**HOSPITAL MANAGEMENT SYSTEM**

**SOFTWARE REQUIREMENT SPECIFICATIONS**

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**INTRODUCTION**

Hospitals deal with the life and health of patients. Medical care relies on well-trained doctors, nurses, high quality facilities and equipment. Medical care also relies on good record keeping. Without accurate, comprehensive, up-to-date and accessible patient notes, medical personnel might not be able to offer the best treatment. He may in fact misdiagnose the condition which can have serious consequences. Associated records such as x-rays, specimens, drug records and patient registers must be also well cared for if the patient is to be protected. Record management is a Systematic and on-going procedure by which the records of an organization are created, maintained and disposed of. This system also ensures record preservation for evidential purpose, accurate and efficient updating, timely availability and control of access only by authorized personnel.

Hospital Management System (HMS) is a software which is used for the automation of Hospital management. 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.

Hospital Management System (HMS) will contain the following types of users:

1. Administrator
2. Doctor
3. Nurse
4. Therapist
5. Consultant
6. Pharmacist
7. Patient

**Tools:**

* Angular
* Bootstrap

**Scope of Project**

Technological advancements in this era of digitalization along with being a boom to the world has been advantageous to the health sector too.

This project “Hospital Management System” aims to facilitate the patients in a fast and efficient manner. The main objective of the proposed project is to efficiently facilitate the patients through a fully automated system that requires less human effort that is more accurate and less time-consuming.

Computer-based HMS as a method of conducting checkup and keeping a record of all the patients from entry-slip to finals doctor’s prescription and also keeping a record of laboratory. The functionalities of the Hospital Management System are user-friendly dashboard, keeping a record of all specialist Doctors, Nurses, Consultants, Pharmacists. Also, the hospital Management System reduces the paperwork which has a time-consuming activity and keeping a record of all patients and the medical store for future also.

After implementing the Hospital Management System, the precious timing of hospital staff will be saved by just clicking a few buttons and entry to the prescription job will be performed in less time as compared to the old system.

**Features Of Hospital Management System Include:**

* Appointment Scheduling.
* Electronic Health Records.
* Accounting Management.
* Doctors' Information.
* Inventory management.
* Laboratory Management.
* Telemedicine.

**User Class and Characteristics:**

Administrator:

1. Manage the overall running of the system.
2. Improve the efficiency and quality of the system
3. Assists other users who might have problems while using the system.

Doctor:

1. Providing Patient Prescription
2. Diagnoses Patients.
3. Needs Patients Tests and Scans results.

Nurse:

1. Manage General Health of Patients.
2. Asses, plan and administer daily treatment to patients.
3. Assists Doctors with Patients Information.

Pharmacist:

1. Administer Drugs to Patients based on Doctors Prescription.

Receptionist:

1. Assisting patients with completing necessary forms and documentation.
2. Managing appointments.
3. Coordinating the daily administration of Doctors, Nurses etc.

Patient:

1. Undergo necessary test/scans.
2. Providing accurate and reliable information.
3. Meeting financial commitments.

**Design and Implementation Constraints**:

The following are the factors that might limit the design and implementation of the proposed project:

* + - Shortage of health informatics professionals who are well capable of establishing and implementing the techniques.
    - The lack of time allowed training and learning on making use of the HMS.
    - The lack of healthcare professional, support, motivation etc.
    - Poor acceptance of HMS Software.

**Functional Requirements**

The functional requirements include:

* **Patient registration**: The registration consists of adding patients to the system and assigning unique IDs to them, which each patient will use while in the hospital.
* **Checkout:** All data is archived after patients’ discharge and saved for reuse.
* **Treatment:** Allows a doctor to keep all the necessary documentation for patients’ treatment. This includes maintaining a treatment plan, managing analysis and prescriptions, storing data, and monitoring their medical history.
* **Data report generation**: Report generation consists of creating and storing patient information in the form of a report, which includes the name, phone number, bed number, name of the attending physician, etc. In addition, the generation of reports on the presence/absence of free beds also applies to this requirement.
* **Billing system**: Hospital billing software provides safe and reliable work with finances in the organization. It automatically generates detailed budget data and reports on in-patient, laboratory, and pharmacy services.
* **Search**: The search capability allows you to quickly find the right doctors, patients, certain information about the services and work of hospitals. Using the search, patients can find out their test results, the cost of services, and the physicians’ working hours, while doctors can read the data about their patients.
* **Inventory Managemen**t: Inventory management saves an organization’s time and money by reducing staff working hours on manual work with the inventory. It also helps control the quantity and quality of available hospital resources, which allows you to plan orders for medical supplies. Thanks to the automatic search and the folder-based structure, the hospital staff can find the missing item in seconds.
* **Data reports and statistics**: The system includes the availability of mandatory

**NON-FUNCTIONAL REQUIREMENTS**

* **Security** consists of:
  + **Patient identification and know your customer (KYC)** mechanisms;
  + **Logon ID and encrypted password**;
  + **Data security** of incoming information must be guaranteed;
  + **Roles & Permissions requirements**, which are based on the idea that each user should see and do only what is allowed by the permission system, and all others should be blocked.
* **Performance** includes:
  + **Response time** — the system response must be fast, within one second of the request;
  + **Capacity** — support no less than 200 concurrent users, depending on the size of the organization, and is unlimited for registration;
  + **Law compliance** — the system should be adapted to the legal framework of the country in which it is used.
* For **maintainability**, it is worth highlighting two points:
  + **Errors** — the system records all errors that have occurred;
  + **Back-up** — the availability of automatic and on-demand backups;
  + **Disaster recovery** — allows you to quickly restore the code infrastructure on a new server in case of loss or theft of a working device.
* **Reliability** lies in continuous accessibility of the system 24/7;
* **Responsive design** — the site should work well on all devices and browsers, so you don’t have to create applications for other platforms.

**SYSTEM REQUIREMENTS**

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| --- | --- | --- |
|  | **windows** | **ios** |
| Operating System | Windows XP of higher with updates installed | Mac OS x 10.3 or higher with updates installed. |
| Processor | 500Mhz or faster | 1.83Mhz intel core duo or faster. |
| RAM | At least 64mb of video memory. | 128Mb or more |
| Browser | Firefox, Internet Explorer, Safari, Google Chrome, Opera or Microsoft Edge. | Firefox, Internet Explorer, Safari, Google Chrome, Opera or Microsoft Edge. |
| Broadband Connection | 500+Kbps | 500Kbps |