



Requirement Document

Hospital Data Management System

Group xx

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1 System Description

1.1.1 Hospital Data Management System

Now a days many Private and Govt. corporations turn into digitalization. Organizations that deal with large amount of people are special among them. Large volumes of patient and clinical data are stored in healthcare IT systems. A software program called a Hospital Data Management System is used to plan and manage a clinic's daily operations. The hospital's financial, administrative, legal, and medical aspects are governed by HDMS. The volume of medical data sets grows as a healthcare organization scales, necessitating organized storage and simple access. It takes a lot of time and effort for staff to manually process information, which results in mistakes.

In our case, we mainly targeted about administrative works in a hospital system. We get all the doctors, nursing staff, attendants as internal live environment and laboratories, wards as inanimate environment. HDMS connect all these hospitals internal environment as an interrelated system. Then their external environment is relationship with the patients. HDMS gives the ability to store and manipulate all the data about patients.

2 Requirements Analysis

2.1.1 Manage Patients

- Host have unique ID.
- Can be view patient name, state, address, gender, DOB, Contact No.
- Can be view details about doctors ID have treated, treatments and result with date and time.
- Can be view details about medications that have given to patient with date and time.

2.1.2 Manage Laboratory

- Can be view department.
- Must have unique ID.
- Must have Name.

2.1.3 Manage Room

- Must have unique ID.
- Must have type.
- Can be view details about patients, Nurses and word boys that stayed the room with date and time.

2.1.4 Manage Bill

- Unique bill ID for each patient.
- Can view details about payment type.
- Can view details about paid time and date.
- There must be 3 payment methods
 - Card payment
 - Online payment
 - Cash

2.1.5 Manage Record

- Unique record ID for each patient.
- Detail about patient blood group, weight.
- Patient type (Inpatient/Outpatient)
- Can view detail about dates that treated, admit and discharge.

2.1.6 Manage Staff

- Can be view member salary.
 - Can be view name.
 - Can be view job of each member.
 - Can be view department of each member.
 - Has a unique ID.
-
- There must be 3 job types.
 - Doctor
 - Doctor must have type (Specialty).
 - Doctor has doc_ID also.
 - Nurse
 - Nurse must have ID.
 - Ward Boy
 - Have a ID.

2.1.7 Manage Department

- Has unique ID.
- Has a name.
- Must assign to each entity that is related.
- Nurse has department
- Doctor has department
- Department has many patient

2.1.8 Manage Medication

- Unique ID for each medication.
- Can view supplier details(pharmacy).
- Can view medication name.
- Can view available quantity.

3 Data Dictionaries

Staff Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Staff_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Staff Table	ST001
Name	CHAR		30	Name for Staff Member	Nimal Perera
Salary	DECIMAL	NNNNNN.NN	(6,2)	Salary for Staff Member	50000.00
Department_ID	VARCHAR	TTNN	4	Foreign Key from Department Table	DP01

Medicine Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Medicine_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Medicine Table	MD001
Name	VARCHAR		30	Name for Medicine	Piriton
Quantity	INTEGER		5	Quantity for Medicine	20
<u>Pharmacy_ID</u>	VARCHAR	TTNNN	5	Foreign key from Pharmacy Table	PH001

Doctor Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Doctor_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Doctor Table	DC001
<u>Staff_ID</u>	VARCHAR	TTNNN	5	Foreign key from Staff Table	ST001
Type	CHAR		20	Type for Doctor	Dentist

Pharmacy Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Pharmacy_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Pharmacy Table	PH001
Name	CHAR		20	Name for Pharmacy	United
Location	VARCHAR		30	Location for Pharmacy	Matara
Contact_No	VARCHAR	NNN-NNNNNNN	11	Contact number for Pharmacy	071-2583691

Nures Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Nures_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Nures Table	NR001
Staff_ID	VARCHAR	TTNN	5	Unique ID for all Nures Table / Foreign key from Staff Table	ST001

Gives Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Patient_ID</u>	VARCHAR	TTNNN	6	Unique ID for all Gives Table / Foreign key from Patient Table	PT0001
<u>Medicine_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Gives Table / Foreign key from Medicine Table	MD001
Date	DATE	YYYY/MM/DD	10	Medicine Issued date	2022/10/22
Time	TIME	HH:MM am/pm	8	Medicine Issued date	08:20 am

Word_boy Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Word_boy_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Word_boy Table	WB001
<u>Staff_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Word_boy Table / Foreign key from Staff Table	ST001

Patient_Contact Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Patient_ID</u>	VARCHAR	TTNNN	6	Unique ID for all Patient Table	PT0001
Contact	VARCHAR	NNN-NNNNNNN	11	Contact number for patients	071-9852365

Family Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Staff_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Family Table / Foreign key from Staff Table	ST001
Name	CHAR		30	Name for a Family Member	Perera
Address	VARCHAR		50	Address for Family	No.01, main street, Matara

Record Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Record_ID</u>	VARCHAR	TTNNN	6	Unique ID for all Record Table	RC0001
Patient_ID	VARCHAR	TTNNN	6	Foreign key from Patient Table	PT0001
Weight	VARCHAR	NNTT	6	Weight for patient	65 Kg
Blood-Group	VARCHAR		4	Blood group for patient	A+

Department Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Department_ID</u>	VARCHAR	TTNN	4	Unique ID for all Departments Table	DP01
Name	CHAR		30	Name of a Department	Dental

Inpatient Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Record_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Record Table	RC001
Admit_Date	DATE	YYYY/MM/DD	10	Admitted date of patient	2022/10/22
Discharge_Date	DATE	YYYY/MM/DD	10	Discharged date of patient	2022/10/22

Outpatient Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Record_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Record Table	RC001
Date	DATE	YYYY/MM/DD	10	Date of attend	2022/10/22

Laboratory Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Laboratory_ID</u>	VARCHAR	TTNN	4	Unique ID for all Laboratory Table	LB01
Name	VARCHAR		20	Name for Laboratory	LAB 01

Department_Lab Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Department_ID</u>	VARCHAR	TTNN	4	Unique ID for all Departments Table	DP01
Laboratory_ID	VARCHAR	TTNN	4	Unique ID for all Laboratory Table	LB01

Doctor-treat Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Doctor_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Doctor-treat Table / Foreign key from Doctor Table	DC001
Patient_ID	VARCHAR	TTNNN	6	Unique ID for all Doctor-treat Table / Foreign key from Patient Table	PT0001
Treatment_Name	VARCHAR		30	Treatment_name for patient	Therapy
Date	DATE	YYYY/MM/DD	10	Date of Treated	2022/10/22
Time	TIME	HH:MM am/pm	8	Time of Treated	08:20 am
Test_Result	VARCHAR		20	Result of Treatment	Normal

Room Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Room_ID</u>	VARCHAR	TTNNN	5	Unique ID for all Room Table	RM001
Type	VARCHAR		20	Type of Rooms	VIP R 01
<u>Department_ID</u>	VARCHAR	TTNN	4	Foreign key from Department Table	DP01

Ward_boy_Assign Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Ward_boy_ID</u>	VARCHAR	TTNNN	6	Unique ID for all Ward_boy Table / Foreign key from Ward_boy Table	WB001
Room_ID	VARCHAR	TTNNN	6	Unique ID for all Ward_boy_Assign Table / Foreign key from Room Table	RM001
Date	DATE	YYYY/MM/DD	10	Date of Assign	2022/10/22
Time	TIME	HH:MM am/pm	8	Time of Assign	08:20 am

Bill Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Bill_ID</u>	VARCHAR	TTNNNN	6	Unique ID for all Bill Table	BL0001
Doctor_Charges	DECIMAL	NNNNN.NN	8	Doctor Charges for hiring	1500.00
Treatment_Charges	DECIMAL	NNNNN.NN	8	Charges for treatment	1500.00
Medicine_Charges	DECIMAL	NNNNN.NN	8	Charges for Medicine	1500.00
Date	DATE	YYYY/MM/DD	10	Date of Treated	2022/10/22
Patient_ID	VARCHAR	TTNNNN	6	Foreign key from Patient Table	PT0001

Payment_Method Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Method_ID</u>	VARCHAR	TTNNNN	6	Method of paid	PM0001
Type	VARCHAR		20	Type of Rooms	Online

Nurse_Assign Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Nurse_ID</u>	VARCHAR	TTNNN	6	Unique ID for all Nurse_Assign Table / Foreign key from Nurse Table	NR0001
Room_ID	VARCHAR	TTNNN	6	Unique ID for all Nurse_Assign Table / Foreign key from Room Table	RM0001
Date	DATE	YYYY/MM/DD	10	Date of Assign	2022/10/22
Time	TIME	HH:MM am/pm	8	Time of Assign	08:20 am

Paid_by Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Bill_ID</u>	VARCHAR	TTNNN	6	Unique ID for all Paid_by Table / Foreign key from Bill Table	BL0001
<u>Method_ID</u>	VARCHAR	TTNNNN	6	Unique ID for all Paid_by Table / Foreign key from Payment Method Table	PM0001
Date	DATE	YYYY/MM/DD	10	Date of Paid	2022/10/22
Time	TIME	HH:MM am/pm	8	Time of Paid	08:20 am

Patient Table					
Field Name	Data Type	Data Format	Field Size	Description	Example
<u>Patient_ID</u>	VARCHAR	TTNNNN	6	Unique ID for all Patient Table	PT0001
Name	VARCHAR		20	Type of Patients	Saman Jayaratne
State	VARCHAR	TTNN	4	State of patient	Normal
Address	VARCHAR		40	Address of Patients	No.01, main street, Mataras
Gender	VARCHAR		8	Gender of Patients	Female
DOB	DATE	YYYY/MM/DD	10	Date of birth of patients	2022/10/22
Room_ID	VARCHAR	TTNNN	5	Foreign key from Room Table	RM001
Department_ID	VARCHAR	TTNN	4	Foreign key from Department Table	DP01
Doctor_ID	VARCHAR	TTNNN	5	Foreign key from Doctor Table	DC001

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