



An Undergraduate Internship on Edison Properties

By

Mohammed Sakib Shamim

Student ID: **1631109**

Summer, 2021

Supervisor:

Md. Asif Bin Khaled

Lecturer

Department of Computer Science & Engineering

Independent University, Bangladesh

September 12, 2021

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

Department of Computer Science & Engineering

Independent University, Bangladesh

Attestation

This is to certify that the report on "Edison Properties" is completed, Mohammed Sakib Shamim (1631109), submitted in partial fulfillment of the requirement for the Degree of Computer Science and Engineering from Independent University, Bangladesh (IUB). The report has been completed under the guidance of Md. Asif Bin Khaled. I also certify that all my work is original and has never been submitted to this university or any other institution before. I implemented what I have learned during my Internship Program. In this Project Report, all of the sources of information used have been properly recognized.

Signature

Date

Mohammed Sakib Shamim

Name

Acknowledgement

Firstly, I would thank my parents for their support. Without their support, I would not have come so far and achieved what I had till now. They taught me to work hard and be kind to people.

I would also like to thank all my dedicated faculty from the Independent University of Bangladesh for their support and guidance from the first semester. Also thanking my supervisor Md. Asif Bin Khaled, Lecturer, Department of Computer Science and Engineering, for his advice and suggestion to complete the report and my internship project throughout the semester.

I also would like to thank the CEO of Dcastalia Limited, Mr. Khairul Hasan, for providing me the internship opportunity and to work for his company. Thanks to Mr. Kazi Sarowar Turzo for guiding me to complete the project with other team members.

It was a faithful and fantastic journey with Independent University Bangladesh. My regards and respect to all my faculty and company members. Everyone was a very vital part of my journey for the bachelors' program in CS.

Letter of Transmittal

September 02, 2021

Md. Asif Bin Khaled

Lecturer

Department of Computer Science and Engineering
Independent University, Bangladesh.

Subject: Submission of Internship Report Summer, 2021.

With due honor and respect, I, Mohammed Sakib Shamim, from Summer 2021, Section 10, would like to submit my Internship report. This report is prepared to kindly inform you that my internship program and report have been completed. I started my Internship Program at Dcastalia Limited as a Front-end developer from 10th of June, till date.

This report consist of my work done at Dcastalia Limited. My goal at Dcastalia Limited as an intern was to learn how it feels like to work with an organization as a developer. During the internship period, I learned and about how the company operates and way activities are carried out on a daily basis. At work, I was able to convert my skills learned from my undergraduate program, and grow as a front-end web developer. Dcastalia Limited is made up of a group of IT enthusiasts and hard working peoples that are dedicated to making a positive difference in the world of technology. Throughout my internship, the group has been supportive and has provided me with the guidance I needed to improve my skills.

I hope and pray that this report achieves your expectations. I've done my best to mitigate any errors. I'd also like to express my gratitude to you, Sir, for your constant support and advice, which enabled me to complete the report.

Sincerely,

Mohammed Sakib Shamim, 1631109

Evaluation Committee

.....
Signature

.....
Name

.....
Supervisor

.....
Signature

.....
Name

.....
Internal Examiner

.....
Signature

.....
Name

.....
External Examiner

.....
Signature

.....
Name

.....
Convener

Abstract

Bangladesh is a fast-growing nation and progressed quickly to become a digital nation. Becoming digital means that the usage of the internet around the nation also increases. During the previous decade, the significant increase in Internet usage has impacted the lives of millions of individuals across the country. New technologies are fast altering our communication methods and the art of teaching and expanding learning opportunities. The rise in demand for internet usage also made organizations and other platforms digital and sold their services or products online.

The report is based on developing a website for a real estate company named 'Edison Properties.' The website intends to provide crucial information to potential buyers and landowners, an easy way to contact them and promote the brand to the local community to build them as a prominent Real Estate business.

Because a company's customer base grows, it becomes challenging to provide excellent customer service. Customer inquiries are frequently mismanaged, resulting in a negative experience. Businesses lose a prospective paying consumer, and their reputation suffers as a result. Dcastalia Limited provides a complete solution to their clients. Creating a customer-friendly website for businesses and helping them keep a record of the queries in their database so that customers can be contacted easily since 2009. Dcastalia Limited's focus is on making customer service simple and easy for businesses and a pleasant experience for both sides.

An executive summary of my project is to develop the front-end for Edison Properties using React.Js. In which, I have made the testimonial section and the footer section for homepage. The partners page, some sections of about us page and the contact page. The form In the contact page is also developed by myself. Addition to the, other tasks were provide feed backs to the clients regarding the project.

The following report also details all the work I have done in my internship program as a web developer intern in Dcastalia limited. The report contains eight significant parts to describe my work.

Keywords— clients, support, service, organization, digital

Contents

Attestation	i
Acknowledgement	ii
Letter of Transmittal	iii
Evaluation Committee	iv
Abstract	v
1 Introduction	1
1.1 Overview of the Work	1
1.2 Objectives	1
1.3 Scopes	2
2 Literature Review	3
2.1 Relationship with Undergraduate Studies	3
2.2 Related works	3
3 Project Management & Financing	5
3.1 Work Breakdown Structure	5
3.2 Activity wise Time Distribution	6
3.3 Gantt Chart	7
3.4 Estimated Costing	8
4 Methodology	10
4.1 Our Methodology	10
5 Body of the Project	12
5.1 Work Description	12
5.2 System Analysis	12
5.2.1 Six Element Analysis	12
5.2.2 Feasibility Analysis	13
5.2.3 Problem Solution Analysis	14
5.2.4 Effect and Constraints Analysis	14

5.3	System Design	15
5.3.1	Rich Picture	15
5.3.2	UML Diagrams	16
5.3.3	Functional and Non-Functional Requirements	18
5.4	Product Features	20
5.4.1	Input	20
5.4.2	Output	22
5.4.3	Architecture	24
6	Results & Analysis	26
6.1	Results	26
6.2	Analysis	28
7	Project as Engineering Problem Analysis	29
7.1	Sustainability of the Project	29
7.2	Social and Environmental Effects and Analysis	29
7.3	Addressing Ethics and Ethical Issues	30
8	Lesson Learned	31
8.1	Problems Faced During this Period	31
8.2	Solution of those Problems	31
9	Future Work & Conclusion	33
9.1	Future Works	33
9.2	Conclusion	33

List of Figures

3.1	Gantt Chart	8
5.1	Rich Picture	15
5.2	Use Case Diagram	16
5.3	Activity Diagram For Users	17
5.4	Activity Diagram for Admins	18
5.5	Product Features Output 1	20
5.6	Product Features Output 2	21
5.7	Product Features Output 3	21
5.8	Product Features Output 4	22
5.9	Product Features Input 3	22
5.10	Product Features Input 3	23
5.11	Product Features Input 3	23
5.12	Product Features Input 3	24
5.13	Software Architecture	25
6.1	Ongoing Page Result	26
6.2	About Us Page Result	27
6.3	Contact Us Page Result	27
6.4	Inquiry Page Result	28

List of Tables

3.1	Activity Wise Time Distribustion Diagram	7
3.2	Estimated Costing of the project	9
5.1	Six Element Analysis	13
5.2	Functional Requirement: Exploring Projects	18
5.5	Generate Monthly Client Report	19
5.3	Functional Requirement: Contact The Company	19
5.4	Functional Requirement: Contact For Services	19

Chapter 1

Introduction

1.1 Overview of the Work

The usage of the internet is increasing day by day in our country and our everyday lives. Organizations and companies are also adopting the online platform, which is creating growth for their business. Change means having a more extensive client base, and the challenge arrives to manage them as they can follow up to be their paying customers. Real estate companies are also guaranteeing their presence on the internet so that customers may easily find them.

Edison Properties recognized this as a chance to create a place where potential clients could connect online to see their projects and services. Demonstrating their projects and assistance with all the overview and specifications will also encourage their buyers and landowners to determine whether they are reputable and trustworthy to invest in.

Users will choose a project from a list of projects displayed on the homepage with photos. After clicking on the selected project, the user will be presented with all the relevant details about the selected project. Users will also be able to contact Edison Properties via a contact form if they have any queries or need any assistance from the company for any information.

1.2 Objectives

The project's goal is to get a foot on more clients and investors through their online appearance that will also provide the users or visitors an easy way out for communicating through the web platform. The web platform reduces the traveling time of clients and investors. It's also becoming more difficult for consumers looking to acquire properties to travel from one location to another and find what they're looking for. The purpose of Edison Properties' website is to make people's lives easier by allowing them to search for properties online.

People will use numerous search filters on this website to find their desired properties based on their preferences. This website will also allow visitors to obtain all required information on a given property without physically visiting the area.

1.3 Scopes

Based on comprehensive technical research on possible stakes to develop the website the scope of work is described for the project.

1. Development Platform

A. User Experience Design

- UI Prototyping: Adobe XD, Adobe Photoshop, Adobe Illustrator
- User Journey Information Architecture: Adobe XD, Mind Master

B. Development Environment

- Frontend Codebase: React.JS
- Back end Codebase: PHP 7.3+
- Back end Framework Libraries: Yii2
- Database: MySQL 5.5
- Server: Apache

2. Performance Security Optimization

- A. Browser Compatibility
- B. Web Security
- C. Performance Optimization
- D. Server Security Data Backup

3. Analyzing Reporting

- A. Analytics Implementation
- B. Reporting Tools Plugins

4. Quality Assurance Process

- A. Strategy and Test Planning
- B. QA Testing
- C. UAT Fixing

5. Team Formation Development Time

A. Team Engagement

- Project Management: 1 Project Manager
- UX UI Design: 1 UX Designer 1 UI Designer
- Frontend Backend Development: 5 Developers
- Quality Assurance: 1 QA Engineer
- Data Presentation: 1 Person

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

The Independent University of Bangladesh (IUB) undergraduate program has made me progress closer to my goal. The courses in undergraduate programs have helped me better understand concepts of computer science. Related Courses like Data Structure helped me understand how data are structured and managed and how they are sorted. The algorithm's course helped me know the time complexity of a code and write clean and better code. The web Application course helped me design, develop, and deploy a website using their codebase, which helped me immensely in my internship program. The software Architecture course helped me understand different types of computer architecture and which architecture should be used in a project that a client is pitching. The Software Marketing course has helped me know how to sell software in a busy marketplace and implement innovative ideas in existing or new software. Software marketing has also helped me understand the 5Ps of marketing and how my software can penetrate the marketplace.

2.2 Related works

The representation of real estate and properties on the internet is not a novel concept; instead, it is a particularly prevalent practice worldwide. However, the idea is relatively new in Bangladesh, and business owners are now more motivated to establish an online presence. Dcastalia has already worked with several Real Estate and Property Management firms to help them establish a strong online presence and establish a smooth communication channel with their clients. Highlighted projects of the company are:

- **Shanta Holdings Limited:** Shanta Holdings is a well-known name in the domain of commerce and industry, as well as one of Bangladesh's most prominent and leading construction firms. Their website reflects the organization's true personality.
- **Rangs Properties:** Rangs Properties is a high-end real estate firm. Users can effectively

engage with the brand and learn everything they need to know about the company and its offerings by visiting their premium website.

- **Concord:** Concord is one of the oldest and well-known real estate companies, with major projects such as Sriti Shoudho under their belt. Their website was designed to incorporate all aspects of their services on one platform: Concord is one of the oldest and well-known real estate companies, with significant projects such as Sriti Shoudho under their belt. Their website has a wonderful UI and UX that makes it simple to contact their virtual customer.

The websites before showed only the information about the company and images of their work. Edison Properties had different ideas. They wanted to make a transition in their website, where the buyers will be able to get full view of their project and a complete solution of services they need to build their dream apartments. Landowners can also sell their lands by inquiring with the company. The website we are delivering is quite different from other products in the market. The website is developed using react.js. React is component based and it has its own styling and functionality. This is what makes the website look more interactive to the user. We can create the components and reuse them with different stylings and give them different appearances. Which makes us to write less and clean code. Other websites are basically made using HTML, CSS and Javascript. React is a combination of HTML, CSS and Javascript.

Chapter 3

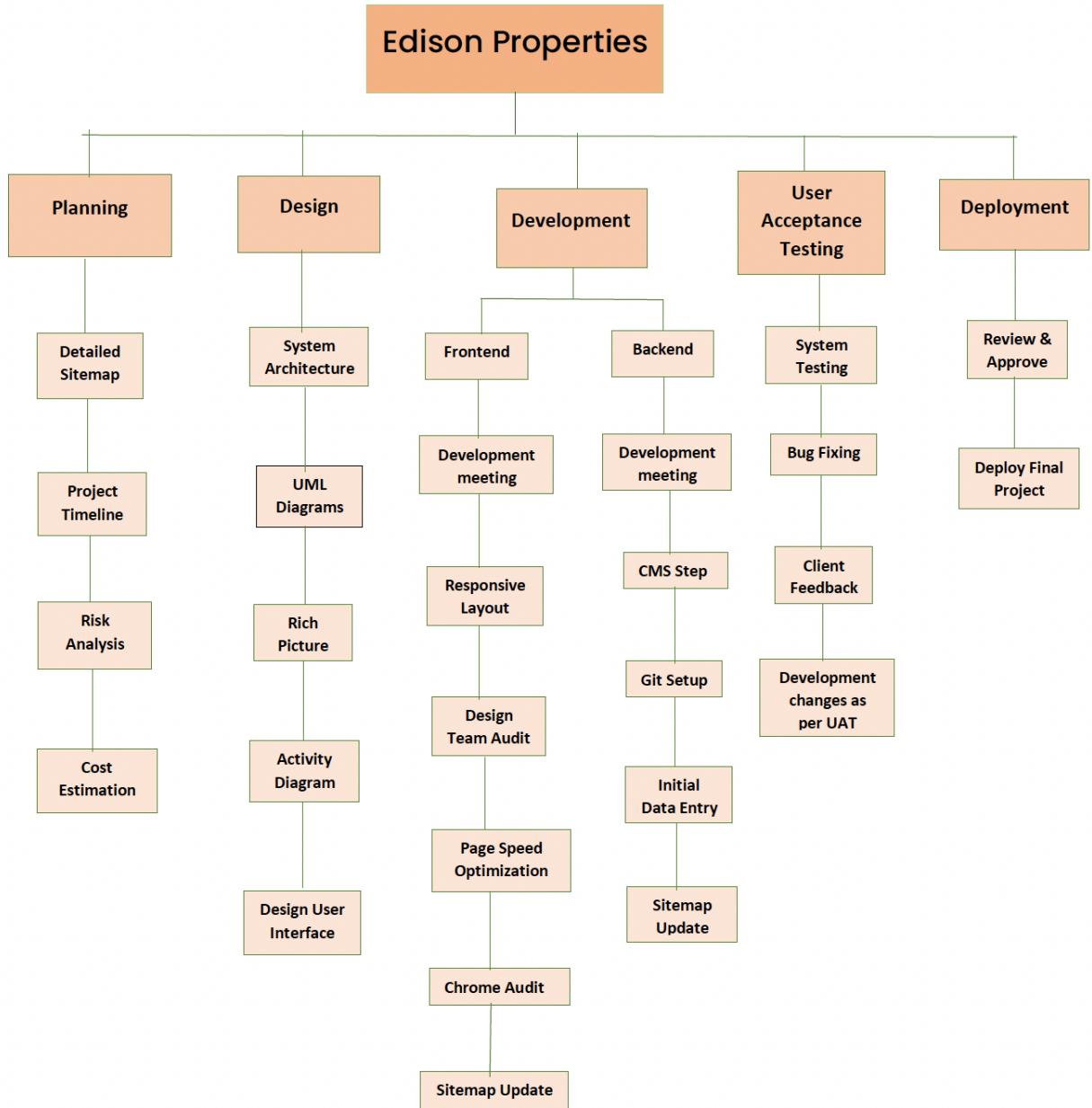
Project Management & Financing

3.1 Work Breakdown Structure

Work Breakdown structure is making a complex project manageable, first by breaking it down into smaller tasks or components using a hierarchical structure. Tasks can be executed independently, making resource allocation, duties assignment, and project assessment and control easier.

A work breakdown structure was also created by us so that the whole project could be carried out efficiently. The project was divided into five different sections or tasks. The tasks are defined and described below:

1. **Planning:** Clients requirement is taken and accordingly a sitemap is produced. Project timeline is produced, risk factors are analyzed, and costing is estimated First, the client's requirement is taken. Secondly, a project sitemap is generated according to the requirements of the clients. Next, we make the project timelines and analysis on the risk factors of the project. Lastly, cost estimation is generated.
2. **Design:** We generate a rich picture diagram, UML, and activity diagram for the project. The UI design of the project is based on the analysis of the system.
3. **Development:** The frontend design is prepared first, and next, we proceed to the website's backend. As the front end is built, we make sure that the website is mobile responsive as well. CMS setup is also done.
4. **User Acceptance Testing (UAT):** The website is shown to our client in this phase. The website feedbacks are taken, and further changes are made.
5. **Deployment:** The website is made live. Users can view and have access to the website.



3.2 Activity wise Time Distribution

As per our work-down structure, a table is allocated. The table shows the no of working days give to the significant sections of our project and the work percentage of each section. The project is completed in 60 working days.

Task	Days	Percentage
Planning	11	12
Design	12	20
Development	23	48
User Acceptance Testing	10	15
Deployment	4	5
Total	60	100

Table 3.1: Activity Wise Time Distribustion Diagram

3.3 Gantt Chart

A Gantt chart is a form of bar chart that shows the schedule of the project. [2] We find the task that would be performed in the x-axis, and the time taken in the y-axis. The Gantt chart was made by understanding the time taken to complete the individual task by developers and other members. The Gantt chart is shown in the figure below.

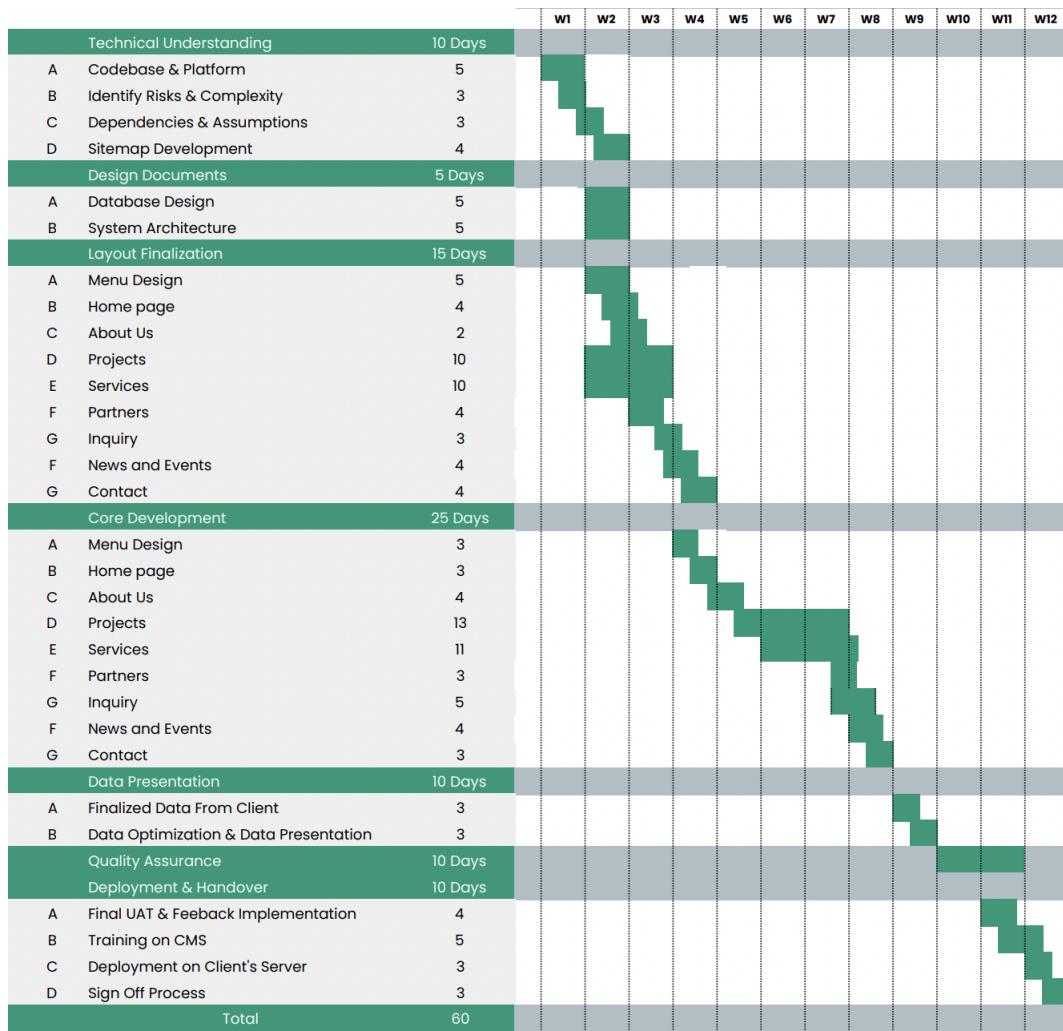


Figure 3.1: Gantt Chart

3.4 Estimated Costing

The costing is done with many factors in mind. Such factors are the time length of the project, no. of modules that needs to be added to the website. Modules are UX and Interface design, Web Modules, Content Management System Integration (CMS), Deployment, and Domain. The total cost of the website is 336,000 taka.

Work Distribution	Cost(BDT)
Design/UX Development	65,000
Website Development	121,000
Content Management System Integration (CMS)	1,10,000
Deployment and Domain	40,000
Total	3.36,000

Table 3.2: Estimated Costing of the project

Chapter 4

Methodology

Different types of methodologies are available to be carried out in a project. Each of the methodologies is different from one another but serves the same purpose. Using a particular methodology help to organize the project and helps to work efficiently. Some of the methodologies are:

- Agile Methodology
- DevOps Deployment Methodologies.
- Waterfall Development Method

4.1 Our Methodology

We used Agile methodology for our project on Edison Properties. Agile Methodologies are a collection of software development methodologies that are iterative and progressive. Adaptive planning, iterative and evolutionary development, rapid and flexible response to change, and foster communication are all agile techniques' four primary features.[3]

In our project Agile scrum has helped us as developers:

- Make changes in the requirements smoothly.
- Deliverables are done with quality
- Having a better control of project state.
- Better communication between project members
- Get feedbacks frequently
- Time saving

In our project we have applied agile by planning the project and creating the road map of the project. The releasing the the road map of the project. We had daily stand-up to ensure our project is on track.

Most importantly, as we use agile, our clients are also satisfied as we keep taking feedback regularly and making the changes they have provided. Because at the beginning of the project, it is challenging to collect everything from the client.

In our project, we also did provide benefits to our client using the agile method:

- Making website more responsive to request.
- Features do become of high quality
- Delivery is done quickly within short-term cycles

Chapter 5

Body of the Project

5.1 Work Description

Edison Properties is one of the concerns of Edison Group. In 2015, Edison Group entered the real-estate business. The main goal of Edison Properties is to sell their apartments online to their clients using their websites. The clients or buyers will easily inquire about a property they want to buy by selecting the location, size of the apartment and submitting a form for further investigation. Landowners can also sell their land and collaborate with Edison Properties using their website by filling up an inquiry form. The main goal of the user-friendly website is to provide all the information of Edison Properties to the buyers and landowners and grow their business.

My work here is to build the front end of the project using React.JS with my team. The software we are using to write react code is WebStorm. In the context of the entire project, React.JS is used as a frontend language. In the backend, we are using PHP Yii 2.0 framework and SQL for the database.

5.2 System Analysis

5.2.1 Six Element Analysis

A system analysis is done to assist us in determining the system's objectives. System analysis is a problem-solving technique that aids in the identification of goals and purposes to develop a plan that efficiently achieves them.

Process	System Roles					
	Human	Non Computing Hardware	Computing Hardware	Database	Software	Communication
Submit Forms	User	N/A	Computer	RDMS	Web Browser	WAN/LAN
Manage Forms	Admin	Pen,Paper	Computer	RDMS	Web Browser	WAN/LAN
Create Projects	Admin	Pen,Paper	Computer	RDMS	Web Browser	WAN/LAN
View Projects	User and Admin	N/A	Computer	RDMS	Web Browser	WAN/LAN
Update Project	Admin	Pen,Paper	Computer	RDMS	Web Browser	WAN/LAN
Delete Project	Admin	N/A	Computer	RDMS	Web Browser	WAN/LAN

Table 5.1: Six Element Analysis

5.2.2 Feasibility Analysis

The feasibility study is carried out after the requirement analysis of the client. Here at Dcastalia Limited, we carry out the feasibility study by keeping the five types of the feasibility study. If the organization has an issue with any of the types of the feasibility study, the project is rejected.

Relation of feasibility studies with our project are described below:

- **Technical Feasibility:** An evaluation is done to check whether the required technical resources for the available to carry out the project are present or not. The technical team also overviews if the organization will keep the maintenance and up-gradation of the project using our existing technologies. Dcastalia has been experienced with these projects, and we fully ensure to complete the project.
- **Economic Feasibility:** An evaluation is carried out to check the cost of the project and the profit from the project. At Dcastalia, we have a set profit margin for all our customers; if we fail to reach the minimum of profit, we unwantedly have to reject the project.
- **Legal Feasibility:** It is investigated whether the project is legal or not. We also check if the project falls under the government's rules and regulations. If not, we do reject the project.

- **Operational Feasibility:** An evaluation is done to check whether we have covered all the requirements proposed by the clients in the requirement analysis phase.
- **Scheduling Feasibility:** The time for the project is estimated. We do want to complete the project in the given time proposed by the client. But there are many requirements and criteria of a project we need to fulfill that the customer is unaware of. Because as an organization, we need to develop, test, and deploy the whole project. So, if more time or days are required to complete the project, the time is asked from the clients.

5.2.3 Problem Solution Analysis

First time I was assigned to a real-time project, which caused me to face several difficulties and challenges. Most of my problems as I had less expertise in HTML, CSS, and JS. Some issues were adding responsiveness, padding, and grid in my part of the website. After learning the basics, implementing react.Js was easier than before but adding animation via react.js was tough. My team helped me a lot and sorted every problem I faced by making me understand the problem using previous projects.

Being a beginner in the team, my code did not seem professional. Some problems I faced:

1. Used single quotes instead of using backticks.
2. Mixing up the functions and classes.
3. Not making a component name capital.

5.2.4 Effect and Constraints Analysis

The website was created to allow visitors to browse projects and quickly determine which property they purchase. The idea is to make property shopping easy for people. The website also provides visitors, interested purchasers, and investors with a simple way to contact the company.

Despite all of these fantastic features and premium-looking websites, we are aware that there are still restrictions. Although purchasing homes online is not the usual method for people, we are optimistic that soon, more technical capabilities such as 360° tour choices inside apartments will be provided, allowing people to inspect and purchase their desired properties online virtually. This will make people's lives easier while also assisting the real estate industry and companies to grow and reach a new milestone.

5.3 System Design

5.3.1 Rich Picture

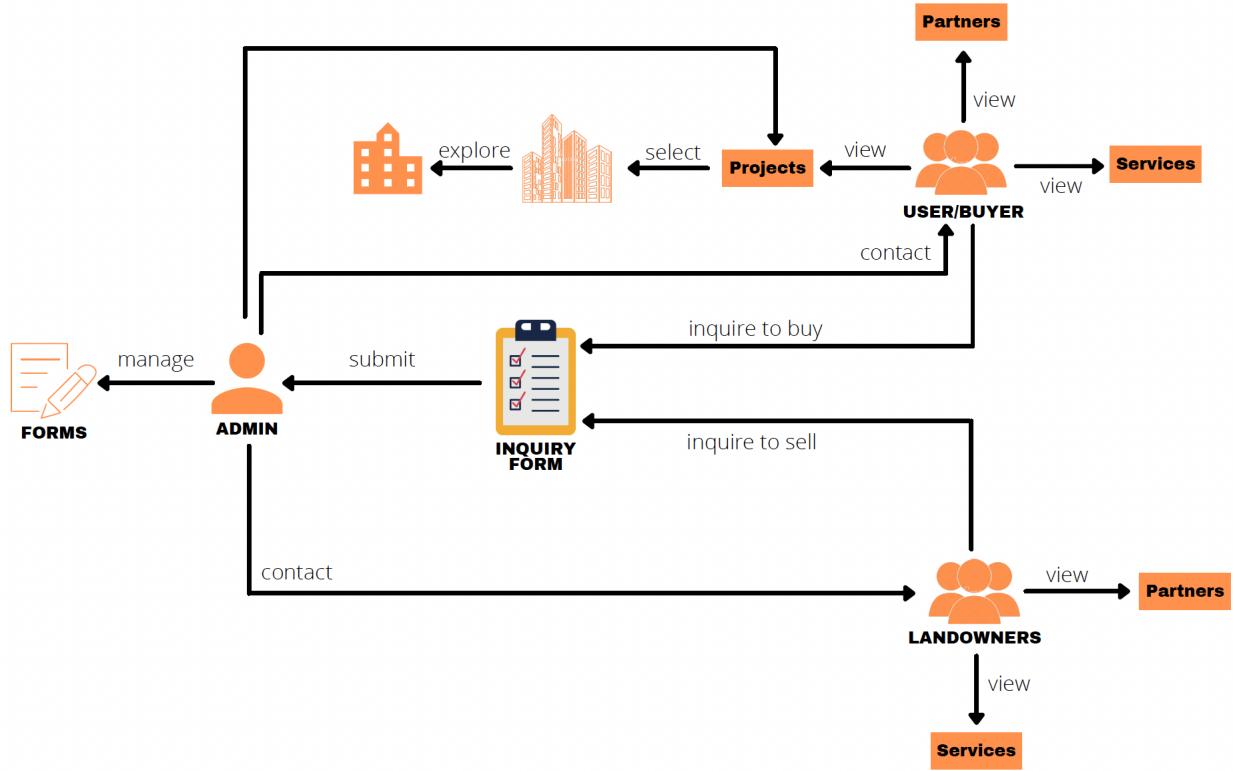


Figure 5.1: Rich Picture

5.3.2 UML Diagrams

USE CASE DIAGRAM

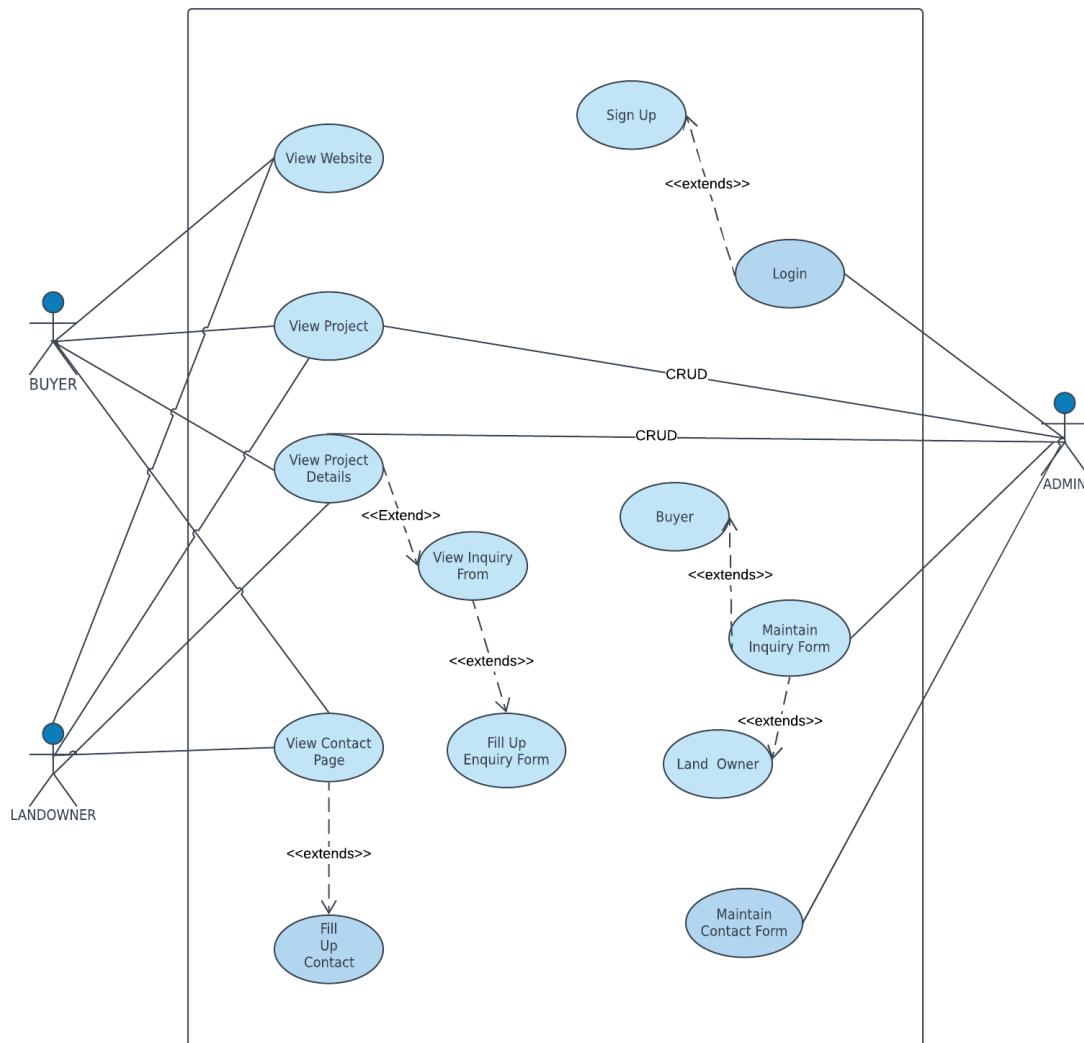


Figure 5.2: Use Case Diagram

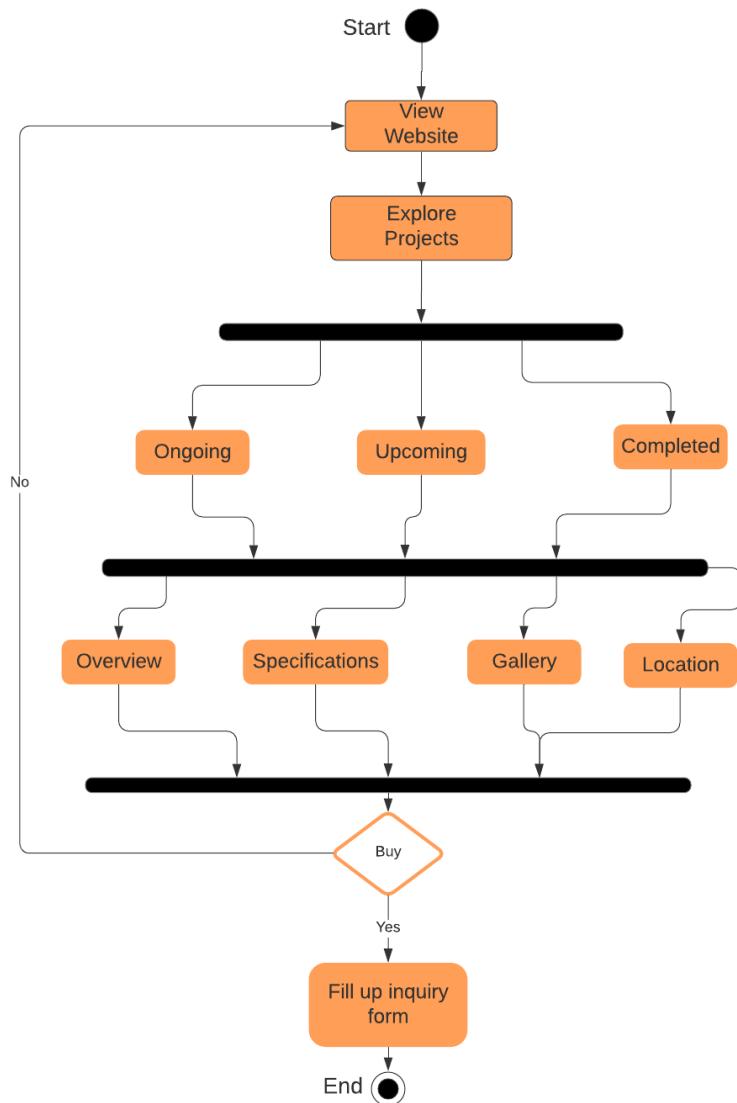
Activity Diagram

Figure 5.3: Activity Diagram For Users

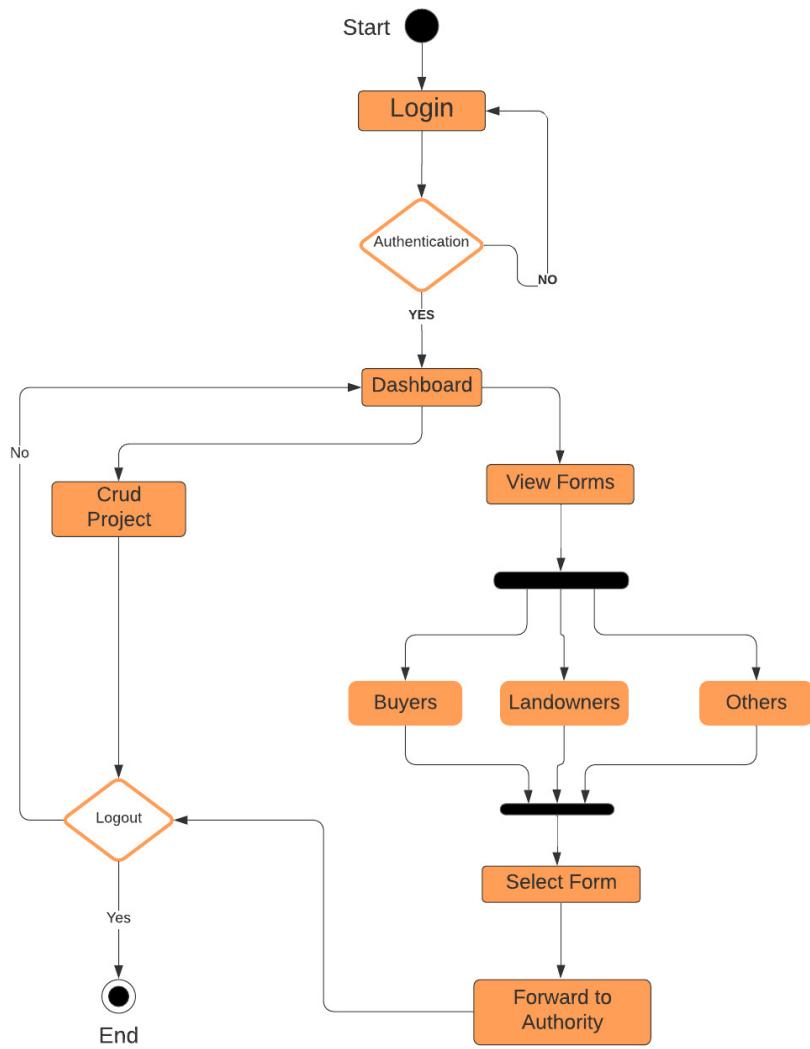


Figure 5.4: Activity Diagram for Admins

5.3.3 Functional and Non-Functional Requirements

Functional Requirements

Function: Exploring Projects.		
Input: Select Type, Select Category	Process: Visit website, Click the hamburger menu, select projects.	Output: Can view project with images.
Precondition: Type of the User should have valid Email Address and Phone Number.		
Postcondition: Admin collects the form and manages the form for further inquiry.		

Table 5.2: Functional Requirement: Exploring Projects

Function: Generate Monthly Client Report		
Input: Login.	Process: Go to dashboard, Select the year and month, Click on generate report	Output: Download Completed
Precondition: Admin must have been registered in the system		
Postcondition: Admin collects the reports and manages the form for further inquiry.		

Table 5.5: Generate Monthly Client Report

Function: Contact The Company		
Input: Select Type, Full Name Phone number, Message Email Address.	Process: Visit website, Click the hamburger menu, Select The contact page.	Output: Form is submitted Thank You.
Precondition: User should have internet connection		
Postcondition: User can fill the form for further inquiry.		

Table 5.3: Functional Requirement: Contact The Company

Function: Contact For Services		
Input: Select Type, Full Name Phone number, Message Email Address.	Process: Visit website, Click the hamburger menu, Select services page	Output: Submitted Successfully
Precondition: User should have valid Email Address and Phone Number.		
Postcondition: Admin collects the form and manages the form for further inquiry.		

Table 5.4: Functional Requirement: Contact For Services

Non-Functional Requirements

- Performance:** The system provides acknowledgment in just one second once the client information is checked. The system needs to support at least 1000 people at once. The user interface acknowledges within five seconds. Anyone should be able to use the website, so having an easy navigation system is very important.
- Security:** Both the client and server sides of the system are protected. To protect against unauthorised access and malware attacks, SSL certification and form validation via cross-origin resource sharing are required. enumerate environment.
- For admins, the use of the system needs to hold a Logon ID and password. Any modifications like insert, delete, update, etc., for the database can be synchronized quickly and executed only by the admin. The admin can view as well as alter any information on the website if and when required.

4. **Compatibility:** The project was created with a user-friendly system design and made mobile responsive, ensuring that the website would be responsive in the most popular resolutions. We also assured cross-platform compatibility to ensure that the website functions smoothly on the most popular browsers.
5. **Availability:** It is critical for an online-based system to be available to visitors 24/7. Thus we will make every effort to keep the website up and functioning at all times. Because the system's users have no downtime to wait for an action to be completed, the system must not lag. All system features must be made available to the user each time the system is enabled.
6. **Usability:** The system is set up so that anyone with a basic understanding of computers can simply access this website, browse through it, and get the information they need. To ensure a user-friendly design, the UI/UX design has been meticulously executed. The admin panel is also designed to make it simple for the administrator to maintain the website.

5.4 Product Features

Product features determine the website's functionality and how it will benefit users of the website, such as the buyers and the landowners. The features below are the aspects of our website:

5.4.1 Input



CONTACT US

Select type

Full name

Phone number

Email address

Message

Explore

Figure 5.5: Product Features Output 1

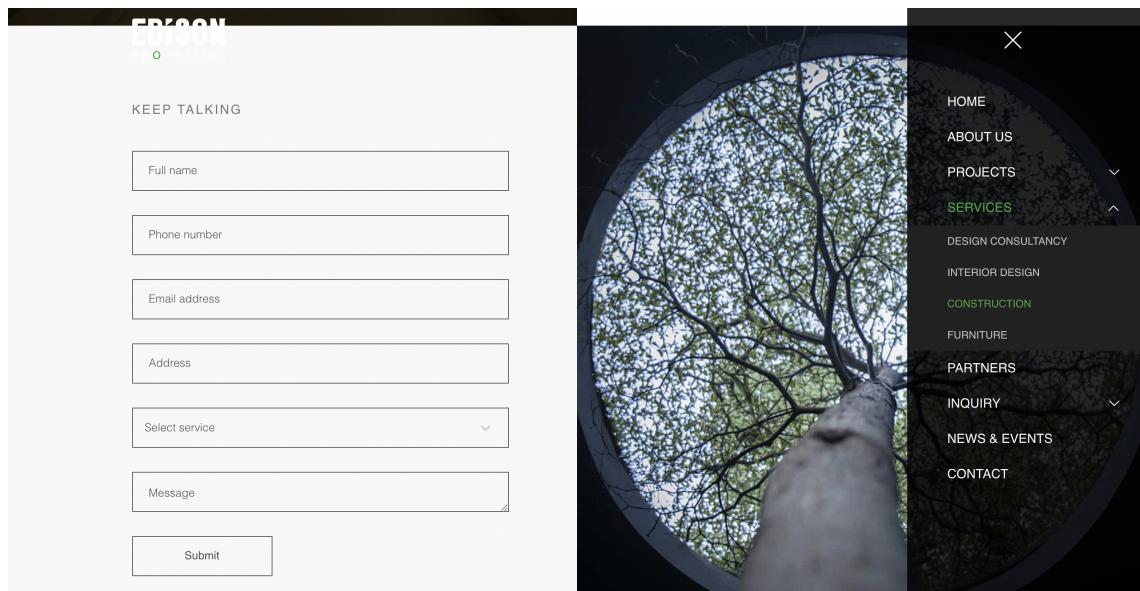


Figure 5.6: Product Features Output 2

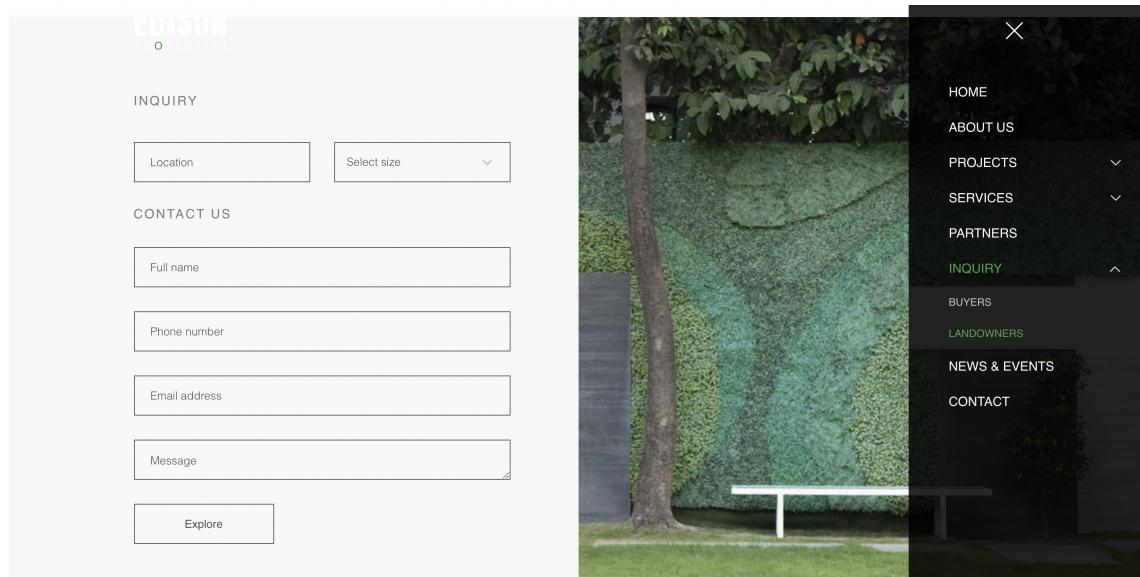


Figure 5.7: Product Features Output 3

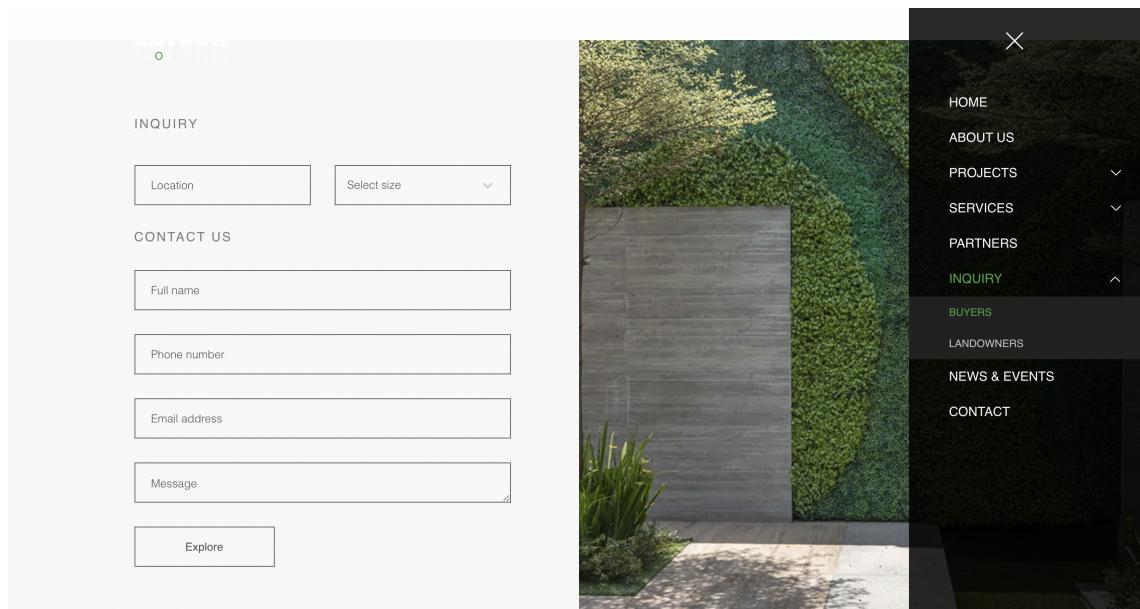


Figure 5.8: Product Features Output 4

5.4.2 Output

Contact Form: If the client has any queries after visiting the website. They can fill up the contact inquiry form, which can be checked by the admin, and ensure to contact the user about their query from the website.

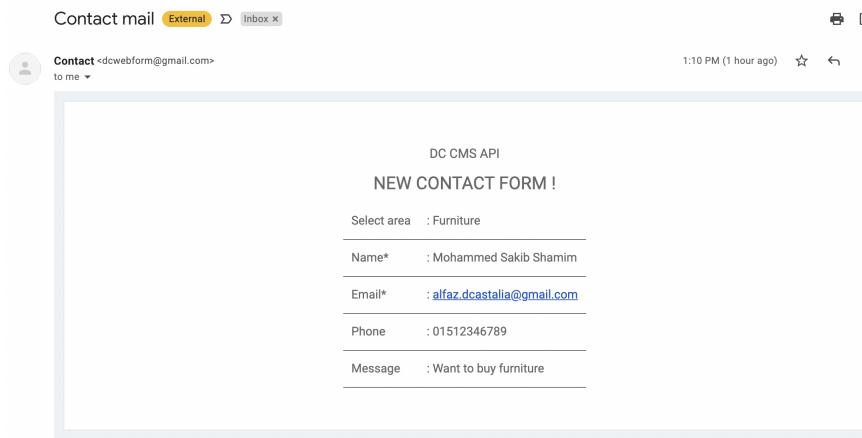


Figure 5.9: Product Features Input 3

Services Form: If the user has want any services after visiting the website. They can fill up the service form, which can be checked by the admin, and ensure to contact the user about their query from the website.

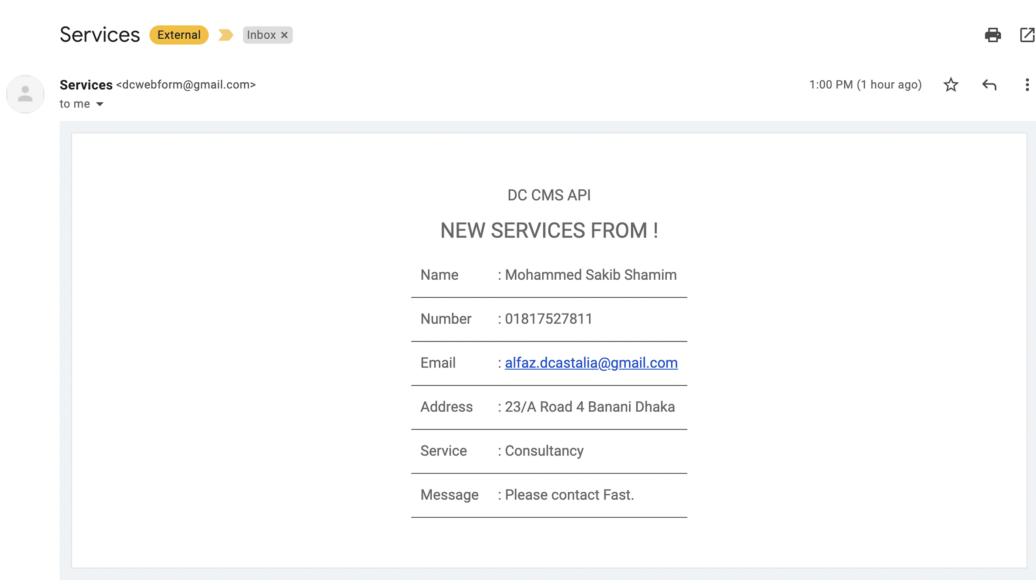


Figure 5.10: Product Features Input 3

Inquiry Form For Landowner: If the landowner has to sell any land after visiting the website. They can fill up the inquiry form and which can be checked by the admin and ensure to contact them about their query from the website.

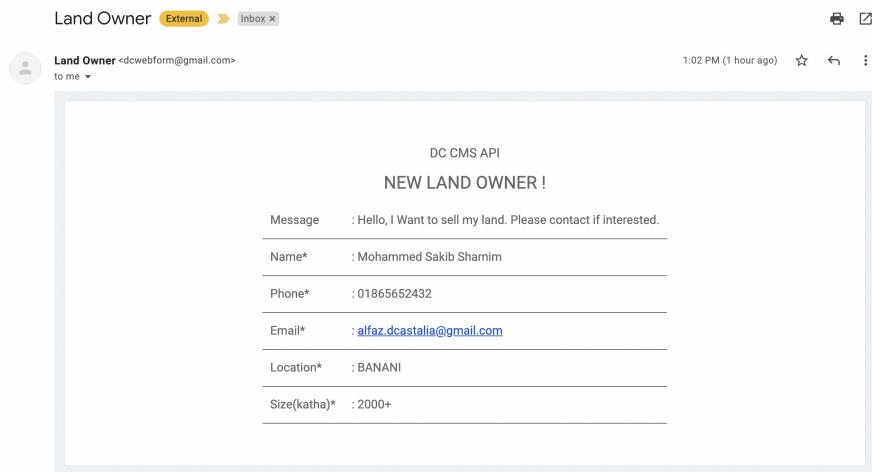


Figure 5.11: Product Features Input 3

Inquiry Form For Clients: If the client has to buy an apartment after visiting the website. They can fill up the inquiry form, which can be checked by the admin, and ensure to contact the client about their query from the website.

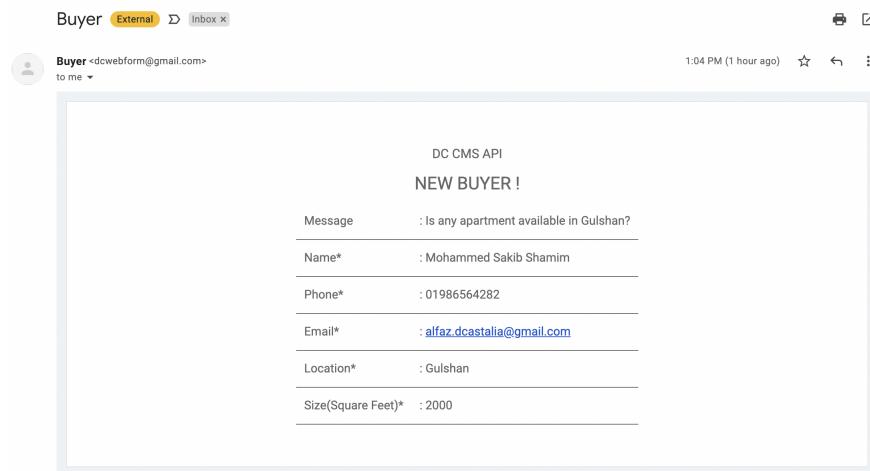


Figure 5.12: Product Features Input 3

iv. View Project Details: All the ongoing, upcoming, and completed projects are present on the website. Suppose the user wants to know about the overview and specifications of the website. They have the opportunity to explore the website.

5.4.3 Architecture

The architecture used to build the system is layered architecture. It displays a variety of architectural views to depict various aspects of the system. This strategy was chosen because it isolates different system responsibilities, improving both system development and maintenance.

The layers are divided into four:

- **Client Layer:** This layer focuses on simple web API that are user friendly. So that the clients can easily navigate through the browser and order from the menu.
- **Presentation Layer:** The layer focuses on how the system is displayed to the users e.g. the choice between a pop-up screen and a drop-down menu and the pages rendering.
- **Business Layer:** Enforces the routes and the methods by which business objects are accessed and updated.
- **Integration Layer:** The Integration Layer connects a service consumer to a service provider. Messaging allows you to transform the message required to connect the service requestor, publish and subscribe asynchronously messages and events.
- **Database Layer:** This layer includes the system tables, indexes, images and data. Examples: customer table, landowner table, product identification and etc.

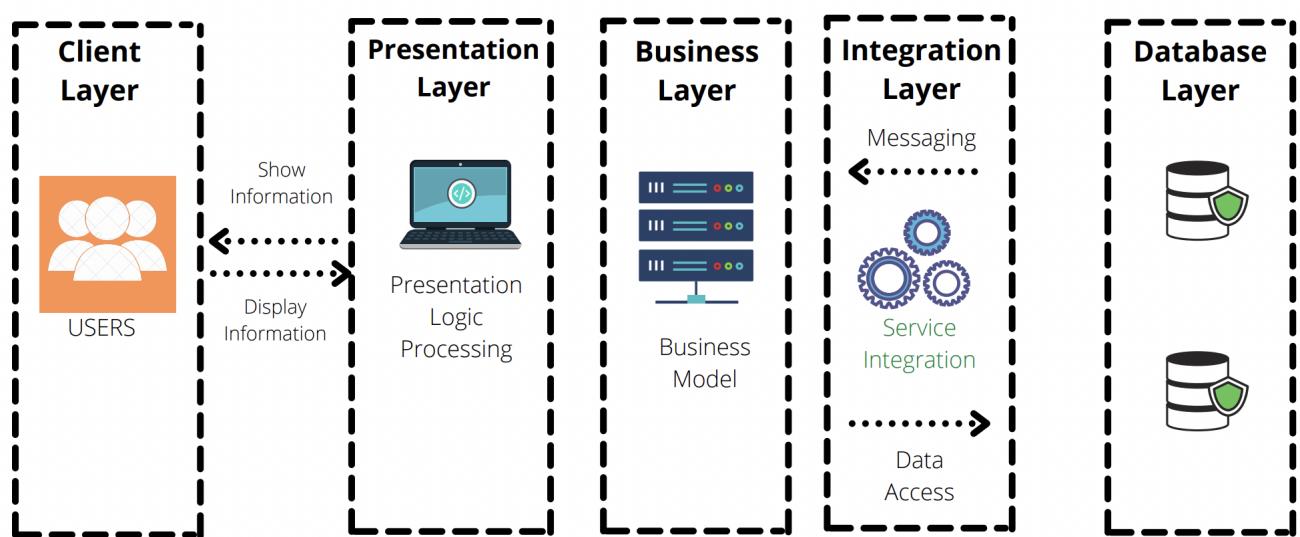


Figure 5.13: Software Architecture

Chapter 6

Results & Analysis

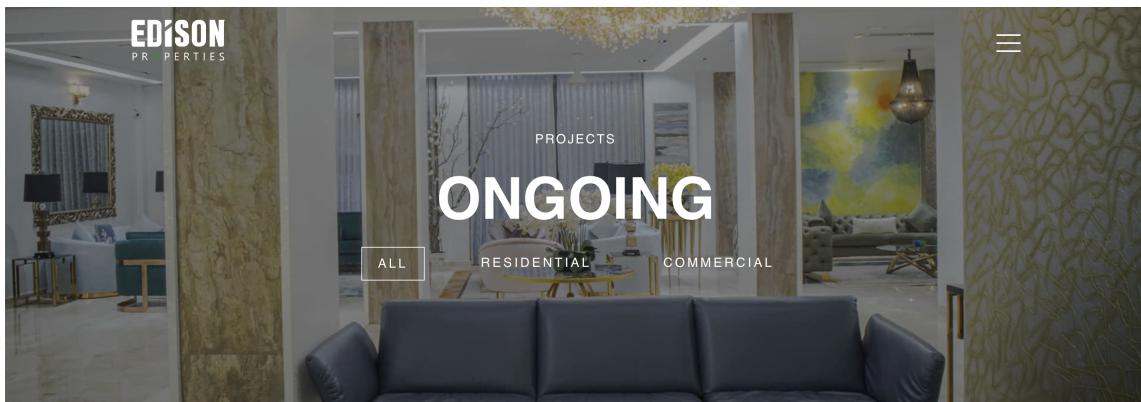
6.1 Results

The Edison Properties website was created primarily to make purchasing apartments considerably easier for buyers and easier for landowners to sell their lands. The primary goal was to bring all of the project specifics together on one website so that potential buyers could access all of the information they needed without going out and looking for it themselves.

Below is a rundown of what we've accomplished so far in the project and how it will benefit website visitors:

Homepage: The homepage contains a header with the companies logo and a hamburger icon. Below them are essential features of the website, testimonials, and the footer.

Project: The section is divided into three parts of their projects. Ongoing, Upcoming, and Completed. All the projects are well defined with their images and description.



Through sound design principles and utmost conformity to quality, each of our projects are delivered with complete satisfaction to customers. With a team of professional architects, engineers, licensed contractors and other support officials, we ensure sustainable, high standard and visually refined development practices.

Figure 6.1: Ongoing Page Result

About Us: The page contains all the important messages of the company. When the

company was established, their mission and vision, success stories and the messages of their team members.

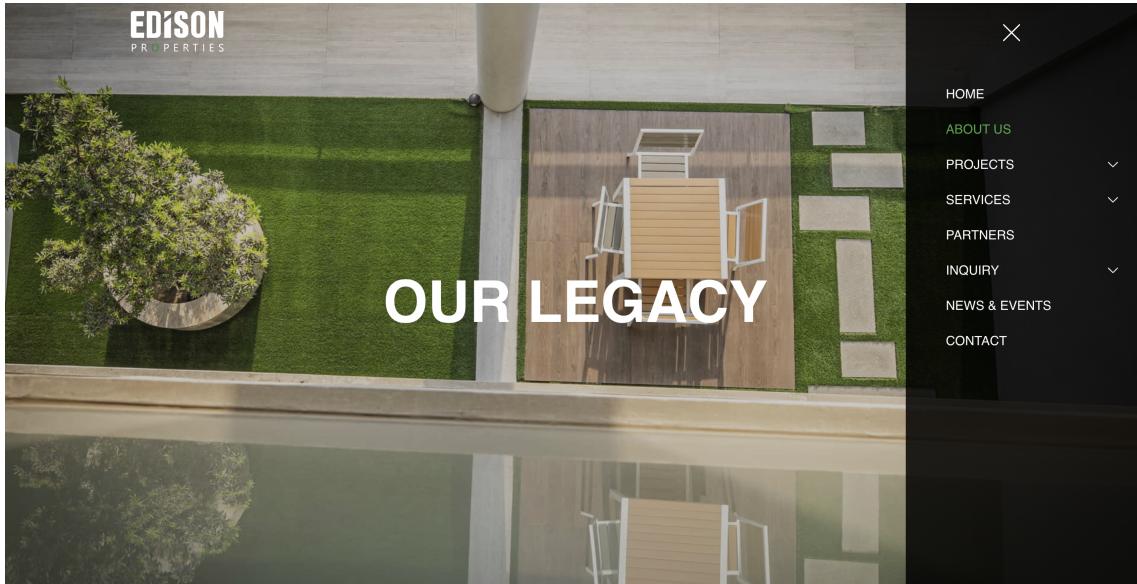


Figure 6.2: About Us Page Result

Contact Us: The page's goal is to make it simple for website visitors to contact the company. The company's contact information and a contact form for getting Edison Real Estate with any questions are provided. Users must fill out the form with all required information as well as a message with their query.

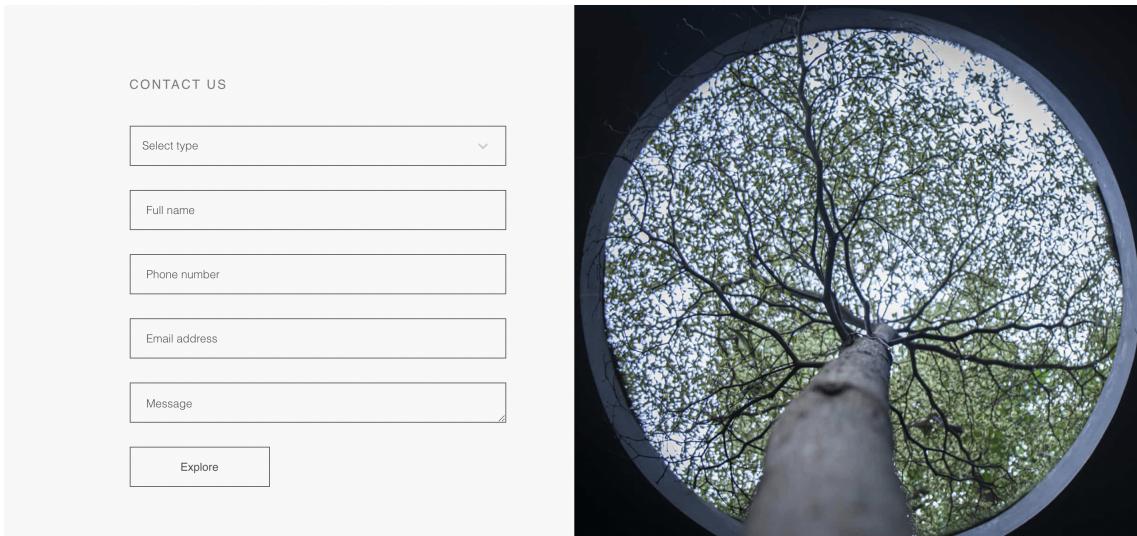


Figure 6.3: Contact Us Page Result

Inquiry: The page's goal is to simplify website buyers and landowners to inquire about anything to the company. Users must fill out the form with all required information as well as a message with their query. Later the admin process the forms and contacts the user again.

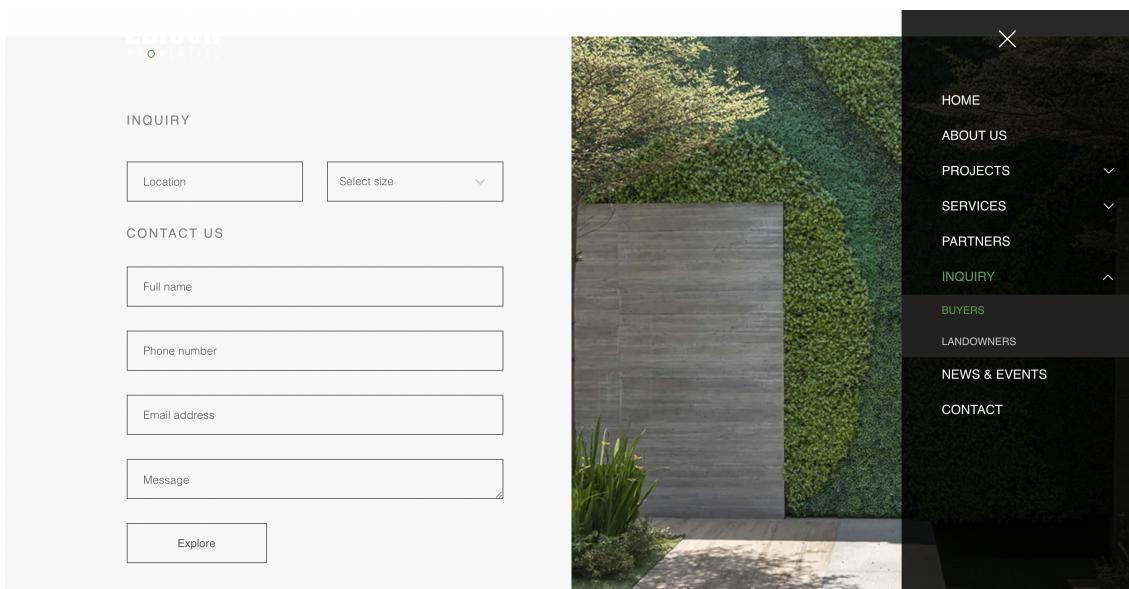


Figure 6.4: Inquiry Page Result

6.2 Analysis

- Client Requirements
- Project Planning
- User Interaction
- Forms In the website
- Responsiveness

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project

The project is completed using React.Js. React.Js is one of the most popular javascript frameworks. Organizations do face problems when they shift from one technology to an updated one. Training developers to a new technology consumes a lot of time too. React, on the other hand, is extremely simple to learn and use. The codes are similar to the Javascript fundamentals. React components enable the creation of stunning front end designs for users, ensuring that they have the best possible experience when using the application. The framework also lets pages render really fast and is very light weighted; in the following days, it will continue to flourish and help the business grow.

Businesses that want to create a fault-tolerant user interface should consider using ReactJS. The reason for this is that one of React JS's benefits is code stability. The framework allows developers to run unit tests to ensure that the system will not crash shortly.

The real-estate website is also designed and created to be user-friendly. Users with the minimal idea about using a website can also navigate the website. The media files, such as pictures, videos, symbols, and logos, have been optimized, ensuring that the pages load quickly, allowing visitors with low-end devices and poor connections to browse the site. When the technological infrastructure needs to be changed soon, the company will not have to encounter any problems or consider beginning from scratch.

7.2 Social and Environmental Effects and Analysis

The website seeks to assist customers by providing excellent customer service. Users are connecting through an online platform to enjoy fantastic experiences. Maintaining good customer service gets increasingly difficult as a company grows. Customer service encounters with negative clients can be damaging to a company's reputation.

The website decreases people's effort to travel from one place to another to see an apartment. All the details alongside images are provided on the website. The website saves time for its client and fuel, too; using energy can be harmful to our environment. The website is developed with code optimized as much as possible to achieve significant efficiency while using fewer resources.

7.3 Addressing Ethics and Ethical Issues

Firstly, Dcastalia Limited keeps its clients confidential, including the agreement deal, project documents, and codebase documents. This ensures the privacy of our clients and the company.

We ensured that our project data was secure enough to prevent hacking. We confirmed that no sensitive information is collected via the website, only the inquiry form. Data is securely stored in the cloud, and critical information such as passwords is encrypted. Our team's Lead Developer can only access these data with valid credentials, and no one else on our team has access, ensuring the data's security.

Chapter 8

Lesson Learned

8.1 Problems Faced During this Period

Understanding the client. Explaining the structure of the project to the client was also tricky. The cost was also an issue; the price was said to be too high. I also had no understanding of the Gantt Chart, had to learn them from scratch. Keeping in mind the several factors to put the cost for the client was challenging too.

Understanding the agile methodology and other described methodologies. A tough decision was to find out which solution should work best for this project. How will we benefit from using one of the related methodologies and satisfy our client?

Understanding the UML diagrams. Creating six Element Analyses for the project was challenging. I had no idea how to carry out a feasibility analysis. The rich picture of the diagram was redrawn several times to conclude the project.

During development period it was very difficult to cope up with team members as they have greater knowledge than me. React.Js was new to me and difficult to implement the code and make it mobile responsiveness.

8.2 Solution of those Problems

Meetings were fixed with the client, and feedbacks were taken to sort out the problem of their understanding of the project, its structure, and the cost was negotiated. Making a Gantt chart was learned using YouTube. The problem of making the cost of work distribution was solved by understanding it from a senior colleague.

After researching many websites, watching YouTube, and hiring a project expert, we concluded that the agile scrum method fits our project the best. Experts advice was constructive, and he clarified what were the benefit's the developers will get and the benefits our client would get.

YouTube was the best option to understand UML Diagrams. A senior member of the project helped me to understand the six-element analysis. Researching different websites, I understood the feasibility analysis and wrote it for our project. The Rich picture was understood using

YouTube, and some edits were done as per the head of operation mentioned, and finally, it was drawn.

I kept practicing the codes react codes and understand the basics using You-Tube to cope up with the team. The team worked as my support system and was able to help me out with each and every difficult situation.

Chapter 9

Future Work & Conclusion

9.1 Future Works

The real estate website should not only collect information of the client and contact them later. Clients, buyers, and landowners should also be able to buy and sell properties through their platform. Pictures should be captured using a 360-degree view. Websites should have a career section to post for any job alert, and employees will be able to submit their CV on the job alert. In the digitalized era, clients might have an online live session with the manager or representative of an apartment, where they can get a complete view of the apartment and keeps a close connection with the client.

9.2 Conclusion

A wonderful experience to work under Dcastalia Limited as an intern. I have learned lot from my seniors at Dcastalia. They made me effortlessly comfortable working with a technology that I had a minimal idea about. Despite facing so many difficulties to complete my work for the project, the seniors guided me to the solution. They helped me build confidence and professionalism in me to let me easily step into my professional career.

The project helped me to understand and implement React.Js code. The internship program has made a passion inside me for React.Js. I really would like to pursue my career as a React.Js developer.

Dcastalia Limited has been an overwhelmingly good experience for me. I'd want to express my gratitude to the Dcastalia Limited team for the opportunity. I'm very thrilled to watch this firm expand, and I wish them the best of luck.

Bibliography

- [1] A. Begel and N. Nagappan, “[pdf] usage and perceptions of agile software development in an industrial context: An exploratory study: Semantic scholar,” Jan 1970.
 - [2] P. P. Kumar, “Effective use of gantt chart for managing large scale projects,” Jan 2005.
 - [3] “Work breakdown structure.”
 - [4] . b. A. Kumar and A. Kumar, “Feasibility study in system analysis design - freeeducator.com,” May 2021.
 - [5] C. Marquis, “Paper-free isn’t enough: The keys to sustainable web design for every business,” Jan 2021.
- [1] [2] [3] [4]
[5]