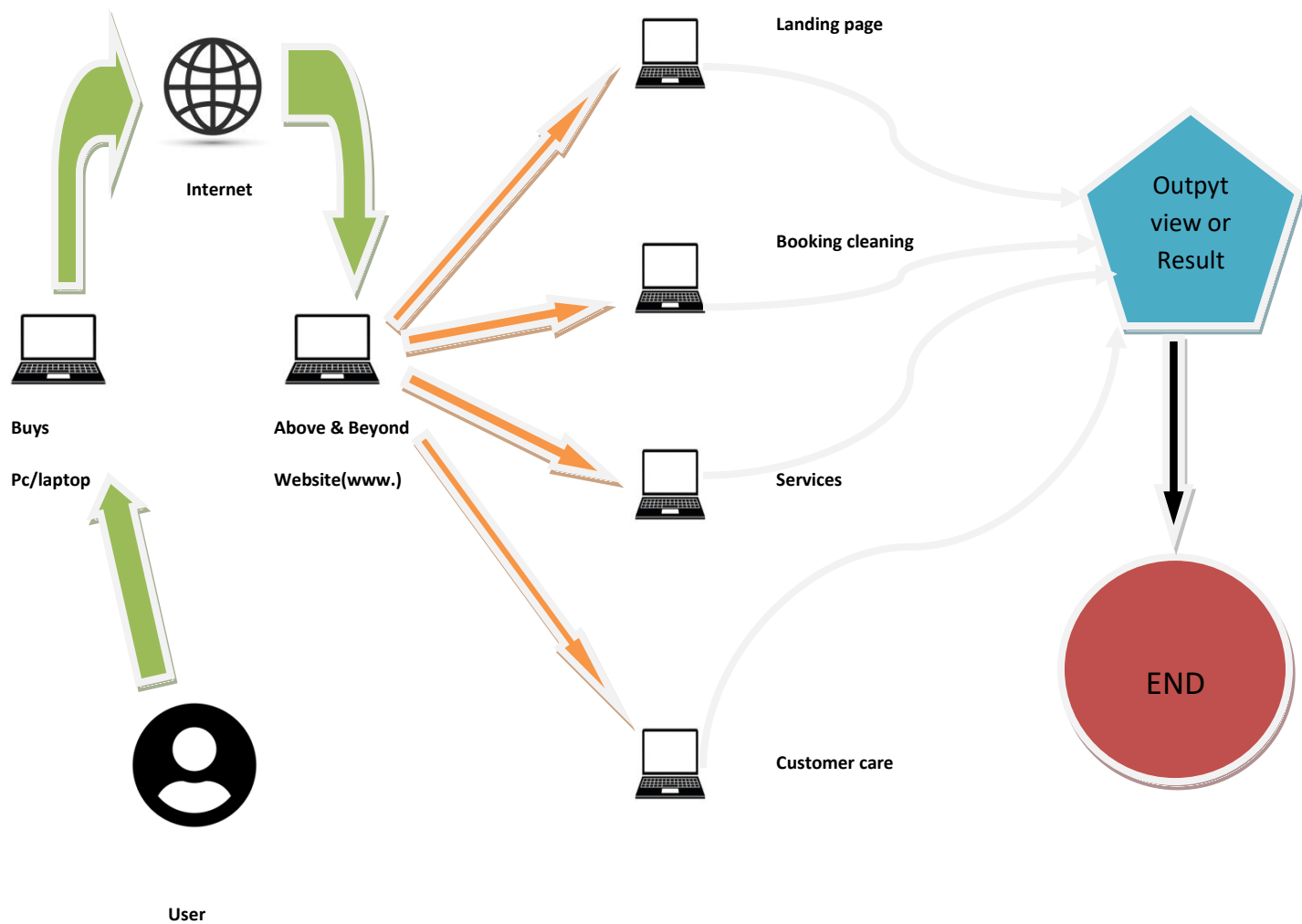


## Use Case Diagram



**Figure 5.3:** Use Case Diagram of Above & Beyond

## Rich Picture



**Figure 5.4:** Rich Picture for “Above & Beyond”

The Rich Picture illustrates how the website works. The process begins with user visit the website on their device while being connected to the internet. Then the User decides how which option they want to select. User can know about company by about us option. If user need to contact with the company then they can get into that section. They can book for a cleaning on the booking section.

## Requirements

The software requirements are descriptions of features and functionalities of the target system. Requirements convey the expectations of users from the software product. The requirements can be obvious or hidden, known or unknown, expected or unexpected from the client's point of view.

Requirements can be divided into two types; functional and non-functional requirements.

## Functional Requirements

A functional requirement is a function or feature that must be included in an information system in order to satisfy the business need and be acceptable to the users. A functional requirement defines what an application and its components are and what these components are supposed to accomplish. The following functional requirements were gathered with our decided requirements gathering methods. The inputs, processes and output are discussed below:



|  |  |   |
|--|--|---|
| <b>Function:</b> Must be compatible with all types of OS devices.                |  |   |
| <b>Input:</b><br>N/A   | <b>Process:</b><br>website must be developed in a common development environment | <b>Output:</b><br>website can be accessible from all sorts of devices |
| <b>Precondition:</b> User must have a working OS device with internet Connection |  |   |
| <b>Post-condition:</b> Everyone can use this website                             |  |   |

**Table 5.2:** Functional Requirement 1: Compatibility

|  |   |  |
|--|---|--|
| <b>Function:</b> Show images and videos.                 |   |  |
| <b>Input:</b><br>N/A                                     | <b>Process:</b><br>Setup image and videos | <b>Output:</b><br>Show company images and videos |
| <b>Precondition:</b> user will be in img and vid section |   |  |
| <b>Post-condition:</b> user can watch video and images.  |   |  |

**Table 5.3:** Functional Requirement 2: Images and videos



|  |   |   |
|--|---|---|
| <b>Function:</b> Customer care service   |   |   |
| <b>Input:</b><br>N/A   | <b>Process:</b><br>Setup customer care number | <b>Output:</b><br>Customer can contact with company |
| <b>Precondition:</b> User can use ph to contact with company                               |   |   |
| <b>Post-condition:</b> user can call in help line or contact us section via company number |   |   |

Table 5.4: Functional Requirement 1: Compatibility

|  |  |   |
|--|--|---|
| <b>Function:</b> booking for cleaning.                                 |  |   |
| <b>Input:</b><br>Customer info   | <b>Process:</b><br>customer input there info to booking section and submit | <b>Output:</b><br>Company will informed about booking and they will contact with customer |
| <b>Precondition:</b> User must give right information                  |  |   |
| <b>Post-condition:</b> Company will call user or e-mail for connection |  |   |

Table 5.5: Functional Requirement 1: Compatibility

## Non-Functional Requirements

Another type of requirement is non-functional requirements. A nonfunctional requirement is a description of the features, characteristics, and attributes of the system as well as any constraints that may limit the boundaries of the proposed solution. Non-functional requirements are briefly described below:

- **Performance:** Represents the performance of the system which is required to exhibit and to meet the needs of users. Performance describes the acceptable throughput rate and acceptable response time. This application should provide a smooth experience for the user and also should have no input lag as long as the device has a certain minimum hardware specification.
- **Information:** Represents the information that is pertinent to the users in terms of content, timeliness, accuracy and format. Information is about the necessary inputs and outputs and how it will be managed, types of the required data to be stored, how currently the information will be saved into the system, how the interfaces of external systems will work, etc.
- **Security & Control:** Security and administrations are always a concern for any system. All information on the server side and client side is secured. Only the application administrators and developers have access to core code of the application to be able to directly manipulate any sort of information. In this project, Php, MySQL have been used for backend technology, which have various layers of security, where security requirements for this system have been taken

care of. Control requirements represent the environment in which the system must operate, as well as the type and degree of security that must be provided. Access to the system or information must be controlled with the privacy requirements.

- **Efficiency:** Represents the system's ability to produce outputs with minimal waste. We have tried to eliminate duplicate steps in the processes and to use the resources in an efficient way. Keeping our code non repetitive by using reusable code and components is how we achieved efficiency.



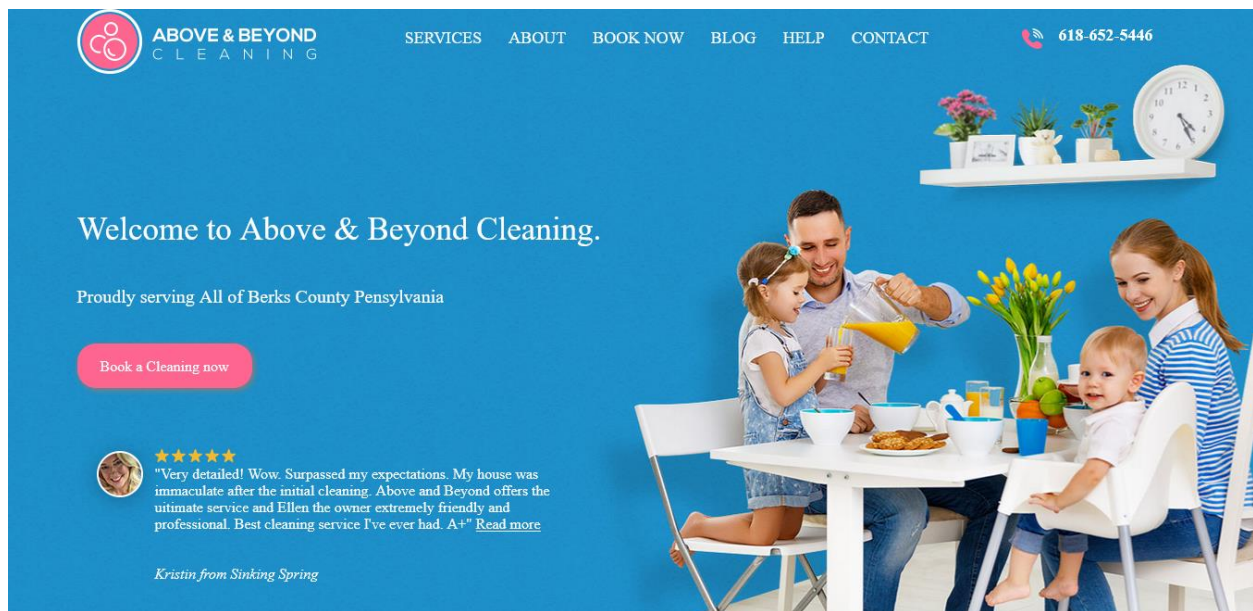
# Chapter 6: Results





As mentioned earlier, for the development of this project, html, css, js have been use for the website structure. For front end development we use this html, css and javaScript. For the back end we use Php and MySQL to store data.

- **Website landing page:** User will first come at landing page. Landing page is most important part of a website. User can visit other section from this landing page section.



**Figure 6.1:** Above & Beyond Landing page.



- **About us page:** In this page user will get to know about the company. In this page section customer will find about company and what they do and when this journey start. Overall user will find about this company profile and there works.
- **Booking page:** User can book from this page. They can select what type of property they want to work in. they can select best budget cleaning section from here. User have to fillup a form here and submit. The company will get notify and reach back to the customer.
- **Contact:** In this page user can easily contact with the company. Here user will find company customer care number and also email address. Either they can call directly to the company customer care number or else they can email to the company.
- **Services:** in this section user can find out the services that “Above & Beyond” provides. They can see company feedback and also work of this company in this service page. They can also see some videos and also images in this particular section page.



# **Chapter 7: Engineering problem analysis**

## Sustainability of the Project

Sustainability of the product refers to its ability to be maintained and updated. In the modern world, every application being released needs to be maintained and continuously updated for its user base.

- **Community Sustainability:** It means how much and how actively the users will support the project. Support comes in many forms such as downloading and installing the application, using the application, subscribing to paid services, giving rating and feedback, referring to other people, etc.

After the release of “Above & Beyond” in the website market, it is believed that it will have a strong user base since it is a unique idea competitive way. As the user want to clean there house hold or office or anything, they can always keep in touch with us.

- **Financial Sustainability:** This refers to how the application’s running cost will be maintained after it has been released and whether it will generate enough revenue as acceptable profit.

When “Above & Beyond” will get a full-fledged release into the application market, it will have advertisements to generate revenue and also a paid monthly subscription will be offered to the users to remove all advertisements from the

application for a month. This method of revenue generation is believed to be able to cover the costs to be able to keep the application running after release. Thus, the project can be determined as Financially Sustainable.

● **Organizational Sustainability:** It relates to how the organization will continue to operate after the release of the website. After the release of an website, usually the organization maintains the website via its current team, an extended team or by a fresh new team. Also, organizations update their project by adding newer features to it and organization may pivot to other projects, expand the teams, create new teams, etc.

“Above & Beyond” has many more future planned features to be worked on and released. Since it is a unique website for cleaning home, office and other property, the project will be maintained and updated after its release as well. Taking core features from “Above & Beyond” and adding more ideas and features to it, another new project may also be planned and worked on. In conclusion, it can be said that the project is Organizationally Sustainable for the country.



## Social and Environmental Effects and Analysis

Smartphone's, laptop's and computer are popular among people for the website they offer to users. Internet make communications with people quite easier. People enjoy a lot of benefits in various forms of their daily work. Some advantages internet provide better means of communication, learning options to users, great exposure to the latest things, ways to personality development, simple ways to access application's and website's, ideas to succeed in business, platforms to grow their web application and more.

The aim of "Above & Beyond" in the world of internet is to clean the office, home, party center and other places so you can feel safe from this pandemic covid-19 situation.

### **Social Effect:**

Above & Beyond aims to keep your space safe from any kind of dust and virus. At this moment we scared corona virus a lot. Nothing is more scarier than corona virus right now. Above & Beyond team working for this problem. If your house is a covid paitent house, than this team will clean your house A-Z so that not a single dust can seen or virus can survive. This "Above & Beyond" team is an expert team. They will take care of your property and clean everything as customer wants.

### **Environmental effect:**

Using “Above & Beyond” website people can easily hire for cleaning service from here. Now days everyone look for online platform and every company must have a website of their own, so they can connect with customers more easily. Using and getting service from this company can be positive side. Because cleaning your office and home and other places can kill virus. People can feel safe at there office and home and party center or other places.

## **Ethics and Ethical issues**

In the world of internet with so much data collection, hacking, cybercrime, etc, there are rules and ethics that need to be followed when working on creating and releasing a website. The developers of this website Abobe & Beyond believed that the website does not breach any code of conduct of web release and development since they all have been taken into serious concern. Some of them are:

- **Collecting only relevant User data:** The Above & Beyond website does collect user data, but those are strictly stored & maintained and used only relevant for this website.

- **Not Sharing or Selling any User data:** Even though the data collected may not be of any privacy concern for most users, the game does not let any service, any application or any third party have access to the data collected.

- **Data Storage Security:** Only the lead developer have access to the server and the database. Since they are hosted in the cloud and can only be accessed via lead developer's, the data stored can be deemed as safe and secure.

- **No use of Profanity:** The project has been developed with no slangs, swear words, offensive language, etc. The language and tone in the application is clean, clear and to the point.

- **No Discrimination Policy:** Other than concerns for age, "Above & Beyond" does not discriminate of any kind based on race, sexuality, gender, religious beliefs, color, language, political or other opinion, national or social origin, property, birth or other status.

- **Proper use of third-party Services and API:** "Above & Beyond" does not violate any rules of the third-party services or the APIs that have been used in its development.



# **Chapter 8: Future Work and Conclusion**

# Challenges Faced

During my internship program, I have faced lots of challenges while working on this Project. The main ones are:

- **Understanding the Requirement:** It was quite difficult to understand what was really required; often I would do things that were not asked to be done and miss out on the actual requirement. It was recurring at the beginning but as time went on and I started to have better understanding the problem was minimized.

- **Adapting to New Technologies:** Since this was the first time, I have ever worked on a website development I had to learn and adapt to new technologies. Although acquiring the skill set was possible it became hard to apply them in real life situations .

- **Keeping up to Speed:** After learning new technologies and putting them to use was a slow process for me initially as it was the first time, I have ever used it. Hence, it was quite difficult to meet weekly deadlines and this slowed down the overall pace at which the application was developing.

- **Identifying and Fixing Bugs:** Often, there were bugs which were very hard to find, and even after they have been found it became a big problem to fix it. There were bugs that were so difficult to deal with that it would take a whole week to fix it.



## Conclusion

During Internship I worked on a website development called “Above & Beyond”. In this application Dingi Tech looked after a company whose are expert in cleaning property .This website is really important for those who wanted to clean there office, party center, house, even hospital or any other industries. Just using this website user can access and get many features at there need in one hand only.

Working in Dingi Tech as an intern has been an amazing experience. I have learned a lot about developing different kinds of website and also about development styles. Working with cutting-edge technology like JavaScript, Php, MySQL and React.js is among the major takeaways from the Internship Program. Through this program I have been exposed to a developer's working life. Throughout my internship, I could understand more about the definition of a software engineer and programmer and this helped prepare myself to become a more responsible and innovative developer in future. During my project, I cooperated with my mentors and seniors to solve the challenges faced. Moreover, the project indirectly helped me to learn independently, discipline myself, be patient, take initiative and the ability to solve problems. Besides, my communication skills have also strengthened as I had to give regular updates and was engaged in many pair programming sessions. As I had to face many problems, solving them developed my programming skills which made me more sharp in my skills. This internship opportunity has paved the way to look into the development environment and marketplace. I would like to once again appreciate everyone who has made my life as an intern such a great experience.



## Future Work

This project, “Above & Beyond” is still in its development phase and there many more planned features that are to be added in the near future. Some of them are:

- **Animations, Logos, Icons and Advertisements.**
- **Get notifications and connection of other social media such as LinkedIn, Instagram, Twitter.**
- **Create a mobile application of this version.**
- **Create a payment option.**
- **Share application links to invite others to join.**
- **Show user statistics.**

## Logo of Above & Beyond



**Figure 8.1:** Logo of Above & Beyond