



An Undergraduate Internship/Project on Pharmacy Management System

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in Computer Science

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Attestation

I hereby declare that this submission is my own work and to the best of my knowledge it contains no materials previously published or written by another person, or substantial proportions of material which have been accepted for the award of any other degree or diploma at IUB or any other educational institution, except where due acknowledgement is made in the report. Any contribution made to the research by others, with whom I have worked at IUB or elsewhere, is explicitly acknowledged in the report. I also announce that the intellectual content of this report is the product of my own work, except to the extent that assistance from others in the project's design and conception or in style, presentation and linguistic expression is acknowledged.

Signature

Date

Write Your Name Here

Name

Acknowledgement

I might want to offer our heartiest thanks to faculty advisor **Md. Fahad Monir**, Professor of School of Engineering and Computer Science, for his knowledge, tolerance, and for giving me the chance to gain from him. His direction and support were the most imperative resources that prompted the finish of this venture.

I might likewise want to thank my external supervisor Mr. FEROUZ AL - MAHMOOD, (Project Manager) at Ablaze It Solutions. what's more, my associates who helped me by giving useful directions.

I am to a great degree appreciative towards our Department Head Dr. Mahady Hasan, Department of Computer Science and Engineering, Independent University, Bangladesh, Bangladesh for their nonstop help and consolation amid this task as guides.

Finally, we proudly acknowledge the great sacrifices, good wishes, moral support, fruitful advice, inspirations and encouragements from our family members, relatives and friends during the Internship.

Letter of Transmittal

20.01.2021

Md. Fahad Munir

Lecturer

Department of Computer Science and Engineering,

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Subject: Internship Report Submission Autumn,2020

Dear Sir,

With due honor and respect, I would like to say that I, Mohammad Tansir Afridi Sakib; want to submit my Internship report. I worked at Ablaze BD Solutions”, . It was 3 months program from 17th October 2020 to 17th January 2020.

In this report, I attached all of my best tried for information, working and my capability with the outcome of the work.

I am very grateful to you for your excellent guideline and support for doing this project. I will be very much thankful if you please kindly go through this report and evaluate my works.

Sincerely yours,

Mohammad Tansir Afridi Sakib

ID:1630447

Evaluation Committee

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Signature

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Supervisor

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Internal Examiner

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External Examiner

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Convener

Abstract

This report discusses my experience as a Software Solution & Proposal Intern at Business Automation Ltd. from Oct 20, 2020 to January 15, 2021. My responsibility was to write EOI and Technical Proposal and analyzing the requirements and making presentation for clients. The report described all the processes from planning requirement analysis, development, physical and logical designs etc. Finally, I described what we achieved and what our plan is for the future.

Now a day's pharmacy management system is one of the most essential tools that are mostly used in medicine stores in Bangladesh. It is mostly used to manage pharmacy related activities such as medical inventory, record keeping, sales management and so on.

But many pharmacies in Bangladesh still use manual systems. They don't have software facilities to maintain their daily activities.

In our software we try to develop a software for pharmacy management. Our intention is to allow this application to be used in most pharmacies in Bangladesh. This system is designed to overcome all challenges related to the management of medicines that are used to be handled locally and manually.

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Chapter 1

Introduction

1.1 Overview/Background of the Work

Background of The Project

The pharmacy management system is a built for the sake of ensuring effective and clear data saving and manipulating as well as neat work on the pharmacy medicine products.

This refers the pharmacy management system project highly minimize time and resources by which searching the medicine data you can get the data in quickest time. And almost the resources re wised used since most actions are done on the pharmacy system. Some of the resources minimized include paper, manpower and related things. The other thing is for storing data's in secure way.

BACKGROUND OF THE ORGANIZATION

Ablaze IT Ltd. was established on 21 September 2016. This is mainly a software firm. This organization develops web application, desktop Application and mobile application. For web application their preferred language is raw java, Java scripts, php, .Net, Jason. For front end development they use Bootstrap, CSS, and Material CSS etc. We also develop mobile applications.

Ablaze IT Ltd has been supplying innovative software solutions since 2016. The Chairman of the company **Md Feroz Al Mahmood** and Director **Md. Kamruzzaman** originally setup the company to service the needs of the burgeoning computer industry. Since that time, we have become leaders in the field of software development and distribution, being at the forefront of changes in technology.

We, Ablaze IT Ltd, members solely believe that inspired ideas combined with technological embracement let you go one step ahead for true innovation. These inspired ideas call for new solutions. So, innovative application of the technology that moves the needle is much more important in producing these solutions & we firmly believe in this philosophy. We, Ablaze IT Ltd, members firmly believe that, growth has been come and will always be driven by our people. We have people who has creative mind, innovative thinking in their own arena of service with their magical knowledge, they shape solutions for our customer and maintain a rewarding relationship with them.

As a private company in an industry where players rarely last more than a few years, our longevity is a major achievement. Our experience allows us to provide excellent professional advice tailored to the particular needs of our clients.

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Mission Of This Company:

Our mission is to create something new in computer science also in the early age we are trying to research about computer science. Introduce and established globally competent software house providing world class software and service to the customers of Bangladesh as well as around the world using most recent technology insuring Competitive price

Emphasizes are:

- *Business Solution*
- *Customized software*
- *Perfect information*
- *Faster communication*
- *Long-term benefit*
- *Common bond and trust*
- *Teamwork*

Vision:

Trying to find out needs of IT market & solve these needs in a simple software solution for the people as services

Effective Enterprise IT Solutions and Services at a Competitive Investment.

1.2 Objectives

- It is the user friendly application for Pharmacist which reduces the burden and helps to manage all sections of Pharmacy like Medicine management and Billing etc.
- It deals with the automating tasks of maintaining of Bills.
- The pharmacy management system is easy for use so the user can do pharmacy actions without ambiguities.

- This refers the pharmacy management system project highly minimize time and resource by
- which, searching the medicine data you can get the data in quickest time.
- The pharmacy management system is built for the sake of ensuring effective and clear data saving and manipulating as well as neat work on the pharmacy medical products.

1.3 Scopes

With the development of specific and potent synthetic drugs, the emphasis of the pharmacist's responsibility h. moved satanically towards the utilization of scientific Imputed in the proper we of modern medicines and the protection of the public against dangers that are inherent in their we.

Pharmacists are employed in regulatory control and drug management, community pharmacy. hospital pharmacy, the pharmaceutical industry. academic activities. training of other health workers. and research. In all these fie., their aim is to ensure optimum crag therapy both by contributing W the preparation, supply and control of medicines and associated products. and by providing information and advice to those who prescribe or use pharmaceutical products.

1.4 REQUIRED TOOLS

This area gives a short depiction of the significant programming devices to be utilized as a part of building up the application. This incorporates Microsoft SQL Server.

1.4.1 Microsoft SQL Server

Microsoft SQL Server is a relational database management system that uses the structured query language SQL to access and manipulate the stored data developed by Microsoft. It is software product whose primary function is to store and retrieve data as requested by software applications. Its scope includes data query and data update, schema creation and modification and data access control. It can install the database in separate server with the same data and it can install it with the same server. The servers must be in the same network. Their version of the SQL based on the applications and the size of the business.

1.4.3 JAVA

Java is an Object-Oriented Programming (OOP) structure. Java is a class-based programming language. Java technology is used for developing both, applets and applications. Provides an easy to use: Avoids many of the pitfalls of other languages.

Java is a powerful general-purpose programming language. It is used to develop desktop and mobile applications, big data processing, embedded systems, and so on. According to Oracle, the company that owns Java, Java runs on 3 billion devices worldwide, which makes Java one of the most popular programming languages.

Features:

Following are the notable features of Java:

Object Oriented

In Java, everything is an Object. Java can be easily extended since it is based on the Object model.

Platform Independent

Unlike many other programming languages including C and C++, when Java is compiled, it is not compiled into platform specific machine, rather into platform-independent byte code. This byte code is distributed over the web and interpreted by the Virtual Machine (JVM) on whichever platform it is being run on.

Simple

Java is designed to be easy to learn. If you understand the basic concept of OOP Java, it would be easy to master.

Secure

With Java's secure feature it enables to develop virus-free, tamper-free systems. Authentication techniques are based on public-key encryption.

Architecture-neutral

Java compiler generates an architecture-neutral object file format, which makes the compiled code executable on many processors, with the presence of Java runtime system.

Portable

Being architecture-neutral and having no implementation dependent aspects of the specification makes Java portable. The compiler in Java is written in ANSI C with a clean portability boundary, which is a POSIX subset.

Robust

Java makes an effort to eliminate error-prone situations by emphasizing mainly on compile time error checking and runtime checking.

Multithreaded

With Java's multithreaded feature it is possible to write programs that can perform many tasks simultaneously. This design feature allows the developers to construct interactive applications that can run smoothly.

Interpreted

Java byte code is translated on the fly to native machine instructions and is not stored anywhere. The development process is more rapid and analytical since the linking is an incremental and light-weight process.

High Performance

With the use of Just-In-Time compilers, Java enables high performance.

Distributed

Java is designed for the distributed environment of the internet.

Dynamic

Java is considered to be more dynamic than C or C++ since it is designed to adapt to an evolving environment. Java programs can carry an extensive amount of run-time information that can be used to verify and resolve accesses to objects at run-time.

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

The work is not fully related to undergraduate studies. But some of the basic things are related to undergraduate studies. Like in Ablaze they use Dream Apps. But we never use this kind of things.

In our varsity I have done many courses, But the very few courses are related to my work. Only the five courses are related to my intern work.

These five courses are Database Management (CSE303), System Analysis and Design (CSE307), Web Application & Internet (CSE309), Object Oriented Programs (Java) and Mobile Application Development (CSE464).

Database Management (CSE303): One of the basic courses 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. Overseeing a database includes planning, actualizing, and supporting put away information, to maximize its esteem.

System Analysis and Design (CSE307): We Learn many things from this course which help me lot during my intern. The things we learn for this course:

- **Systems**, Roles, and Development Methodologies.
- Understanding and Modeling Organizational **Systems**.
- Project Management.
- Information Gathering: Interactive Methods.
- Information Gathering: Unobtrusive Methods.
- Agile Modeling and Prototyping.
- Using Data Flow Diagrams.
- Analyzing **Systems** using Data Dictionary

Web Application & Internet (CSE309): a computer program that utilizes web browsers and web technology to perform errands over the Web. From this course we learn and gathered knowledge about HTML, CSS, PHP, JAVA SCRIPTS AND these things are very important language for a developer.

Object Oriented Program (java): From this course I can learn about java. And it's a very essential language for a developer. Main work of a project depends on java. With the help of this language, we can design project and make query for the project. It helps me a lot during my intern.

2.2 Related works

During the internship, I work as a teammate at AblazeBd solutions. I worked there for making a pharmacy management system for a renowned hospital. But we get to know and also see that many other medicine shop or hospital pharmacy management shop currently using these types of pharmacy management system for their pharmacy. They developed their software from different IT Firm. In example we can say that Popular, Apollo, Labaid and some other famous hospital is Dhaka and also 70% of medicine shops using this type of management software. The feature of their software mostly like ours. But in difference language. Some of them use PHP, HTML, some use C language and we developed out project using java and SQL.

Chapter 3

Project Management & Financing

3.1 Work Breakdown Structure

A Work Breakdown Structure (WBS) is a deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables. ... All the work contained within the WBS is to be identified, estimated, scheduled, and budgeted.

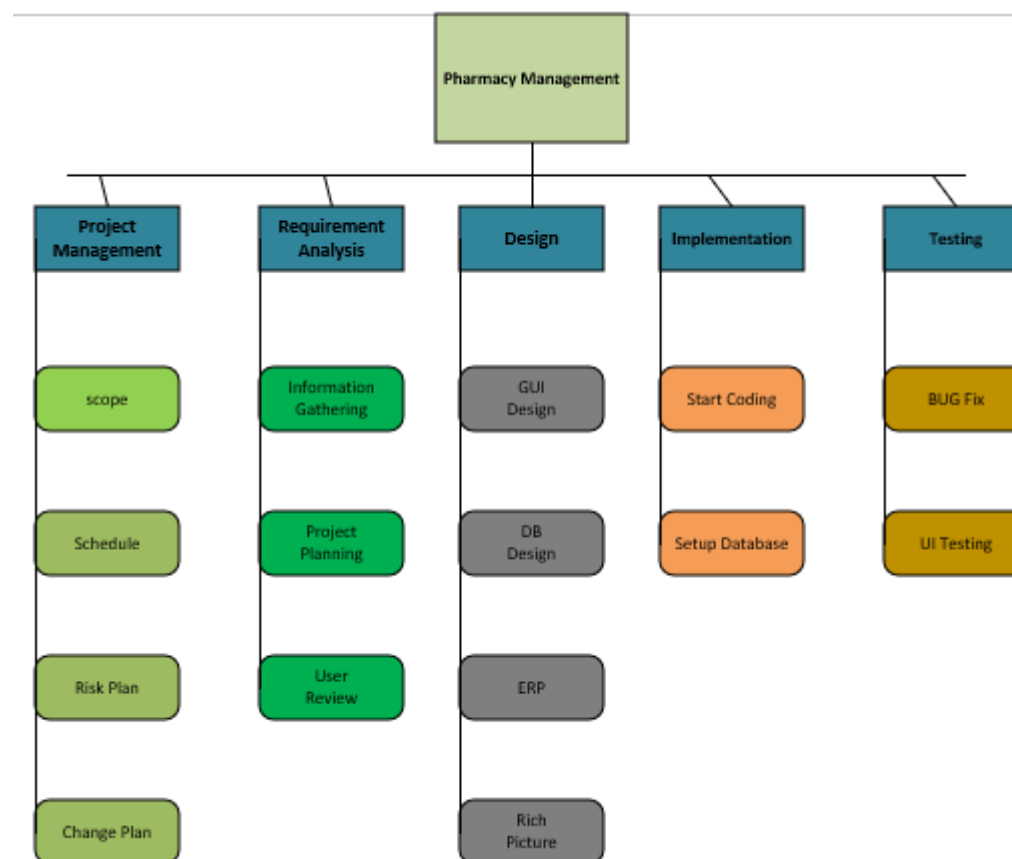


Figure 1: Work Break Down Structure

3.2 Process/Activity wise Time Distribution

This helps develop a project schedule that can be met and establish method to ensure that the schedule is met.

Time and time management is the biggest issue for properly developing an application. So first of all fixed the content and develop depends on this context. Time management is the process of planning and controlling how much time to spend on specific activities. Good time management enables an individual to complete more in a shorter period of time, lowers stress, and leads to career success.

The Construction Management Guide recommends a “rule of thumb” that 10% of the hours estimated for a project are for the project manager's work. Then you can extrapolate from that how many projects he or she can handle

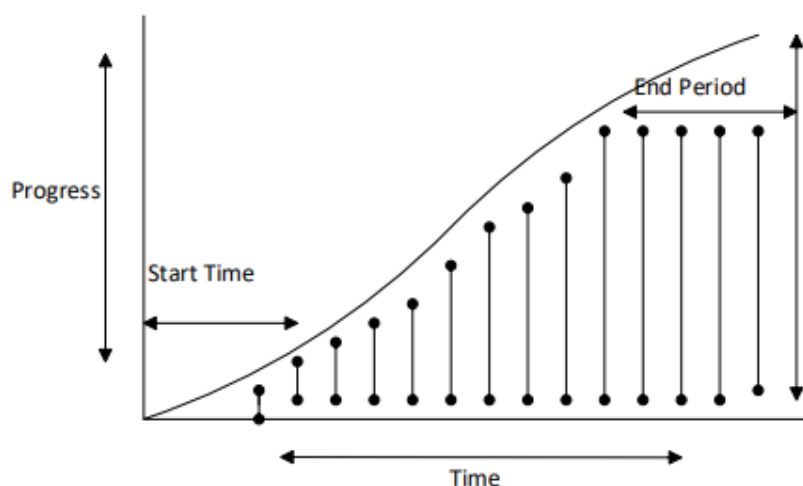


Figure 2: Time Distribution

3.3 Gantt Chart

Gantt charts are useful for planning and scheduling projects. They help you assess how long a project should take, determine the resources needed, and

plan the order in which you'll complete tasks. They're also helpful for managing the dependencies between tasks.

Some benefits that Gantt charts offer:

- Know what's going on in your projects
- Improved communication and team cohesion
- Measure the progress of projects
- Experience more clarity
- Practice better time management
- See overlapping activities and task dependencies.

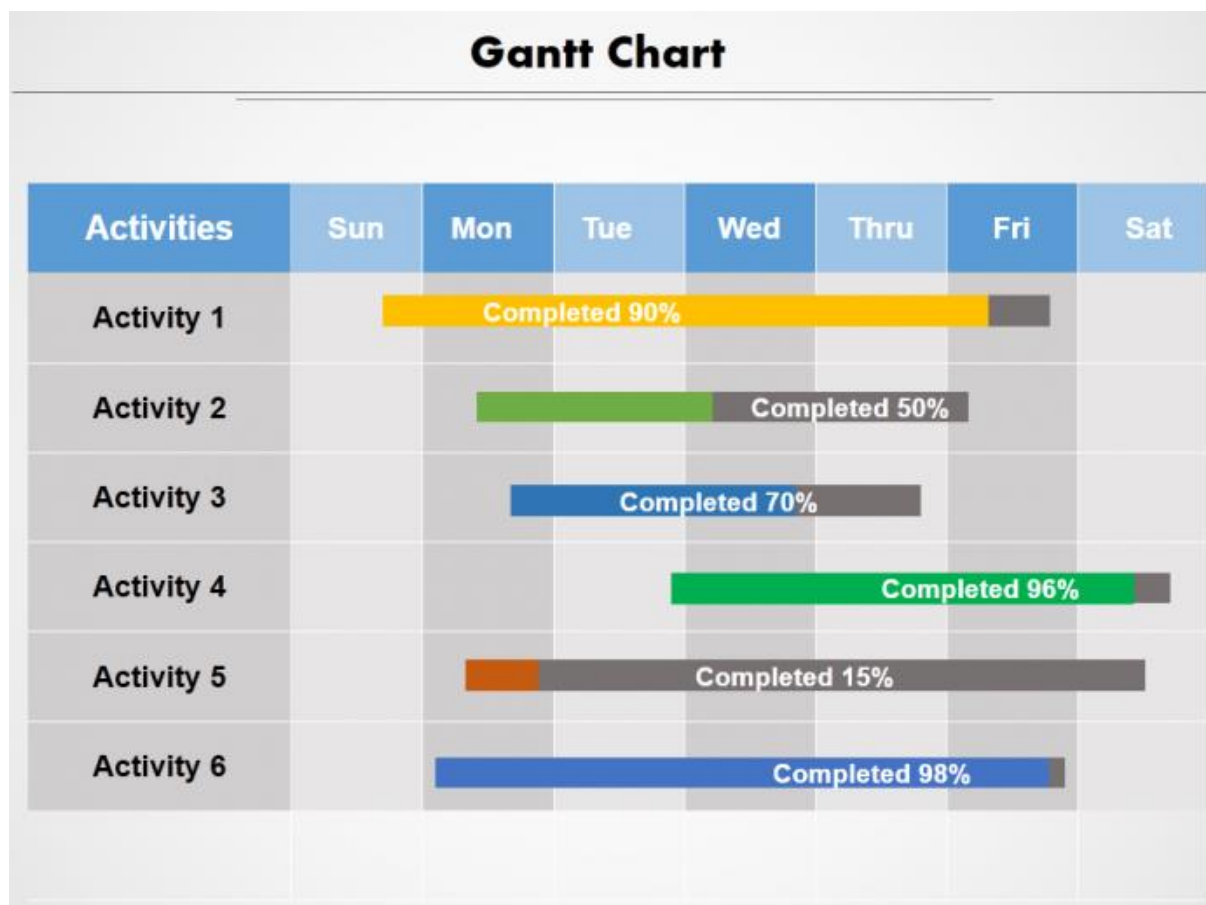


Figure 3: Gantt Chart

3.4 Process/Activity wise Resource Allocation

Resource allocation—part art, part science as some call it—is recognizing the best available resources for the project, assigning them to your team and

monitoring their workload throughout the work, and re-assigning resources if needed

“In project management, resource allocation or resource management is the scheduling of activities and the resources required by those activities while taking into consideration both the resource availability and the project time”

how to allocate resources

Let’s take a look at how to effectively use resources at your disposal:

- Know the project and the team
- Uncover risks early on
- Keep track of the project
- Analyze the project

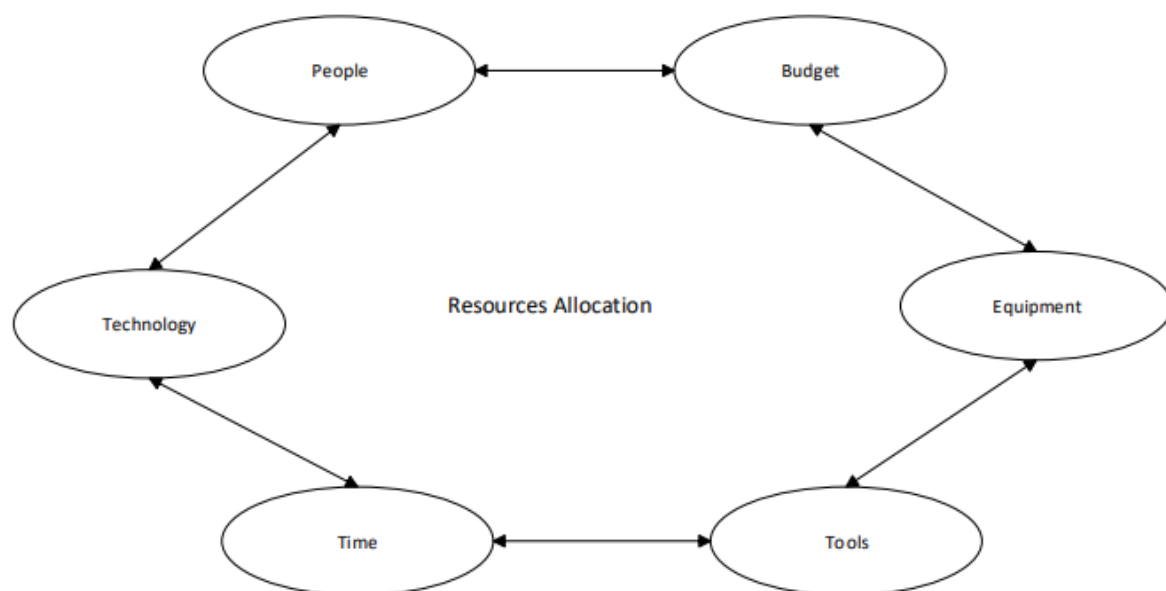


Figure 4: Resource Allocation

3.5 Estimated Costing

Now you've got a comprehensive overview on how to create a pharmacy management system. We are on the verge right now to solve your business challenges. Let's figure out costs necessary to create a high-quality system for pharmacy management.

A comparison of popular ready-made software from the perspective of cost, purpose, features, and support below will help you to value investments for your retail business

Software cost estimation is complex activities that requires knowledge of a numbers of key attributes about the project for which the estimate is being constructed.

Creating accurately software cost estimate requires knowledge of the following parameters.

- The size of major deliverable such as specification source code and manual
- The rate which is requirements are likely to change during development
- The probable number of bugs or defects that are likely to be encountered.
- The capabilities of developer team
- The salary and the overhead cost associated with the development team
- The cost also depends on methodology of project
- The tools that are going to be used in project
- The times that need to complete the project

Requirement	Quantity	Amount
Computer	5	30000
Developer	5	1,25000
Server	1	30000
Domain	1	25000
Electric Bill		15000
Internet Cost		10000
Hardware Cost		20000
Other Cost		5000
Total Cost		260000

Table: Total Estimate Cost

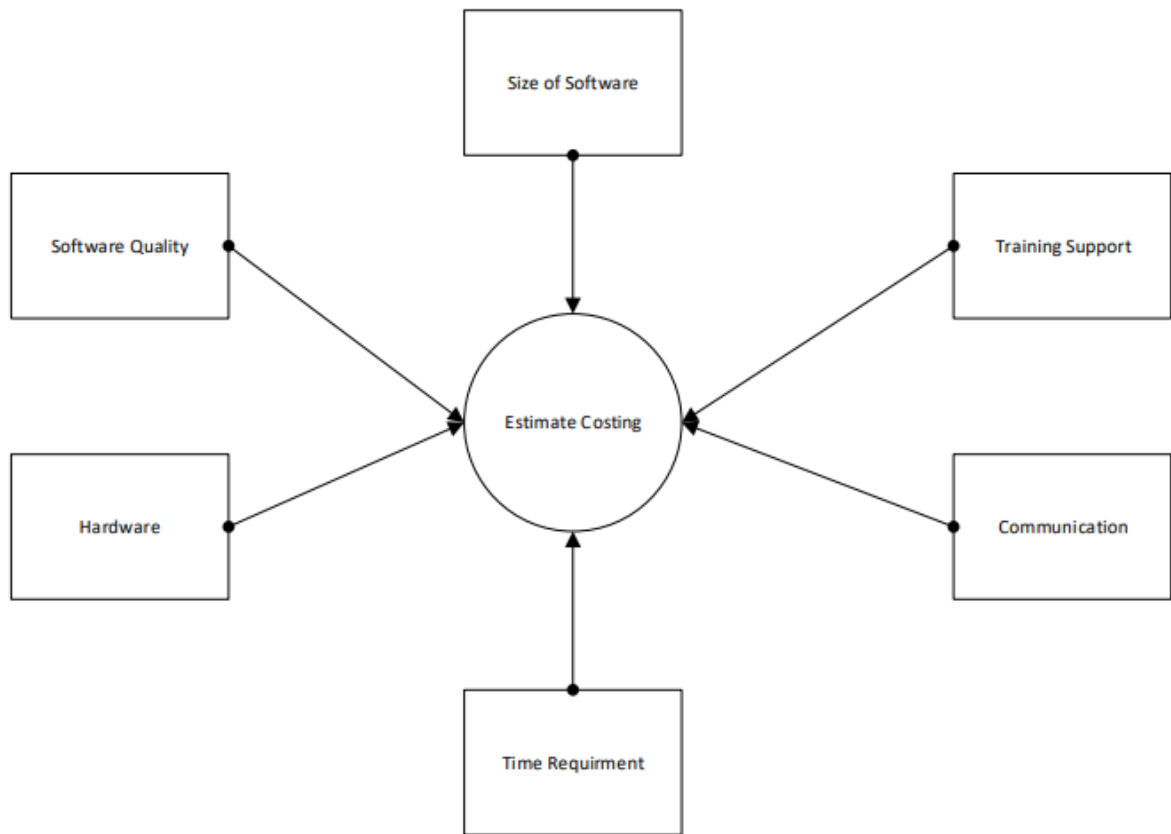
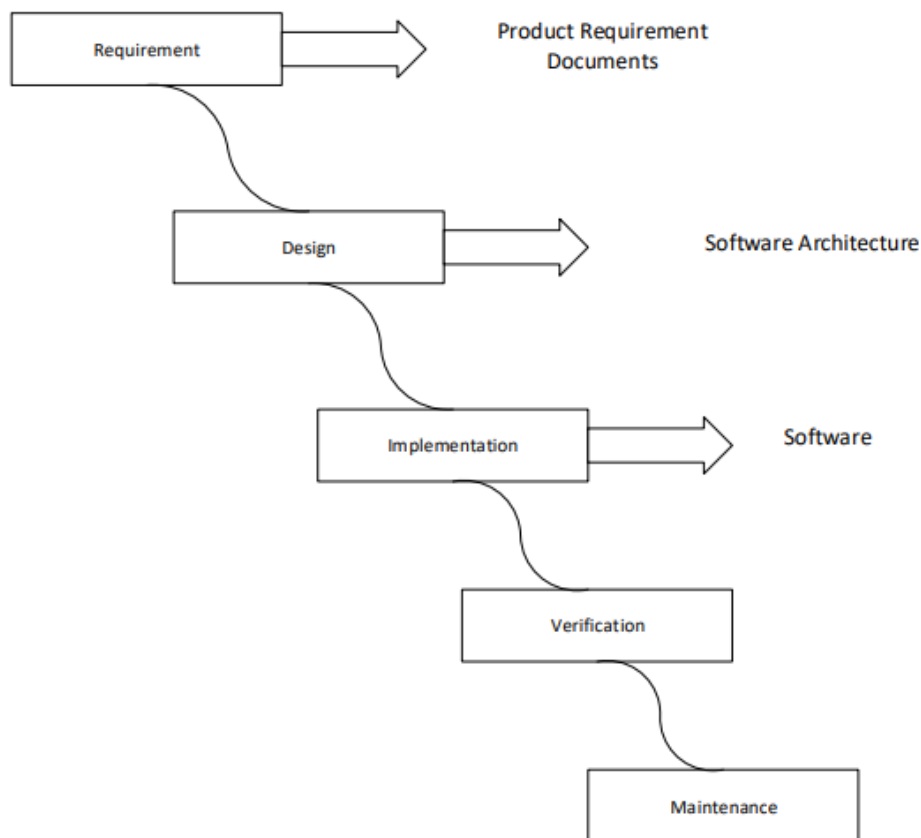


Figure 5: Estimate Costing

Chapter 4

Methodology

In Ablazebd solutions they developed many projects. But they used different methodology in different project. Very few times they used same method in every project. They used methods according to their needs. But in this pharmacy management project we used waterfall methodology. And we use java language and Dream Apps ERP. The waterfall model is a breakdown of project activities into linear sequential phases, where each phase depends on the deliverables of the previous one and corresponds to a specialization of tasks. The approach is typical for certain areas of engineering design.



Waterfall Methodology

Figure 6: Methodology

Chapter 5

Body of the Project

5.1 Work Description

If you own a pharmacy store that is yet not digitalized then you understand how to juggle your pharmacy routine processes such as retail, dispensing, outpatient services. Here we have discussed a few issues that we have faced when we all worked on our first pharmacy software. There are four core steps you should follow on the way to going digital:

Share Your Business Purpose:
Know exactly what you are looking for. Are you looking for an inventory management system, a CRM, and ERP, or a system that automates almost all of your functioning? At Octal IT Solution, we can help you work on all the important aspects of your business and deliver highly rewarding solutions.

Listen to the Users
Mainly the pharmacy management systems would be used by your staff and not you. When you reach to a third party with a request to develop such a system, consider the requirements of the users involved. Talk to your staff, suppliers, technicians, and even doctors prescribing the medicines to bridge the gaps and understand functions that need to be integrated.

Record Your Insights
What you gather from your team and others is some important data that you need to focus on. If you want your pharmacy management software development team to deliver solutions that fulfill your business needs, then you need to be sure that you have recorded and analyzed the data from your team well.

Find a vendor
Choosing the right pharmacy software development partner for your business is important. They must have industry expertise and experience in providing solutions that can make it easy for you to take care of your business. We have discussed earlier various modules that you need to integrate with your software. The most important ones being:
ERP

CRM

Storefront

To develop an online pharmacy management system for a pharmaceutical B2B company, our app development team considers the following steps.

Step1. Setting up and integrating ERP. It is important to take care of the employees and other aspects related to the business. There could be chances that instead of a new ERP software development we would need to upgrade your existing ERP.

Step2. Customer relationship management is quite a big deal. If you want to consider the responses and the requirements of your customer then integrating a well-developed CRM software would help you analyze the requirements of your customers and come up with better business strategies.

Step3. To expand your business and retain your old clients you would need to have a well-developed storefront that would make things easier for you. Share the sales pitches, checkouts, discounts, etc. to upscale your business.

These are the most basic pharmacy management system requirements that could earn you great results and help you expand your business.

5.2 System Analysis

We developed a system for a pharmacy management. In this part we have to analysis our system.

System Analysis is a process of collecting data, understand the processes involved, identifying problems and recommending feasible suggestions for improving the system functions. This involves studying the business process, gathering operational data, understand the information flow, finding out bottlenecks and involving solutions for overcoming the weakness of the system so as to achieve the organizations goal. System analysis also includes sub dividing of complex process involving the entire system, identification of data store and manual processes.

System Design: This is the most crucial phase in the development of a system. The logical system design arrived at as a result of system analysis is converted into physical system design.

General Design: In the general design the feature of the new system are specified. The cost of implementing this features and the benefit to be derived are estimated. If the project is still considered to be feasible , then we move to the

Details Design: In this details design stage computer oriented work begins in earliest. At this stage the design of the system becomes more structured. Structure design is a blue print of a computer system solution to a given problem having the same components and inter-relationships among the same components as the original problems. There are several tool and techniques used for describing the system design of the system.

This tools and techniques are

- Flow chart
- Data Flow Diagram
- Design Table
- Design Tree

Implementation: After having the user acceptance of the new system which has developed, the implementation phase began. The implementation is the stage of a project during which theory is turn into practice.

1. **Code:** The system design needs to be implemented to make it a workable system. This demands the coding of design into computer understandable language example programming language. This is also called the programming phase in which the programmer converts the programs specifications into computer instructions.
2. **Testing:** Before actual implementing the new system into operations, a test run of the system has done for the removing bugs, if any. It is a important phase for a successful system. After coding the whole programs of the system, a test plan should be developed, and run-on a given set of test data. The output of the test run should match the expected result.
3. **Maintenance:** It is necessary to eliminate errors in the system during its working life and to tune the system to any variations in its working environment. It has been seen that there are always some errors found in the system that has noted and corrected.

5.2.2 Feasibility Analysis

In this part I will discuss about the feasibility study of my project. Feasibility study is the most important thing to find out the economic benefit and economic cost of my project. Feasibility works on the economic feasibility, operational feasibility and technical feasibility.

Economic feasibility: Economic feasibility study demonstrates the conservative advantages against the expenses will have done to build up the system. There are two parts in economic feasibility study.

Economic Benefits:

- It will reduce man power. So that employee assignment cost will be much lower.
- It will reduce paper work

Economical Costs:

Economic cost also important concern when developing a new system. There have to make a few costs to implement the system.

- As this is a web application so first of all buy a domain name and for storage buy a host service.
- Development cost like pay for api or some other services.

5.2.3 Problem Solution Analysis

Present exam taking policy is Lengthy. Their existing problems is given below

- The current system is very time consuming.
- To take every thing manually needs more invigilators are required.
- There is chance of wrong information.
- All processing takes huge time.

Analysis of the problem

By investigating the existing problems these problems are scrutinized for the proposed system.

- Process is time killing.
- Lengthy process.
- Process is costly.
- Must present on time physically.

solution of the problem

- Employee need not to see everything physically.
- There is no need to write everything manually.
- There is no possibility of mistake.
- Estimate will be automatically generated.
- Sales or driver or any other employee need not take recite manually.

5.2.4 Effect and Constraints Analysis

Effect Analysis Procedure

1. Understand the possible implications of making the change. ...
2. Identify all the files, models, and documents that might have to be modified if the team incorporates the requested change.
3. Identify the tasks required to implement the change, and estimate the effort needed to complete those tasks.

Constraints Analysis:

Software constraints make rules and conventions commonly agreed to in a given programming environment explicit and automatically checkable. The potential usefulness of software constraints was investigated in both industrial and research environments. A framework for categorization of such constraints is defined.

5.3 System Design

Current System

The current Pharmacy system were manually base system which is almost all works on the pharmacy organization is accomplished by papers. Among thus Medicine data search in order to buy, audit, and other related works. And the other one is data security, the data's can be accessed anyone who entered to the pharmacy house as friends, other Humans without the volunteer of the pharmacist.

The pharmacists work in tedious situation because of the upper reasons. Not efficient on arrange medicine on the shelf meaning arrangement method is difficult to take in mind.

In current system almost all pharmacies do not use computerized system b. use computer for giving bills only for the Id medicine to the user. And use manual searching of medicine on shelf became of manual based system and there is nothing which gives alarm for the finished or Id medicine.

Al. there is a difficulty on store the da. which wastes resources as well as time to retrieve the necessary data from the manually based data system. So generally the current system does not arrange medicine in systematic way, does not store the medicine appropriate data, security for the data is low, does not indicate how much medicine is needed and sold quickly and efficiently.

5.3.1 Rich Picture

Proposed System:

pharmacy management system is design based on computer science students in order to illuminate the problem of the current system which provided by the system involved all the pharmaceutical employee. of the pharmacy. This accessibility of the information Will be great advantage as it reduced further medical errors associated with physicians and nurses.

The system handles all aspects of the inventory control function. It allows the pharmacist to receive new batches of drugs, delete obsolete drugs and modify

the current dosage and identification of drug in the database. Furthermore, the system eases the process of stock replenishment.

On the other hand, PMS enables dispensation process. It stores all the physicians' prescription of the patients. A summarized list of drugs dispensed to the patient can be viewed for monitoring purposes.

With the proposed system, the pharmacist will be able to monitor the movement of the drugs with ease. The system is designed to track the entry of refresh batches of drugs, be it upon orders from manufacture or loan from the hospital/clinics. Its all monitors the drug's movement history. thus, leads to better inventory management of money allocated for the purchase of drugs.

Compared to the current manual system, the implementation of Pharmacy management system will be reduced the time spent for paper world, leading to concentration on improving pharmaceutical care of patients, especially emphasis on patients' counseling and patient medication monitoring. It will be greatly embraced by the pharmacy profession as it is one giant leap tower. pharmaceutical care of patients.

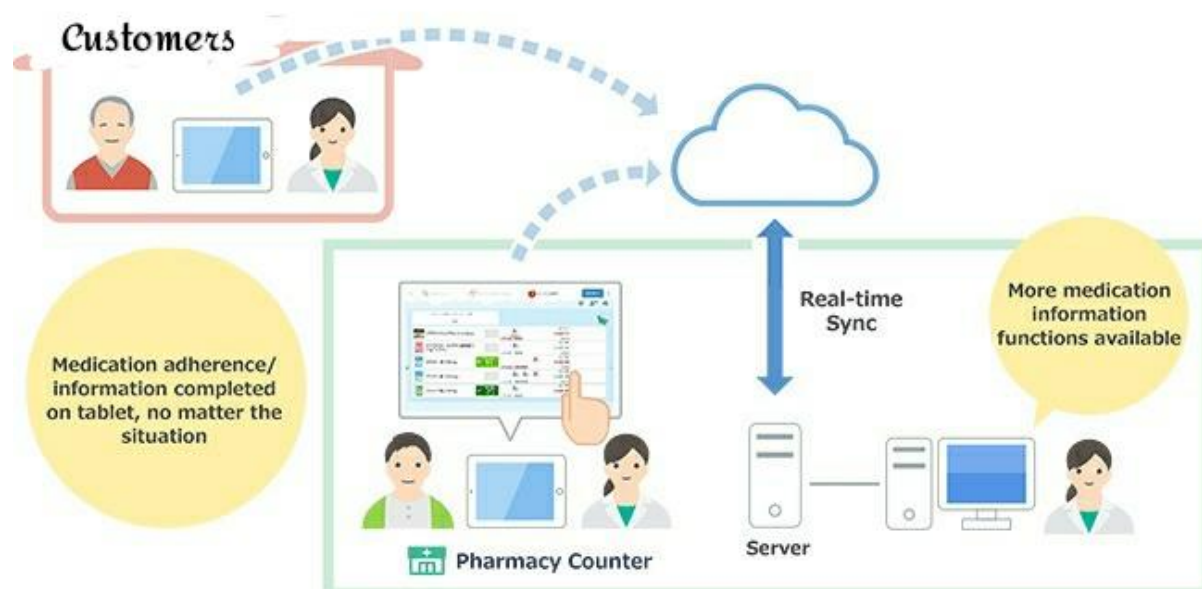
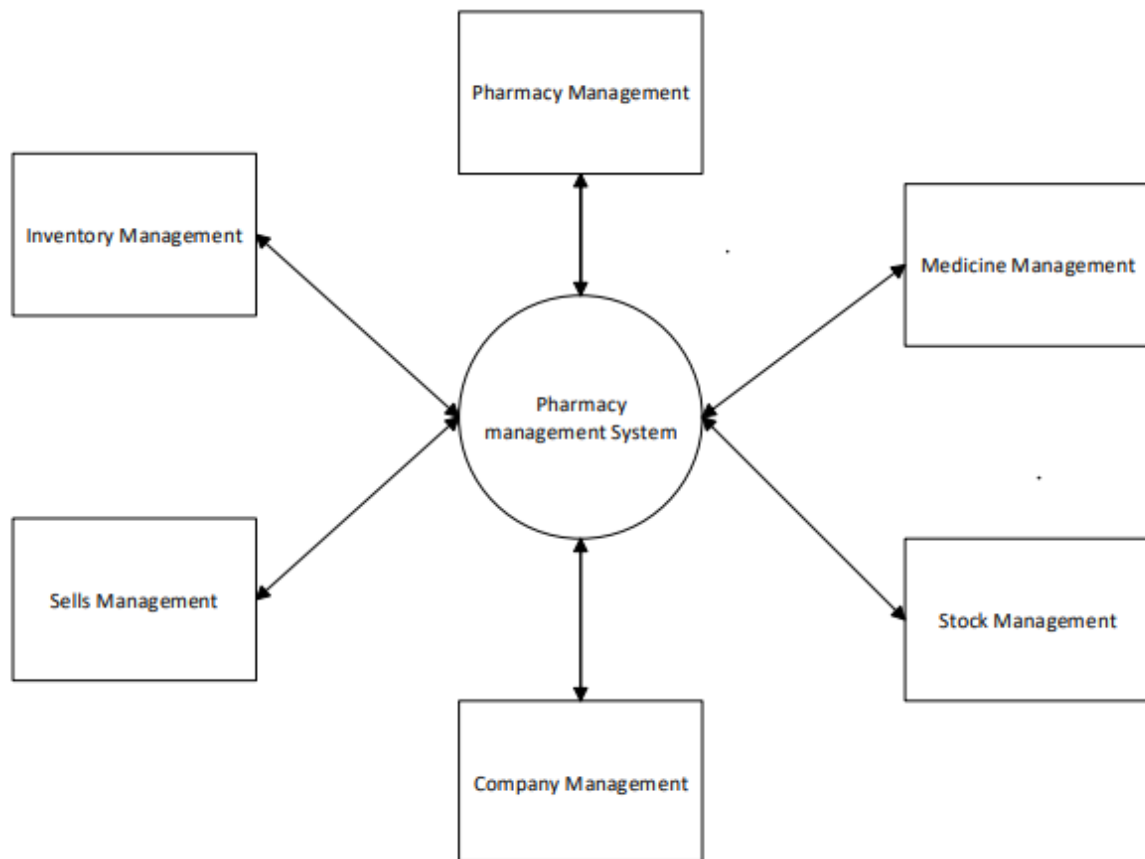


Figure 7: Rich Picture

5.3.2 UML Diagrams



UML Diagram

Figure 8: UML Diagram

5.3.3 Functional and Non-Functional Requirements

Functional Requirements

There are functions done by the system such as: store the necessary information of drugs, prepare bill for the medicine, give week reports, easily searching of medicine, working in two languages. Update, delete and save data's of machine.

Here is some Functional requirement given :

- Generate Report
- Store necessary information of Drugs

- Alerting Pharmacy Data in the system
- Support Multiple Language

The Function what the system do is

1. Store Medicine Data
2. Search medicine data
3. Edit update delete
4. Generating bill
5. Log in password change and so on.

Non-Functional Requirements:

Non-functional requirements are those features of requirements that tell us how well or what level of requirements is to be performed. Here is the list of Non-Functional Requirements:

- Accessibility for the system
- Availability of the system.
- Deployment
- Failure Management
- Maintainability
- Privacy of the system.
- Portability requirements.
- Reliability requirements.
- Robustness
- Testability
- Recovery requirements.

5.4 Product Features

5.4.1 Input

Input represents the ideas people have for your product. Ideas come in all shapes and sizes from all sorts of people and channels. Process is the creative work product managers do to prioritize — from the many possible versions of a product — which version will actually be built.

In our pharmacy management system we can give input many things, like we can sign in and sign up options for employee, admin and also for customers. We can give input their medicine id or medicine name, we can give input for searching medicine and also can input medicine name for increasing stock, buying medicine, sell medicine and so on.

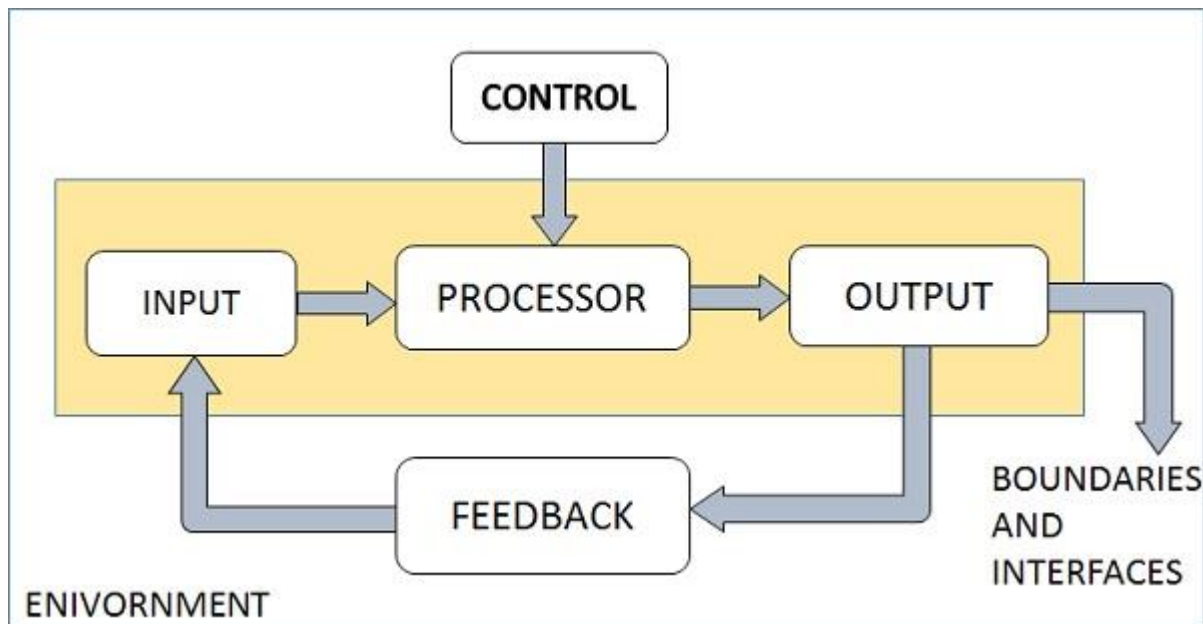


Figure 9: Input

5.4.2 Output

OUTPUT is the version of the product to be built (epics, user stories, requirements, mockups, etc).

What we give in input after completing the processing we will get the result as our output. Like after input the medicine name we get the total value of medicine as a output, we can get bills, recite, medicine list, and many things as output.

The value derived from output depends on the quality of input and your process for converting raw ideas and feedback into effective solutions.

Features are a product's traits or attributes that deliver value to end-users and differentiate a product in the market. For example, the battery life of an electronic device can be considered a feature.

5.4.3 Architecture

Product architecture is the organization (or chunking) of a product's functional elements. It's the ways these elements, or chunks, interact. ... He describes product architecture as the “scheme by which the function of a product is allocated to physical components.

Types of software architects

- Enterprise architect.
- Solution architect.
- Application architect.

- Data architect/Information architect.
- Solution architect.
- Security architect.
- Cloud architect

Chapter 6

Results & Analysis

Even a small pharmacy is a complex datahub. Privacy rules and state regulations make using this type of data with due caution. You may turn that to your advantage with analytics functionality and set up patient care strategies in the right way.

After submitting them this project they give us a great feed back. After using these software they get every facilities which they want. These software reduce their cost of employee, paper, save their times, make their job more easy and so on. Pharmacy management software is very important at this time. By using this software they get highly benefit.

Management should oversee the stock of pharmaceutical goods and other items for sale in the pharmacy. This is particularly important for prescription drugs and other controlled items , which should be checked more regularly

The purpose of pharmacy management system is to input & recall patient, drug & prescription information easily. This system is quite user-friendly and it has the ability to keep a record of patient, drug & prescription information, which is certainly come useful for future purchases or other purposes.

After last of all they get some bugs which we will fixed soon.

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

Sustainable Project Management is the planning, monitoring and controlling of project delivery and support processes, with consideration of the environmental, economic and social aspects of the life cycle of the project's resources, processes, deliverables and effects, aimed at realizing benefits for stakeholders.

In our pharmacy management project, we try out best to keep our project more sustainable for our customers and users. To keep our project sustainable, we follow the below rules:

1. Create and develop partnership work. ...
2. Involve key stakeholders: ...
3. Regularly evaluate projects. ...
4. Build capacity of trustees, staff and volunteers. ...
5. Develop marketing and communication plan. ...
6. Diversify your funding base: ...
7. Avoid mission drift.

7.2 Social and Environmental Effects and Analysis

Software has a significant impact on the resource efficiency of IT hardware and on how long it is used. Programs which execute the same functions can have very different levels of energy consumption depending on how they are programmed.

To test the catalog of criteria and legitimacy of the technique, testing facility tests were done on software items within the item bunches content handling, browser, substance administration framework, and database. A comparison of computer program items inside each gather and with the same usefulness uncovered pertinent contrasts in terms of equipment assets use and energy.

Take the case of content handling: the vitality utilization of program 1 run on the same equipment to execute the standard utilization situation was about four times higher and processor utilization more than four times more noteworthy than with the comparable program 2. To keep the application working is optimum condition, we make sure it can use in minimum configuration include in our non-function properties.

7.3 Addressing Ethics and Ethical Issues

Ethical issues occur when a given decision, scenario or activity creates a conflict with a society's moral principles. ... Ethical issues are challenging because they are difficult to deal with if no guidelines or precedents are known. Here I will mention some ethical issue in project management system:

- Personal Privacy: It is an important aspect of **ethical issues** in information **technology**. ...
- Access Right: The second aspect of **ethical issues** in information **technology** is access right. ...
- Harmful Actions: ...
- Patents: ...
- Copyright: ...
- Trade Secrets: ...
- Liability: ...
- Piracy

Here I will addressing some ethics:

The core **ethical principles** of beneficence (do good), nonmaleficence (do not harm), autonomy (control by the individual), and justice (fairness) stated by Beauchamp and Childress⁷ are important to a **code of ethics**

Some Step Process for Resolving Ethical Issues:

- Identify the problem as you see it.
- Get the story straight - gather relevant data. ...
- Ask yourself if the problem is a regulatory **issue** or a process **issue** related to regulatory requirements.
- Compare the **issue** to a specific rule in ASHA's Code of **Ethics**. ...
- Identify who has the power and control in the situation.

Chapter 8

Future Work & Conclusion

8.1 Future Works

This is a prototypes of pharmacy inventory management system. In future system can be enhanced and expended. It can also incorporate different probability and classifications techniques. All techniques like generate e-billing system using prescribed image by authorized doctors. In future it will works in many fields. And it will work with product rating using NLP, Sentiment Analysis and Opinion Mining.

After making a website make it advertise and renowned to everyone is also necessary. It will add value to both the uses of employers and employees.

AblazeBD is a very good platform to learn new things for a newcomer. If the CSC authority office want, then they can send students for working in AblazeBD, but the main factors depend on the AblazeBD needs or vacancy. Having a simple or basic knowledge about HTML, CSS, JavaScript, PHP, Java, ERP, AJAX, Laravel will help work in a company as well as AblazeBD. As far now our plan is up to this. But if needed and also with this developing and digital world we will increase facilities and add more scope to this website.

8.2 Conclusion

During the internship, I work as a teammate in ABLAZEBD for making this online pharmacy management system. This website makes people life easier and also it is effective for the employees also. Here the employers can get to easily about their medicine stock and price. It has many features like buying products, sells products, registration for employee, auto generated money recites and so on. All the processes are written in a broad way here. I have explained all the procedures about its work process. This venture is separated into four sections they are Admin, Agent, Employer, Employee. It is an online site for pharmacy management system.

Pharmacy management system is actually a software which handle the essential data and save the data and actually about the database of a pharmacy and its management. This software help in effectively management of the pharmaceutical store or shop. It provides the statistics about medicine or drugs which are in stocks which data can also be updated and edited. It works as per the requirement of the user and have options accordingly. It allows user to enter manufacturing as well as the expiry date of medicine placing in stock and for sales transaction. This software also has ability to print the bill and invoices etc. The record of supplier's supplies can also be saved in it. There are other function available too . The main purpose is effectively and easily handling of pharmacy data and its management.

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