**HOSPITAL ADMINISTRATION DATABASE DESIGN DOCUMENT**

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**Subject\_ID:ISM6218(Advanced Database Management System)**

**Submission\_Date:06-09-2021**

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**Purpose**

The purpose of this Database Design Documentation is to create an outline of the database that is usually required by any Hospital administration system. Further efforts have been put to make sure that all the business rules mentioned in the narrative document are met. This database holds information about the tenants, properties and landlords. This database is meant to keep a track of patients and their treatment details. The doctors involved in the treatment, admission and discharge of patients are noted in the database. Also the association of nurse with patients and wards is tracked. The items used in treatment for a particular patient and and the corresponding charges are loaded in separate entities.

**Narrative**

The hospital administrator wants to create a database to track nurse assignments to their wards and nurse interactions with their patients, patient admissions by their doctors and treatments administered by doctors to their patients, bed assignments for each patient and items charged to patients during their stay. Administrator wants to record each nurse’s name and address, phone and alternate phone, email and the medical specialties he or she is certified. Some nurses supervise one or more other nurses. No nurse is supervised by more than one nurse, and some nurses are unsupervised.

Each ward at the hospital has a designated number, descriptive name, physical location and phone number. Each ward has at least one nurse assigned to it. A nurse is assigned to at least one ward and rotates assignments among other wards. The assignment is tracked by the specific date and the hours worked in the assigned ward by each nurse on that date.

In addition to nurse assignments, each ward also has a charge nurse. The charge nurse is the custodian of the medical records for the ward. Not all nurses act in this capacity, but those that do are in charge of only one ward, and a ward only has one charge nurse.

A ward consists of hospital beds. The beds are inventoried to a specific ward. Information on beds including their size (small, large, extra-large) and their type (elevated electrically or manually) and if they are available to be assigned to a patient. Most of the beds are large and manual (this is the default setting). The data entry (checks) for beds is limited to S, L, XL for size; E or M for type; O for occupied and A for available. Availability defaults to occupied to avoid double booking by mistake. All of these value formats are set by rule or check.

When a patient is admitted to the hospital they are assigned to a specific bed. Not all beds are available for use all the time, and a bed may not be assigned to more than one patient. In this database we are only tracking bed assignment history and not bed occupancy or availability.

**Requirements (Actors and roles)**

Nurse: Some nurses are unsupervised and some are supervised. A single nurse acts as an in charge of ward and also the nurses are responsible for interacting and taking care of patients. They work in shifts in wards

Ward: Wards consist of beds and are taken care of by ward in charge who is a nurse .

Beds: Beds are allocated to patients and at a time only one patient can be allocated one bed. Further these beds are specific to wards

Item: Items are used for treating patients and each patient must use atleast one time . These can be used again or must be disposed after single use

Doctors: Doctors are responsible for treating, discharging and admitting patients.

Patients: Patients are treated by one or more doctors and are taken care of by nurses.

Admitting\_physician : Subset of doctors who can admit patients. As per narrative only some doctors can admit patients.

**Entities**

Nurse

Ward

Beds

Item

Doctors

Patients

Admitting\_physician

**Entities with attributes**

Nurse

Employee\_ID

First\_name

Last\_name

Address

(H-no,Community, Street,Pincode)

Phone\_number

Alternate\_Phone

Email\_address

Certifications

Ward

Ward\_no

Ward\_name

Location

Phone\_number

Charge\_nurse\_ID

Beds

Bed\_no

Ward\_no

Size

Type

Availability

Item

Item\_no

Charge

Item\_desc

Nature

Doctors

Doctor\_ID

Speciality

Designation

Qualifications

Treatment\_offered

Patients

Patient\_no

First\_name

Last\_name

Address

(Hno, building, Street,pincode)

Problem\_desc

Type\_of\_treatment

Date\_of\_birth

Gender

Age

Email

Phone\_number

Alternate\_phone

Admitting\_physician

Admitting\_Doctor

Patient\_ID

Consultation\_fee

Speciality

Qualifications

Designation

**Entity Relationship Diagram(ERD)**



**EERD**



**Relational Schema**

