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# An Undergraduate Internship Project On A Dynamic Company Profile

AKASH, PRONoy ROY

Independent University, Bangladesh

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# **An Undergraduate Internship Project On A Dynamic Company Profile**

By

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Student ID: **1910986**

**Summer, 2023**

Supervisor:

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Department of Computer Science & Engineering

Independent University, Bangladesh

**October 5, 2023**

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

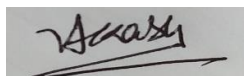
Department of Computer Science & Engineering

**Independent University, Bangladesh**

# Attestation

As required by the Independent University of Bangladesh (IUB) for my computer science degree, I, Pronoy Roy Akash (1910986), certify that I completed and submitted the report "Dynamic Company Profile: A Full-Stack Experience at Global Informatics Ltd." The report was finished with the help of Md. Fahad Monir Sir, the supervisor. Additionally, I guarantee that every piece of work in this report was created solely by me throughout my internship. As required by academic standards, each source of information used in the project and report has been duly recognised and cited. Thus, plagiarism is untrue. Nevertheless, I followed the university's guidelines in my endeavour.

Date- 19-10-2023

A handwritten signature in black ink, appearing to read 'Akash', is written over a light gray rectangular background.

Signature

Pronoy Roy Akash

---

Name

# Acknowledgement

Above all, I want to express my profound thankfulness to God for His gracious assistance in allowing me to successfully finish my internship report within the allotted time. I am grateful that the Faculty of Computer Science and Engineering Department included the internship course CSE499 in the graduate program curriculum since it gave me the opportunity to obtain practical experience in a related field. I would like to express my gratitude to my supervisor, Md. Fahad Monir Sir, Lecturer, for his steadfast support, guidance, useful instructions, creative recommendations, and wise counsel throughout my internship and the writing of this report. I am incredibly grateful to the distinguished employees of Global Informatics Ltd. for providing me with the opportunity to fulfil my internship requirement for my degree program and for providing me with a crucial introduction to industry-oriented tasks and the working world. I would like to thank the entire engineering team, but in particular my boss, Md. Mahmud Hasan (CEO), who gave me a lot of support, direction, and wise counsel during my internship. We also appreciate Muid Ahmed Alvi and Tavar Sarrick's expertise. Throughout the entire process, they have been of great help. It is also necessary for me to thank the company for its efforts in creating a welcoming and supportive work environment. I was able to ask questions, be willing to make mistakes, and freely solicit assistance from others as a result. I would especially like to thank my brother and dad for their unfailing support throughout this trying time. Their contributions are crucial to my achievement, and for that, I will always be appreciative.

# Letter of Transmittal

Md. Fahad Monir  
Lecturer  
Department of Computer Science and Engineering  
School of Computer Science and Engineering  
Independent University, Bangladesh

**Subject: Submission of Final Internship Report in Compliance with Graduation Requirements.**

Dear Sir,

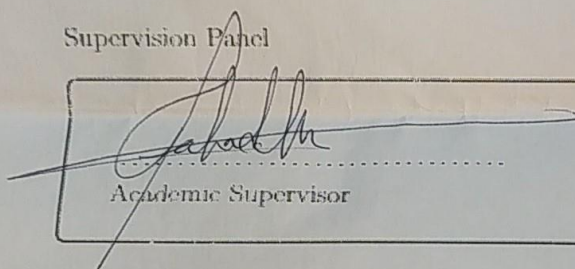
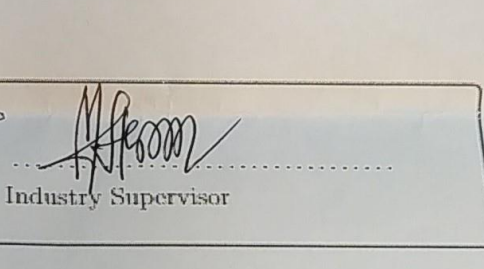
With all due respect, I am submitting my internship report in order to fulfill the requirements for my Bachelor of Science in Computer Science and Engineering. I feel very lucky to have had the opportunity to work under your direction. This report is the result of my three-month internship at Global Informatics Ltd., where I had the privilege of working under the CEO, Md. Mahmud Hasan. Through my internship, I was able to network professionally and learn both theoretical and practical skills. Using my skills and knowledge from my internship, I have worked hard to make my report as comprehensive and instructive as possible. I have complied with the guidelines and provided sufficient details in the report. Without a doubt, this report will successfully fulfill the objective of my internship program.

I would greatly appreciate it if you could read the report and provide your sage advice. To have the report help you better understand my internship experience would be an incredible honor.

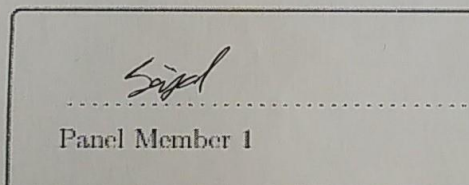
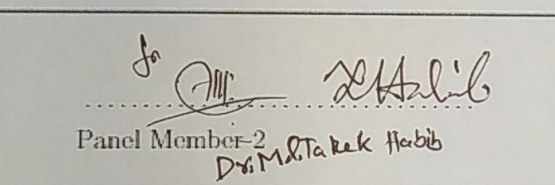
Sincerely,  
Pronoy Roy Akash  
ID: 1910986  
Department of Computer Science and Engineering  
Independent University, Bangladesh

## Evaluation Committee

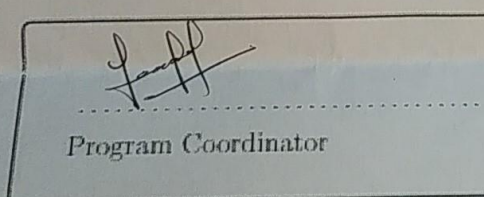
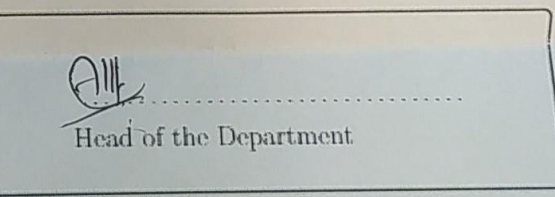
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# Abstract

This is the CSE499 (Internship) course. At Global Informatics Ltd., I worked during this internship. The business Here, they provide me with some resources and give me a project to complete called Dynamic Company Profile. I use that for organizing, creating, and carrying out my plans. However, POWERtrac was the project name. Through the use of a website, the business had a fantastic opportunity to make a wonderful impression online. My time as an intern for the POWERtrac Project served as the foundation for this internship report, where I discussed the goals of the project, its scope, management, problems with the design, and problems with implementation. Everything I learned and experienced while pursuing a bachelor's degree in computer science and engineering at Independent University Bangladesh. Also, some information was obtained from Global Informatics Ltd., a business that offers IT services and solutions. The user can browse through a catalog of many projects on the website. While some are ongoing, others have already been completed. Every feature can be controlled by an admin from their dashboard. An administrator can alter the entire website with just one statement.



# Contents

Attestation .....	<a href="#">i</a>
Acknowledgement .....	ii
Letter of Transmittal.....	iii
Evaluation Committee .....	iv
Turnitin.....	v
Abstract.....	vi
Chapter 1.....	1
Introduction.....	1
1.1 Overview/Background of the Work .....	1
1.2 Objectives.....	2
1.3 Scopes.....	2
Chapter 2.....	3
Literature Review.....	3
2.1 Relationship with Undergraduate Studies .....	3
2.2 Related works .....	4
Chapter 3.....	5
Project Management & Financing.....	5
3.1 Work Breakdown Structure.....	5
3.2 Process/Activity wise Time Distribution.....	6
Figure 3.2: Activity wise Time Distribution. ....	6
3.3 Gantt Chart.....	7
3.4 Process/Activity wise Resource Allocation.....	8
3.5 Estimated Costing .....	9
Chapter 4.....	10
Methodology.....	10
Figure 4.1: Software Development Life Cycle (SDLC).....	11
Chapter 5.....	12
Body of the Project .....	13
5.1 Work Description .....	13
5.2 Requirement Analysis .....	13
5.3 System Analysis .....	14
5.3.2 Feasibility Analysis .....	15
5.3.3 Problem Solution Analysis .....	15
5.3.4 Effect and Constraints Analysis.....	16
5.4 System Design.....	17
5.4.1 UML Diagrams.....	17
5.4.2 Architecture .....	17

5.5	Implementation .....	18
5.6	Testing.....	18
5.6.1	Input.....	19
5.6.2	Output.....	19
5.6.3	Designing Test Cases.....	20
5.6.4	Test Results .....	20
Chapter 6	.....	21
Results & Analysis	.....	22
Chapter 7	.....	23
Project as Engineering Problem Analysis	.....	23
7.1	Sustainability of the Project/Work .....	23
7.2	Social and Environmental Effects and Analysis.....	23
7.3	Addressing Ethics and Ethical Issues.....	24
Chapter 8	.....	25
Lesson Learned	.....	25
8.1	Problems Faced During this Period .....	25
8.2	Solution of those Problems.....	26
Chapter 9	.....	27
Future Work & Conclusion	.....	28
9.1	Future Works .....	28
9.2	Conclusion .....	28
Bibliography	.....	29



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**Pronoy Roy Akash**

Student ID: 1910986

**Summer, 2023**

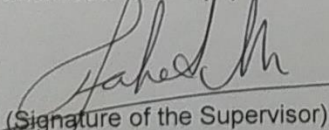
### Consent from Supervisor

The student modified the internship final report as per the recommendations made by his/her academic supervisor and/or panel members during and/or before final viva, and the department can use this version for archiving as well as the OBE course material for CSE499.

This internship report is checked with Turnitin and/or Ithenticate plagiarism checker, and the score is:

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(Signature of the Supervisor)

MD. Fahad Monir

Name of the Supervisor

Department of Computer Science & Engineering  
Independent University, Bangladesh





# List of Figures

Methodology.....	10
Figure 4.1: Software Development Life Cycle (SDLC).....	10
5.4.1    UML Diagrams.....	17
3.3    Gantt Chart.....	8

# List of Tables

3.1	Work Breakdown Structure.....	5
3.2	Process/Activity wise Time Distribution.....	6
	Figure 3.2: Activity wise Time Distribution. ....	6
3.5	Estimated Costing.....	9
5.3	System Analysis.....	14
5.6.4	Test Results.....	20

# Chapter 1

## Introduction

Gaining experience in the professional world can be greatly facilitated by participating in an internship. It is therefore possible to do an internship. To learn, develop knowledge, and establish plans, this is undoubtedly beneficial for pupils. An abundant life filled with diverse experiences and knowledge are the two main ways that men learn. Internship programs are designed to assist students in exploring their specific career interests and potential. Even though I studied theories in college, I gained practical training through an internship. That being said, I have chosen to enroll in the internship program. Taking advantage of the rare chance to put my theories and knowledge to use in a real-world working environment. Situated within the school of Independent University, Bangladesh, this course (CSE 499) provides instruction in Computer Science and Engineering (CSE). I've been employed at "Global Informatics Ltd." for three months as a junior software engineer. Finding both my skills and limitations is made easier for me thanks to this internship. And last, I decide to enroll in an internship because our lives in schools and universities are not like our lives in the workplace. The working world requires a lot of labour, devotion, and ability, therefore I have to train myself and prepare for it. It's actually extremely challenging.

### 1.1 Overview/Background of the Work

I am doing my internship at Global Informatics Ltd. The company has an Android app, IT solution, software development, and web application. After joining this company, they assigned me to work on POWERtrac (Project) and provide a brief description. So, I am working on this project.

It is a web-based project Which is also an e-commerce site. There are so many features on this website. And It helps users to get that information regarding this company. They will explore different projects using this website. It also helps the admin to manage this whole website easily. On this website, people will get more unique features.

Many PHP frameworks are available for creating websites, however Laravel is the one chosen for this one. A framework for web applications with an expressive and elegant syntax is Laravel.



## **1.2 Objectives**

- Through this system, the company's expertise will be highlight.
- This system will show what the company does.
- This system that stores and displays information about this company is called POWERtrac.
- This site will represent the positive image of the company
- This site has informative documents for various projects.

## **1.3 Scopes**

- The user can use any sort of browser to visit this website called POWERtrac.
- The user will see the newest news regarding this company through the website.
- This website is so user-friendly to use. People will get to know it easily while they are using it.
- The quantity of features is quite big. People will get to know about this company easily. It is simple for the admin or user to observe it.
- The admin has authority over these kinds of functions. As an illustration, the creator or administrator can create, delete, and manage (for working activities) an account.

# Chapter 2

## Literature Review

### 2.1 Relationship with Undergraduate Studies

I've taken a lot of courses that have given me useful knowledge. I am able to ensure that this project runs successfully thanks to my knowledge. While certain courses use this platform directly, such as-

- **Data structure (CSE-203):** The goal of this course was to educate students how to handle and operate complex objects, arrays, classes, nested arrays, objects of nested arrays, and so on. Given the number of intricate data structures in "Above & Beyond," handling them was significantly simpler thanks to the knowledge and abilities from this course.

- **Object Oriented Programming (CSE-213):** This course aids in the discovery of physical and logical objects. Additionally, how to deal with clients and use code to convey daydreaming or fictional notions. Additionally, when the program grew in size, this practise helped prevent the need to write new modules from the ground up by extending existing modules with additional functionality.

- **Database Management System (CSE-303):** I developed a project called Covid management app. Within the developmental life cycle, the rich picture, goal attainment plan, functional requirements, process modeling, and requirement analysis that we have studied in this course will all be involved. The development planning and strategy of "Above & Beyond!" as well as the drafting of this report were aided by these techniques.

- **System Analysis & Design (CSE-307):** In terms of a system life cycle, this is the most crucial course. I learned about agile methodology, system planning, structure analysis, system design, testing environment, maintenance, and goal identification in this course. I think understanding and analyzing a system is crucial for this course. I'll be able to apply for my project and finish my internship with all of these things.

- **Web Application and Development (CSE-309):** A web developer is highly acquainted with this course. Because even if you are not a web developer, you may

still attempt to create something if you have a concept for a web application and are taking the course. I've made a Doctor Checkup app for this course that will aid in the website creation for my internship. As a full stack web developer, I generally acquired all the knowledge and applied it to my project, POWERtrac."

## 2.2 Related works

In this part of the report I have referenced how I studied such improvements, the way toward creating and the necessary things that acquired from looking into various distributed examination papers on company profile. There are numerous similar web applications or websites on the internet. The following are a few of them:

**Tahmid's Blog:** A blog is a page or website that is a subset of a main website. The articles are usually written in a conversational way and include images or videos alongside them. Here in this website, visitors will get to know the bloggers lifestyle easily. Because it's flexible and fun, allowing for social interaction and self-expression, blogging has become incredibly popular. Furthermore, it functions as a medium for improving writing abilities and advertising companies.

**New Target, Inc:** New Target, Inc. is an online solution to clients worldwide. Experienced strategists, designers, architects of Drupal solutions, Drupal developers, and project managers make up their team; all are committed to providing the best possible service. They serve associations, non-profit organizations, governmental organizations, commercial firms, and corporations digital strategy, interactive design, web development, data integration, application hosting, and online marketing services. They have extensive expertise designing and developing enterprise Drupal websites. Also while doing my course projects it also help me to develop this project-

- 1.While doing system analysis and design i made a project which helped me to design and implement in my field work.i made a project which was named "Holy Homes Ltd " for consumers to buy flats from website.
- 2.Doing (OOP) I made a project in "Covid Management".
- 3.In Web Application and Design, I made a website called "Doctor App".
- 4.In Database Management, I made a project where I made a database management system to store data and show data , the name was "Air Quality Monitoring System".

# Chapter 3

## Project Management & Financing

This chapter is in charge of organizing, managing, and taking charge of the financial endeavors, system modifications, and technological advancements inside the financial branch. Project managers oversee the creation of project plans, ensure that tasks are completed satisfactorily, on time, and within allocated budgets. They also oversee the monitoring and planning of short-, mid-, and long-term initiatives from inception to execution.

### 3.1 Work Breakdown Structure

The WBS is a method for completing a difficult job that requires several steps. This method divides and conquers big undertakings, allowing for even faster and more expert completion of tasks. The work breakdown structure, or WBS, is a multi-levelled tree structure that breaks a project down into smaller parts. Thus, the main instrument for defining the parameters of our project is the work breakdown structure. Because the " POWERtrac " WBS is written as a series of activities or tasks, it can be completed in stages, allowing for simultaneous work. The developer found it easier to finish the job as a result.

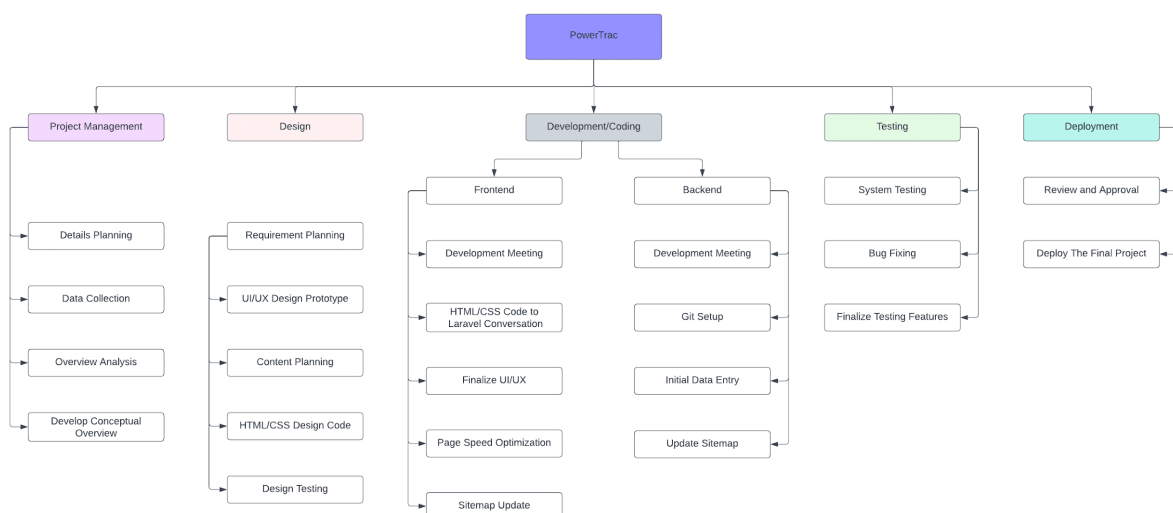


Figure 3.1: Work Breakdown Structure (WBS).

## 3.2 Process/Activity wise Time Distribution

A project schedule is a timeline that arranges tasks, resources, and deadlines in the best possible order to ensure that a project is completed on timetable. When planning begins, a project timeline is created that includes the following:

- A schedule of the project that includes start, finish, and milestone dates.
- The tasks required to finish the project deliverable.
- The expenses, materials, and dependencies related to every task.
- The members of the team assigned to each task.

Project scheduling software, which provides essential features that let project managers keep an eye on the status of tasks, is used to design and maintain project schedules. Additional features include resource allocation, dashboard viewing, work assignment, task linking, and more.

**Project Management:** One day, they send me a letter with instructions on where and how to gather all of the data on art. additionally, the kind of data I intend to employ. Several issues are covered in this section, including the project background, data collecting, and requirements. For example, one of the most important aspects of the work is the history, which should explain why the project was started, what the requirements are, and which email addresses can be obtained efficiently. Organizing, Creating a Conceptual Framework. For example, we shall follow the logical stages in these sections. When I have to successfully create a project plan. Project plans will differ in terms of components, elements, sizes, and forms. Thus, there isn't only one correct technique to draught a project plan example.

The design was something I worked on from July 03 to August 10. Plus, it's the major portion. Since we could never send or view any data without the front-end. A few of the front pages are as follows: Dashboard, Settings, Customer, Directors, Projects, About Us, Login and Contact info. There were many Categories also. Thus, after creating a page, I await comments. Should my company Global Informatics ltd. make any modifications. The most important aspect of any project is its implementation and development. We are not able to retrieve any data without a backend. I therefore worked on this project from September 4 to September 29. Indeed, I have been working on this project for a long time because the implementation site has certain processes. For example, I have to construct the frontend first (which is the same view as the prototype in the design sector). Afterward, make a responsive layout, and then schedule a meeting (as I indicated in the prior choice, we convene via the Google Meet link to discuss the development process. After that, I spent 13 days fixing the front end with the back end. due to how difficult it is to fix webpages. After that, I use some data to save and test.

**Testing:** The system testing portion is covered here. That was too brief, in my opinion, if I were to discuss time distributions, as I believe that 3–4 days should be sufficient for system testing. But I spent a week working on it. Because I strive to address any issues as soon as I am aware of them.

**Deployment:** I turned in my POWERtrac project during this phase, along with an explanation of the new system's operation and expected results.

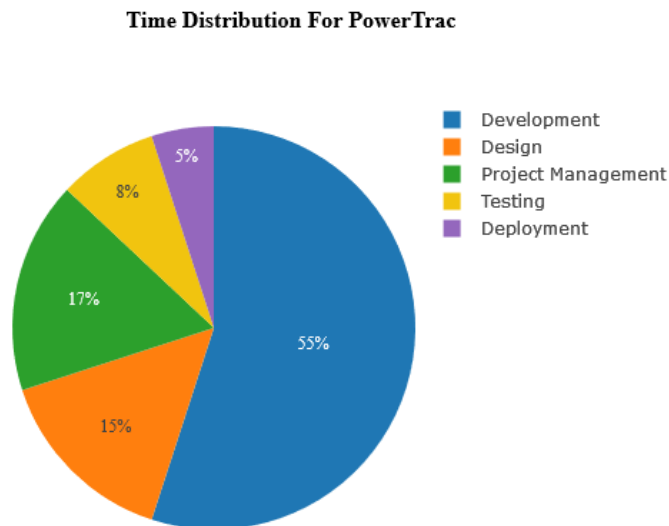
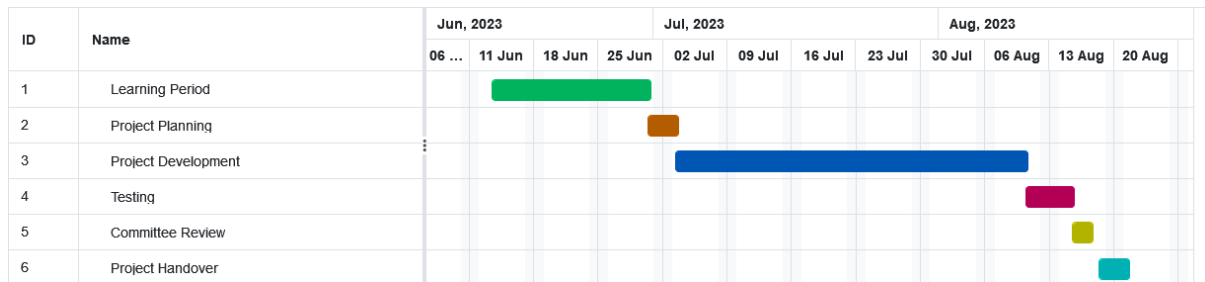


Figure 3.2: Activity wise Time Distribution.

### 3.3 Gantt Chart

Project tasks can be planned and scheduled with the aid of a Gantt chart. It was useful in estimating the project's duration, figuring out what resources would be required, and organising the activities' chronological order of completion. Managing the dependencies between tasks was also aided by it. We can make sure the timeline is feasible with the aid of this Gantt chart. that each task is assigned to the appropriate person. and that before we begin, we have solutions for any potential issues.



**Figure 3.3: Gantt Chart of this project.**

## 3.4 Process/Activity wise Resource Allocation

Uncertainty arises from the involvement of land and landmines, adding to the complexity of projects. Future dangers cannot be predicted by a project manager using a crystal ball. It can, however, be relatively well-moderated. Accordingly, we shall disentangle the components of a robust system from the several areas it ought to guard. At that point, we'll consider how to organize our project and its many agencies using a work breakdown structure that we can create. We must become proficient in the most important skills that will enable us to manage, direct, and progress projects. Such as

- **Project management:** The "POWERtrac" project, for which the organization's CEO presented the concept. The CEO and the developers looked over the requirements needed to complete the project within the first few weeks. For instance, in order to generate features, apps, and developer needs, you must use computer specifications, software, and technology. This is the project's initial iteration. where the organization's CEO first proposed the project proposal. Since it was an internal matter, the project administrative work had not been started until very late.

- **Design:** Not many visual designers were employed at this point to plan the application's site pages, while the management team started working on the project's low-level and undeniable level diagrams to ensure that the master plan was obtained without any hesitation.

- **Implementation/Development:** At this point, the pages' designs were complete, and the developers got to work writing the application's front-end and back-end code. Meanwhile, the management team continued to monitor if all deadlines were met.

• **Testing:** When a new feature was introduced to the website, testing got underway. All of this occurred when the developers were conducting their testing. Unit testing for the application started near the end of the implementation phase. All the poles are accurate at that point.

• **Deployment:** In software and online development, deployment aims to push updates or changes from one deployment climate to the next. The testing was actually completed after that, and everyone in the group realized that it had been postponed. In order to deliver the application on a live server, a memory space and a virtual private server (VPS) have to be purchased.

## 3.5 Estimated Costing

A crucial step in accomplishing a project's objectives is project estimating. Project evaluations can generally become problematic because As the project moves along, more challenges arise. As a result, determining the project's scope is crucial in order to obtain an accurate project gauge. Thus, the project's total anticipated cost is 60,000 BDT. This represents the project's approximate cost. It can be further developed in light of website modifications and remains current.

Internet Bills	6000
Domain Bills	3500
Hosting Bills	1500
Project Manager	7000
Frontend Developer	16000
Backend Developer	26000
Total Costs	60000

**Table 3.1: Estimated Cost for POWERtrac Website.**



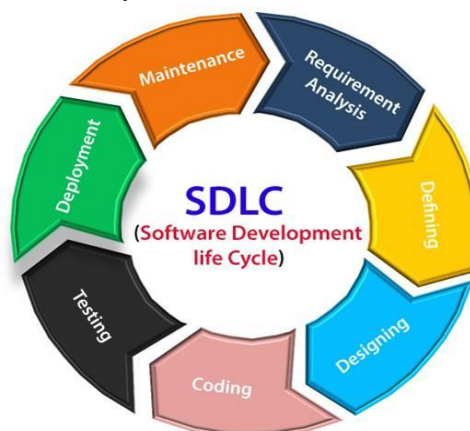
# Chapter 4

## Methodology

**Systems Development Life Cycle (SDLC):** This is a dissection of business problem solving into manageable steps. Software development measures are a means to improve design, product management, and project management in software engineering by segmenting software development activities into discrete stages. Another name for it is the framework development life cycle (SDLC). An outline of the exercises carried out at each stage of a system development project can be used to define the SDLC. Consequently, there are a few crucial steps that must be taken during the development term. developed using a certain cycle of user and analyst activities. Every phase features different user actions. There are several varieties of SDLC, including: The following models are available:

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

Each of these approaches therefore has a set of unique requirements in addition to benefits and drawbacks. Regardless, we are better off using an agile methodology. We need minimal investment to reap significant profits. Furthermore, we have extremely well-defined needs because we set them rather than the client defining them, and they are unlikely to alter anytime soon.



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

## Agile Approach

The Agile philosophy was first introduced in the software development industry and gained popularity over time for its adaptability and flexibility. We employ agile technique for this reason. Within the commercial sector, the market is gradually growing as more portable applications are added. Therefore, in order to beat the competition and enter the market as quickly as possible, business pioneers are exploring every avenue possible. One such avenue is the use of "Programming Development Methodology" (PDM), a system that plans and regulates the interplay between development and maintenance. There are two SDM: Agile and Cascade. Since the beginning, Cascade has been the client in this case, and it represents the highest calibre of programming development. However, at current time, almost every product firm either accepts that they must use Agile technique or uses it since it influences development process.

Some fundamental ideals are highlighted by agile software development, such as.

- **Working software:** As opposed to merely depending on documentation, demo working software is thought to be the greatest way to communicate with consumers and understand their needs.
- **Customer cooperation:** Since the requirements cannot be fully obtained at the beginning of the project due to various factors, ongoing customer interaction is essential to obtaining the necessary product requirements.
- **People and interactions:** Self-association, motivation, and teamwork, such as in co-area and pair programming, are important in Agile turn of events. Thus, the limousine company's engineering staff focuses on a transportation rhythm known as a sprint. Regarding this meeting structure here,

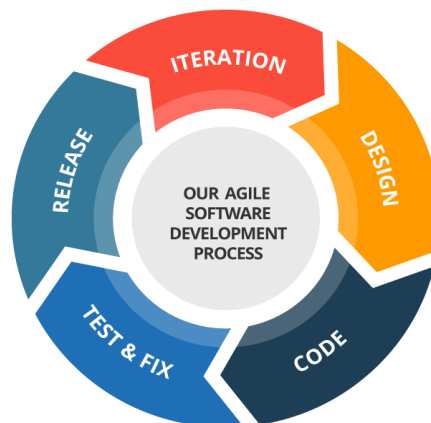


Figure- 4.2: Agile Methodology

# Chapter 5

## Body of the Project

This part contains details of the project, what was done, how it was done, what the results were etc.

### 5.1 Work Description

“POWERtrac” is a dynamic company profile where the company (POWERtrac) showcases their work through this website. The main purpose is to interact with clients and develop their engagement day by day. Our main task was to develop this platform using mainly Laravel framework but also get assistance from various instruments like Bootstrap HTML, CSS, PHP, jQuery and so on and fabricate the backend so the two can be associated.

### 5.2 Requirement Analysis

Rich Picture

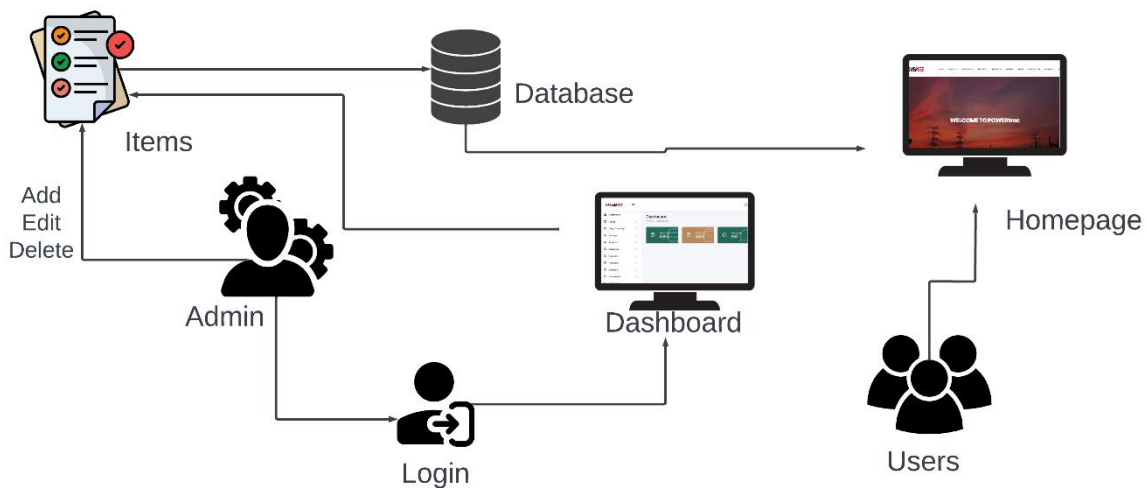


Figure: 5.2.1 Rich Picture of The System

# Functional and Non-Functional Requirements

## Functional Requirements-

- **Add Item:** New items must be entered in a database with full detailed information which includes name, images, description, status and many more.
- **Edit Item:** Any changes in items should be updated in case of update by admin interface.
- **Delete Item:** Wrong entry must be removed from the database.
- **Performance:** Easy tracking of records and updating can be done by the admin panel easily.
- **User Friendly:** The System is very interactive. And smooth so that users can understand from their first use.
- **Maintainability:** Backups for databases are available. So data erase is not possible.
- **Service:** The system will run 7 days a week, 24 hours a day.
- **Admin:** Only admin can maintain the dashboard by login with his/her username and password.

## 5.3 System Analysis

System analysis is a process of problem solving technique, examining, modeling and understanding complex systems to make decisions according to it. If any improvement is needed then it can help to make any decision and also improve it according to need.

Process	System Roles					
	Human	Non Computing Hardware	Computing Hardware	Software	Database	Communication & Network
Upload New Items	Admin	N/A	Laptop/Desktop Computer	XAMPP, Sublime Text, Chrome Browser	Live Server Database on MySQL	Wifi or Mobile data for the internet connectivity
Delete/Edit items	Admin	N/A	Laptop/Desktop Computer	XAMPP, Sublime Text, Chrome Browser	Live Server Database on MySQL	Wifi or Mobile data for the internet connectivity
Viewing 24/7	User	N/A	Laptop/Desktop Computer	XAMPP, Sublime Text, Chrome Browser	Live Server Database on MySQL	Wifi or Mobile data for the internet connectivity
Idea Generate	User	N/A	Laptop/Desktop Computer	XAMPP, Sublime Text, Chrome Browser	Live Server Database on MySQL	Wifi or Mobile data for the internet connectivity

Table 5.3.1: Six Element analysis of POWERtrac.

### 5.3.2 Feasibility Analysis

“POWERtrac” a dynamic company profile analyzed continuously in a comprehensive feasibility study before making any kind of decision. Decision taking on design, plan, and strategy is the main priority of this analysis.

Feasibility study helps to make decisions against all boundaries and mainly work in weakness, strength, as well. When we were giving training for development any kind of website, we were taught to feasibility study to take decision accordingly when it comes to work against any weakness. So while making this platform it helps me. If the project does not work successfully then it can be redesigned or modified with the help of this study.

**Technical Feasibility:** This project's software, hardware, and other technical needs are evaluated in technical feasibility. This assesses how we intend to provide a product or service to clients. For a website how transportation, location, and the technology required to bring it together. “POWERtrac” was built with the Laravel framework. It aided in the development of a far more efficient and speedier website.

**Operational Feasibility:** Successful proposed project solves problems and Fulfill the requirements during the time being, problem analysis period, determining the operational feasibility. Basically depends on the project's developer and requires making a decision whether the system will be used after it is built and implemented. “POWERtrac”, a dynamic company profile has been developed in this manner to operate so easily, so that acceptance increases.

**Economic Feasibility:** Economic feasibility is mainly where costs and benefits are taken care of. It does not only involve development cost but also service cost. On one hand it can make life easier for customers/clients and on the other hand it will reduce the wasting of human energy, time, crowd, traffic and what not.

### 5.3.3 Problem Solution Analysis

Developers main issue is to continuously under the process of changing requirements. Many requirements may discover while developing a website.

## Some steps may help to reduce the problems:

- Project's benefits should be clear as well as scopes.
- Assumption for any requirement is a big NO.
- It is important to have clear communication on every side.
- Primary requirements should be noted down.
- Clients should be involved

## Other issues rises and solved accordingly-

- Password:** With Laravel framework there was an issue with hash password and it is solved.
- Price and Discounted Price:** There was an issue created to show discounted price and it was also solved.
- **Login Button:** There was an issue with showing the login button because of layout ,after defining the button separately it works.

### 5.3.4 Effect and Constraints Analysis

“POWERtrac” is the platform that can drive users to use it easily because of its design and smoothness. And keeping that in mind any user from any background can use it so easily. It does not take too long to end all the procedures to analyze the company in a simple way. People nowadays are more willing to use online platforms as they have a busy schedule and it is also beneficial to save time, reduce traffic, save human energy and so on.

Unexpected things can delay your project so risk planning is needed while managing time and cost as well, but quality can't be compromised.

## 5.4 System Design

### 5.4.1 UML Diagrams

UML outlines the progression of one movement to another. It helps to imagine the progression of user and admin.

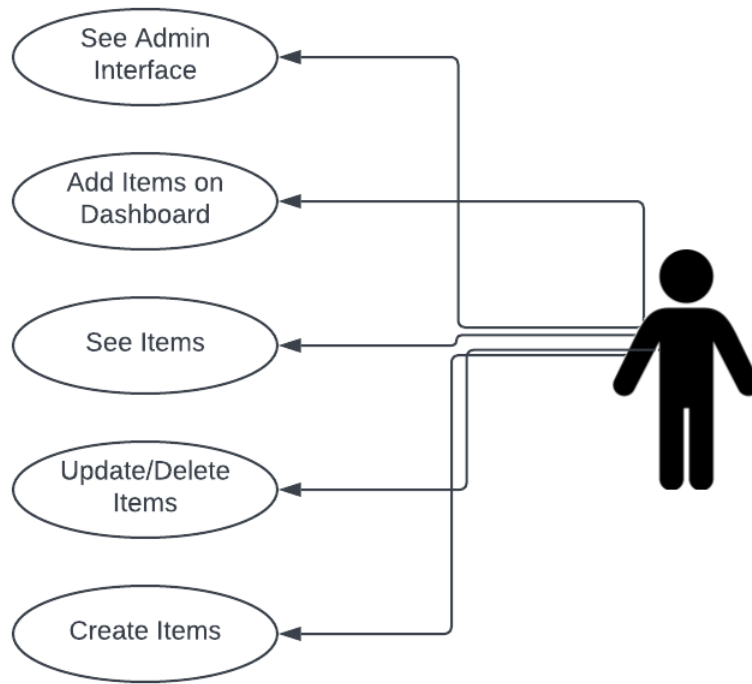


Figure: 5.4 Used Case Diagram of Admin

## 5.4.2 Architecture

For this Project we use MVC architecture. MVC stands for Model, View, Controller. Web framework is a platform which is used for web applications and websites. Web Application framework includes well written pre-components which helps us to work more neatly. It saves our time as well. View presents the interface that will be shown to the user or admin. Controller is used to connect and view processes. After login, the user sees the views information.

## 5.5 Implementation

**Planning & Roadmaps:** To make the right decision to achieve the objective is strategy or planning. So before developing we were taught to make proper planning which includes time. Also Has to make roadmaps how to proceed furthermore. And all these are taken care of while developing this website.



**Technology Selection:** It is another thing which helped to develop this website. Because with which template Laravel framework and this website is a great match have to decide also and other technologies. And this site is fully capable of customized.

**Users Insights:** What will be more friendly to use from the user side it is also maintained and provides best user experience to users.

## 5.6 Testing

All the input and output features user and admin will receive from this project.

### 5.6.1 Input

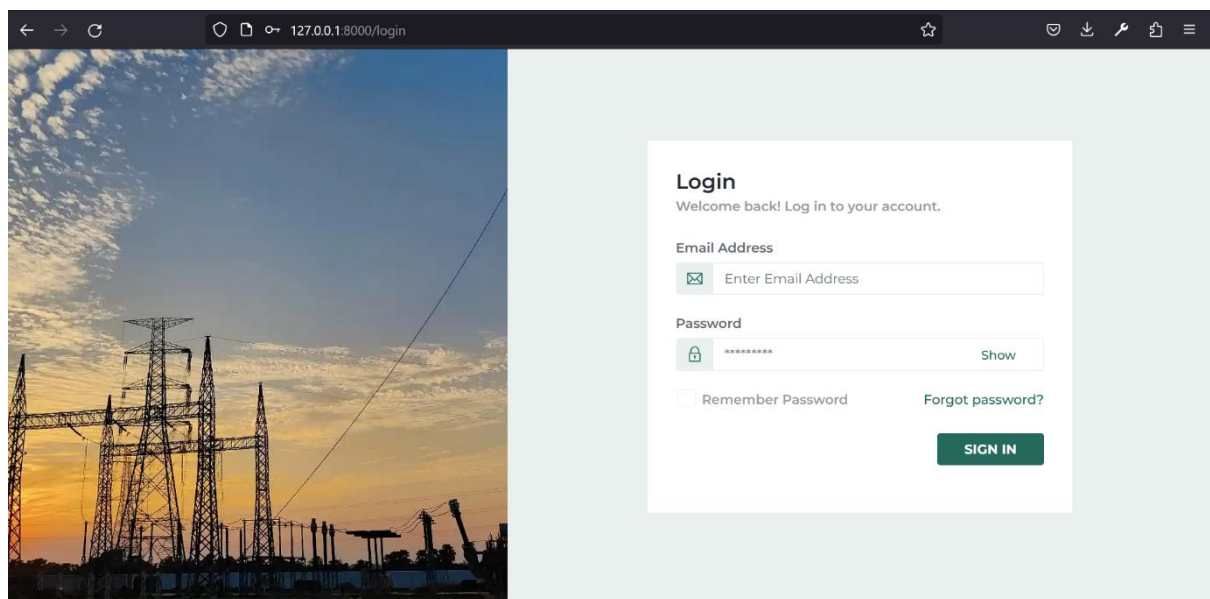
A screenshot of a web browser displaying a login form. The browser's address bar shows '127.0.0.1:8000/login'. The page has a light blue background. On the left, there is a vertical image of a power line tower against a sunset sky. On the right, there is a white login form. The form has a title 'Login' and a subtitle 'Welcome back! Log in to your account.' Below this, there are two input fields: 'Email Address' with a placeholder 'Enter Email Address' and a green envelope icon, and 'Password' with a placeholder '\*\*\*\*\*' and a green lock icon. To the right of the password field is a 'Show' button. Below the password field, there is a checkbox labeled 'Remember Password' and a link 'Forgot password?'. At the bottom of the form is a green 'SIGN IN' button.

Figure 5.6.1.1: Admin Login Form

## 5.6.2 Output

Admin Dashboard: After successful login admin will be seen in this admin panel.

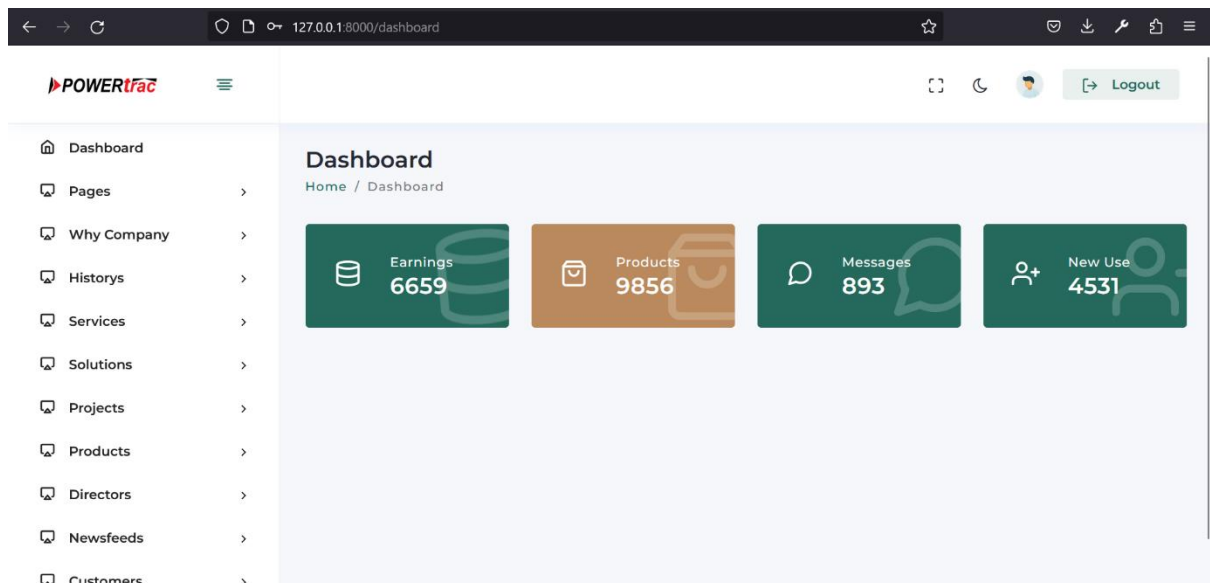


Figure 5.6.2.2: Admin Dashboard

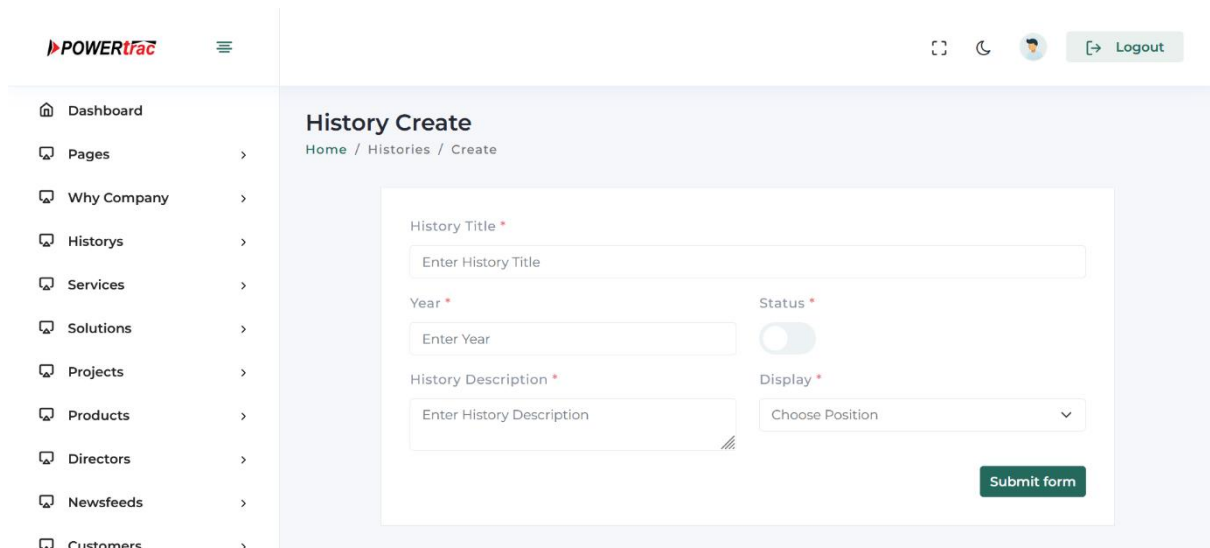


Figure 5.6.1.3: Admin Add Item Page

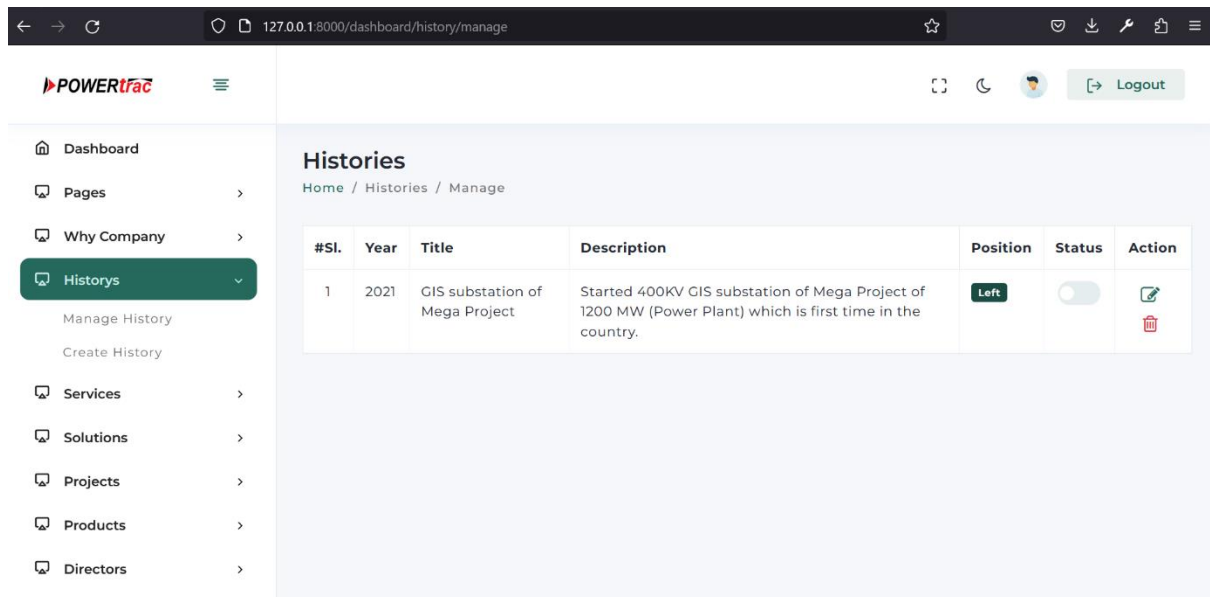


Figure 5.6.1.4: Admin Update/Delete Item Page

### 5.6.3 Designing Test Cases

Test case is to check and verify a particular feature of functionality of a system. It contains test steps, data, conditions to develop for a particular scenario. It includes various conditions.

### 5.6.4 Test Results

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Pass/ Fail
1	Check Admin Login with valid Data	Go to site http://127.0.0.1:8000/login Enter Address Password SIGN IN	Email=admin@gmail.com Password=admin	Admin should Login into the dashboard	As Expected	Pass

Table 5.6.4.1: Result of test cases

## Chapter 6

### Results & Analysis

“POWERtrac” a dynamic company profile’s main goal is to provide all valuable information and details,so that it can make people's life easier and the main goal is to design it in such a way that any user can use it, mainly focusing on user friendly design. To help clients to get the necessary service without facing any hassle. This site reduces hassle, saves time, makes life easier and so on. People now-a-day more into the internet but it is difficult to find authentic sites where security can't compromise and also quality of service should be constant.

“POWERtrac” are made keeping all those in mind so that people can use them easily. While doing this project many problems were faced ,one of the problems is layout. It sometimes causes server error and because of that the login button was not working but after defining the login button separately it fixed and worked properly.

From this website what was expected from Admin Panel is given below:

**Admin Dashboard:** After successful login admin will be seen in this admin panel.

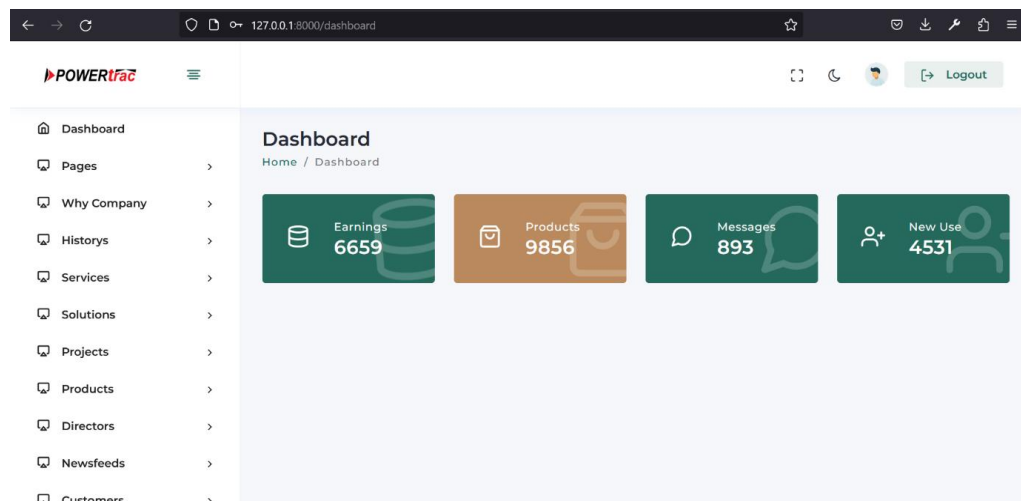


Figure 6.1: Admin Dashboard

**History Create**  
Home / Histories / Create

History Title \*  
Enter History Title

Year \*  
Enter Year

History Description \*  
Enter History Description

Status \*  
☐

Display \*  
Choose Position

Submit form

Figure 6.2: Admin Add Item Page

**Histories**  
Home / Histories / Manage

#Sl.	Year	Title	Description	Position	Status	Action
1	2021	GIS substation of Mega Project	Started 400KV GIS substation of Mega Project of 1200 MW (Power Plant) which is first time in the country.	Left	<input type="checkbox"/>	

Figure 6.3: Admin Update/Delete Item Page

Admin panels created such a way that it is easier to maintain and all parts like add create, Update or Delete items, Add Items kept separately so that nothing clashes with each other.

# Chapter 7

## Project as Engineering Problem Analysis

This chapter gives the internal guidance of a project. Sustainability of the project, Social and Environmental Effects and analysis, Addressing Ethics and Ethical Issues altogether give this guidance.

### 7.1 Sustainability of the Project/Work

This is important to have the ability to maintain and update the project when it is necessary. From user end nowadays continuously changing the requirement and needs so it is very important to maintain that to sustain the service.

People are nowadays more dependent on internet based services as the work opportunity increases and it leads to busy schedules. And also people want convenience in every sphere of life so it won't decrease the demand of internet platforms but it's on you why people will stick to your platform, mainly updating on time based on needs.

**Navigation System:** It is important to make simple and easier navigation so that users don't face discomfort while browsing.

**Deletion-** Routes were written such that it can be modified if needed.

### 7.2 Social and Environmental Effects and Analysis

**Social Effect-** People nowadays are more dependent on internet platforms. They trust more on internet things now-a-days. Company can easily interact with many other companies and various social stakeholders. By doing a unique company profile, companies are getting more projects now a days. On the other hand, they show their company details by their websites to grab more audience. Engagement with

stakeholders is more easier now a days. Company's demands is also visible on their website. On the other hand, the environmental effects on a dynamic company profile basically impact on the environment. In that case, regular monitoring and efforts to reduce environmental impact are essential for a positive site of a company profile environment.

### **7.3 Addressing Ethics and Ethical Issues**

If technology makes life easier, it is also possible it can lead to many problems. There should be some norms and ethics principles while working to build up any website. Because there will be a lot of information about a company which is to valuable.

Necessary data only collected like project type, company background, company history and lot more. Backend server and Database only accessible by developer. No external software can access the Database.

# Chapter 8

## Lesson Learned

### 8.1 Problems Faced During this Period

I have encountered numerous challenges while working on this project during my internship program. Due to the fact that, prior to enrolling in this internship program, I knew very little.

- **Getting Used to the New Environment:** When I initially started working at my office, I wasn't sure how people would react to a new hire. What is required of you for the duration of this internship? I have so much on my mind.
- **Adopting Cutting-edge Technologies:** I work as a junior software engineer at Global Informatics Ltd. Thus, they gave me the "POWERtrac" project to work on and used the "Laravel" framework to implement it. Actually, I had no idea how to use Laravel at the time or how to deal with it.
- **Planning Issues:** Initially, I was unsure of how to obtain information about the project, such as client expectations and requirements, system input and output, and appearance. Is it true that I took so much time on a project?
- **Bugs In Implementation and Fixing Problems:** With each front-end page that connects to the backend. I must therefore connect a page I generate to the backend. I also discovered a lot of issues when I was testing the project called POWERtrac. Repairing these problems became a major challenge.

### 8.2 Solution of those Problems

- Before looking for answers, prepare your mind. Actually, I was inspired to learn how to comprehend the atmosphere and requirements of an IT solution organisation, as well as how to operate there, by Muid Ahmed Alvi Sir and Tanvir Sarrick Sir, the software engineer's of Global Informatics Ltd.



- Secondly, I was given a project (POWERtrac) website by the company, which was built using the Laravel framework. But I'm not familiar with the Laravel workflow. They then advise me to learn it as soon as possible and to practise using it in my project every day. I overcome it in this way, though not completely.
- Since this was the first time I had ever used the new technology, I initially interacted slowly after learning how to use them. The development of the application generally slowed down as a result of the difficulty in meeting weekly deadlines.
- Thirdly, for the data analysis section at the outset. The business helps me collect data. and advise me to look at a few websites. In addition, I learn about requirements, Gantt charts, activity-wise time durations, and project planning from both my internal supervisor and the company from both locations.
- Lastly, I need to be aware of the project's input and intended output each time I build a page. Consequently, in the event that the satisfactory level is not reached, the client loses. As a result, I have to verify each time before changing the front-end and back-end databases. Then, I get a lot of assistance from my external supervisor. Furthermore offer a Google Drive where errors and issues are stored. When I fix them, the supervisor assists me in resolving this issue.

# Chapter 9

## Future Work & Conclusion

This chapter summarizes my learnings from my internship thus far and my future goals.

### 9.1 Future Works

The project's future potential is incredibly vast. Because the project is completely flexible in terms of extension, it can be updated sooner rather than later as and when the prerequisite for the equivalent emerges. Now that the database Space Manager software has been prepared and made fully functional, the customer may supervise and, as a result, manage the entire project in a more efficient, accurate, and error-free manner. The project's future scope includes the following items-

- To interact with more users at a time by their amazing website.
- They will get some more projects just to show their outstanding project details.
- They will make more historical things.
- Revise the UI and UX.

### 9.2 Conclusion

People these days strive to be short-term self-developers and to represent novel ideas in the world. But since there isn't an agent available, they can't. I thus attempt to address one of them—a dynamic profile called “POWERtrac” during my internship. I ran across a number of issues when I first started this project, but I made an effort to find the simplest solutions for every issue. I have gained and used a lot of knowledge from my undergraduate coursework and this experience throughout the internship. The technology we used to implement this as a web application was the LARAVEL framework. Laravel offers a number of advantages, including simplicity, built-in security, scalability, and improved performance. A programming language 639 is required in order to put up any web application using LARAVEL. including PHP, HTML, CSS, JavaScript, etc. I also used "XAMPP" software to create a database. In addition, I've gained a lot of knowledge about creating diverse applications and different

development approaches. I had to think quickly on my feet and come up with sensible answers. I worked collaboratively with my mentors and seniors throughout my assignment to overcome obstacles. My supervisors were always there to assist me settle in and answer any questions, even with their heavy workload. It has been made possible to research the development environment and market thanks to this internship opportunity. I want to express my gratitude to everyone who has helped to make my time as an intern so wonderful once more.

# Bibliography

- [1] R. C. Tausworthe, "The work breakdown structure in software project management," *Journal of Systems and Software*, vol. 1, pp. 181–186, 1979.
- [2] T. Saarinen, "System development methodology and project success: An assessment of situational approaches," *Information & Management*, vol. 19, no. 3, pp. 183–193, 1990.
- [3] J. Grotenfelt, "Agile software development and implementation of scrumban," 2021.
- [4] H. Saadat *et al.*, *Power system analysis*, vol. 2. McGraw-hill, 1999.
- [5] H. S. Oluwatosin, "Client-server model," *IOSRJ Comput. Eng.*, vol. 16, no. 1, pp. 2278–8727, 2014.
- [6] Y. Pu and M. Xu, "Load testing for web applications," in *2009 First International Conference on Information Science and Engineering*, pp. 2954–2957, IEEE, 2009.
- [7] M. D. Burghardt, "Introduction to engineering design and problem solving," 1999.
- [8] J. Morfaw, "Fundamentals of project sustainability," Project Management Institute, 2014.