Hospital Management System

1.0 Problem Definition

The Hospital Management System is a Software which helps hospital worker/and management to manage patients and workers of hospital.

- Assigning nurses to and doctors to patients.
- Admitting patients, assigning the patients to appropriate wards.
- Monitoring patients while they are in the hospital.
- Planning and organizing the work that surgeons and nurses perform in the operating rooms.
- Planning and coordinating the management of wards and rooms.
- Monitoring to see if there are any patients waiting for available beds, assigning them to doctors and beds once these become available.

2.0 Software Requirements Specification

2.1 Introduction:

2.1.1 Purpose: The purpose is to describe all the requirements for the Hospital Management System. The following are some of the stake holders:

- administrative staff
- doctors.
- nurses
- surgeons
- developers

2.1.2 Scope: this product will perform the following tasks.

- The system will be used to allocate beds to patients on a priority basis, and to assign doctors to patients in designated wards as need arises.
- Doctors will also use the system to keep track of the patients assigned to them.
- Nurses who are in direct contact with the patients will use the system to keep track of available beds, the patients in the different wards, and the types of medication required for each patient.
- Doctors must make rounds to pick up patients' treatment cards in order to know whether they have cases to treat or not.

2.1.3 Overview: The intentions of the system are to reduce over-time pay and increase the number of patients that can be treated accurately. Requirements statements in this document are both functional and non-functional.

2.2 General Description

2.2.1 Product Perspective: This Hospital Patient Management System is a self contained system that manages activities of the hospital as bed assignment, operations scheduling, personnel management and administrative issues.

- Hardware Interfaces:

    - The DB connectivity requires a hardware configuration that is online this makes it necessary to have a first database system running on high RPM. Hard disk permitting complete data redundancy and back-up system to support the primary goal of reliability.
    - The system must interface with the standard output devices and input devices to interact with this software.
- Software Interfaces:
    - Database: The system shall use the MySQL Database, which is open source and free.
    - Operating System: The Development environment shall be Windows 2000.
    - Web-Based: The system shall be a Web-based application.

2.2.2 Product Functions: The system functions can be described as follows:

- **Registration:** When a patient is admitted, a new Personal Health Number is given to this patient. The patient's information such as date of birth, address and telephone number is also entered into computer system.
- **Consultation:** The patient goes to consultation-desk to explain his/her condition so that the consulting nurse can determine what kind of ward and bed should be assigned to him/her.
- **Patient check out:** If a patient checks out, the administrative staff shall delete his PHN from the system and the just evacuated bed is included in available-beds list.

2.2.3 User Characteristics:

- The system will be used in the hospital. The administrators, doctors, nurses and front-desk staff will be the main users.
- Given the condition that not all the users are computer-literate. Some users may have to be trained on using the system.
- The system is also designed to be user-friendly. It uses a Graphical User Interface (GUI).

2.2.4 Constraints:

- The system must be delivered by deadline.
- The system must be user-friendly

2.3 Specific Requirements

2.3.1 Functional Requirements

- Registration:
    - Add patients: The system shall allow front-desk staff to add new patients to the system.

- Assign ID: The system shall allow front-desk staff to give each patient a ID and add it to the patient's record. This ID shall be used by the patient throughout his/her stay in hospital.

- Consultation:
  - Assign Ward, Doctor, Nurse: Assign Nurse, Doctor, and Ward to patient by their respective staff's.

2.3.2 Database Requirements

- Patient Mandatory Information: Each patient shall have the following mandatory information: first name, last name, phone number, personal health number, address, postal code, patient identification number.
- Staff Mandatory Information: Each staff in hospital shall have the following mandatory information: identification number, first name, last name, phone number, address, postal code, employee type, duty schedule.
- And it consist other tables like Ward Types, Ward Information, Bed Information, Room Information.

2.4 Frontend Description:

- Update Patient Information: The system shall allow the user to update any of the patient's information.
- Search for Patient: The system shall allow the user to search for patient's information by last name or PHN or patient ID.
- Update Staff Information: The system shall allow the user to update any of the staff's information as described in SRS023.
- Employee Information: The system shall allow the user to search for employee information by last name, or ID number.

2.5 Backend Description:

The Hospital Management System consist of too many tables, here we only considered two table. One contains the patient details and the staff details.

2.6 Database Schema:

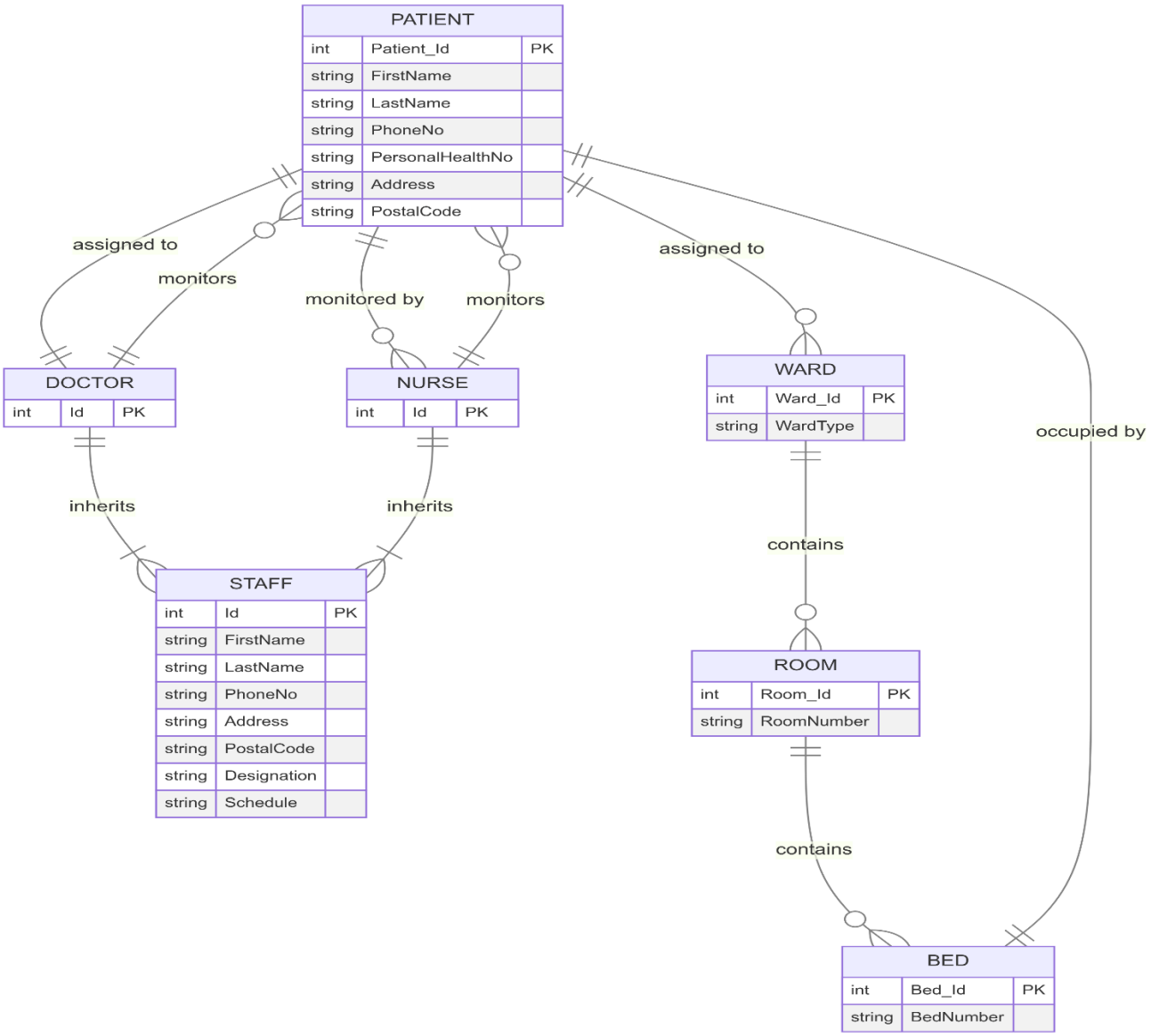
Patient Details (Table)

Field Name	Type	Constraints
Patient_Id	NUMBER	NOT NULL
First Name	TEXT	NOT NULL
Last Name	TEXT	NOT NULL
Phone No	NUMBER	
Personal Health No	NUMBER	
Address	TEXT	
Postal Code	NUMBER	

Stuff Details (Table)

Field Name	Type	Constraints
Id	NUMBER	NOT NULL
First Name	TEXT	NOT NULL
Last Name	TEXT	NOT NULL
Phone No	NUMBER	
Address	TEXT	
Postal Code	NUMBER	
Designation	TEXT	
Schedule	TEXT	

2.7 ER-Diagram:



2.8 Testing:

Form Name	Input	Expected Output	Actual Output	Status
Patient Registration	Full Name, Phone No, Address.	Patient record created.	Patient record created.	Pass
Patient Search	Last Name:	Patient record displayed	Patient record displayed.	Pass
Patient Information Update	Patient ID, Address	Patient address updated	Patient address updated	Pass
Staff Registration	Name, Phone, Address, Designation, Schedule.	Staff record created.	Staff record created.	Pass
Staff Search	First Name	Staff record displayed	Staff record displayed	Pass
Staff Information Update	Staff ID, Schedule	Staff schedule updated	Staff schedule updated.	Pass
Patient Checkout	Patient ID	Patient record deleted.	Patient record deleted.	Pass