



UNIVERSITY OF MADRAS  
INSTITUTE OF DISTANCE EDUCATION

சென்னைப் பல்கலைக்கழகம்  
தொலைதூரக் கல்வி நிறுவனம்

## HEALTHCARE MANAGEMENT SYSTEM

Submitted by

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## OBJECTIVE:

- Improve **patient care** by providing efficient access to accurate medical records.
- Enhance operational efficiency through streamlined administrative processes.
- Optimize resource utilization to **manage costs effectively**.
- Ensure quick and **secure access to patient information** for healthcare professionals.
- Facilitate seamless appointment scheduling and resource planning.
- Ensure compliance with healthcare regulations and standards.
- Promote interoperability for efficient information exchange among healthcare systems.
- Implement robust data security measures to protect patient information.
- Provide decision **support tools for informed healthcare** administration.
- Foster patient engagement and telemedicine integration for comprehensive healthcare services.

## MODULES:

- **Patient Management:** The system allows healthcare providers to manage patient records, including their personal information, medical history, and treatment plans.
- **Appointment Management:** The system enables scheduling, rescheduling, and canceling of appointments for patients.
- **Prescription Management:** The system manages the prescription and medication of patients.
- **Billing Management:** The system provides billing management functionalities to manage patient payments, invoices, and receipts.
- **User Management:** The system allows managing the user roles and access permissions of the healthcare providers.
- **Reports:** The system provides a range of reports that help in decision making for the hospital management.

# SOFTWARE REQUIREMENTS:

## **Front end: HTML, CSS, JavaScript**

- 1.HTML: HTML is used to create and save web document. E.g. Notepad/Notepad++
- 2.CSS : (Cascading Style Sheets) Create attractive Layout
- 3.Bootstrap : responsive design mobile friendly site

## **Back end: Node.js, MySQL, Express.js:**

- 1.Node.js – The backend technology used for building the application logic and server-side scripting.
- 2.MySQL – The relational database management system used for storing and managing data.
- 3.Express.js – The web framework used for building the RESTful API endpoints and middleware.

## **Server:**

1. XAMPP Server

## HARDWARE REQUIREMENTS:

### **Server:**

Intel Pentium-IV Processor (1.8 GHz)

20 GB HDD

512 MB RAM

### **Client:**

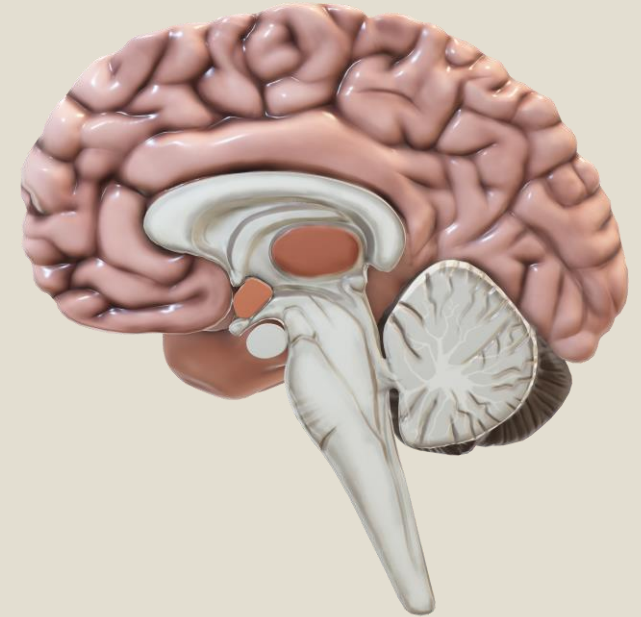
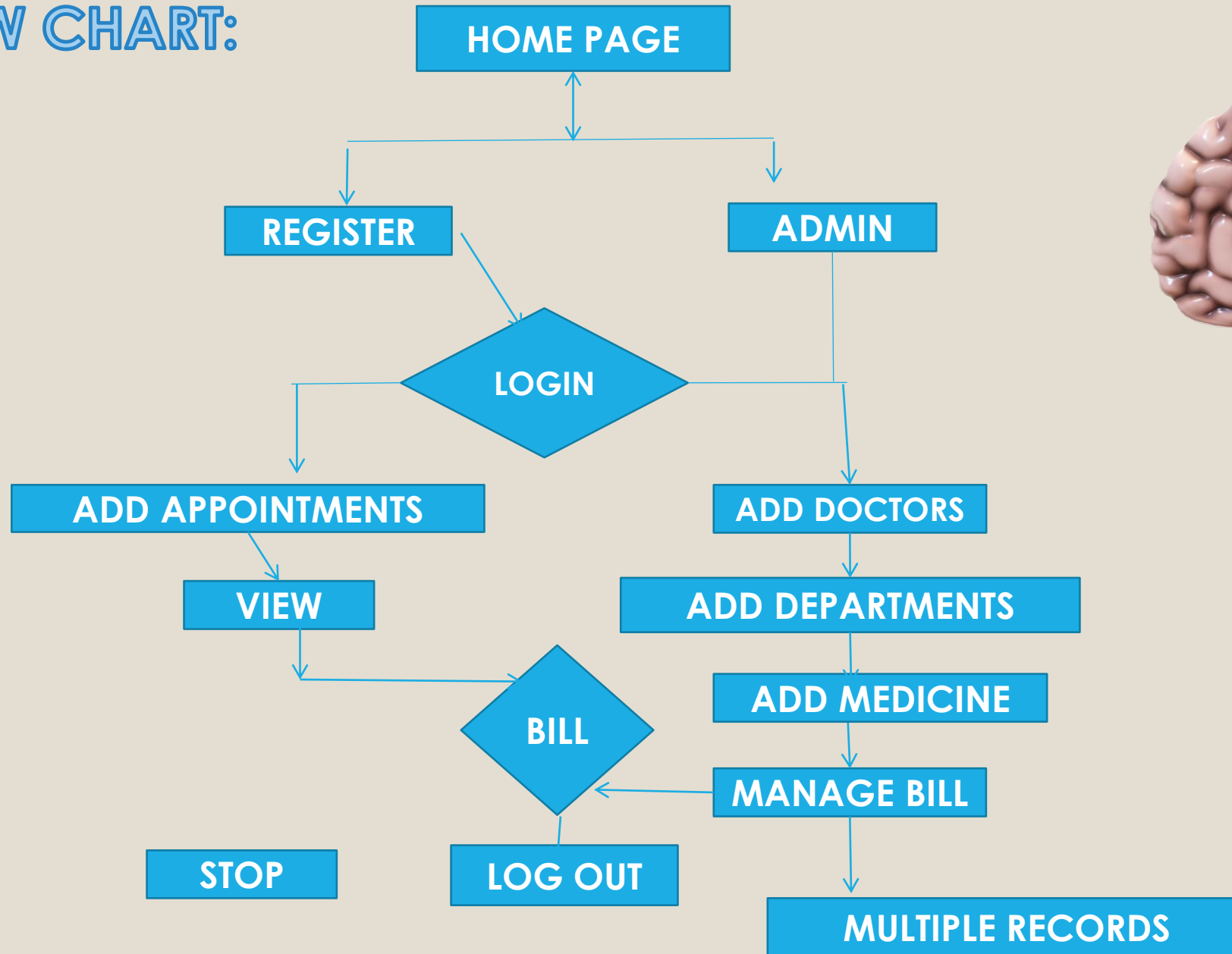
Intel Pentium-III Processor

10 GB HDD

128 MB RAM



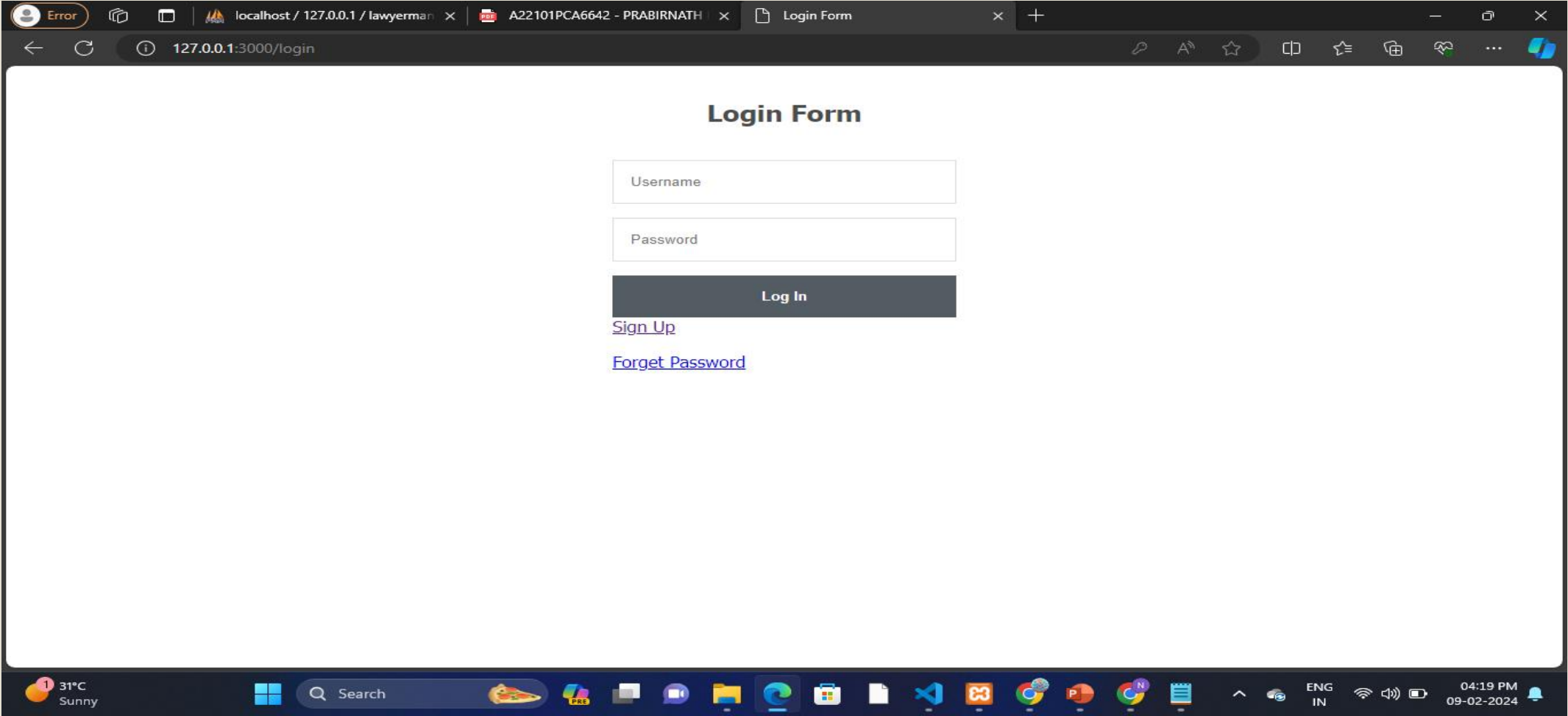
## FLOW CHART:



# SCREEN SHOT 1: HOME PAGE

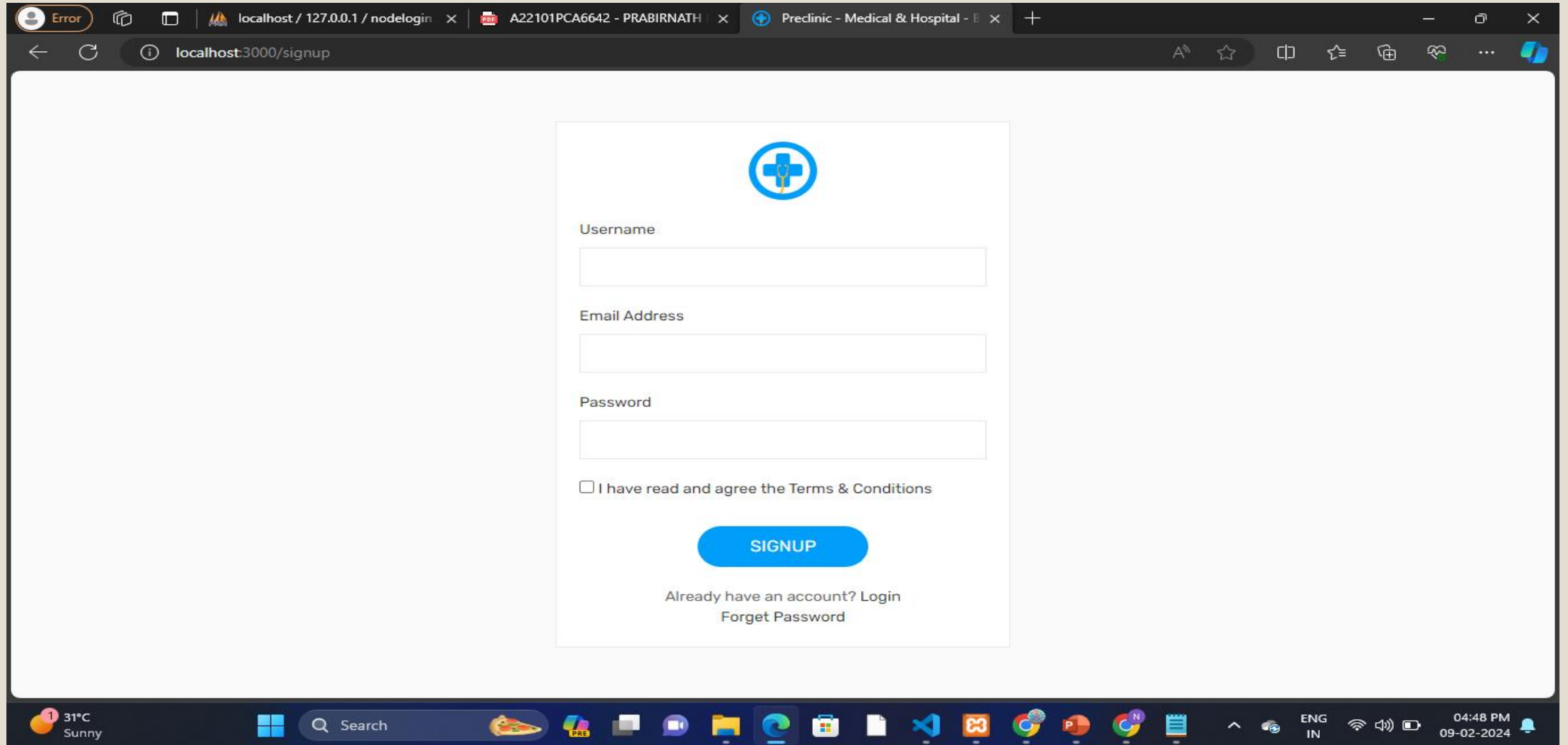


# SCREEN SHOT 2: LOGIN PAGE





# SCREEN SHOT 3: REGISTRATION PAGE



The screenshot displays a web browser window with the address bar showing `localhost:3000/signup`. The page features a central registration form with a blue medical cross icon at the top. The form includes three input fields for 'Username', 'Email Address', and 'Password'. Below these fields is a checkbox labeled 'I have read and agree the Terms & Conditions'. A prominent blue 'SIGNUP' button is positioned below the checkbox. At the bottom of the form, there are links for 'Already have an account? Login' and 'Forget Password'. The browser's taskbar at the bottom shows the system clock as 04:48 PM on 09-02-2024, along with weather information (31°C Sunny) and various application icons.

Username

Email Address

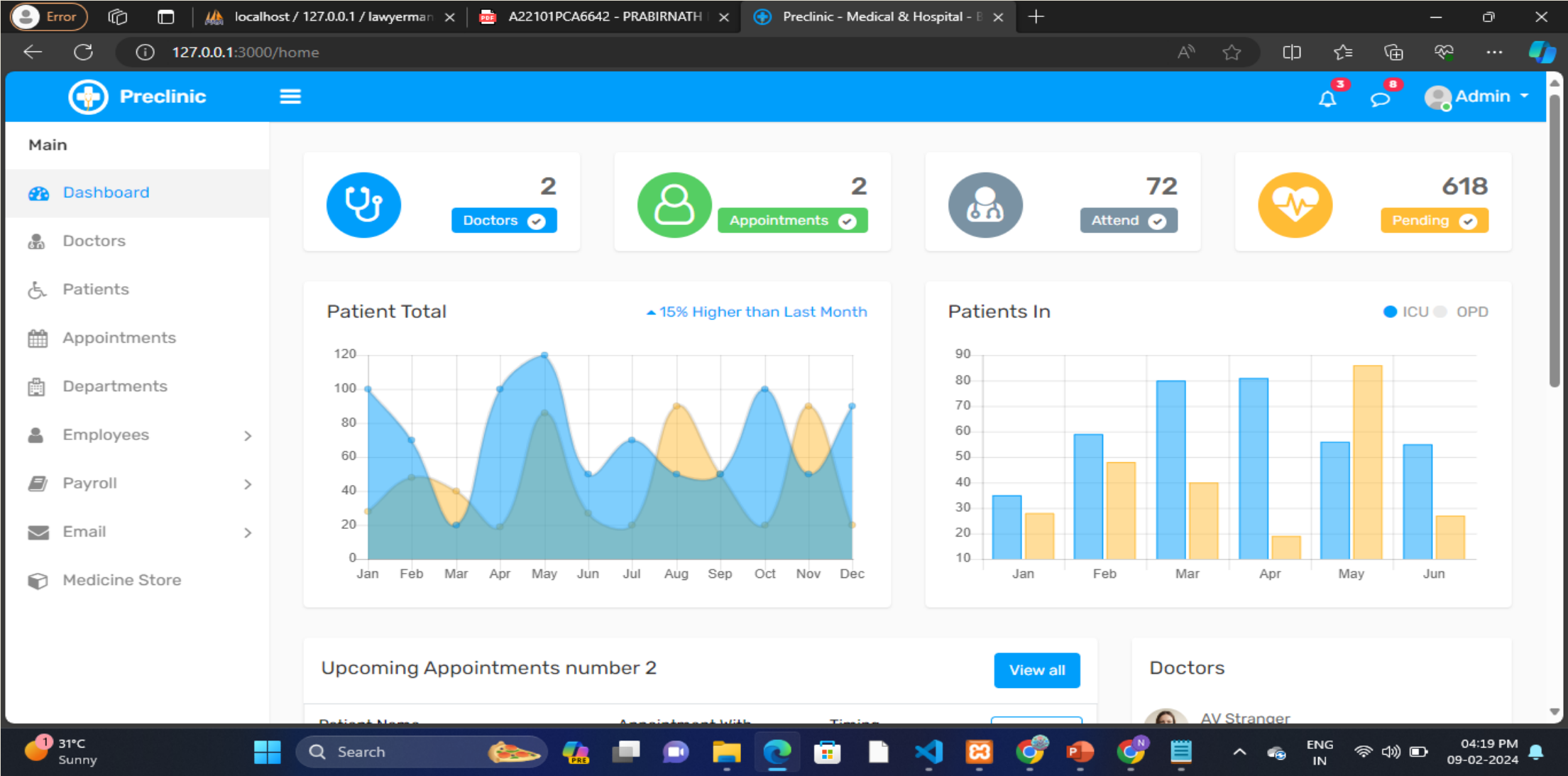
Password

☐ I have read and agree the Terms & Conditions

**SIGNUP**

Already have an account? Login  
Forget Password

# SCREEN SHOT 4: ADMIN DASHBOARD



# SCREEN SHOT 5: ADD/ VIEW DOCTORS

Browser tabs: Error, localhost / 127.0.0.1 / lawyerman, A22101PCA6642 - PRABIRNATH, Preclinic - Medical & Hospital

Address bar: 127.0.0.1:3000/doctors

Preclinic Admin



Main

- Dashboard
- Doctors
- Patients
- Appointments
- Departments
- Employees >
- Payroll >
- Email >
- Medicine Store

Doctors

+ Add Doctor

Search

Image	ID	First Name	Last Name	Email	DOB	Gender	Address	Phone	Department	Action
	39	AV	Stranger	gmhs13@yopmail.com	18/03/2020	male	3125 Elkview Drive, Miami,33169	7865641399	Intensive Care Unit (ICU)	⋮
	41	SHAHID AFRIDI	ZIHAD	gmhs13@yopmail.com	18/03/2020	male	3125 Elkview Drive, Miami,33169	7865641399	Intensive Care Unit (ICU)	⋮

31°C Sunny

Search

04:19 PM 09-02-2024

## SCREEN SHOT 6: ADD/VIEW APPOINTMENTS

Error

localhost / 127.0.0.1 / lawyerman x

A22101PCA6642 - PRABIRNATH x

Preclinic - Medical & Hospital - E x

+

←↻🔍127.0.0.1:3000/appointment🔊★📄🔖🗺️⋮🌐

+

Preclinic☰

Admin

3

8

Main

- Dashboard
- Doctors
- Patients
- Appointments
- Departments
- Employees>
- Payroll>
- Email>
- Medicine Store

Appointments

+ Add Appointment

Appointment ID	Patient Name	Department	Doctor Name	Appointment Date	Appointment Time	Patient Email	Patient Phone	Action
6	Test	Orthopedics	B.rabbit	26/03/2020	10:43 AM	gmhs13@yopmail.com	7865641399	⋮
10	Test123	Orthopedics	doc test	18/03/2020	1:41 AM	gmhs13@yopmail.com	7865641399	⋮

1

31°C Sunny

🪟🔍Search🍕🎮📁💻🧑‍💻📅📄🔧🏠📧📅📅📅^🔊ENG IN📶🔊🔊04:19 PM09-02-2024🔔

# SCREEN SHOT 7:

## ADD/VIEW DEPARTMENTS

The screenshot displays the 'Preclinic' web application interface. The top navigation bar is blue with the 'Preclinic' logo and a user profile 'Admin'. The sidebar menu on the left lists various modules: Main, Dashboard, Doctors, Patients, Appointments, Departments (highlighted), Employees, Payroll, Email, and Medicine Store. The main content area is titled 'Departments' and features a '+ Add Department' button. Below the title, there is a 'Show' dropdown set to '10' and the text 'entries'. A table lists the departments with columns for '#', 'Department Name', 'Department description', and 'Action'.

#	Department Name	Department description	Action
11	Intensive Care Unit (ICU)	What is an intensive care unit (ICU)? Intensive care refers to the specialised treatment given to patients who are acutely unwell and require critical medical care. An intensive care unit (ICU) provides the critical care and life support for acutely ill a	⋮
16	Neurology	Neurology is a branch of medicine dealing with disorders of the nervous system. Neurology deals with the diagnosis and treatment of all categories of conditions and disease involving the central and peripheral nervous systems, including their coverings	⋮
17	Ophthalmology	dfvgbhjnkml	⋮
18	Orthopedics	dfyuyuo	⋮
19	Cancer Department	asyckuauhcia	⋮
20	ENT department	savcjaub	⋮

Showing 1 to 6 of 6 entries

The Windows taskbar at the bottom shows the system clock as 04:19 PM on 09-02-2024, with a weather widget indicating 31°C Sunny.

## SCREEN SHOT 8: ADD/VIEW EMPLOYEES

## SCREEN SHOT 9: ADD/ VIEW LEAVE







## FEATURES OF HEALTHCARE MANAGEMENT SYSTEM:

A Healthcare Management System encompasses various features to streamline operations, enhance **patient care**, and improve overall efficiency. Here are some common features found in such systems:

- ☐ Patient Information Management
- ☐ Appointment Scheduling
- ☐ Electronic Health Records (EHR)
- ☐ Pharmacy Management
- ☐ Laboratory Information System (LIS)
- ☐ Telemedicine Integration
- ☐ Reporting and Analytics



- Generation of reports on **patient outcomes, financial performance**, and operational efficiency.
- Data analytics for insights into **healthcare trends** and patterns.

These features collectively contribute to creating a comprehensive and effective Healthcare Management System that addresses the diverse needs of healthcare providers, administrators, and patients.

## CONCLUSION:

- ❖ The Node MySQL Healthcare Management Project is a comprehensive solution for managing hospital operations efficiently.
- ❖ The system provides a user-friendly interface for managing patient records, appointments, prescriptions, billing, and user roles. The use of Node.js and MySQL ensures scalability, reliability, and performance of the system.

**THANK YOU**

