# **Chapter 3 SOFTWARE SPECIFICATIONS**

## 3.1 Software Development

The proposed Pharmacy E-Commerce website will enable the patient to do several things such as immediate contact with a specific pharmacy to request their medicine securely and fast. Moreover, the orders can be delivered to patient locations with fewer fees, which will save efforts, money and time. In addition, patient can use the pharmacy's website to buy any medicine, medical materials, baby and mother care. With Electronic Pharmacy, waiting and standing in queues to receive medicine from the pharmacy it will become thing from the past because the electronic pharmacy will have shortened the time and the system will also provide users access to recognize and professional pharmacist for consultation. In addition, it will bring comfort for patient. It’s user friendly, and its aim to help user for accessing the pharmacy easily.

3.1.2 Benefit of the proposed system

1. The application is useful for users in buying medicine.
2. The application is useful for users that want have easy access to health information and consulting professional pharmacist.
3. The application automates the inventory process of a pharmaceutical store.
4. With the delivery options, the possibility of providing medicine to users at any location is possible and this will save efforts, money and time.
5. The application will eliminate the issues drug abuse, since users’ orders can be track.
6. The application will also eliminate the abuse by pharmaceutical store attendance in hoarding medicine and thereby increasing the cost of buying the medicine.

## 3.2 System Requirements

## 3.2.1 Functional Requirements

The software shall allow the different users (Pharmacist/Consultant, Buyers) to carry out the following functional operations:

All users:

1. Register on the app providing their email, name, phone and password
2. Login with their email and password
3. View different medicines either by categories or price range.
4. Navigate / browse through the available medicines
5. Chat or consult professional pharmacist online.
6. Add/Save medicine to Wishlist, in order to purchase later.
7. Buying or ordering of medicine online.
8. Paying for order either with card, cash or on delivery.
9. Manage his/her orders.
10. User should be able to view and update their profile information.
11. User should be able to add as many contact/delivery address to their account.
12. User should be able to logout of the app

Pharmacist/Consultant:

1. Provide real time and professional medical advice to users.
2. Check out user’s prescription and provide a professional guide for the user.

Admin:

1. Add new products (medicine) to the inventory.
2. Update the information of existing products (medicine) in the store.
3. Deleting/Removing a product from store.
4. Creating the difference product(medicine) categories.
5. Update users’ roles.
6. The app should provide a search features to enable users search for medicines either by name, descriptions or categories.

## 3.2.2 Non-Functional Requirements

1. **Usability**: The app comes with few screens and few menu options which gives users a simple and easy learning curve, the UI Design is design to make access simple and yet give users the best of experience.
2. **Security**: The system is secured as users are expected to register and login with their login credentials which comprises of email and password, user’s password is encrypted and stored in the system. this is done to protect the data for any case of data breach.
3. **Capacity**: The storage capacity of the system is at minimum of 1GB since there’s need to store files(images) of users and registered products(medicines).
4. **Compatibility**: The app is design to work fine any computer system with 1.8 GHz or faster processor with a minimum of 2gb RAM and external/internal storage capacity of at least 1GB, Internet access (4G) preferable and web browser application.
5. **Availability:** The app can be use anytime as long as the app compatibly is meet. In case of hardware failure or data base corruption a page replacement will be shown.
6. **Portability**: Our website is based on HTML and scripting language depended. The aim is to website application must work on PC, laptop and user-friendly devices.
7. **Maintainability**: The commercial database is applied for maintaining the all database also the application developer is updated time to time.
8. **Reliability**: As the data is stored on server site it is available to user and developer to read the information about disease, medicine. Database is available to read 24/7 for the user in convenient manner.
9. **Adaptive Design**: Our websites are designed to offer an optimal mobile experience. Our sites are able to determine the type of device in use and serve content optimized for that device. Specifically, we offer images with optimal file sizes – resulting in faster loading, more usable websites
10. **Platform independence:** The main aim of the site is to provide no platform barriers. This website can be compatible with all devices for mobile, laptops and tab.

## Software and Hardware Requirements

The hardware and software requirements needed for the successful running and implementation of the proposed system are computer system (laptops, desktops, phones, iPad etc). Most of the equipment requires less power and is mostly found among users. These requirements include:

3.3.2.1 Software Requirements:

* Windows 7/8/10 (32 or 64-bit operating system) and any other mobile operating system, RAM: 4 Gigabyte recommended;
* This application is written in JavaScript, and run in a web application therefore making it easier to be used in any platform and access in any location at any time.
* Web browser application: A web browser, often referred to simply as a browser, is application software for accessing the World Wide Web. When a user requests a web page from a particular website, the web browser retrieves the necessary content from a web server and then displays the page on the user's device. (Wikipedia 2021).

The application can be access from any form of web browser application like chrome, safari, IE, Firefox etc

* Network Access: There’s always a need for an internet to access online web pages and since the application is expected to run fully online, the needs for network (internet) is of paramount importance and thus a prerequisite to the usage of the application.
* The system under study will use specific programming tools for its implementation which all boils down to the requirement needed for developing dynamic web pages. Therefore, the programming languages needed are: JavaScript, html, CSS, NodeJS, ReactJs and sql and other dependencies that might be needed while developing the web app.
* Programming Language: Dynamic web applications, can be written using different programming language. The developed system was written in JavaScript Programming language. Express is used for the backend and ReactJs is use for the frontend which are all library build with JavaScript programming language.

PostGress SQL Database is used as the database storage it provides functionalities that makes it unique and interesting.

Cloudinary services is utilize for the file storage.

* Database design: The database will be designed using Structured Query Language (SQL). SQL is recommended during database design since it supports relational database systems whose advantages include the ability to provide faster access to data than flat files, and random access to data and has a built-in privilege system and most web-based applications use SQL databases.

3.3.2.1 Hardware Requirement:

A phone with android operating system version 4.0 and above shall be required to run the application on the mobile phone.

Application testing using a computer or any other device will require a 512MB+ RAM, monitor(screen) with minimum resolution of 1024x768, keyboard, and mouse, Hard Drive (storage) should be in NTFS file-system formatted with minimum 10 GB of free space and internet access.

## 3.2.4 User Interface Requirement

The requirements will be gathered to enable the designer know what should be included in the application these will also help in coming up with a prototype. Techniques for example interviews and observation are used to collect information regarding the application in question.

Data collection can be defined as any collection of data either by interview method or by reference to written text which enables the software developer (researcher) to have the necessary information required in the development of the process and also to enable him to update his information. The data may be in the form of text, numbers, or encoded graphics. The interview method of data collection has been used for the success of this project.

Interview is always a powerful tool to both find out about the needs of potential users and at the same time get inspired by their ideas. In advance we had prepared some questions that we would like to ask the interviewee about, but at the same time we wanted it to be an open-ended interview, which means that we tried to make it more like a conversation, focusing on one specific topic. Under an open-ended interview it may come up new information and ideas that were not anticipated. The advantage of this method is that the interviewer (here the developer team) would be inspired by the ideas of the interviewee. This was done with respects to made to some existing documents such as journals and other downloaded material from the internet for the purpose of reviewing the existing similar projects.

## 3.2.5 Test Plan

A dynamic website developed and hosted in a cloud system. Having done that, the prototype will be presented to the intended users for validation. Following validation, the suggested edits will be done to satisfy user and system requirements. Following the above approach, the application will be presented to some of the management and officials of some pharmaceutical to see if its best suites their requirements.