# DEPARTMENT OF COMPUTERSCIENCE

# ALIGARH MUSLIM UNIVERSITY

# ALIGARH



## Synopsis of E-Healthcare System

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# Abstract

Most of the reasons for implementing the EHS (Electronic Healthcare System) focus on improving medical care as a whole for Patient, Physicians and Doctors. However, achieving an excellent quality of best medical care through EMR (Electronic Medical Record) is neither low cost nor easy. Based on our qualitative study on physician practices we have found that quality improvement depends heavily on doctors' use of the EMRs, not use of papers for their daily tasks. I also identified Key barriers to physician's use of EMRs and also observed that EMR software becomes useless for doctors due to its complex interface. E-Health System for Outdoor patient is the complete comprehensive solution for hospitals and clinics. This solution caters the full life cycle of modern hospitals and clinics, using this system patients can take appointment form their homes and confirm the availability of particular doctors. A consultant can access the medical record of their patient, and prescribe to their patient using this system.

## Introduction:

The rapid growth in Information & Communication Technology (ICT), and the power of Internet has strongly impacted the business and service delivery models of today's global environment. Health Management Systems provide the benefits of streamlined operations, enhanced administration & control, superior patient care, strict cost control and improved profitability. Hospital Management Systems are in high demand to handle increasing population needs and also aids the practicing doctors and hospital service and support staff with timely service and precision. There are varied metrics available to assess the performance of services like hospital industry, and the successful implementation and usage of Hospital information system forms a crucial role. My Cloud based web application of E-Healthcare system will provide comprehensive, effective and efficient solution for carrying out management of hospitals and clinics fulfilling the needs and requirements of all stakeholders such as doctors, patients and staffs

## Objective:

The E-Health Management System has following goals:

● Authorize doctors and assisting staffs to access the medical history of patient efficiently

● Appointment and reminder system for Patients

● To build a built-in medical solutions repository on the basis of historical and statistical data

● To let the doctors and surgeons build their profile and personal repository in which they may store their routine medicines names,

precautions instructions and can take required help from this repository later when needed.

# Existing System:

There are couple of Hospital Management Software are currently present, I will discuss two of them as follows:

- Hospital Management Software (Tirupati International)

- INSTA HMS Hospital Management System (ACG Infotech)

**Common Features:**

All these systems have the following common functionalities

- Appointment Management

- Billing & Invoicing

- Claims Management

- Patient Management

- Patient Records Management

-  Physician Management

- Policy Management

**Comparison (Pros and Cons)**

Hospital Management Software (Tirupati International)

**Pros:**

This system provide functionalities of appointment system, patient record facility, doctor's management, billing and policy management system.

**Cons:**

This system is offline system and run locally. We need local area network to use this software. It's not user friendly. Users' needs training to get understanding of use of this software which increase cost. User needs to

be in hospital to check any information. There is no remote access to this system. Patient have to contact hospital to take appointments. There is no online appointment systems which is very inconvenient for patients.

**INSTA HMS**

Insta HMS is a cloud/web-based application for hospital management.

**Pros:**

Insta HMS is a cloud/web-based application which covers all financial, clinical and operational requirements of a hospitals. This system provide functionalities of appointment system, patient record facility, doctor's management, billing and policy management system. Its user friendly and mobile app contains all the modules required. It provides everything under one platform, doctor visits, appointments everything is managed periodically. It can be accessed anywhere with internet connection.

**Cons:**

Doctors scheduling is very poor. Individual doctors has to type dates and time which is not user friendly. It requires typing inputs for most of its process such as assigning medicines. It does not has appointment reminder system for patients. Users' needs training to get understanding of use of this software which increase cost. There is no document or guideline videos for using this software.

## Proposed system:

After extensive research had been carried out on hospital management process, I proposed cloud based web application for E-Health Management System which will provide comprehensive, effective and efficient solution for carrying out management of hospitals fulfilling the needs and requirements of all stakeholders such as doctors, patients and staffs by providing following features.

- Patient Appointment Management
- Doctors appointment scheduling
- Identify and maintain patient records

- Manage patient medical history such as reports, prescriptions, laboratory tests, etc.
- Electronic Prescriptions for a doctor
- Patient medical records Security and privacy
- Physician Profile Management
- Appointments reminder management
- SMS Dose reminder for patients
- Patient Billing management

## References:

1. https://www.skoolbeep.com/
2. https://www.tutorialspoint.com/uml/uml_standard_diagrams.htm
3. https://www.w3schools.com/
4. https://www.javatpoint.com/

## System Description:

The system comprises of 3 major modules with their sub-modules as follows:

**Admin:-**

1. **Login:** Admin can login with his personal id and password.
2. **Manage Doctors:**
   a) View Current Doctors
   b) Delete Doctor
3. Manage Patients Records.
4. Manage Patients Medical History.
5. Verify Patient.
6. Verify Doctor

7.   Generate payment bill.

**Patient:-**

1. **Register:**   Patient can register with their details.

2. **Login:**  Patient can login with his email id and password.

3. Book An Appointment With Doctor.

4. Check Doctor Availability Online.

5. See Your Medical Reports, Doctor Prescriptions and Laboratory Tests.

6. Patient will receive a reminder regarding his appointment.

7. Patient can check his payment status and history.

8. Patient can ask any query from doctor.

**Doctor:-**

1. **Register:-** Doctor can registration  with their details.

2. **Login:-** Doctor with his  email id and password.

2. View his own profile

3. Edit  his own profile.

4. See Patient Medical Reports

5. Doctor can accept or reject patient's appointments.

6. Doctor can check his payment history.

7. Reply patient query.

# Tools/Platforms, Hardware and Software Requirements:

**Hardware Requirements**

Processor    :       i3  CPU  1.90 GHz

RAM        :       4GB  RAM

**Software Requirements**

Operating System          :          Windows 7 or above

Developing Tool          :          Spring Tool Suit 4

Database          :          MySQL

**Language to be used**

Front End          :          HTML, CSS, JavaScript

Back End          :          Java (Spring Boot)