**HOSPITAL MANAGEMENT SYSTEM**

**(SYNOPSIS)**

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**Project Scope:**

This software system will be an**Hospital Management System**. This system will be designed to help Doctors to check on Patients daily or monthly record of  Patients, which would otherwise have to be performed by manual searching. The software provides latest online materials and overall solutions to their any requirement. With a simple registration, new Patients can register to the portal and see their prescrption and medication as well as details of appoinments. It provides access to Doctors and Patients to check the details (if available) from anywhere. It will meet the parent’s needs while remaining easy to understand and use.

**Purpose:**

The **Hospital Management System** is intended to provide complete solutions for spatients as well as Doctors through a single get way using the internet as the sole medium. It will enable Patients and Doctors to see various.The purpose of this document is to present a detailed description of the **Hospital Management System**. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli. This document is intended for both the stakeholders and the developers of the system.

**Objective:**

The project “Hospital Management System” is aimed to develop to maintain the day-to-day state of admission/discharge of Patients, List of Doctors (Consultants), List of medicines, Bills etc.

**There are following main objectives of the Hospital:**

* Keeping records of admission of patient.
* Keeping patient care as a priority.
* Scheduling the appointment of Patient with Doctor to make it convenient for both.
* Scheduling the services of specialized Doctor and emergency properly so that facilities provided by Hospital are fully utilized in effective and efficient manner.
* Keeping records of Medicine department in a meticulously arranged order so that the treatment of Patient becomes quick and satisfactory.
* Keeping details about the consultants, their Prescriptions and treatments, surgery reports etc.
* Keeping the best laboratory facilities and diagnostic tools for early and clear diagnosis of the disease and early cure and disposal of the patient.
* Keeping explicit details about the patient’s diseases, diagnosis and management for comprehensive research.
* Keeping the records of salary structure of the employees of Hospital by billing approach.

1. **Operating Environment**

**Tools:**

Front End**:** Visual Basic 6.0

Back End**:** Oracle 8.0

**Programming Language:**

Java EE

HTML & CSS

JavaScript

Bootstrap

**Platform:**

Operating System**:** WINDOWS 98

**Hardware Specification:**

Processor**:** P III

RAM**:** 128 MB

Storage Capacity**:** 20 GB

**Software Specification:**

Operating System**:** WINDOWS 98

RDBMS**:** Oracle 8.0

Apache Tomcat 8.5 Server

Eclipse IDE

1. **Database (DBMS)**

**Overview of DBMS:**

The project work is entitled "Hospital Management System" category

“RDBMS”. Hence before discussing anything about the project, a brief discussion

of the related basic concepts is necessary.

As a software developer or as a programmer, we are expected to design and develop every program that works correctly, efficiently and at the same time is easy to be used by any person who may or may not be well versed with the computer and its capabilities. The application programs written in any language must be such that

the user of that program should find it extremely friendly in the sense that not much effort is/should be required on the part of the user to understand and use its application. The package should be user-friendly.

**Basic Database Concepts:**

A database is a collection of related information stored so that it is available to many users for different purposes. It consists of a collection of interrelated data and a set of programs to access those data. It is a coherent collection of data with some inherent meaning and design built and populated with data for a specific purpose. A database stores data that is useful to us. This data is only a part of the entire data available in the world around us.

To be able to successfully design and maintain database, we have to do the following:

* Identify which part of the world's data is of interest to us.
* Identify what specific objects in that part of the world's data are of interest to us.
* Identify a relationship between the objects.

Hence, the objects, their attributes and the relationship between them that are of interest to us are in the database which is designed, built and populated with data for a specific purpose.

**Characteristics of DBMS:**

* Provides creation of a file, addition & deletion & modification of data, creation, addition and deletion of entire files.
* Provides retrieval of data collectively or selectively by Database.
* Provides storing and indexing the data stored at the user's discretion and direction.
* Provides performance of Mathematical function and manipulation of the data stored in the database to perform the desired calculation.
* Provides maintenance of data integrity and database use.
* Provides form-based interface for easy accessibility and data entry.
* Provides complex relationships between data.
* Provides keeping a tight control over data redundancy.
* Provides enforcement of user-defined rules to ensure the integrity of table data.
* Provides a centralized data dictionary for the storage of information pertaining to data and its manipulation.
* Provides ensuring that data can be shared across applications.
* Provides automatic intelligent backup and recovery procedures for data.
* Provides different interfaces via which users can manipulate data.

In the early days of computing the DBM System, used to manage data, were of the Hierarchic or Network model. When these were placed into network operating System and multiple users began to access table data concurrently, the DBM system responded to these user requests very sluggishly and was not totally stable when the

number of users exceeded four or five.

Oracle 8.0 implements around seven of codd's laws, Ingress nine, Sybase ten

and a half. However, research and development is constantly going on at all these

vendor's sites. Each vendor is striving to implement all of Codd's laws in their

products; this constantly leads to products upgrades being brought out by the

product vendors. This is really good news for programmers. Currently **Oracle 8.0** implements all rules fully or partially. The programming world is constantly gettingeasier and easier.

1. **Modules**

**Data Structure:**

**Database Name**: Hospital

**Table** **1:** admin\_login

**Entity** **Type**: Independent

**Primary** **Key**: ssn

**Description**: Contains the Login information of the Doctors and Nurses.

|  |  |  |  |
| --- | --- | --- | --- |
| **Field** | **Type (Length)** | **Null** | **Key** |
| userid | int (7) | NO |  |
| ssn | int (12) | NO | PRI |
| email | varchar(20) | YES |  |
| password | varchar (30) | NO |  |

**Table** **2:** patient\_login

**Entity** **Type**: Independent

**Primary** **Key**: ssn

**Description**: Contains the Login information of Patients.

|  |  |  |  |
| --- | --- | --- | --- |
| **Field** | **Type (Length)** | **Null** | **Key** |
| fname | varchar (20) | NO |  |
| mname | varchar (20) | YES |  |
| lname | varchar (20) | NO |  |
| add1 | varchar (100) | NO |  |
| city | varchar (30) | YES |  |
| region | varchar (30) | YES |  |
| mobile | int (10) | NO |  |
| email | varchar (10) | NO |  |
| ssn | int (12) | NO | PRI |
| gender | varchar (10) | NO |  |
| mstatus | varchar (10) | NO |  |
| age | int (2) | NO |  |
| occ | varchar (30) | YES |  |

1. **Design Specification**

The topic provides idea regarding general structure of application keeping systemconstrains and functionality, in view. The design means to plan or sketch out the form andmethod of a solution. The design represents the major characteristic of the final system anddetermines the upper bound in quality for the system. System design emphasizes on twoaspects of a system:

* Dividing the system into components.
* Defining the interrelationship between the components.

A fundamental objective in the design of an information system is that computer and communication technology specified in the design should always be secondary to the results, the system is intended to produce. System design consists of two steps:

**Logical Design:** This step describes the features, the inputs, the outputs, tables, databases and procedures to meet the project requirements. This gives the detailed specification for the new system.

**Physical Design:** This step involve production of software. Programs are written to accept user input, process the data, produces output or reports and store data in database.

**We divide the project design into four fragments:**

**Output Design:**

For many end-users, output is the main reason for developing the system and the basis on which they will evaluate the usefulness of the application. Output design involves:

* Determine what information is present?
* Decide whether to display or print the information.
* Presentation in an acceptable format.

**Input Design:**

Input design specifies how data are accepted for processing. This involves:

* What data to input?
* What medium to use?
* How data should be arranged or coded?
* The dialog to guide user in providing input?
* Method for performing input validation and steps to follow when error occurs.

**Control Design:**

While entering data or in requesting the performance of certain

functions there may occur errors which could result in improper use of the system.

Controls provide ways to:

* Ensure that only authorized users access the system.
* Guarantee that transactions are acceptable.
* Validate the data for accuracy.
* Determine whether any necessary data have been omitted.

**Database Design:**

The collection data is usually referred as the referred as the database. The database contains information about the particulars of an enterprise. The management of data involves both the definitions of structures for the storage of information and provision of mechanism for the manipulation of information. In addition, the database system must provide for the safety of information stored in the database despite system crashes or attempt to unauthorized access.

1. **Process Logic**

**Patient Detail:**

This module is the most important module of the “Hospital”. Unless there is patient there is no means of having hospital .In this module we know the details of patient .Patient which come from any part take treatment inform of admitted basis or out patient door basis.

Patient is an important factor for Hospital.

**Doctor Detail:**

This module is equally as important as patient. In this module Doctors check the patient in CASE of O.P.D and visit the ward in case of admission of patient and do treatment accordingly.

**Employee Detail:**

The employee detail module of Hospital through which the treatment are done. In this module the main works are attendance of Employee work time, salary of the employee are shown. In every hospital whether it is private sector or public sector the work are important part off any hospital. It is the survival of any hospital worker.

**Medicine:**

The module medicines are common modules of any hospital. In this module details of medicine are kept as records. The stock of medicine, date of manufacturing, date of expiry,

composition of medicine is kept in this module. Medicine composition is also adjusted so that required medicines reach to required ward so that treatment can have in proper way.

**Account Details:**

This module of Hospital management system has an impact of whole hospital management performance. This module provides account details of a hospital, his employee, staff etc. This module describes the inflow of amounts and

out flow of amounts of hospital by different mode like patient, test, salary, electricity bills etc. This Account details about the budget and balance sheet of Hospital and also explains the Hospitals present status and how rich is hospital.

**Output/Report:**

The output and report generation for Hospital management system will include the following details:

* Doctors detail
* Visiting doctor’s detail
* Patient detail
* Outpatient door detail
* Staff detail
* Nurse detail
* Employee detail
* Employees work time detail
* Employee work detail
* Emp attendance detail
* Medicine detail
* Medicine prescribed detail
* Holiday detail
* Accounts detail

1. **User Interface Design**

**Form 1:**

**Index /Admin Login**

This interface is used for checking the authorized/unauthorized user (Admin) to enter the system/software. It contains the following fields:

**a.** Identification Number (ID)

**b.** Password

A screen shot of a social media post

Description automatically generated

**Form 2:**

**Patient Login**

This interface is used for checking the authorized /unauthorized user (Patient) to enter the system/software. It contains the following fields:

**a.** Email

**b.** Password

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Description automatically generated

**Form 3:**

**Patient Registration**

This form captures the details of patient who is having a registration with the hospital. It contains following fields:

**a.** Patient’s Name

**b.** Address

**c.** Mobile

**d.** Email

**e.** Aadhar Number

**f.** Gender

**g.** Martial Status

**h.** Age

**i.** Occupation

**j.** Religion

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**In Case of Emergencies:**

**k.** Name

**l.** Relationship

**m.** Mobile

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**n**. Patient past medical conditions

**o.** Patient current condition

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**Form 4:**

**Password Recovery**

This interface is used for change a user’s (Admin / Patient) password in order to access the system/software. It contains the following fields:

**a.** Email

**b.** Aadhar Number

**c.** Mobile

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**Form 5:**

**Contact Us**

This interface is used for collect Information like complaints and feedback from the patients and to also give information to any user in need. It contains the following fields:

**a.** Name

**b.** Email

**c.** Subject

**d.** Message

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**e.** List of Doctors

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**Form 6:**

**About Project**

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