



An Undergraduate Internship/Project on Pharmaceutical Printing and Packages web application for bulk ordering

By

Name: Sumedha Rahman Prova

ID: 1720558

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Supervisor:

Mohammad Noor Nabi

Internship Supervisor and Senior Lecturer

Department of Computer Science & Engineering

Independent University, Bangladesh

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Computer Science

Department of Computer Science & Engineering

Independent University, Bangladesh

Attestation

I get it the nature of literary theft, and I am mindful of the University's approach to this. I certify that usually a unique work by me amid my internship. In any case, taking after globally acknowledged scholastic rule of utilizing others' written work and/or software (within the frame of code) in my College venture is legitimately cited in case utilized in any portion of this work.

Signature:

Date:

Name:

Acknowledgement

First and foremost, I would like to thank Almighty Allah for giving me the endurance and the ability to do work hard. I would like to express my gratitude to my honorable supervisor Mr. Mohammad Noor Nabi, Internship Supervisor & Senior Lecturer, School of Engineering, Technology and Science, Independent University, Bangladesh (IUB) for his invaluable instructions, continuous guidance, constructive criticisms and thoughtful advice during pursuing this internship and preparation of this report

It has been a great experience to work as an intern in a startup organization like Bengal Software Ltd. I would like to express my gratitude to Bengal Software firm for giving me a chance to work with them and for giving me an opportunity to work at office to understand the office culture better and making the transition from a student to a web developer much smoother all during this COVID-19 pandemic. I am also thankful to them for allowing me to gather information and helping me in every possible way in preparing the report.

My endless thanks to Mr. Mahtab Uddin Khan, Managing Director and CEO, Bengal Software Limited for supporting me during my internship. I would like to thank all my team members and co-developers, Mr. Mahbubur Rahman, Mr. Sumnan Azadi and Miss Touhida Tisha of the development department at Bengal, for guiding me and also giving me the chance to be familiar with the organizational environment and experiencing the procedures practiced at Bengal Software Limited. I believe that the experience that I have gained during the length of the internship program in this company should be vital for my future and career as a software developer.

My sincere gratitude goes to Independent University, Bangladesh for having an internship program for students which really shapes and prepares us to enter the corporate world. Last but not the least, I would like to thank my parents and other family members for always giving me their eternal support.

Letter of Transmittal

January, 2021

Mohammad Noor Nabi

Senior Lecturer

Department of Computer Science & Engineering

Independent University, Bangladesh (IUB)

Bashundhara R/A, Dhaka 1229, Bangladesh

Subject: Report submission of the internship

Dear Sir,

I would like to take this opportunity to thank you for the guidance and criticism you have given me amid this report. With pleasure, I am submitting my internship report in Bengal Software Ltd. for three months.

During my internship period, I have not only gained real-life work experience but understood the process of the department and its various aspects. In this report, I attempted my best to present all my experiences, learnings and outcome out of this course of work.

I pray and hope, this report will be fulfilling your expectations. I have tried my best to avoid my shortcomings and hope that my report will satisfy you.

Thank you in advance.

Sincerely Yours,

Sumedha Rahman Prova

ID: 1720558

Evaluation Committee

Signature:

Name:

Supervisor:

Signature:

Name:

Internal Supervisor:

Signature:

Name:

External Supervisor:

Signature:

Name:

Convener:

Abstract

Recently, greater attention has been paid to reforms in information technology and their use to improve the delivery of health-care products. Image Printing and Packages Ltd. website is for bulk ordering cartons and leaflets for medicines. Ordering was done organically before through pen and paper. But during the pandemic, the need of medicines increased but meetings could not be held. That is when, Bengal Software decided to target this area of medical service. This is a web-based application where user can get access to through internet. There are options like adding as much as they need for ordering, consultancy is provided if there is any problem faced.

The report is broadly categorized in 8 chapters. The first chapter is where we introduce the application that we are making, where we check the purpose of this application, roles, scope and out of scope. We are also overviewing the company that where I did my internship, a description, their mission, vision, commitment & values. Second comes the literature review where we do market analysis of similar application to ours, both globally and locally. Chapter three will tell you about the customer requirement analysis, who are the customers for this application, what facilities they would want from this application and etc. All the costing and activities are mentioned here. Under methodology, the Development phase discusses about what methods we took to make the development in the software. We display the designs which we did as a map for our system's work flow. It also tells about the requirements for using and making the software. Implementation is based on how we finally developed the software to our need, what programming languages and techniques we used based on the designs and what my works were assigned in the implementation of the application. Testing comes after implementation where we tested how the application is working, is it working as per our target or not. If not what steps we need to take. Chapter five is the system analysis where we discuss if the existing system will adapt to our software, which we discuss in board of the feasibility of the software and lastly our proposed system of what we propose for the existing system to make it digital. Then there is results and analysis about the whole application, also the next chapter talks about sustainability and effects. And finally what the future holds of this application and if any other projects and conclusion to end.

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Chapter 1: Introduction

Development of Web applications is the practice of designing web applications and their functionality. There is consensus that the processes involved are extensions of the normal processes of software engineering. Along with its unique features, common frameworks & models are used in the creation of web applications. Internet application has become one of the most essential aspects of any company that has a number of members that are directly & indirectly affiliated with it as well as the new members who are eager to join. The Internet communication network is the best way to introduce an organization, the organization's programs, and the organization's current and future knowledge to all its members as well as to the general public. To establish the legitimacy of the organization a web application plays a severe role.

Software and IT service industry in Bangladesh has crossed a long road over the last few decades. It has matured. The industry no more remains at the sideline. It joined the mainstream. Not only the industry is contributing significantly in the national income, but also it has been playing very crucial role in creating high quality employment for a sizable portion of young graduates of the country.

1.1 Background

People do not have much knowledge about pharmaceutical printing and packages industries but it is a strong and important pillar behind every medicine out there. Getting the information and names right with the correct leaflets to educate people what they are putting inside their body is what they do.

A pharmaceutical online marketplace is a type of e-commerce website where product is made, printed, packaged and delivered by the company. In an online marketplace, consumer transactions are managed by the accountants and a track is kept on the web application. These type of websites allow users to order, customize according to their requirements and receive the products on time. Payment is made on the successful delivery of the products that have been promised. The web application is designed to promote portability of medical products especially in this time of pandemic. The approach was taken for helping the medical industry throughout all over the country, where the clients can login easily to the website to place their order.

1.2 Objectives

In general, a project target defines a project's expected results. A project's purpose is precise, measurable and must fulfill the time, budget and, most importantly, the expectations of the customer. The primary objectives of the application is written below:

Automate the existing ordering system: Although it is impossible to fully automate the traditional ordering procedure, because in a lot of cases the clients need to sit with the company to discuss about the design and color. For example: A client is releasing a completely new medical product throughout the whole country, the colors needed are completely unknown. There are a hundred sort of scenarios like this that cannot be done online. But most of the clients can get suggestions from the company associate where there is no need of meeting. Also in a situation (Global Pandemic) like this, almost all clients rather want to take their meetings from their home.

Time efficiency: Using the application user do not have to search or set up a meeting and wait for that day, everything is organized here.

User friendly interface: The user interface is very easy to use, those who are not used to in browsing internet will also be able to check anything from the application easily.

1.3 Scopes of the work

- Login of the Telemedicine software (all user)
- Add new products (admin)
- View payments of clients added to the system (admin)
- Invoice (admin, clients, accountant)
- Scheduling Meetings (admin, clients & all members of the company)
- Generating Charts (admin)
- Approve meeting (admin)
- View cart (admin and clients)
- Add to cart (clients and admin)
- Delete products from cart (clients)
- Logout (all user)

Out of Scope

- Client meeting in person (especially during this time)
- Samples of the products needed
- Internet Connection in Rural areas

1.4 Company Profile

1.4.1 Introduction

Bengal Software Limited is a software start-up that was established in 2016. They provide end-to-end services, including personalized software, business automation, assessment of websites, project management, development of websites, upgrading and maintenance of websites, search engine optimization and web marketing, e-commerce and graphic design, and many more. The company's experienced IT consultants have a single point of contact and serve as project advocates, choosing appropriate team members, drawing up timetables and directing considerable resources to action. Moreover, through the client portal, the organization practices the development of accountability, job logs, work in progress previews, schedules and other development information available in real time. Bengal Software closely tracks the latest industry-leading technology, software changes and security patches and provides the company with the most reliable, safe and efficient solutions that certainly beat most of the competitors, with vastly superior customer support and quality of production.

1.4.2 Goals and Visions

It has a goal to develop brilliant software, websites and incredibly fast browser-based applications. The most important target and purpose is what drives Bengal software to be the best among its rivals and to be one of Bangladesh's best software consulting firms in the next 6-7 years which means that the company's number one focus in the coming years is to retain quality work and work ethics. Although the company is a fairly young start-up, it has gained some momentum in the short span of time since many projects from mostly international customers from mainly Europe have been completed.

1.4.3 Services

- A full-cycle bespoke and software product development service provider.
- Offers preparation of websites, revolutionary architecture for any company implementations.
- Getting a website that a consumer can handle on their own is the ideal option for most businesses.
- Has been offering pre-press graphic design, Logo design, in design in the online outsourcing industry.
- Providing the support team for applications
- Website optimization
- Website design and development

Chapter 2: Literature Review

2.1 Introduction

The literature review emphasis on the ideas and theories used to make your project come to live. Generally, it consists of many surveys and research that needs to be taken place.

The literature survey method is an examination of information on specific subject. It is reviewing what is known, and not what is assumed. It aims to create the final, precise representation of the knowledge and research-based theory available topic. This method is going to be used due to need of gathering and processing theoretical base. I am going to use different books and articles also other sources like tutorials, forums and related software.

The process of this phase is study of the similar system around the world and finding how our system can be best match for the market. The research also boosts our opportunity in how we can have additional facilities in our system.

2.2 Relationship with Undergraduate Studies

An internship is professional training in a safe and structured working environment that encourages the mentor-mentee relationship. It is the practical experience of the courses a student has done in his undergraduate period. My project is directly and indirectly related with few courses I have done. Here I am describing the relation of the project with my undergraduate courses:

- **Database Management (CSE303)**, one of the basic course which under Mahady Hasan, PhD (Associate Professor), where I learned about the Database development process and Database languages. E-R Model, Transferring ERD to Relations, Introduction to normalization, and Introduction to Structured Query Language was part of this course. Database Management can too portray the information capacity, operations, and security practices of a Database Administrator (DBA), all through the life cycle of the information. I also learned about php, MySQL and XAMPP from this course.

- **System Analysis and Design (CSE307)**, is conducted for the reason for considering a framework or its parts in arrange to distinguish its goals. It could be about an issue tackling a strategy that makes the system and guarantees that all the components of the system work effectively to achieve their goal. It could be a process of planning an unused business system or supplanting an existing framework by characterizing its components or modules to satisfy the particular necessities.
- **Web Application & Internet (CSE309)**, a computer program that utilizes web browsers and web technology to perform errands over the Web, done under Lecturer Sanzar Adnan Alam. Web applications utilize a combination of server-side scripts (PHP) to handle the storage and retrieval of the data, and client-side scripts (JavaScript and HTML) to show data to clients. Personal Portfolio, Company Website and few other projects helped me a lot in learning web development.

2.3 Related Works

2.3.1 Market Analysis

Online printing and packaging business is not something new but they are mostly of a large scale and diverged into multiple categories rather than just pharmaceutical part. Which is where, Image Printing and Packages excels. It only focuses on one area and shines it that.

2.3.2 Global Market

The first world countries are already trying to adapt with this system which will allow clients to look up carton designs and packages options. Global printing press are already a step ahead, but local companies are catching up too.

- a) **Pharmaceutic Litho & Label Co:** Since 1928, they have been an industry-leading pharmaceutical printer. They are committed to developing innovative print methodologies and constantly enhancing the level of service. [3] After acquiring Plymouth Printing in

2014, Pharmaceutic Litho has over 75,000 sq. ft. of productions space, which allows them to be one of the few pharmaceutical printers that can handle any job.

- They have two locations from where they operate. One in is South California and another in North Carolina.

b) **Brio Pharma Tech:** It is a decade now since 2004, BRIO Pharma has established its reputation by supplying high-quality machines with innovative technologies to the Indian Pharma industry. [4] They are handling installation base of around 300 machines located across the country at the moment and is poised to grow further with the increasing numbers of installation base.

- Their principals are some of the industry leaders who are giving State-of-art machines for the pharma domain.

c) **PolyCine:** PolyCine GmbH is a global leader in the manufacture of high quality polypropylene-based, flexible packaging products for pharmaceutical applications. The company has customers in more than 40 countries. [5] Since its foundation in 2002 PolyCine GmbH has set standards in quality, innovation and cost effectiveness.

- The company belongs since December 2016 to Armira, an industrial holding company with its registered office in Munich, Germany.

d) **SCHOTT:** is one of the world's leading suppliers of parenteral packaging for the pharmaceutical industry. [6] More than 600 production lines in 13 countries worldwide produce more than 11 billion syringes, vials, ampoules, cartridges and special articles of tubing glass or polymer.

2.3.3 Local Market

Many local Companies have tried to implement this system in their companies. They are still in progress of this but however accurate the system is, the country does not have access to computerized devices as a whole and so not everyone can get the benefit of this process.

- a) **Kamal Press Ltd:** Since 1953, Kamal Press LTD. has been printing and packaging paper materials for your business, your dream. We have been holding one of the top leading positions in Bangladesh printing and packaging industry over 60 years. [7]

- b) **Canvas design & printing press:** Canvas is a design & printing press service provider company Bangladesh that provide best-quality printed marketing materials for your business. They specialize in full color printing of name card, brochures, letterheads, leaflet, postcards, shopping bags, envelopes and 44 other marketing materials. They also deliver the printed product to you.[8]

- c) **Robin Printing & Packages Ltd:** At ROBIN, we understand the challenge of wide range of Printing starting with one color jobs to ten color jobs. [9] With over 40 years of experience in the industry, they pride ourselves in delivering a print above the rest.

- d) **Square Pharmaceuticals Ltd. Bangladesh:** SQUARE Pharmaceuticals Limited is the largest pharmaceutical company in Bangladesh and it has been continuously in the 1st position among all national and multinational companies since 1985. It was established in 1958, converted into a public limited company in 1991 and listed with stock exchanges in 1995. [10] The turnover of Square Pharma was BDT 50.87 Billion (US\$ 609.18 million) with about 16.95% market share having a growth rate of about 10.85% (July 2018– June 2019). Present export market covers 42 countries. This extension in business and services has manifested the credibility of Square Pharmaceuticals Limited.

Chapter 3: Project Management and Financing

After initializing the proposal for the job, the project was started. We created a timeframe in which our work is depicted by the timeline and it serves as a guide to how the work will proceed one by one. There was a target to be reached with each time period of the project. The overall challenge facing our business is to accomplish the targets in a critical period of time. When we began the development process, some of which were successful, others took a longer turn.

3.1 Work Breakdown Structure

A work-breakdown structure in project management and systems engineering, is a deliverable oriented breakdown of a project into smaller components. Our works were divided into categories and each categories have a sub category as shown below in the diagram. Starting from the beginning of the project to the deployment segment. Having this Diagram gives the operators a basic idea of how the project is going to be and what comes after which. So they do not lose track in work.

The work breakdown structure provides a common framework for the natural development of the overall planning and control of a contract and is the basis for dividing work into definable increments from which the statement of work can be developed and technical, schedule, cost, and labor hour reporting can be established.

Benefits of Work Breakdown Structures

- Visualizes the scope of the project, making it easier to do the planning
- Makes it easier to assign responsibilities accurately to the project team
- Helps with identifying the project milestones and control points
- Helps with estimating the time and cost for the project and allocate resources
- Visualizes important parts of a project and helps identify areas of risk
- Helps set clear timelines for the project and ensure that no work is duplicated or overlooked

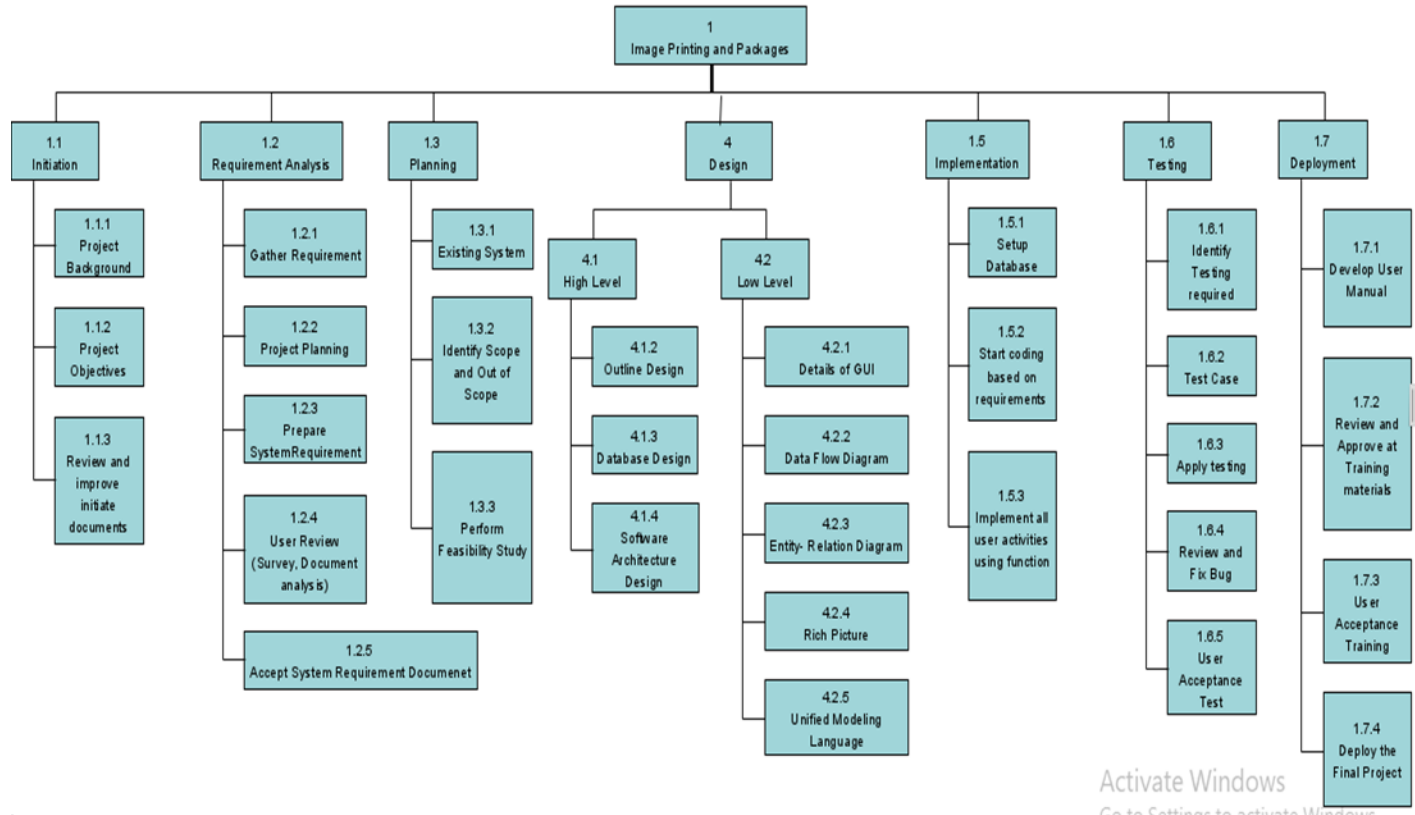


Figure 3.1: Work Breakdown Structure (WBS)

3.2 Process/Activity wise Time Distribution

The time distribution determines the approximate time needed to successfully complete the project, the timeline in a Gantt chart below shows the developers what processes are finished, what is behind schedule and what is yet to be completed. This allows developers to build a mind map of how effectively they need to function to reach the deadlines.

Assigning time to the tasks is important for timely completion of the project. This means breaking down the project into different tasks. This can be achieved by creating a to-do list. Next, the tasks should be prioritized according to the importance. Not all the tasks have equal priority. Some of the tasks need to be completed first to avoid project delays.

3.3 Gantt Chart

To display the timeline, we have used the Gantt chart created by Henry Gantt. While working for the project, we found it very useful as it has its own advantages, both working mentally with the developer and its flexibility in updating the diagram as the time progressed. The Work Breakdown Structure indicates the number of tasks which takes a certain time to complete these activities, which is depicted in the Gantt map.

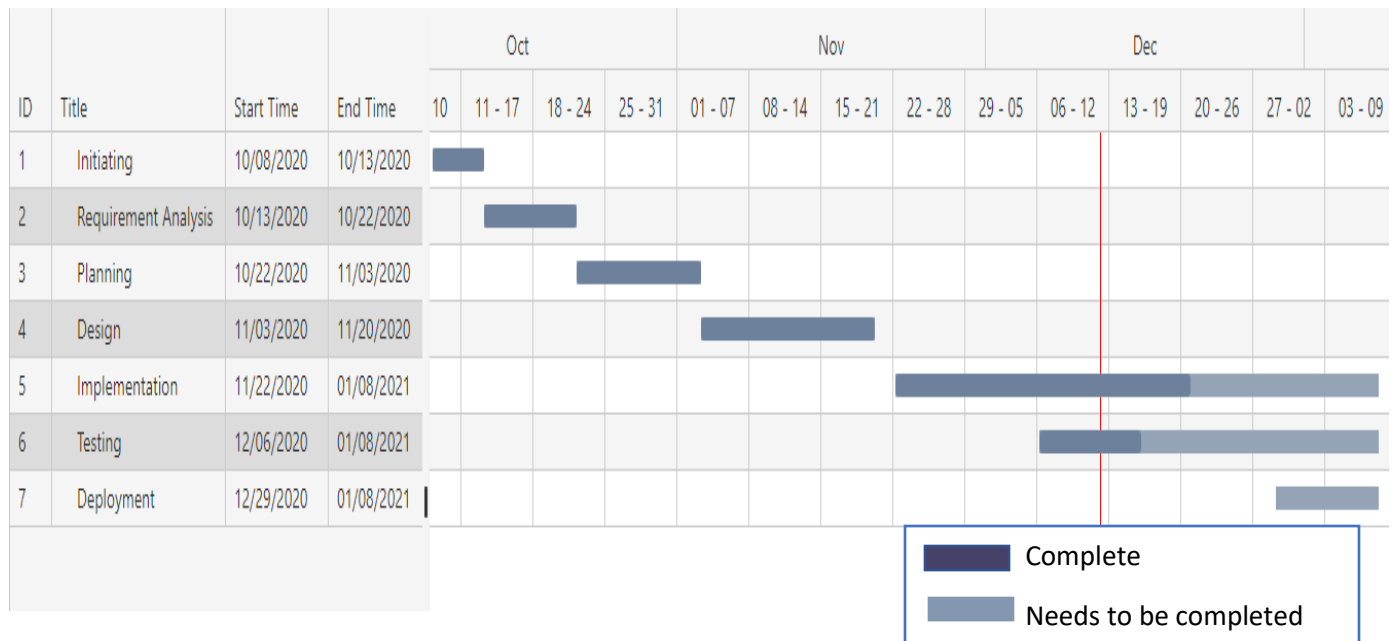


Figure 3.3: Gantt chart

3.4 Process/ Activity wise Resource Allocation

Users only use the Image Printing and Packages Ltd. website as an application, but what is happening behind the scenes is tools that work to make this a reality. It was therefore, very necessary for us to devote all the resources required to suit the project into its role. Our main project resource is our developers, so everything else is required for the process to be created.

Computers, servers, and even chair/table are regarded as tools here. Each worker was thus assigned to their job and assigned to meet deadlines and goals. In our case, because of the Covid-19 pandemic, things were a little critical than normal, some workers had to work from home, so team meeting was done online to periodically get feedback.

- **Initiating:** This is the first phase in development, where the decision was made by just a few heads of the company and the work on IPPL began.
- **Requirement Analysis:** A small team worked on the forecasts of what the Web application requirement will be. For example: required computer specifications, necessary staff, features, etc.
- **Planning:** The planning stage is where all the staff have been engaged and brainstormed about how we are going to set targets and how we are going to develop the application.
- **Design:** The design stage is where we designed a few mainstream diagrams with the features, users and functionality of the application to show us the broader picture of the whole scenario.
- **Implementation:** This is where all team members were allocated to their portion of the development when the development began. There were targets to be met every week but our development process was slow due to the global pandemic as the workers worked from home at the beginning of development. So it slowed down, bit by bit, our operation. And there are always new implementations that need to be made, of course, in normal development.
- **Testing:** Testing was performed concurrently as we developed the application so we could foresee that it took longer than normal for the implementation process. As we were also developing new features in the program, the errors were fixed.
- **Deployment:** The deployment of the software was delayed, but as the development of the software was in-house, there was not much problem. Instead of meeting deadlines, we sought to develop high quality software.

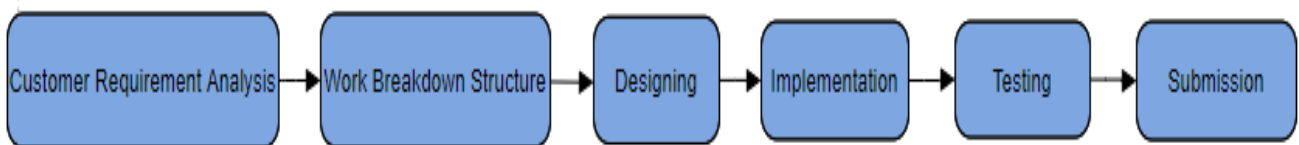


Figure 3.4: Resource Allocation

3.5 Estimated Costing

Requirements	Amount(BDT)
Employment payment (3 months)	45,000
New laptop core i3	48,000
Monitor	8000
Electricity bill (3 months)	23,765
Testing process	8,650
Domain/server/hosting	5000
Total	1,38,415

Figure 3.5: Estimated costing table

Chapter 4: Methodology

4.1 Development Phase

The method of separating software development work into distinct stages to improve design, product management and project management is a software development process in software engineering. It's also known as the software development life cycle (SDLC). We may describe SDLC as a framework that describes the activities performed at each point of a system development project.

The strategy may entail predefining specific deliverables and objects that are generated and completed by the project team to develop or maintain an application. Basically, a framework used to structure, schedule, and manage the process of creating an information system is the technique of software or system development.

There are several methodologies and models of software development used for the SDLC and some of them are given below:

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

We have decided for our application that the best use will be agile software development.

Agile is the capacity to develop, and respond to, change. It is a way of dealing with and ultimately thriving in an unpredictable and chaotic world. Agile software development is more than just structures for Scrum, Extreme Programming or Feature-Driven Development (FDD).[1] Focusing on individuals doing the job and how they work together is one thing that separates Agile from other software development strategies. Via collaboration between cross-functional

self-organizing teams, solutions are built using the appropriate practices for their context. There is a significant focus on collaboration and self-organizing teams in Agile software development culture.

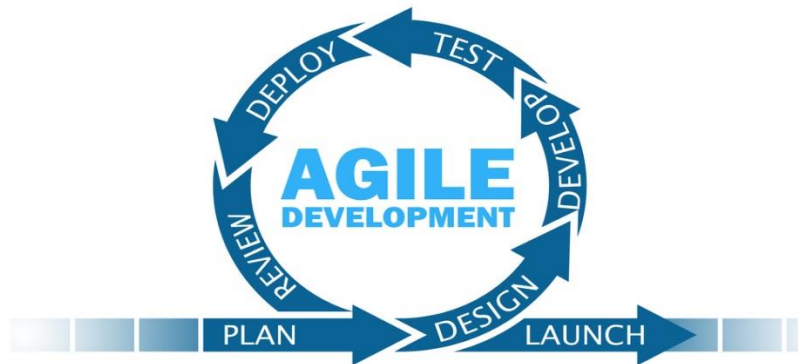


Figure 4.1: Agile Methodology

The development and feedback process adds transparency (tangible finished work accomplishments, not just documentation) and helps to increase customer satisfaction by encouraging continuous input. Simply put, it's a step-by-step method of development, in simple terms. Agile is a modular software design technique that involves a lot of different iterations.

Why Agile Methodology was picked for the Image Printing and Packages software?

Agile was preferred over other strategy because we wanted close communication with the users while the web application is being developed. Although this slows down the process, it has been shown that the conditions are being met. Using agile, we can find bugs at early stage that may have been identified after the program was released, while waterfall needed to define everything at the beginning. We learned a few days into Agile method that it introduces complexity and risks that might not have emerged before or with a different methodology, and it helps us identify the issues.

There are also more variety of explanations for selecting the agile Methodology. Some of the reasons are in the following:

Enhanced execution pace and cadence

Long delivery times just aren't feasible in today's fast-paced world. Agile would benefit by focusing first on what generates the most value and then breaking the distribution into incremental units to make it more easily available to the consumer.

Improved productivity

An agile strategy positions the customer at the forefront of implementation and, for the right reason, solves the right problem at the right time. Doing so enables organizations to become more profitable and more efficient in terms of execution.

Improved satisfaction with customers

Creating the best product is about ensuring that the product is fit for consumers, focusing on making more of what they want and less of what they don't want. By delivering in smaller increments, modifying as necessary, and achieving both a better product and consumer result, there is a greater likelihood of getting feedback.

Clients are the users of this IPPL, so it is important to be satisfied with the application's use. Bengal aims to make it more user-friendly.

Reduced costs/waste

Agile can help cut costs and waste by prioritizing backlogs, creating a minimally viable product and thin-slicing process with a constant, laser-like focus on value. BENGAL is known as a start-up business that emphasizes on technology. Therefore when it comes to managing issues in the development phase, costs can be a real burden.

Other reasons are:

- Improved employee engagement
- Better quality
- Continuous improvement
- Reduced risk [2]

4.2 Planning

For any system development project, planning is the first and one big stage of the life cycle of software development (SDLC). In this step, the software development plan for a specific project is decided. So, right from the very beginning, we made a plan for this whole project. We need to understand the project by gathering clients during planning.

Requirements, identifying the scope of the project and out of scope, conducting feasibility analysis, high-level estimation, attempting to prepare the Business Requirement Document (BRD) / Job Scope (SOW).

The phase begins with the requirements being collected. It will compile both functional and non-functional criteria that will assist us in finding the project's scope and out of scope. It is then probable or not to explore the feasibility that will assist in working out this idea. In addition, it will prepare a Business Criteria Document (BRD) for this project.

Chapter 5: Body of the Project

5.1 Work Description

The proposed system for Image Printing and Packages Ltd. web application is that we develop a new website that was never existing in the first place. The idea was approved from the head of the departments to understand the needs and requirements of the clients and develop what is required. Ordering in bulk is a major factor in this website where the technology framework that allows clients and other users to order in huge quantity and setting meetings virtually rather than physically. This project aims to reduce the paper work and saving time to check any update or login. The system provides with the best user interface. The system working is quite easy to use and learn due to its simple but attractive interface. User requires no special training for operating the system. User can login the system and login within few seconds.

Advantages:

- Saves time
- No need of going to the office frequently in pandemic
- Understandable and clear because all the receipts and details will be stored in the website
- Keeps track of data
- No fear of losing the document because it will be saved in the system
- Time taken for scheduling meeting and clarification calls between the provider's office and client is considerably reduced. This leads to increased productivity for both the parties

Languages used to make this whole project functional are:

- FRONTEND:
 - HTML5
 - CSS3
 - BOOTSTRAP4
 - JAVASCRIPT
 - AJAX

- BACKEND:
 - PHP: Hypertext Pre-processor
 - MYSQL
- XAMPP to create a localhost in the computer until domain and hosting is bought from Digital Ocean.

5.2 System Analysis

In order to identify its goals, system analysis is carried out for the purpose of examining a system or its parts. It is a technique of problem solving that strengthens the system and ensures that all the system components work efficiently to achieve their purpose.

A collection of techniques and processes, a group of interests, a culture and an intellectual orientation can be defined as system analysis and design. The different roles in the system analysis include the following: understanding application, planning, scheduling, candidate solution creation, trade studies performance, cost benefit analysis performance, alternative solutions recommendation.

5.2.1 Six Element Analysis

Six Element Analysis consists of the six system roles when any process takes place.

Process: a series of actions, motions, or operations leading to some resulting **process**. For example: Login, Forgot password, Change Password, Signup etc.

The six elements are:

- Human: The one doing the process, for example: Admin, Users meaning the clients in this case.
- Non-computing Hardware
- Computing Hardware: for example: PC, laptop etc.
- Software
- Database
- Communication : Internet for this case

Six Element Analysis is done to analyze the processes under the six elements mentioned above. It shows what system roles are required for each different and individual process. The importance of using this analysis is organizing the whole system. Everything is put in a tabular form and all the ongoing processes with corresponding system roles can be seen.

5.2.2 Feasibility Analysis

After looking at the potential improvements that could be made and getting the higher authorities to approve it. The Feasibility Study is the next step to take. The feasibility analysis is, as the name suggests, a feasibility report, or it is a calculation of the software product in terms of how much the company will gain from product development from a realistic point of view. Feasibility research is carried out on the basis of a variety of purposes to determine whether the software product is accurate in terms of development, implantation, project contribution to the company, etc.

To clarify the method, the following decisions are taken to be feasible:

- **Technical Feasibility –**

In Technological Feasibility, existing resources are evaluated for project development, both hardware software and necessary technology. This technical feasibility study reports on the nature of sufficient resources and technologies needed to be used for project creation. In addition to this, the feasibility report also analyzes the technological team's technical skills and capacities, current technology can be used or not, maintenance and upgradation is simple or not for technology chosen, etc.

IPPL is highly equipped with resources and humans needed for the development of this software. However there are a few drawbacks along with this, IPPL website needs a minimum 5mbps speed to download the page smoothly an. 5mbps speed is not available in everywhere of our country. A cloud storage system is required for the saving of huge amount of client and order data.

- **Operational Feasibility –**

In Operational Feasibility, the degree of service delivery to specifications is analyzed along with how easy it is to run and sustain the product after implementation. Along with this, product usability is determined by other operational scopes. The proposed solution to be decided by the software development team is appropriate or not, etc.

While we try to make this application as user-friendly as possible, in order to be able to manage this application, a minimum level of education is also needed. People in rural areas can not acknowledge IPPL because customers need direct contact and physical presence, which gives confidence and faith in treatment. Nevertheless, even individuals are opening up to these new modes of technology as technology progresses. The person who is going to manage the administrator's program needs to be trained first.

- **Economic Feasibility –**

Study costs and benefits of the project are evaluated in Economic Feasibility. Means that a thorough analysis of what will be the cost of the project for development is carried out under this feasibility report, which covers all necessary costs for final development such as necessary hardware and software resources, cost of design and development and operating costs, and so on. After that, whether or not the project would be beneficial in terms of corporate funding is evaluated.

It has been found after calculation that it would be financially advantageous to launch the IPPL application for the service of our customers and that now is the best time to launch it more than ever. Cloud storage over the company's own server infrastructure is favored. If the program does not have many customers, the risks of business failure are smaller than if there is no empty server system in the company to operate. As there are technological developments every year, it can be anticipated that any hardware used would undergo price inflation in a relatively short period of time. Encryption of personal data and video calls from consumers requires high-wage professionals to operate behind the system. Even after the pandemic comes to an end, the goal of this application is to run. When all is natural again, the use of this program is still uncomplicated for people.

5.2.3 Problem Solution Analysis

Problem-Solution Analysis is done to solve any problem which arises in an existing system or for my case, in a system that is being built for the first time. While working many problems arise, it is important to recognize the problem and the reasons behind it occurring. Many solutions are suggested until one is selected and implemented to see how much the problem is solved. If the problem is yet to be solved to its full potential, new idea is thrown and later implemented.



Figure 5.2.3: Problem-Solution Analysis

For IPPL, a problem that aroused was whether to have a multi-user login or to have separate logins. Demonstration of the both ideas was shown to the client, and they tested it to see which feels more of their style. But there were many issues like security, and styling of the page that were brought to the table. After evaluating, they agreed and selecting the multi-user login framework and that was implemented as part of the problem-solution analysis.

5.2.4 Effects and Constraints Analysis

In project management, a constraint is any restriction that determines the limits of a project; the scope, for instance, is the limit of what the project is supposed to achieve.

Often the three most critical project constraints — timeline, cost and scope — are known as the triple constraint or triangle of project management. The scope of a project includes the particular objectives, deliverables and activities that determine the project boundaries. The timetable (sometimes more broadly defined as time) outlines the schedule according to which certain

components will be shipped, including the final completion deadline. Cost (sometimes referred to as capital more broadly) includes the financial constraint of the project's input resources and also the aggregate limit of the total amount that can be invested.

5.3 System Design

For the software development industry, design is very important because it guides you during the process of how the workflow will be. In Bengal Software, as one of the project's main operations, we have contributed to designing and sustaining design. Over time, though, as expected, the designs had to be updated and re-constructed while facing several system changes. Basically, in the development process, there are a few steps that are important to take.

5.3.1 Rich Picture

A rich picture is a drawing of a situation that shows the key elements and relationships that need to be taken into account when trying to interfere to bring about any enhancement. It is made up of pictures, text, symbols and icons that are all used to explain the situation graphically.

The following Rich Picture illustrates how the users in the entire scene have access to the device and its limits. The administrator will login, add products, view orders, create graphs, access database. The customer may self-login/sign up, arrange an appointment with the company, and consult with a representative, display his/her register, view the order receipt and track their orders.

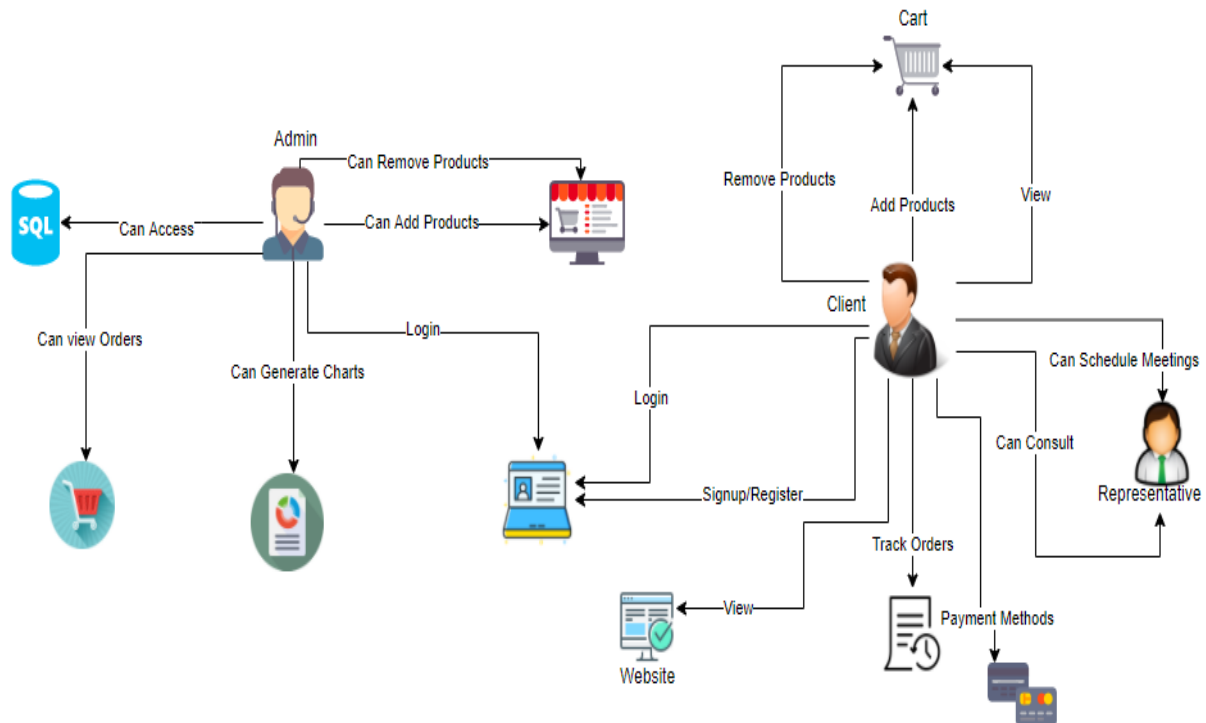


Figure 5.3.1: Rich Picture

5.3.2 UML Diagram

A UML diagram is a UML (Unified Modeling Language) diagram designed to visually represent a system in order to better interpret, modify, preserve, or log system information, along with its key actors, functions, behaviors, objects or classes.

In the following diagram, we tried to clarify the steps followed to make this software and also the fundamental role of the client in the use of this software, as to what the purpose of the software was in the first place. It was a structured relationship between all users.

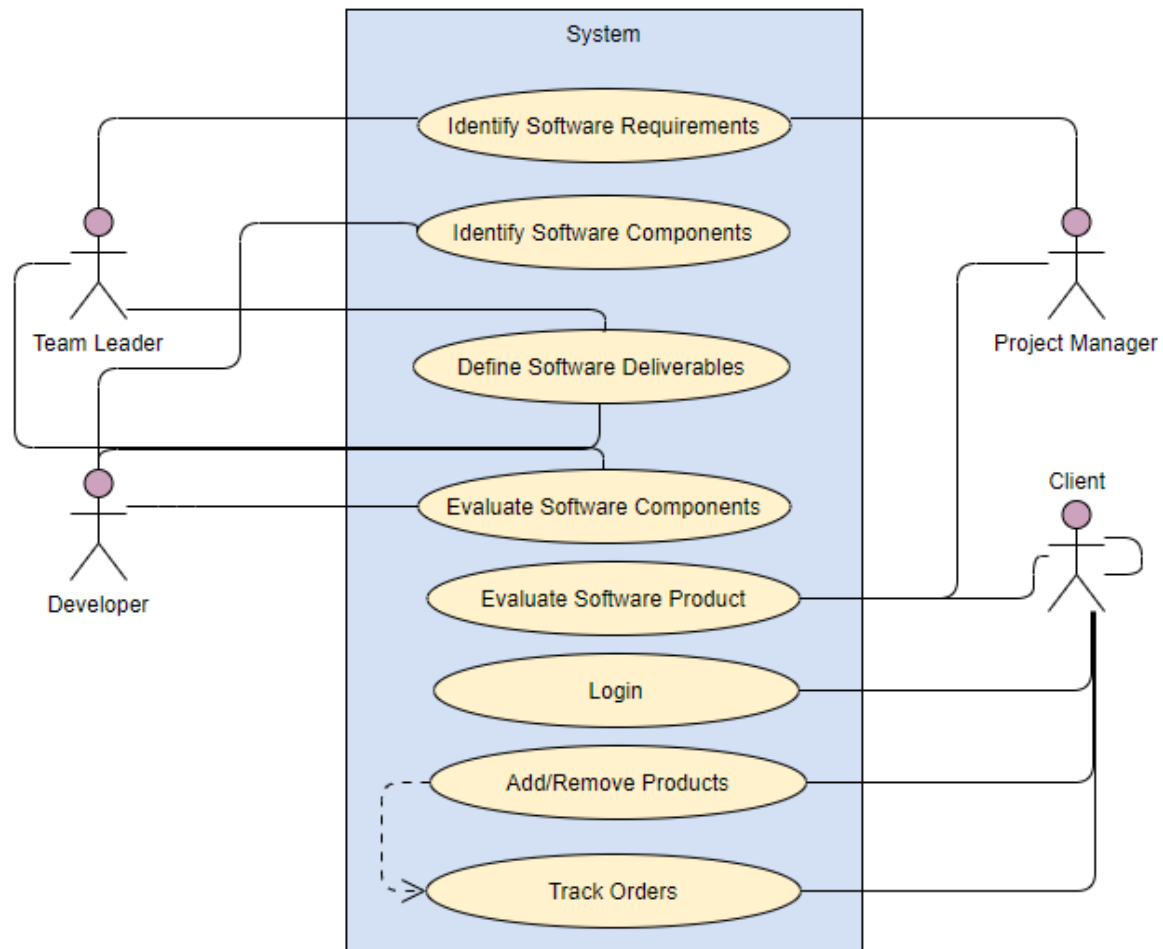


Figure 5.3.2: Unified Modeling Language Diagram

5.3.3 Data Flow Diagram

A data-flow diagram is a way of describing the flow of information through a process or system. Also, the DFD provides information about the outputs and inputs of each entity, and the process itself. In the process of developing the IPPL software, DFD is needed, we tried to show in the following diagram how the actors in the process communicate with each other and also the database relation.

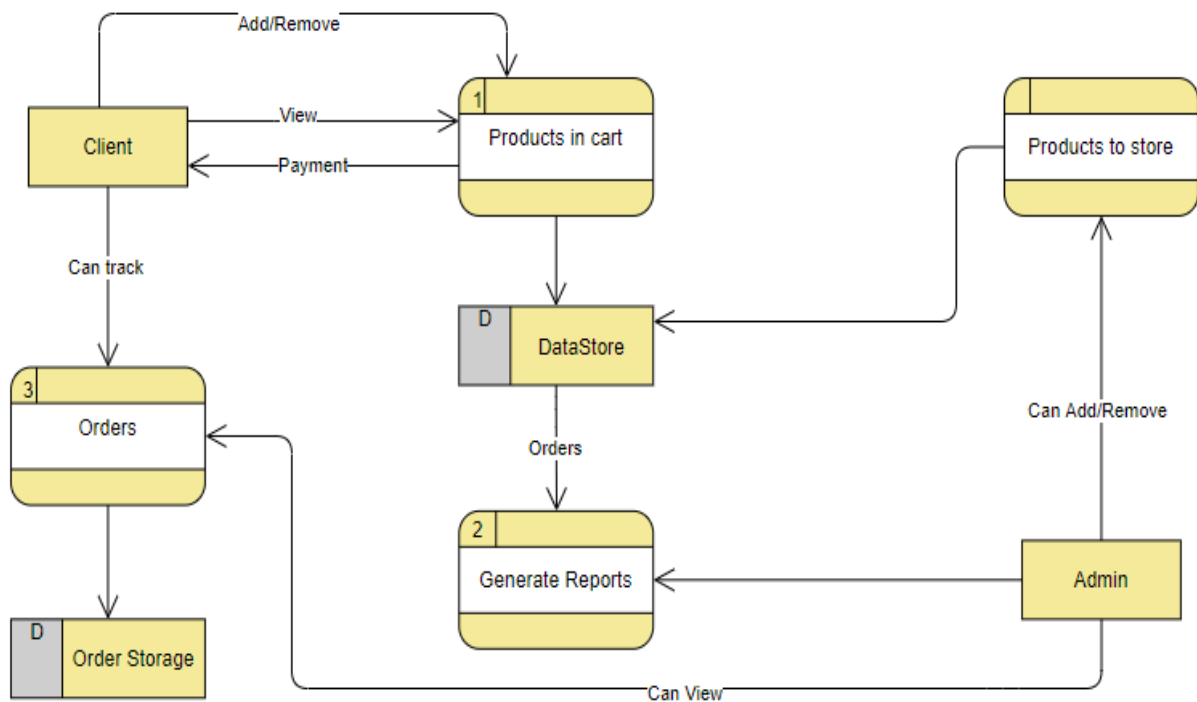


Figure 5.3.3: Data Flow Diagram

5.3.4 Activity Diagram

The activity diagram, which explains complex facets of the system, is another important behavioral diagram in the UML diagram. Basically, the activity diagram is an advanced variant of the flow chart that models the flow from one activity to the next.

5.3.4.1 Admin Activity Diagram

The UML admin diagram illustrates the tasks and limitations that the system administrator has. Firstly, without logging in, Admin cannot do its tasks. In the system, he has the following workflow:

1. Add Products- The admin can add the pharmaceutical products on the website.
2. Remove Products- Admin can, not only add products, but also remove them.
3. Generate Chart- Admin can generate charts showing statistical values relevant to the system
4. View Chart- Admin can view chart before exporting it into a pdf
5. View Sales- Admin can view Sales Reports.

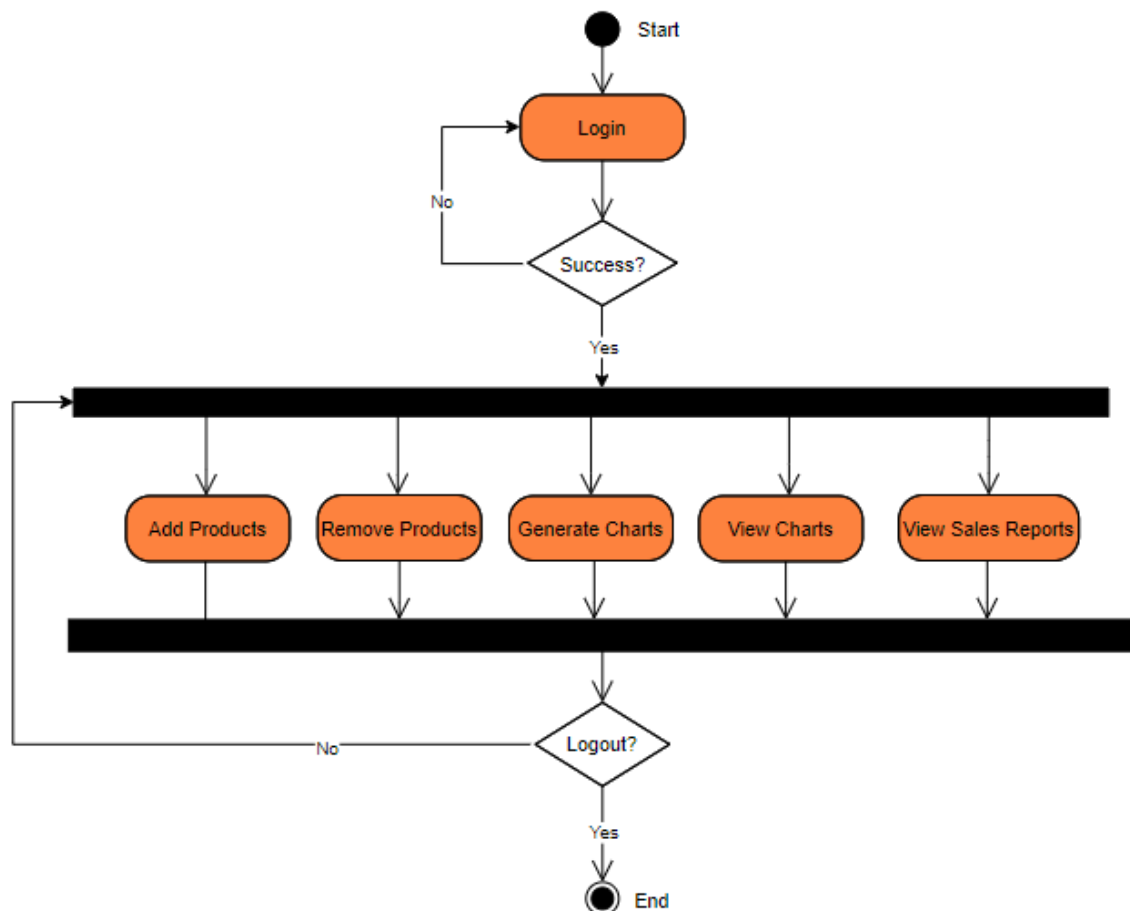


Figure 5.3.4.1: Admin Activity Diagram

5.3.4.2 Client Activity Diagram

The Activity diagram of the client shows use the roles of the client in our system as shown in the following:

1. Add/ Remove and View Products- Clients can add/remove and views products in the cart
2. View Website- Clients can view and explore the website
3. Schedule Meetings: Propose a meeting for the Company to approve
4. Consultation: Can consult with the representative in the scheduled date
5. Track Orders: Clients can check the status of their orders

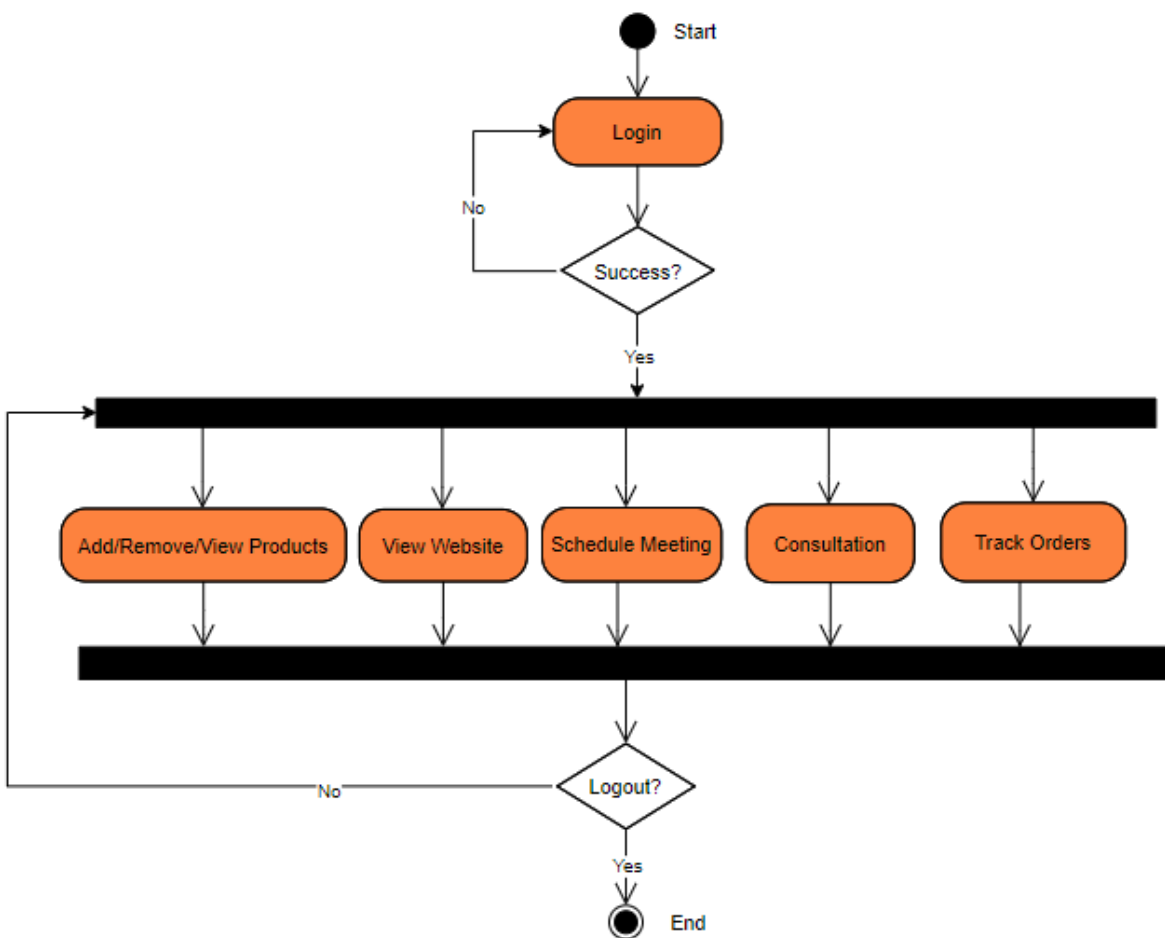


Figure 5.3.4.2: Client Activity Diagram

5.3.5 Entity Relationship Diagram

A type of structural diagram for use in the design of databases is the Entity Relationship Diagram. There are different symbols and connectors in an ERD that display two important data: the key entities within the device scope, and the interrelationships between these entities. The normalization performed before the ERD is fulfilled and how the user object will be displayed in the device database is as follows.

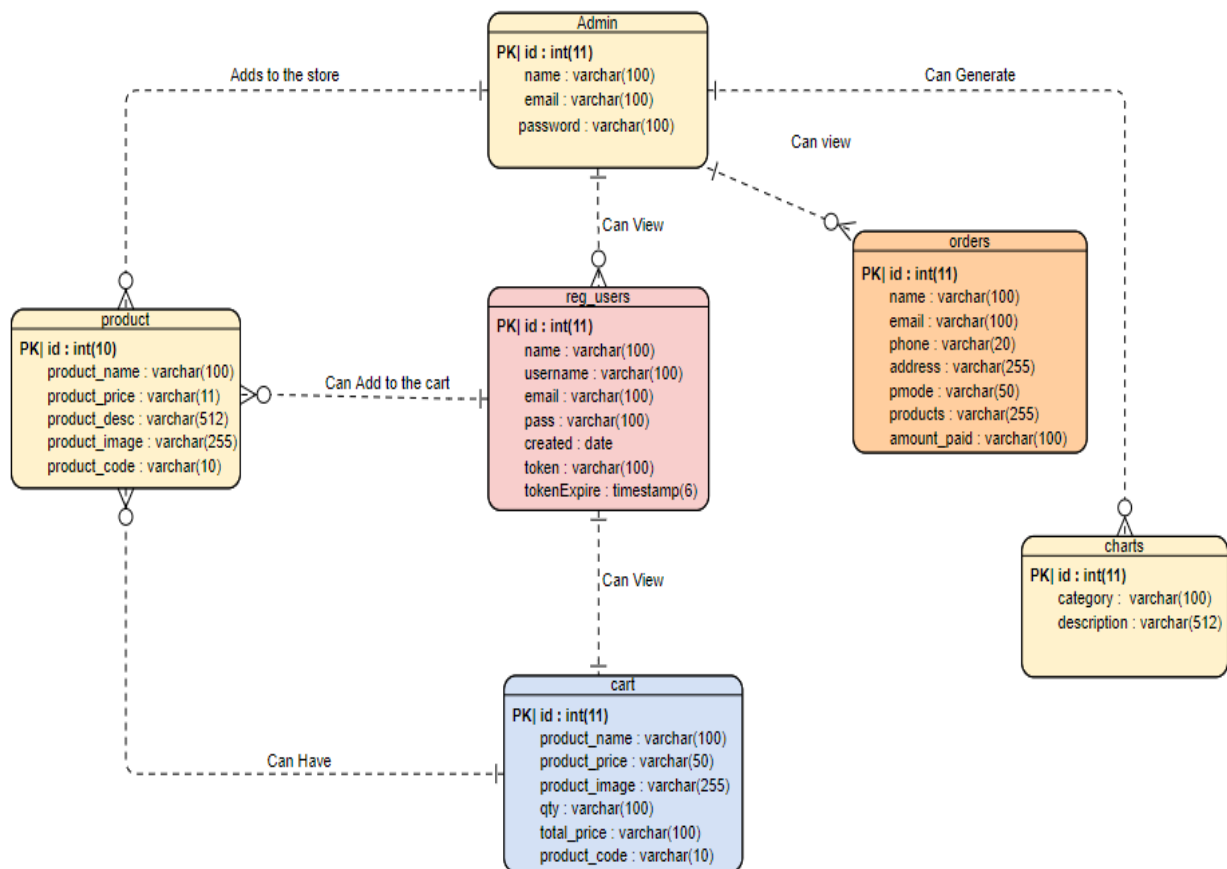


Figure 5.3.5: Entity Relationship Diagram

5.3.6 Functional and Non-Functional Features

The primary way in which the customer expresses their needs to the team is functional requirements. The end product is likely to miss the mark without providing an agreed functional specifications document to clearly describe the scope. The cost can be easily driven by excess non-functional requirements, while inadequate non-functional requirements contribute to bad user experiences.

Knowing the difference between functional and non-functional requirements would assist both the consumer and the supplier to fully understand their needs, leading to greater refining of scope, optimized prices, and eventually a happier customer.

5.3.6.1 Functional Requirements

Basic system behavior is characterized by functional requirements. Essentially, they are what the system can or must not do, and in terms of how the system responds to inputs. Features that enable the system to function as it was intended are functional requirements. Product functionality and emphasis on user requirements are functional requirements.

- **Minimum steps to make a purchase:** We made sure, in particular, that the checkout process is as smooth as possible. In addition, on every page of the web, the shopping cart icon is clearly visible - this will make it easier for the prospective customer to carry out cart operations (view the selected goods, delete unnecessary items, adjust the quantity of the same product unit, etc.).
- **Mobile-friendliness:** Nowadays, rather than via laptops and PCs, a growing number of Internet users make online purchases via smartphones and tablets. That is why, as a more advanced adaptive design option, mobile-first design never fails to gain particular popularity. So we made to have a responsive website suitable for all types of devices.
- **Unique, recognizable design:** A special, authentic design is another attribute that distinguishes a competitive website. It is easier to focus on the expert developers'

expertise and entrust real professionals with all customizations. Our team, therefore, has attempted to ensure only the consistency and uniqueness.

- **Relevant, useful content:** Filling the website with expert articles is not only a bonus, but also a way to meet the needs of the most meticulous clients who are searching for anything more than a standard summary of the product.
- **Shipping & payment systems integration:** In the methods of payment and distribution of goods, it is also worth ensuring that clients get an option. Perhaps, in some services, they already have personal discounts so that the proposal to select a familiar company for money transfer/receiving products would come in handy.

5.3.6.2 Non- Functional Requirements

Non-functional requirements state how it should be performed by the system. The basic functionality of the system is not affected by non-functional requirements. It describes system actions, settings, and general features that influence the experience of the user. They are product assets and rely on preferences of consumers.

- **Scalability and performance:** ensuring that the device will scale at normal and peak times to meet the anticipated amount of traffic and order. Performance defines how quickly a software system or its specific component reacts to the actions of certain users under a certain workload. After getting the domain, we can test and check that.
- **Portability and compatibility:** Defines how a device or component can be launched in one or another environment. It typically requires requirements for hardware, software, or other user platforms. Compatibility determines how a system in the same setting will co-exist with another system.
- **Security:** This non-functional requirement ensures that all information is secured against malware attacks or unauthorized access within the device or part thereof.

- **Localization:** This attribute determines how well a device or part falls in line with the local market-to-be context. Local languages, rules, currencies, traditions, spellings, and other things, which are all included in the website.
- **Usability:** Another classical non-functional criterion that answers a basic question is usability: How difficult is it to use the product? It's not as straightforward to describe these demands as it seems. But we have tried to keep it as user-friendly as possible.

5.4 Product Features

Product features are the characteristics or attributes of a product that offer value to end users and distinguish a product on the market.

5.4.1 Input

Anything for a project or product that is needed. That will be money, time, energy, people, efforts, plans and documents in this context.

All the hardware requirements used like Pentium 5, 1.4GHz or above, 512MB RAM or more, Standard color display, LAN/WIFI Network, any Smartphone or Laptop or Desktop, Keyboard and Mouse or Web cam are all part of the input. Not only that, Software requirements like: Internet Browser or PDF reader for Exported files are included in the input features.

5.4.2 Output

In terms of the project or product: features, products, or a service that can be used by users.

Online Consultation: The representative consultation that the customers need to take will now be online, so the customer can take the service online without any travel costs and save a lot of time.

Record of all information: All information will be registered by the system, starting with the customer consultation record, orders, sales report, etc. So, there's no risk of missing everything.

Time efficiency: For data management, the manual approach takes a great deal of time. For data use and management, this scheme will have the advantages of time productivity. The administrator will produce statically reported system data directly from diagram types.

5.4.3 Architecture

The program requires architectural design to speak to the software design. A collection of components that carry out the work needed by the system. Assistance in coordination, connectivity, and participation between the components will be provided by the connector package. Semantic models provide the architect with the assistance to bring it into the framework's general properties.

A client-server architecture can be an arrangement design in which a client or a server is either a device or prepping for the arrangement. Servers are powerful machines or forms dedicated to controlling network traffic, printers, or disk drives. Clients are PCs or workstations on which applications are performed by clients. Clients rely on asset repositories, such as documents, gadgets, and even control planning. The response from the application server is then changed to HTML organized by the web server and displayed on the standardized HTML web page. The portal server prepares authentication requests for administrators, departments, and clients.

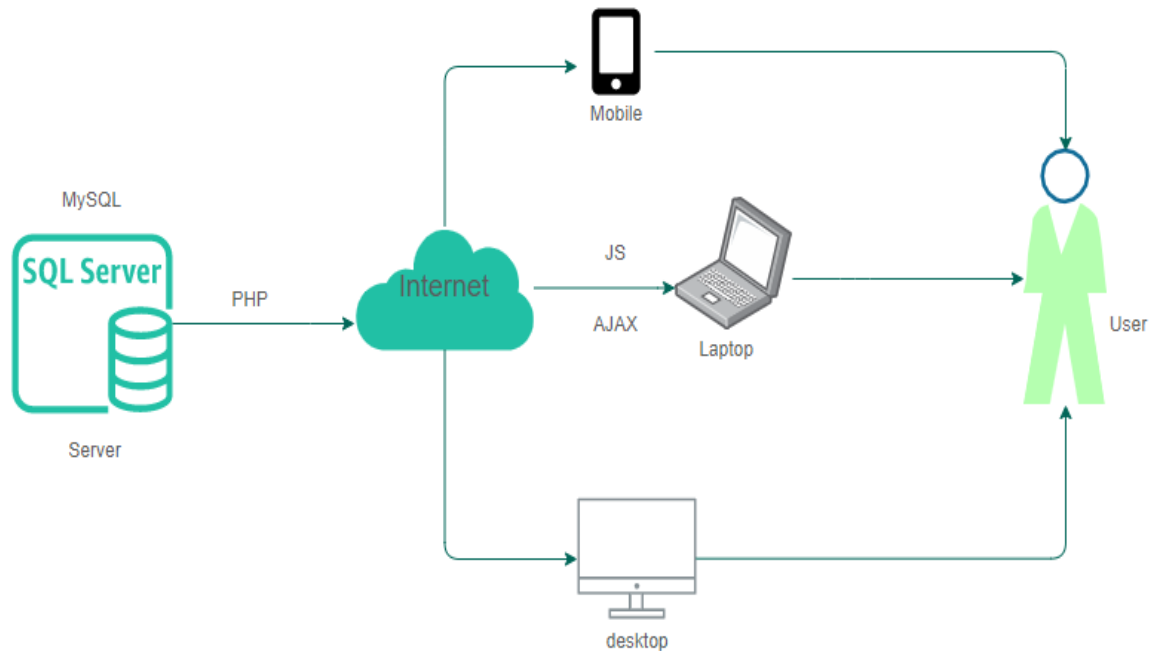


Figure 5.4.3: Architecture Diagram

5.5 Implementation

We used HTML, CSS, JAVASCRIPT, AJAX, PHP, XAMPP, MySQL and Bootstrap to build the IPPL program. We have tried to create a "traditional printing and packaging" similar software, but with digitization our country is not completely acquired.

JavaScript: JavaScript is a lightweight programming interpreter. It is built to create network-centric applications. It's blended with Java and free of charge. It is possible to implement JavaScript very easily, as it is combined with HTML. This is a cross-platform.

In the backend, we used JavaScript for building this website. The explanation for this is that the AJAX system has helped our developers handle front-end data updates and build flexible network applications capable of handling, among other things, multiple user requests at the same time.

MySQL: MySQL is a relational database management system that is open-source. MySQL is now only primarily used for test cases to identify the errors and before domain and hosting are purchased.

Bootstrap: The bootstrap structure has been used to provide users with a better outer look for the application so that users are more likely to use the application. Using typography, shapes, navigation, buttons, etc.

Chapter 6: Results and Analysis

6.1 Introduction to Test Case

A test case is a document containing a set of test data, preconditions, expected outcomes and post-conditions, designed to verify compliance with a specific requirement for a given test scenario.

The Test Case serves as the starting point for the execution of the test, and the application has a definitive outcome after applying a set of input values and leaves the device at some end point or known as execution of the post condition.

Bengal Software aims to create a printing and packaging software to digitize the conventional engagement in this industry for their in-house work (not client-based). This is a software to automate the normal customer-company consultation from real life to digital.

6.1.1 Defect Tracking and Report System

- Defects with the mother company's professional team and even a defect monitoring automated program "Bugzilla" will be passed along.
- All members of the project development team will have access to and evaluate the failure reporting tool.
- Each module will be tested by the developer and the unit test report will be shared with the development team.
- The testing will start in the middle of the development, which means that after developing some features/module, we will start testing until the end of the UAT (user acceptance test) according to the test schedule. So that we can save time, and simultaneously test and run.
- Bug fixing will begin after the completion of the approval of Cart System (estimated date 10th of January).
- Without fixing the bug, no precise module / function testing can be performed.
- Before the study starts, all test cases will be prepared.
- Tests will be checked by the team and accepted.
- During the test, a new test case may be inserted or changed.
- The test setting, hardware, and testing function / module must be ready before testing on the test server.

- The test results will be given on the tracking tool, and the test lead should be informed immediately if any changes are required.
- If the program has any changes in the making or in the future, there will be changes in the test schedule.

6.2 Test Case Analysis

6.2.1 Testing Synopsis

Things that are required for testing

In the functional parameters, test all the features addressed. According to the data, the description, website constraints below functionalities will be the scope of the test-

- Login of the IPPL software
- Registration functionality of the users
- Add products (admin)
- Remove products (admin)
- View payments of order added to the system (admin)
- Add/Remove Products to cart (client)
- Generating Charts (admin)
- Change password (client, admin)
- View order reports (admin)
- Logout

6.2.2 Test Table

No	Test Case Name	Purpose	Precondition	Test Steps to	Expected Result	Actual Result	Status	Remark
1	Login	Check if the User Login is working successfully	i) User must have internet connection ii) User must add information corresponding to the login requirements	i) Add user information to the login page (username, password etc.) ii) To fully access the account, click on the login button.	i) The website will allow the user to access the interface if the user's input is right. ii) Else reveals "Login Failed. Check your username and password." error message.	App lets the user to login to the website	Pass	None
2	Register	Make sure the Registration is work correctly	i) User must have internet connection ii) User must add information corresponding to the registration criteria	i) Add user information to the register page (full name, username, email, password etc.) ii) To create the account, click on the register button.	i) The website will display the message "Registered Successfully. Login Now!" and the user can login to access the website. ii) Else reveals error message.	App lets the user to register	Pass	None
3	Add Products	Admin must add product to assure relevance	i) Must login to the system	i) Put accurate information in the interface. ii) Click add product button to add product.	New products will be added to the system.	Admin can see the new products added, its info and buttons.	Pass	None

4	Remove Products	Admin can remove product when necessary	i) Must login to the system	i) Click delete from the database in the products' table.	Product will be removed from the system.	Admin can delete products	Pass	None
5	View payments of order	Admin can view the payment made online	i) Must login to the system ii) View payments.	i) Click database's orders table to view the payment	i) Admin can see the amount of payment that IPPL received.	Successfully admin can see the report of Orders in the system	Pass	None
6	Add or Remove Products to cart	Clients can add or remove products from the cart	i) Must login to the system ii) Choose products from the shop to add to cart	i) Click add to cart button to add items ii) Click cart button to view products in cart and remove if wanted	Clients will be to add and remove products from cart	The clients can indeed correctly add and remove products accordingly	Pass	None
7	Generating Charts	Admin can generate chart/images using the readings of various data (number of sales, etc)	i) Must login	i) Select which type of report to generate (Bar, Pie chart) and(monthly, daily, weekly) ii) Click Generate button to export file.	i) Success if a File is exported in Pdf format with displayed diagrams. ii) If there is an error the admin will be notified with an error in message box.	Pdf is not being generated	Pending	Go through pdf generation process and code
8	Change Password	Make sure that password is working correctly	i) Internet connection	i) Click forgot password. ii) Type email and click send for a link verification iii) Verify link by clicking iv) New password	i) Notification "password changed successfully" ii) Error if not approved.	Forgot password works and link verification is send with all the necessary messages	Pass	None

				v) Confirm password vi) Login				
9	View sales reports	Admin can view the sales and orders report monthly	i) Must login	i) Click view report. ii) Display report folder. iii) Export files to download a copy	Report folder shows the accurate files of the patient.	Admin cannot see the reports yet from the system, but it can be seen from database.	Pending	Check code
10	Logout	Make sure that Logout function works correctly	i) All users can do this ii) Login first	i) Click Logout	i) Notify “Logout Successful”	i) Notification showed	Pass	None

Figure 6.2.2: Test Table

6.2.3 Test Result & Analysis

Few of the tests are still pending, as seen in the table, and the developers are trying to make corrections on time. The Beta version will be released online for trial running after the testing is completed successfully.

When the testing process is complete, the testing team will prepare numerous documents to help both the team members and stakeholders explain the basic and complicated tasks, processes, methodologies, etc. related to the testing process. A test report will also be produced to help explain how the testing was carried out and the challenges encountered.

Chapter 7 Project/work as engineering problem analysis

7.1 Sustainability of the product/work

Sustainable software development has been described as one of the key challenges in the web application sector. Sustainable development seeks to meet the needs of the show while maintaining the support of common frameworks and the environment in order not to sacrifice the capacity of future generations to meet their needs.

After the Project is completed, the sustainability would be upright as we estimated, the initial plan of launching the Image Printing and Packages Ltd program was to provide a bulk ordering system to people who could not come to the factory due to the pandemic. Our main approach was for the already existing users and attract newer ones too. So, hopefully, after the pandemic is over, the software is still likely to be used by consumers as this approach is much more convenient. New innovations are also being added to the program according to a future plan. Bengal Software plans to implement the application with Artificial Intelligence, which will provide the industry with good competition.

7.2 Social and Environmental Effects and Analysis

Testing facility experiments were carried out on software products within the content handling of item bunches, browser, substance administration system, and database to assess the catalog of requirements and legitimacy of the technique. Within each gathering, a comparison of computer program objects and the same utility showed relevant contrasts in terms of the usage and energy of equipment properties.

A few social aspects can affect the growth of the IPPL. As a customer who visits the company in person, both parties will experience a sense of relief. It is a psychological matter that, knowing good news/meetings in person, will release a dopamine hormone that will satisfy the workers of the company and inspire the environment for their work as well. And in critical moments, such as during a loss, the client has a confidence in the members of the business that can only be accomplished if the user is there in person, which is the conventional way. Studies indicate that it is not possible for this to be sensed digitally.

Bengal Software is really concerned with the environment as far as environmental issues are concerned. The environment is not damaged by this automation of conventional bulk ordering. Bengal is also ISO 14000 accredited to function as environmental management guidelines that exist to help companies mitigate how their activities have a negative effect on the environment.

7.3 Addressing Ethics and Ethical Issues

Ethics takes into consideration principles of esteem such as 'good,' 'bad,' 'right,' 'wrong,' 'thinking,' linked to behaviors relevant to a bunch of norms and laws. To risk the client's personal data, the use of IPPL software is arguably notified, this has been a great deal of battle for Bengal. We have tried to provide our application with the highest amount of protection possible from hacking. Every kind of breach of the patient's privacy is declared by calling/mailing our emergency unit to notify us immediately. We have also encrypted the password of each user so that we do not understand the password of the user ourselves, but if forgotten, we can direct them to change the password.

Chapter 8: Future Work & Conclusion

8.1 Future Works

After the creation of the web-based Image Printing and Packages app is done, the job does not end here. There are future company priorities, some of which are described below:

- Mobile (iOS/Android) application
- Foreign Clients
- Implementation of Local payment vendors (ex: Bkash, Rocket, Nagad)
- Providing an option for translation to different languages
- Scheduling of meeting/consultation

In order to be user-friendly and more dynamic, the system should be enhanced for the future.

8.2 Recommendation

Even though the goal was to build a user-friendly program, before using it, the user still needs to have some knowledge of the framework. Some of which can be found below:

- Before using the application, the user must know how to use the Internet.
- When using the app, the user is advised to go through the terms & conditions.
- Once the videos for use are posted to the Facebook page and the official website of Bengal, users can find it easier.

8.3 Conclusion

During the internship, I worked on WordPress Theme and Plugin development as well as on this website which provides pharmaceutical ordering service. This helps to digitize the conventional manner in which a customer orders the business. The clients can get access to the website and take their service online with the help of the internet. This will save a lot of time and cost for the client as well as the company relating to the traffic in Dhaka. They can login to browse and know about the medicines, once done, the client can order (minimum of 10 pcs) and get it delivered.

It was an excellent opportunity for me to work as a junior web developer in Bengal. The internship program here was three months, and the guidance here was my first step into the world of information technology. My experience here was full of insights about the process of growth and the job market as well. I learned how to deal with the software's various specifications and the best approach to developing it. As a web developer, this program gave me a good understanding of professional life, what I have to face and how to manage those circumstances. I tried to cover my weakness in web development during the internship and tried to become a better web developer. Also learned new things like frameworks, CMS as in WordPress.

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Appendix A (Questionnaire)

Survey Questionnaire

Question for Clients

1. Would you like your day-to-day business to be done online?

Yes/no

2. Are you familiar with using software based on the internet?

Yes/no

3. Do you want this Software to be only accessible to the clients?

Yes/No

Justify: _____

4. Will it be more feasible if the software is on cross platform (mobile/computer)?

5. Are you familiar with online payments (Netbanking, etc.)?

Yes/no

6. What is the amount of products you have purchased?

7. Do you find online market place reliable?

Yes/No

8. What features do you want in the software? Please write briefly.

Appendix B (UI image & Source Code)

UI Screenshot

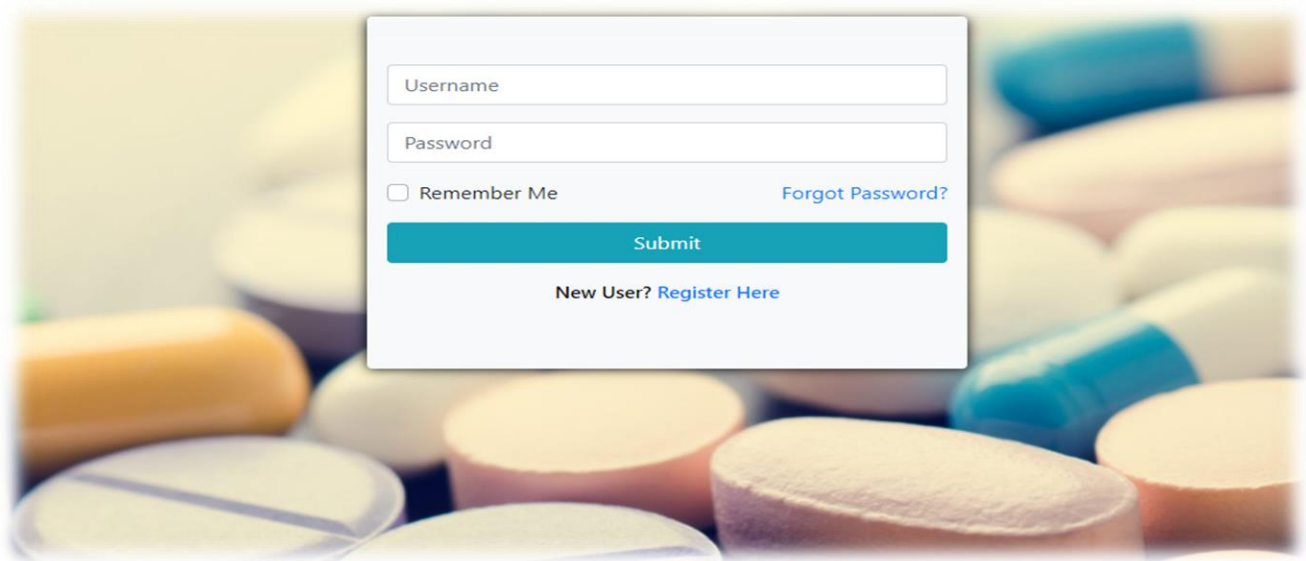


Figure: User Login Page

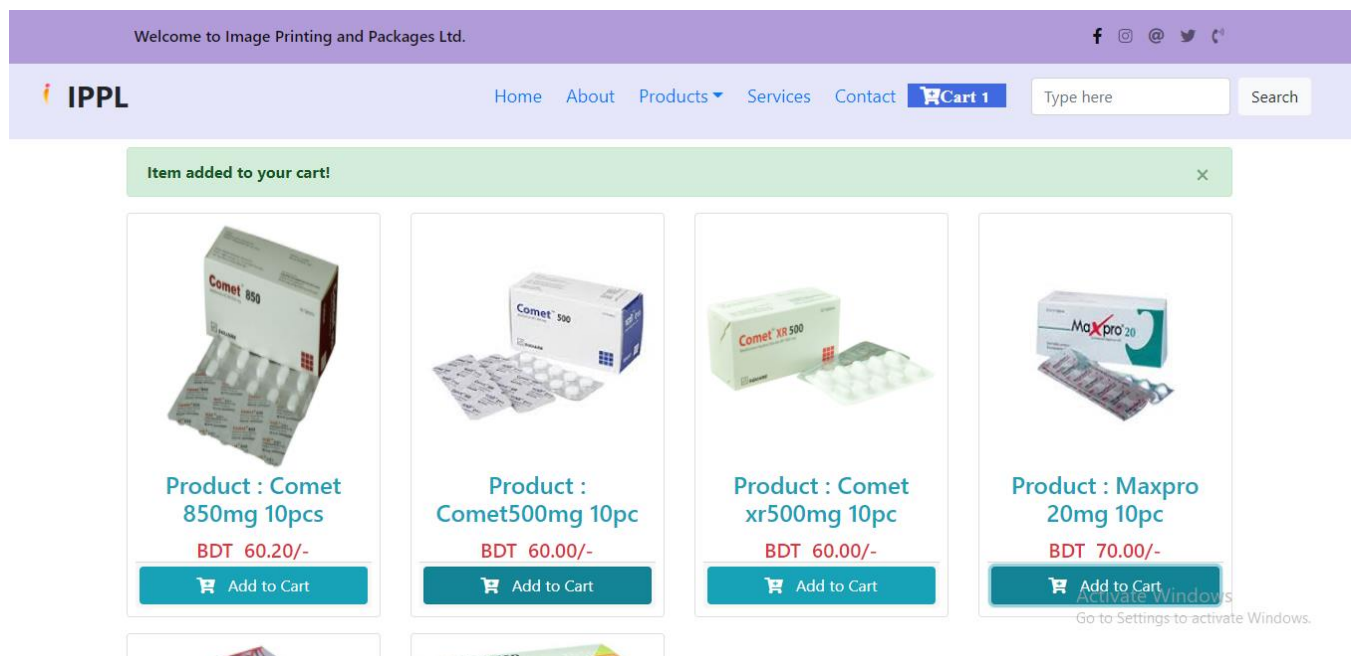


Figure: Products' Store Page

Figure: Add Product Page

Sample Source code

```
// Fill out the fields to login
if(isset($_POST['action']) && $_POST['action'] == 'login'){
    session_start();

    $username = $_POST['username'];
    $password = sha1($_POST['password']);

    $stmt_l=$conn->prepare("SELECT * FROM reg_users WHERE username=?
AND pass=?");
    $stmt_l->bind_param("ss",$username,$password);
    $stmt_l->execute();
    $user = $stmt_l->fetch();
```

```

        if($user!=null){
            $_SESSION['username']=$username;
            echo "ok";

            if(!empty($_POST['rem'])){

setcookie("username",$_POST['username'],time()+(10*365*24*60*60));

setcookie("password",$_POST['password'],time()+(10*365*24*60*60));

            }
            else{
                if(isset($_COOKIE['username'])){
                    setcookie("username","");
                }
                if(isset($_COOKIE['password'])){
                    setcookie("password","");
                }
            }
        }
        else{
            echo "Login Failed! Check your username and password.";
        }

    }

```

// view store and all the products in it

```
<?php
```

```
    require 'config.php';
```

```
    $sql="SELECT * FROM product";
```

```
    $result=mysqli_query($conn,$sql);
```

```
?>
```

```

<div class="container">
  <div id="message"></div>
  <div class="row mt-2 pb-3" style="">
    <?php
      while ($row=mysqli_fetch_array($result)){
        ?>
        <div class="col-sm-6 col-md-4 col-lg-3 mb-2">
          <div class="card-deck">
            <div class="card p-2 mb-2">
              
              <div card-body p-1>
                <h4 class="card-title text-center text-info">Product : <?= $row['product_name'];
?></h4>
                <h5 class="card-text text-center text-danger">BDT &nbsp;<?=number_format($row
['product_price'],2) ?>/</h5>
              </div>
              <div class="card-footer p-1">
                <form action="" class="form-submit">
                  <input type="hidden" class="pid" value="<?= $row['id'] ?>">
                  <input type="hidden" class="pname" value="<?= $row['product_name'] ?>">
                  <input type="hidden" class="pprice" value="<?= $row['product_price'] ?>">
                  <input type="hidden" class="pimage" value="<?= $row['product_image'] ?>">
                  <input type="hidden" class="pcode" value="<?= $row['product_code'] ?>" >
                  <button class="btn btn-info btn-block addItemBtn"><i class="fas fa-cart-
plus"></i>&nbsp;&nbsp;&nbsp;Add to Cart</button>
                </form>
              </div>
            </div>
          </div>
        </div>
      </div>
    <?php } ?>

```

</div>

</div>

// add product to the store and the database by clicking the add product button and filling all the necessary fields

<?php

require 'config.php';

\$msg="";

if(isset(\$_POST['submit'])){

 \$p_name=\$_POST['pName'];

 \$p_price=\$_POST['pPrice'];

 \$p_desc=\$_POST['pDesc'];

 \$target_dir="images/";

 \$target_file=\$target_dir.basename(\$_FILES['pImage']["name"]);

 move_uploaded_file(\$_FILES['pImage']["tmp_name"], \$target_file);

 \$sql="INSERT INTO product
(product_name,product_price,product_desc,product_image)
VALUES('\$p_name','\$p_price','\$p_desc','\$target_file')";

 if(mysqli_query(\$conn,\$sql)){

 \$msg="Product added to the database successfully";

 }else {

 \$msg="Failed to add the product.";

 }

}

?>

<!DOCTYPE html>

```

<html lang="en">
<head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Add Product Information</title>
    <link rel="stylesheet" type="text/css" href="style.css">
    <!-- Latest compiled and minified CSS -->
    <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">

    <!-- jQuery library -->
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

    <!-- Popper JS -->
    <script
src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.16.0/umd/popper.min.js"></script>

    <!-- Latest compiled JavaScript -->
    <script
src="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>
    <script src="https://kit.fontawesome.com/a076d05399.js"></script>
</head>

<body class="bg-info">
    <div class="container">
        <div class="row justify-content-center">
            <div class="col-md-6 mt-5 rounded">
                <div class="card shadow">
                    <div class="card-header">
                        <h3>Add Product</h3>
                    </div>

```

```

<div class="card-body">
    <form action="#" method="POST" class="p-2"
enctype="multipart/form-data" id="form-box">
        <div class="form-group">
            <input type="text" name="pName"
class="form-control" placeholder="Product Name" required>
            <div class="invalid-
feedback">Product name is required</div>
        </div>
        <div class="form-group">
            <input type="text" name="pPrice"
class="form-control" placeholder="Product Price" required>
            <div class="invalid-
feedback">Product price is required</div>
        </div>
        <div class="form-group">
            <textarea name="pDesc"
class="form-control" placeholder="Product Description"></textarea>
            <div class="invalid-
feedback">Product description is required</div>
        </div>
        <div class="form-group">
            <div class="custom-file">
                <input type="file"
name="pImage" class="custom-file-input" id="customFile" required>
                <label for="customFile"
class="custom-file-label">Choose Product Image</label>
            </div>
        </div>
        <div class="form-group">
            <input type="submit" name="submit"
value="Add Product" class="btn btn-primary btn-block" id="add_product_btn" />
        </div>
        <div class="form-group">

```

```

?></h4>
<h4 class="text-center"><?= $msg;

</div>
</form>
</div>
</div>
</div>
</div>
<div class="row justify-content-center">
  <div class="col-md-6 mt-3 rounded">
    <a href="store.php" class="btn btn-warning btn-block bt-lg">Go to
Store</a>
  </div>
</div>
</div>
</body>
</html>

```