Department of Information Technology, PICT Pune

Third Year Information Technology

(2019 Course)314458: Laboratory Practice-II (WADL)

Assignment No. : 4

Mini-Project: Hospital management system

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Hospital management system

1. Abstract

Hospital management system is a computer system that helps manage the information related to health care and aids in the job completion of health care providers effectively. They manage the data related to all departments of healthcare.

HMS came into the picture of hospital management as early as 1960 and have ever since been evolving and synchronizing with the technologies while modernizing healthcare facilities. In today's world, the management of healthcare starts from the hands of the patients through their mobile phones and facilitates the needs of the patient.

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2. Introduction – Motivation / Purpose / Need of application

Why is HMS important for a hospital?

HMS was introduced to solve the complications coming from managing all the paper works of every patient associated with the various departments of hospitalization with confidentiality. HMS provides the ability to manage all the paperwork in one place, reducing the work of staff in arranging and analyzing the paperwork of the patients. HMS does many works like:

- Maintain the medical records of the patient
- Maintain the contact details of the patient
- Keep track of the appointment dates
- Save the insurance information for later reference
- Tracking the bill payments.

The advantages of HMS can be pinpointed to the following:

- Time-saving Technology
- Improved Efficiency by avoiding human errors
- Reduces scope for Error
- Data security and correct data retrieval made possible
- Cost effective and easily manageable
- Easy access to patient data with correct patient history
- Improved patient care made possible
- Easy monitoring of supplies in inventory
- Reduces the work of documentation
- Better Audit controls and policy compliance.

Scope:

To achieve a set of goals with some conditions keeping in mind that it should

1. Be easy to use.

2. User-friendly.

3. To manage all the operations

Motivation:

1. To design a user finder application.

2. To provides a solution to optimize the search results of users.

Methodology:

1. Study the present system in detail.

2. Know and understand the input and output processes of the existing system.

3. A qualitative form of the meeting was conducted online among group members to understand the mode of operation of the system.

4. Decide the technology stack

5. Develop the system and deploy.

3. Literature Survey

Hospital Management System brings together all the information and processes of a hospital, in a single platform. It presents you with a unified 360-degree view for managing patients, doctors, inventory, appointments, billing information, finances and much more.

The system automatically generates a highly-efficient process and makes it quick. Thereby, allowing hospitals to provide quality service in addition to professional medical care.

In a nutshell, Hospital Management System (HMS) creates a frictionless approach towards managing the entire hospital and solves all complexities in the process.

Advantages:

1.Less usage of Pen-Paper

2. Easy storage, retrieval, management, and access of data

3. Saves time and money

4.Maintaining individual record becomes much simpler other programming languages to learn for setting up projects, it's really a big benefit to have your content inputted in a format without having to learn yet another system.

Disadvantages:

1. Online internet connectivity is required every time.
2. If the backup is not maintained properly, all the data can get vanished.
3. If the website is not secured, the data can be hacked
4. Naïve users can get confused if the website is not designed in an interactive way.

4. Implementation details – Web Technologies used

Technologies Used:

Frontend:

HTML, CSS:

The Hypertext Markup Language or HTML is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

Bootstrap:

Bootstrap is a free and open-source CSS framework directed at responsive,

mobile-first front-end web development. It contains CSS- and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components. js framework, React library, TensorFlow and others.

JavaScript:

JavaScript is a text-based programming language used both on the client-side and server-side that allows you to make web pages interactive. Where HTML and CSS are languages that give structure and style to web pages, JavaScript gives web pages interactive elements that engage a user. Common examples of JavaScript that

you might use every day include the search box on Amazon, a news recap video embedded in The New York Times, or refreshing your Twitter feed. Incorporating JavaScript improves the user experience of the web page by converting it from a static page into an interactive one. To recap, JavaScript adds behavior to web pages.

Backend:

PHP

PHP is a general-purpose scripting language geared toward web development.It was originally created by Danish-Canadian programmer Rasmus Lerdorf in 1994. The PHP reference implementation is now produced by The PHP Group. PHP originally stood for Personal Home Page, but it now stands for the recursive initialism PHP: Hypertext Preprocessor.

PHP code is usually processed on a web server by a PHP interpreter implemented as a module, a daemon or as a Common Gateway Interface (CGI) executable. On a web server, the result of the interpreted and executed PHP code – which may be any type of data, such as generated HTML or binary image data – would form the whole or part of an HTTP response. Various web template systems, web content

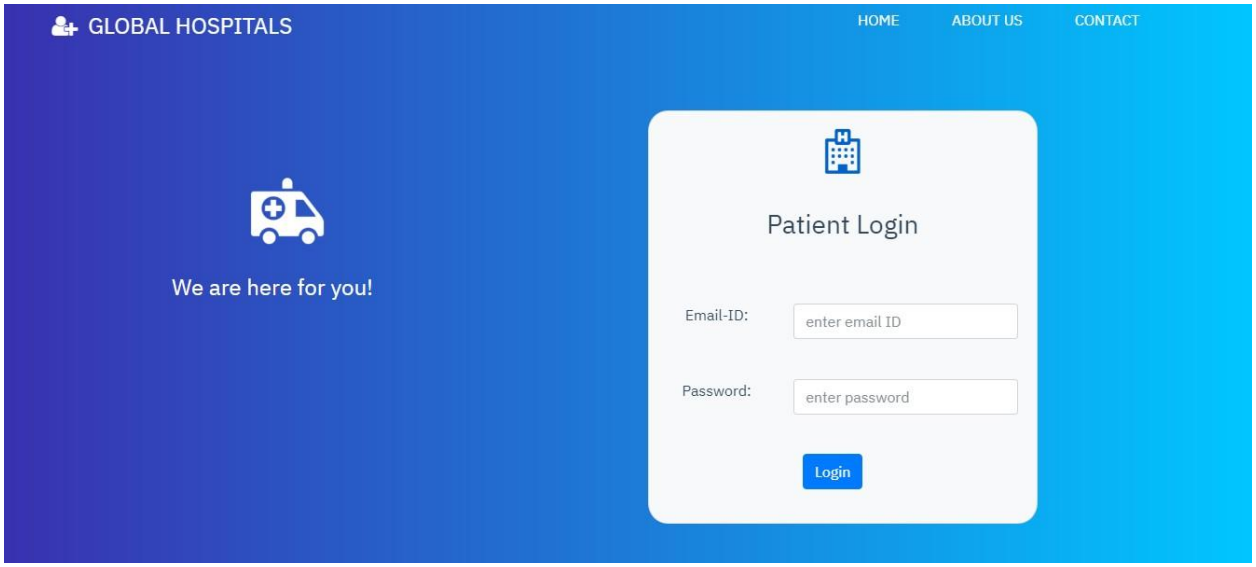
management systems, and web frameworks exist which can be employed to orchestrate or facilitate the generation of that response. Additionally, PHP can be used for many programming tasks outside the web context, such as standalone graphical applications and robotic drone control. PHP code can also be directly executed from the command line.

The standard PHP interpreter, powered by the Zend Engine, is free software released under the PHP License. PHP has been widely ported and can be deployed on most web servers on a variety of operating systems and platforms

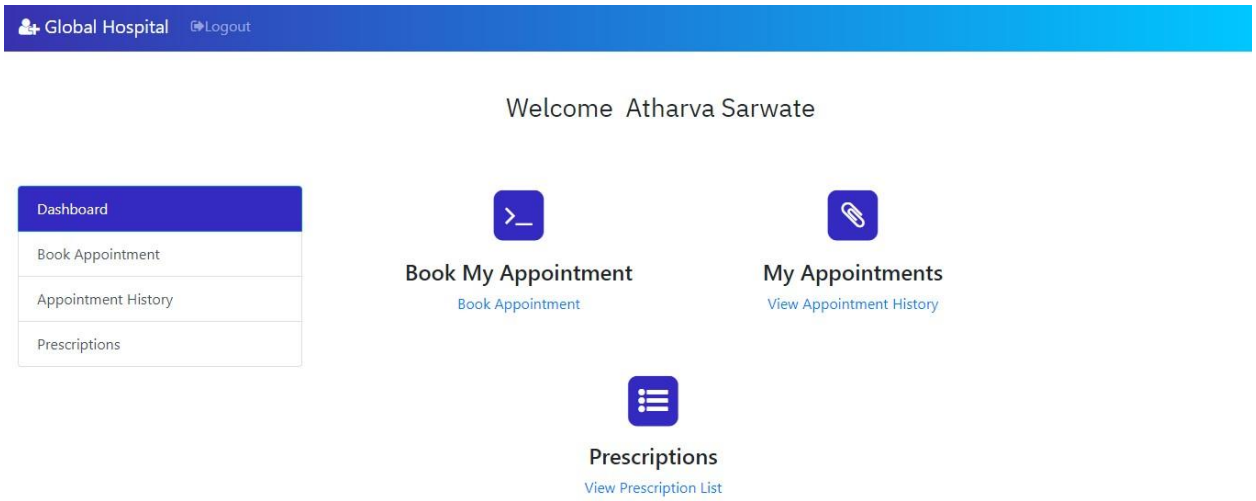
The PHP language evolved without a written formal specification or standard until 2014, with the original implementation acting as the de facto standard which other implementations aimed to follow. Since 2014, work has gone on to create a formal PHP specification.]aimed to follow. Since 2014, work has gone on to create a formal PHP specification.

5. Output Screenshots

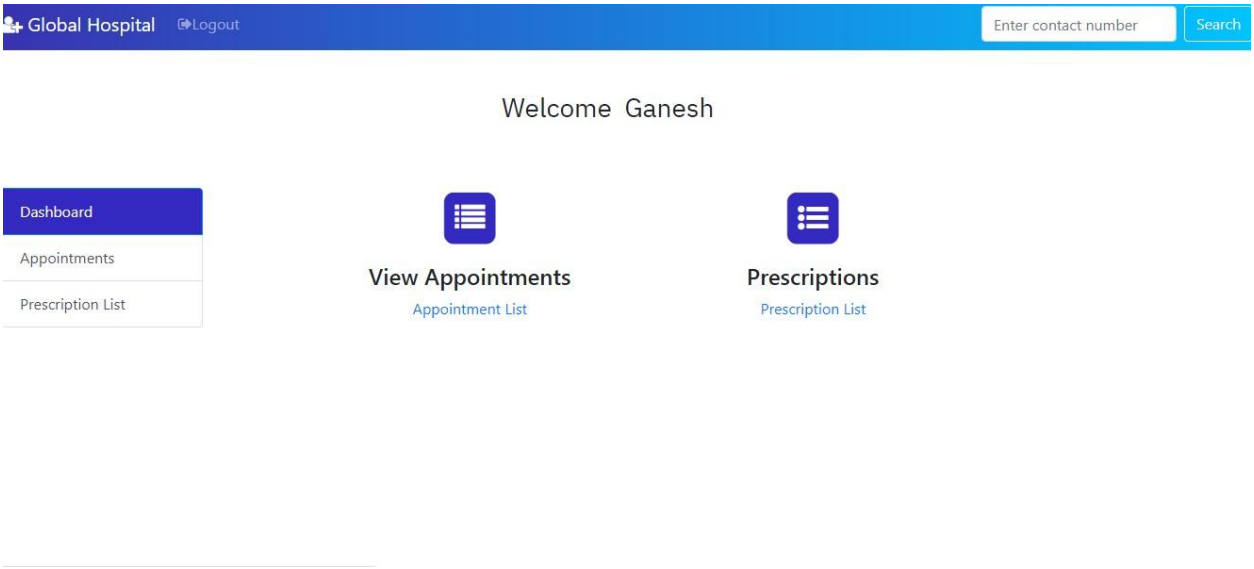
Login page



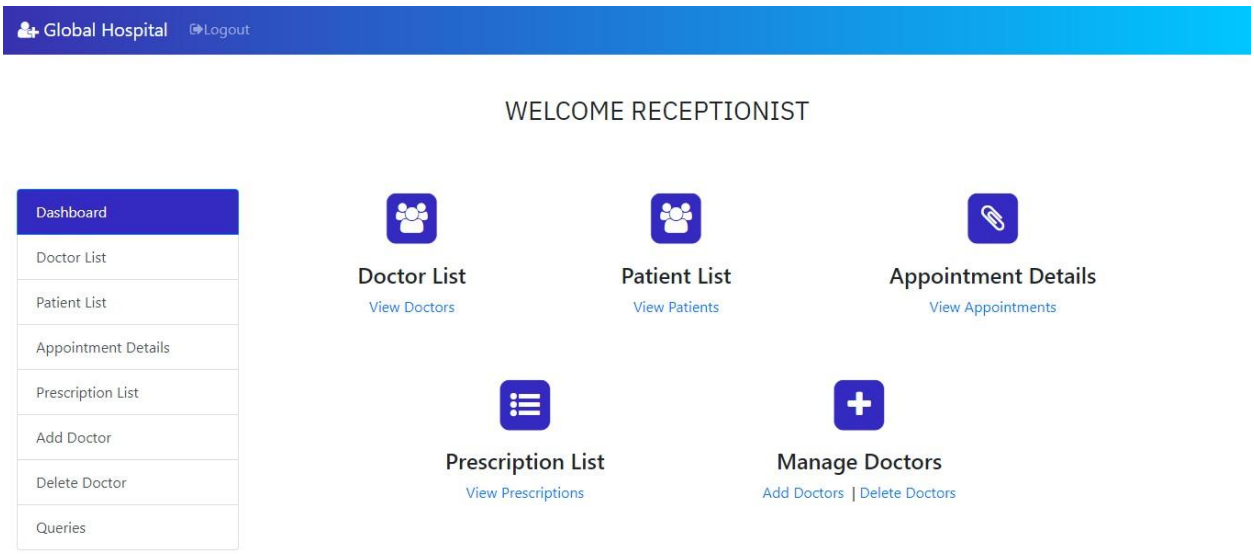
Main page



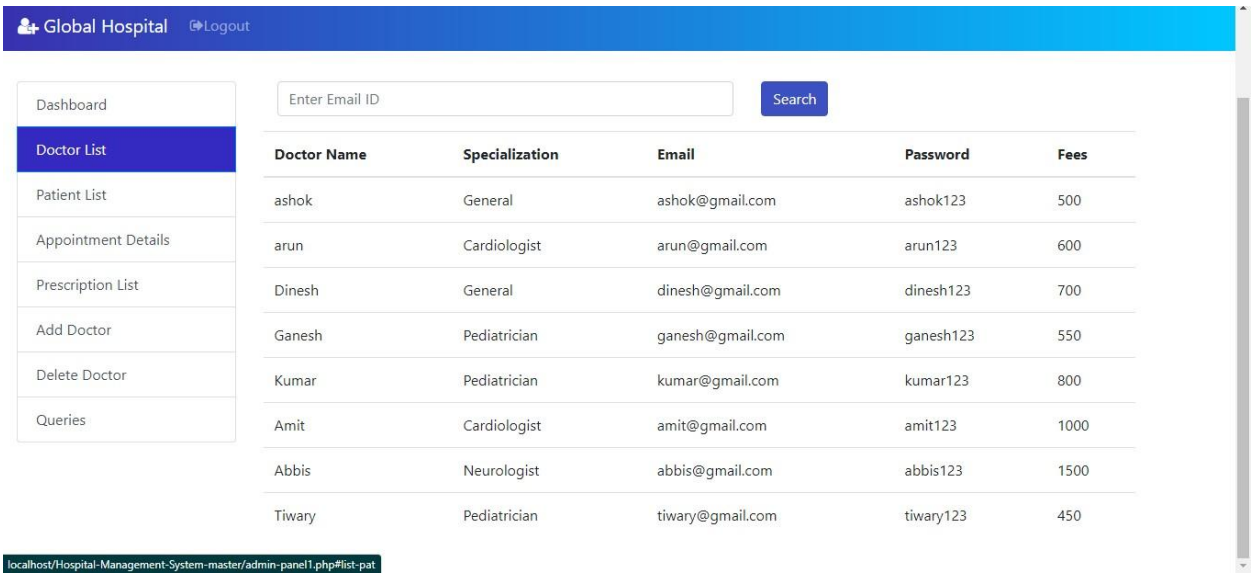
Doctor dashboard



Admin dashboard



Admin doctors



6. Conclusion & Future Work

We have successfully designed and developed a website for a hospital management system using front-end and backend technologies, after doing a sufficient amount of literature survey. We have gotten the opportunity to practice the technologies. Additional Features like: searching specific repositories, searching according to platforms, etc. as future scope of the project.