

**Project Report**  
**on**  
**Medical Record**  
**(CSE VI Semester Mini Project)**  
**2021-2022**



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## **Certificate**

Certified that Mr. Anubhav Mishra (Roll No.- 1918249) has developed mini project on “Medical Record” for the CS VI Semester Mini Project in Graphic Era Hill University, Dehradun. The project carried out by Students is their own work as best of my knowledge.

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## Acknowledgement

I would like to express our gratitude to The Almighty, the most Beneficent and the most Merciful, for completion of project.

We wish to thank our parents for their continuing support and encouragement. We also wish to thank them for providing us with the opportunity to reach this far in our studies.

We would like to thank particularly our project Co-Ordinator Mr. Rakesh Patra for his patience, support and encouragement throughout the completion of this project and having faith in us.

At last, but not the least We greatly indebted to all other persons who directly or indirectly helped us during this work.

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# 1. Abstract

## 1.1 Problem Statement

### 1.1.1 What is Medical Record

A medical record is a systematic documentation of a patient's medical history and care. It usually contains the patient's health information (PHI) which includes identification information, health history, medical examination findings and billing information.

It has following information and characteristics -

- Patient Demographics: General patient information like name, date of birth, gender, address, blood group, etc.
- Financial Information: Amount, date and time, insurance claim, mode of payment, etc.
- Consent and authorization: Patient or someone on his/her behalf taking responsibility and agreement to terms and conditions.
- Release of information: Created when patients is discharged.
- Treatment History
- Progress Notes
- Physicians Orders and Prescriptions
- Medication List
- Pathology and Radiology Reports: Like blood report, platelets count, CAT Scan, MRI etc.
- Confidentiality: Who can access the information.

*A sample medical record.*

### **1.1.2 Need to digitize medical records**

We can see that medical records contains information generated by the various stakeholders and are difficult to group. These records have no common structure and physical in nature which leads to following difficulties

- Access and Storage: Physical records are time consuming and difficult to maintain. A lot of time is required for searching relevant information or document.
- Physical records tend to deteriorate over time due to handling which leads to lower accuracy and loss of data.
- Physical records are not easy to share.

## **1.2 Motivation**

The motivation for doing this project was primarily an interest in undertaking a challenging project in an interesting area of research. The opportunity to learn about practical implementation of my technology stack to solve a real-world problem was appealing to me.

## **1.3 Solution**

From the problem statement I have identified following addressable points -

- Create a database for patients.
- Create a database for hospitals/clinics or other such institutions.
- Identify each medical record with relevant stakeholders (patients and hospitals) and tag them with keywords for easier searching and retrieval of records.
- Patients can view their records.
- Hospitals can add new record.

## 2. Project

### 2.1 Introduction

The title of the project is ‘My Medical Record’. It is a web-based application that allows patients and hospitals and other such institution to learn about the system and register themselves to use the same.

### 2.2 Stakeholders

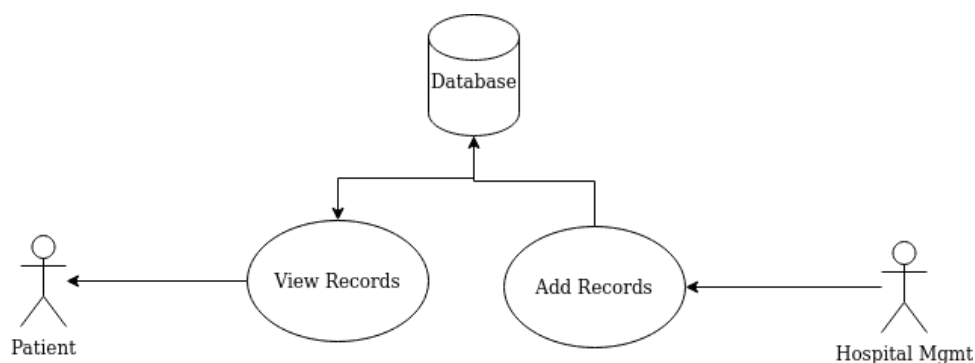
In this project there are simply two types of stakeholders -

- Patients – These are individuals registered on portal who can view their medical records and other demographic information saved on the portal.
- Hospitals – These are medical institutions, clinics, pathology labs who generate medical records.

### 2.3 Project Structure

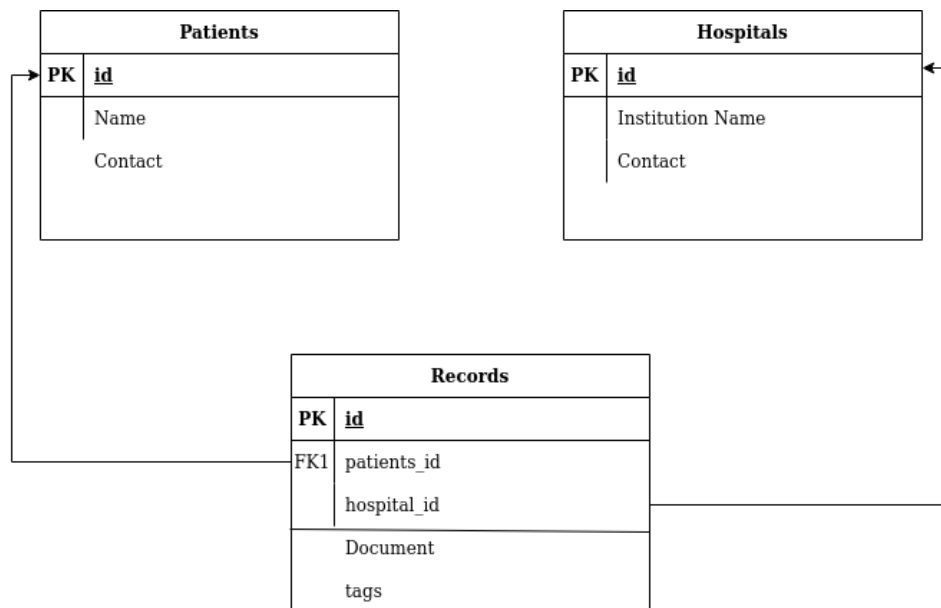
The project consists of a web-based application where new patients or hospitals can register. Patients can view there existing records where hospitals can add records associated with the patients.

#### 2.3.1 Use Case





### 2.3.2 Database Structure



### 2.4 Technology Used

#### XAMPP

- Front End: HTML, CSS, JS
- Back End: PHP
- Database: MySQL
- Apache HTTP Server

## 2.5 Snapshot

Register Patients	Register Hospitals	Login
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Name	<input type="text" value="First Last"/>
Phone	<input type="text" value="9876543210"/>
Email	<input type="text" value="someone@email.com"/>
Password	<input type="password" value="*****"/>
Confirm Password	<input type="password"/>
<input type="button" value="Register"/>	

### *Patient Registration Window*

Home	About	Register Patients	Register Hospitals	Login
------	-------	-------------------	--------------------	-------

Email	<input type="text"/>
Password	<input type="password" value="*****"/>
<input type="button" value="Login"/>	

### *Login Window*

### 3. Future Scope

The project currently identifies record and tags these records with relevant keys for easier retrieval.

In future following updates can be incorporated –

- Using modern framework like React or Angular for rich user experience.
- Categorizing and grouping existing entities and adding new ones like finance and insurance.
- Replacing scanned or static medical documents with dynamic one for better linking.
- Implementing technologies like blockchain for greater control of patients over their data.

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