COLLEGE: KCA UNIVERSITY

COURSE: Bsc. SOFTWARE DEVELOPMENT

UNIT CODE: BSD 2205

UNIT: SOFTWARE COMPUTING PROJECT

ST JOSEPH'S MISSION HOSPITAL- MIGORI PATIENT'S RECORD MANAGEMENT SYSTEM DESIGN SPECIFICATIONS DOCUMENT

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1. Purpose and Scope

Purpose

The purpose of this document is to give a detailed plan for developing for developing St. Joseph's Mission Hospital Patient's Record Management system. This document tracks the necessary information required to define the system architecture and design in order to give a guidance on the architecture of the system to be developed.

Project Scope

The software product is a Patient's Record Management System. The system will be used to register patients, manage admissions and perform the overall management of all departments.These functions will be performed with a high degree of accuracy. The modules of St. Joseph Patient's Record management system are user-friendly and easy to access.

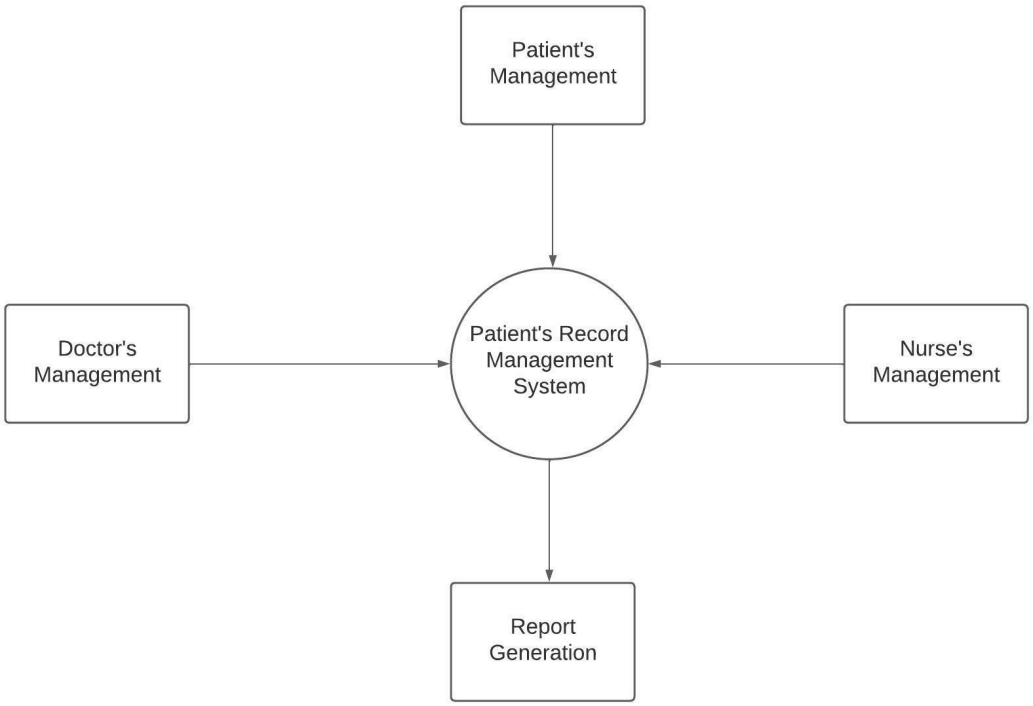
The intentions of the system is to store and manage patient's records. This will help doctors to easily correctly diagnose patients and prevent the loss of patient's records due to the use of physical cards.

2. System overview

St Joseph Patient's Record Management System is a system that will be used to manage all patient's records. The system will enable smooth healthcare performance along with medical,legal, financial and administrative operations. Hence successful operation of St Joseph's Mission Hospital.

a) Level 0 Data Flow Diagram (DFD)

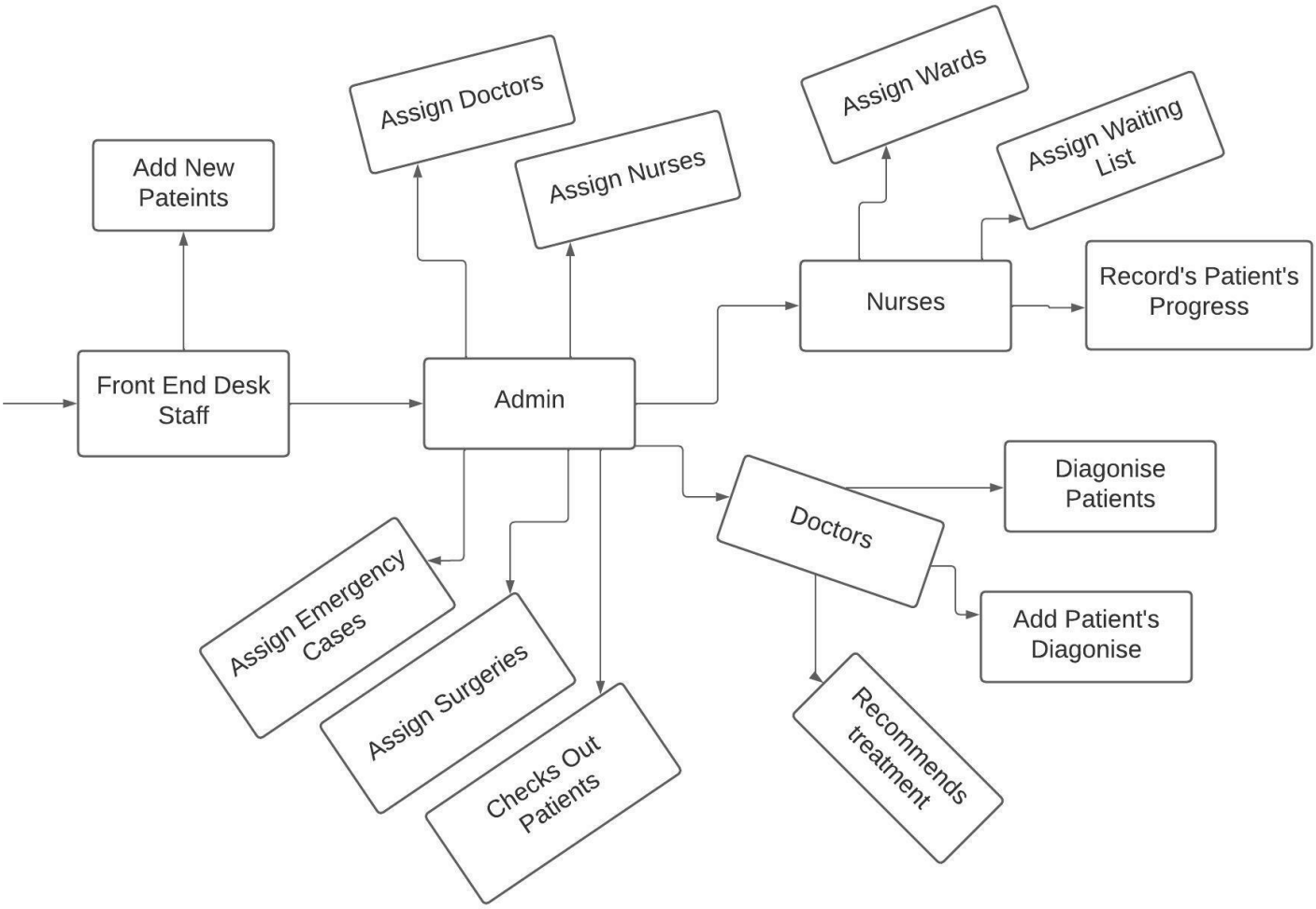
This diagram shows only a single process representing the entire system and all its associated external entities.



b) Level One Data Flow Diagram

This data flow diagram shows the general in the system process and the data stores.

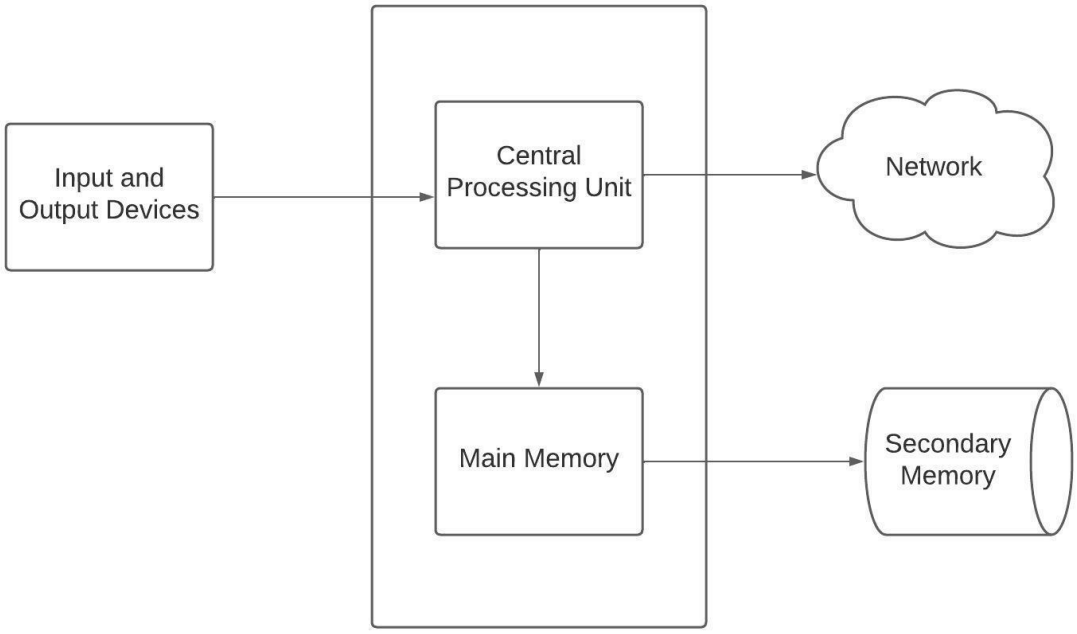
The diagram below shows a level one data flow diagram.



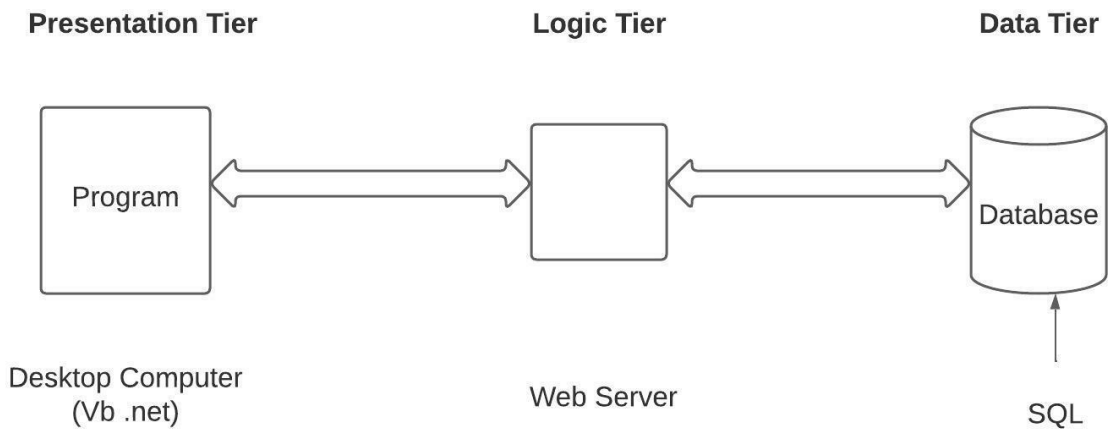
3. System Architecture

This section outlines the system and hardware architecture design of the system.

3.1. Hardware Architecture



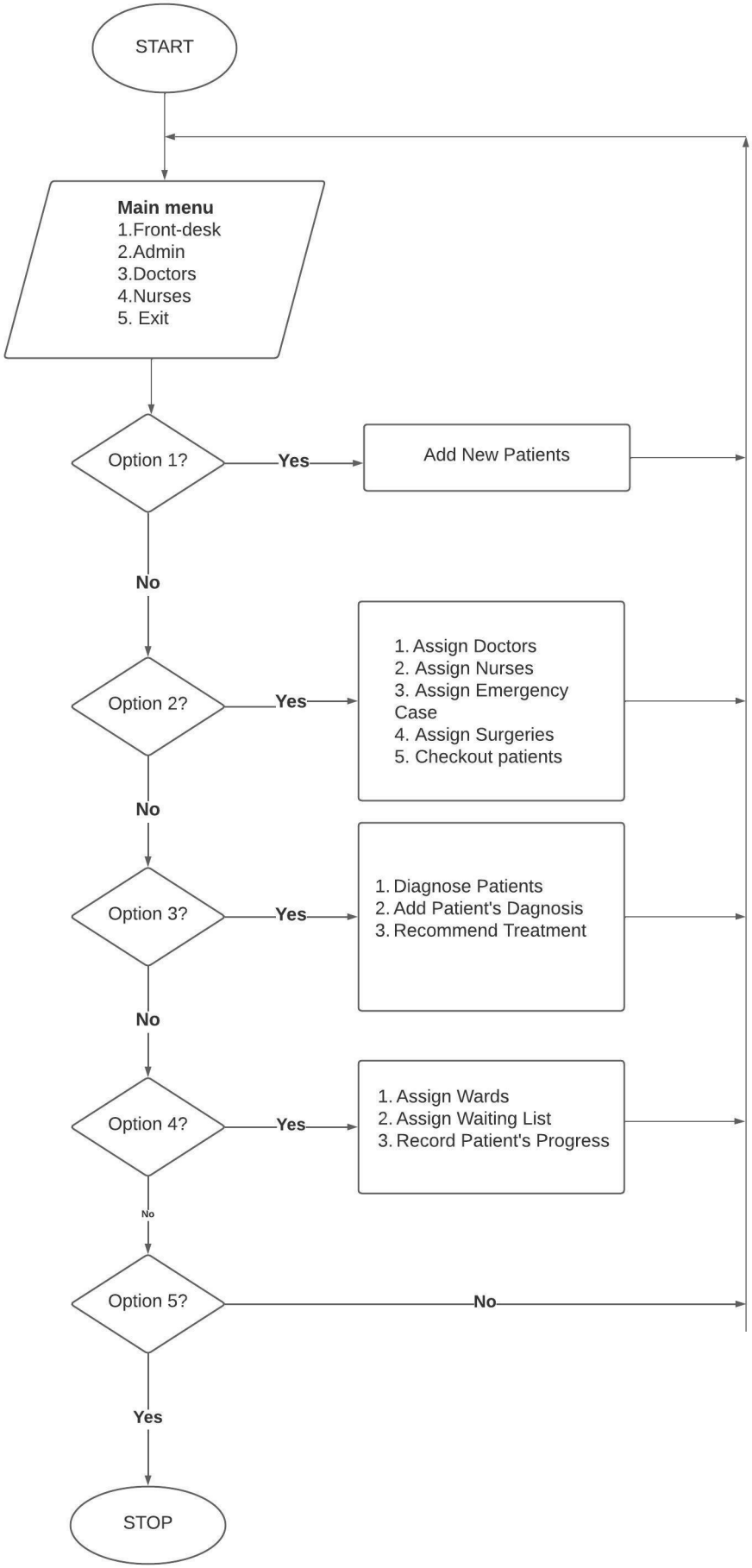
3.2 Software Architecture



4. Software Design

The system consists of various modules. The following section provides detailed logic and data necessary to completely write the source code for all modules in the system.

Program Flow Chart


START
Main menu
1.Front-desk
2.Admin
3.Doctors
4.Nurses
5. Exit
Option 1?
Yes
Add New Patients
No
Option 2?
Yes
1. Assign Doctors
2. Assign Nurses
3. Assign Emergency Case
4. Assign Surgeries
5. Checkout patients
No
Option 3?
Yes
1. Diagnose Patients
2. Add Patient's Dagnosis
3. Recommend Treatment
No
Option 4?
Yes
1. Assign Wards
2. Assign Waiting List
3. Record Patient's Progress
No
Option 5?
No
Yes
STOP

Pseudo code

DO Select_From_Main_Menu

IF Front_desk THEN

DO Add_New_Patients

ELSE IF Admin THEN

DO Assign_Doctors, Assign_Nurses, Assign_Emergency_Cases, Assign_Surgeries,

Checkout_Patients

ELSE IF Doctors THEN

DO Diagnose_Patients, Add_Patient's_Diagnose, Recommend_Treatment

ELSE IF Nurses THEN

DO Assign_wards, Assign_Waiting_List, Record_Patient's_Progress

ELSE IF Exit THEN

Close Program

ENDIF

ENDIF

ENDIF

ENDIF

ENDIF

5. File and Database Design

This section reveals the file design of the database management system.

Patient's Information

Variable	**Variable Name**	**Variable Type**	**Variable Width**	**Values**
Patient's ID	ID	Numeric	20	001-900
First Name	FIRST NAME	char	30	A-Z
Last Name	LAST NAME	char	30	A-Z
Birthday	DOB	dd/mm/yy		1-31/1-12/1900-2022
Gender	GENDER			Male, female
Home Address	ADDRESS	char		
Date Added	DATE ADDED	dd/mm/yy		1-31/1-12/1900-2022
Bed No				
Doctor's ID				
Nurse's ID				
Ward ID				
Diagnose Information				
Progress				

Doctor's information

Variable	Variable Name	Variable Type	Variable Width	Values
Doctor' ID	ID	Numeric	20	001-900
First Name	FIRST NAME	char	30	A-Z
Last Name	LAST NAME	char	30	A-Z
Birthday	DOB	dd/mm/yy		1-31/1-12/1900-2022
Gender	GENDER			Male, female
Home Address	ADDRESS	char		
Date Added	DATE ADDED	dd/mm/yy		1-31/1-12/1900-2022

Nurse's Information

Variable	Variable Name	Variable Type	Variable Width	Values
Nurse's ID	ID	Numeric	20	001-900
First Name	FIRST NAME	char	30	A-Z
Last Name	LAST NAME	char	30	A-Z
Birthday	DOB	dd/mm/yy		1-31/1-12/1900-2022
Gender	GENDER			Male, female
Home Address	ADDRESS	char		
Date Added	DATE ADDED	dd/mm/yy		1-31/1-12/1900-2022

Ward Information

Variable	Variable Name	Variable Type	Variable Width	Values
Ward ID	ID	Numeric	20	001-900
Ward Name	WARD NAME	char	30	A-Z
Number of Beds	NO. Of Beds	Numeric	30	1-100

Bed Information

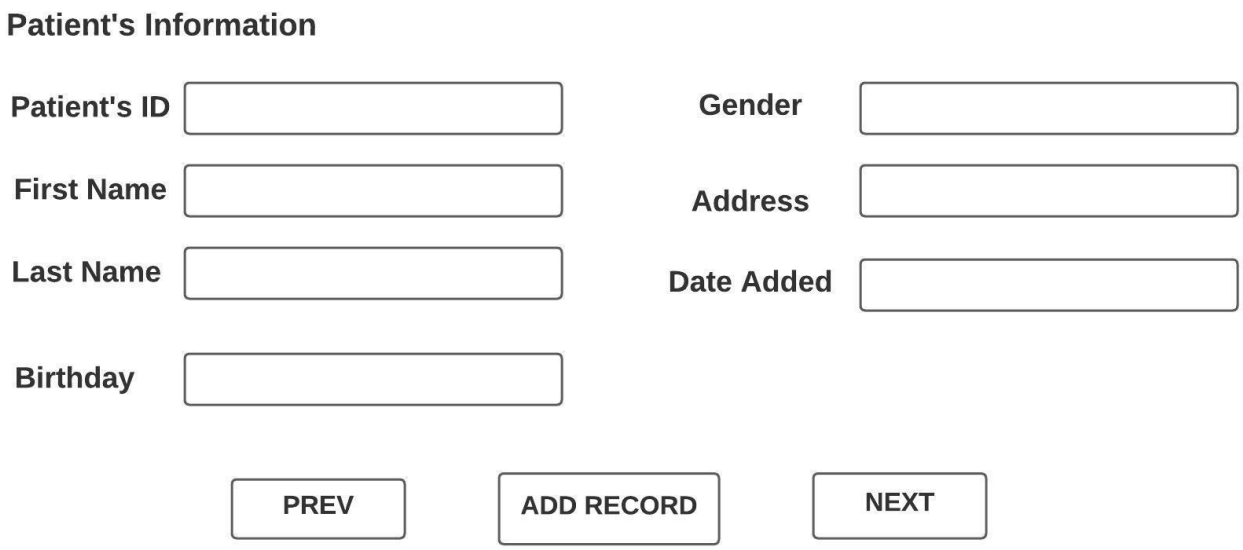
Variable	Variable Name	Variable Type	Variable Width	Values
Bed ID	ID	Numeric	20	001-900
Ward ID	Ward ID	char	30	001-900

6. Human Machine Interface

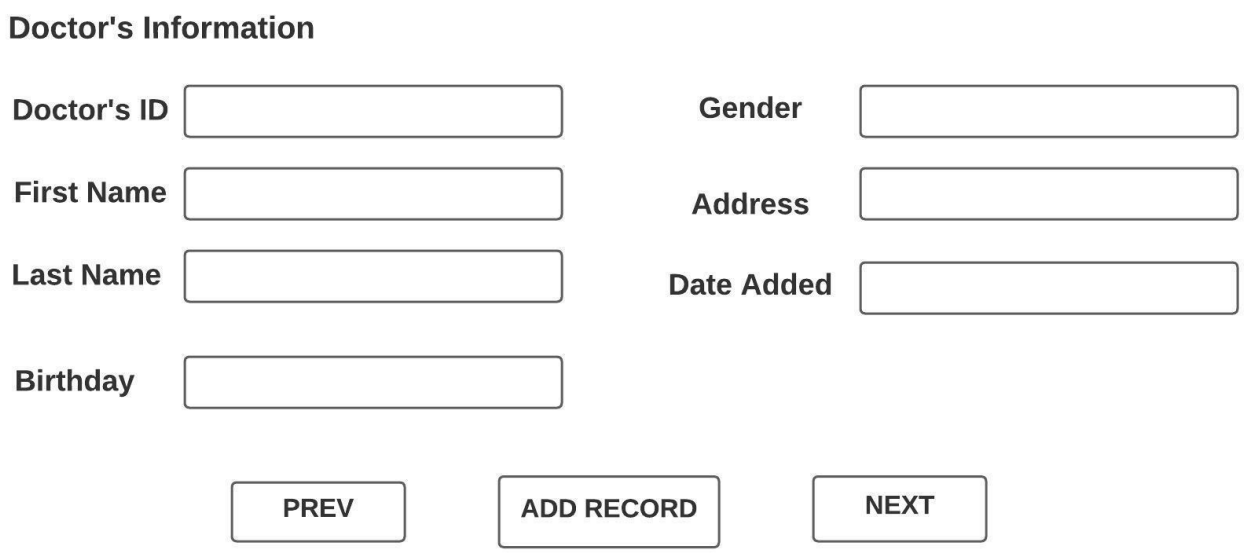
This sections provides the detailed design of the system's input and output designs.

i. System Input Design

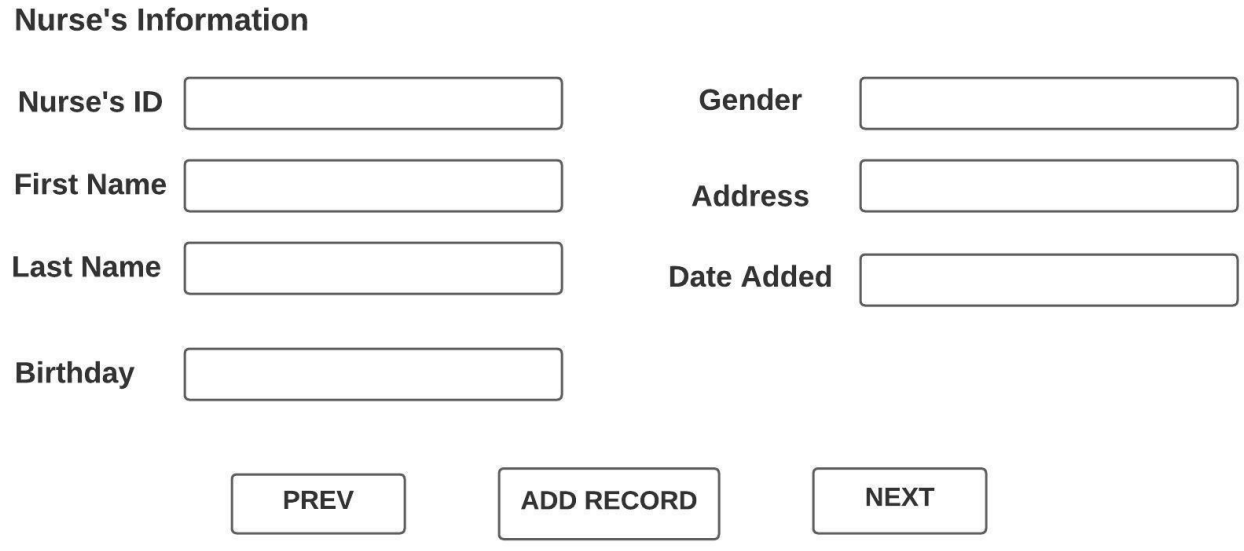
Patient's Information Form



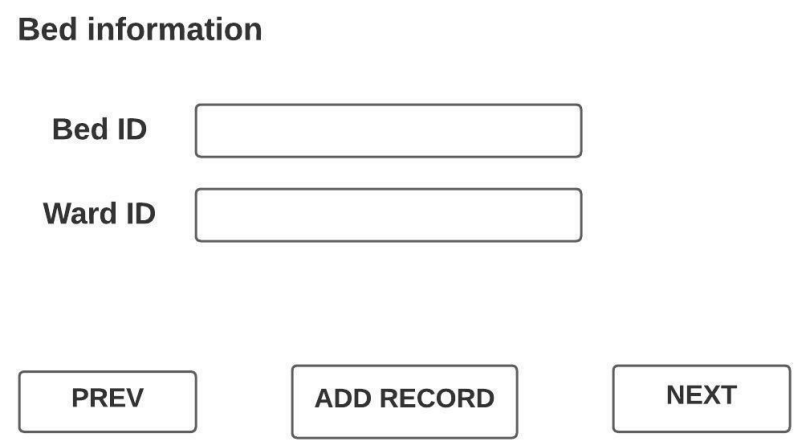
Doctor’s Information form



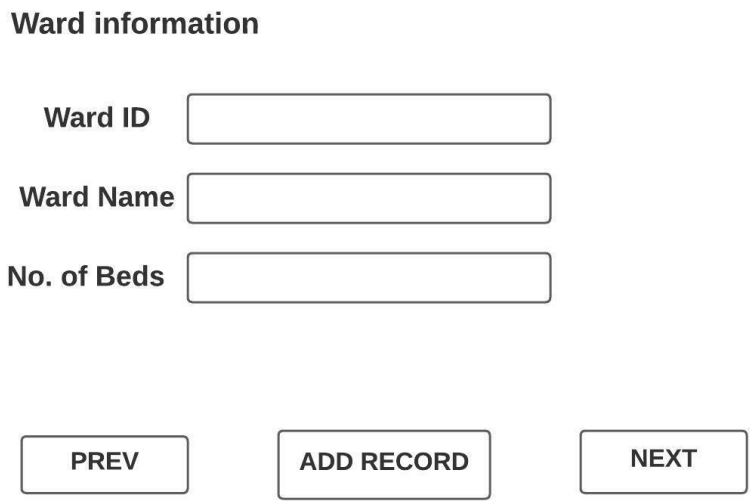
Nurse’s Information form



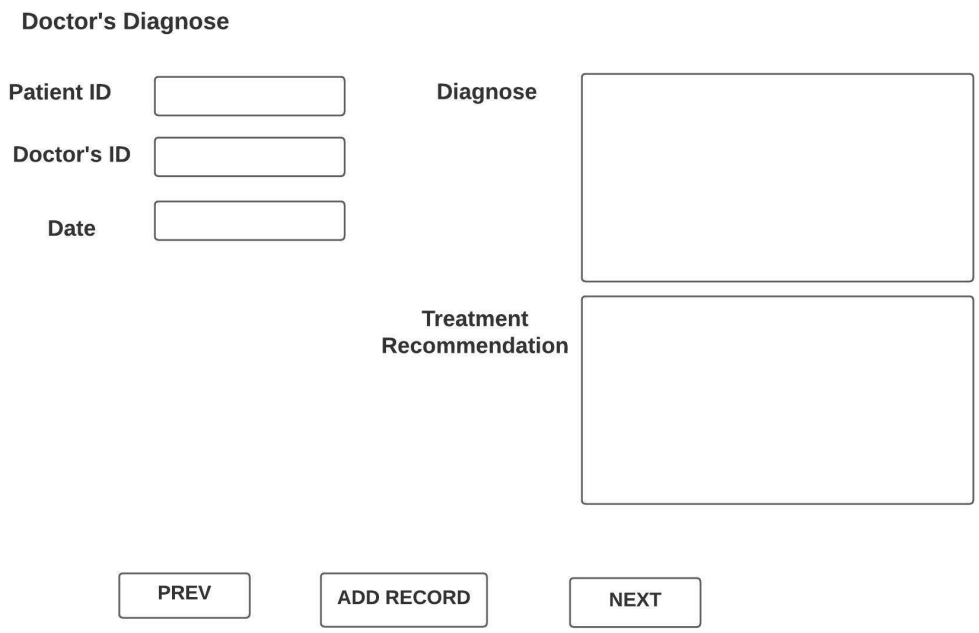
Bed Information Form



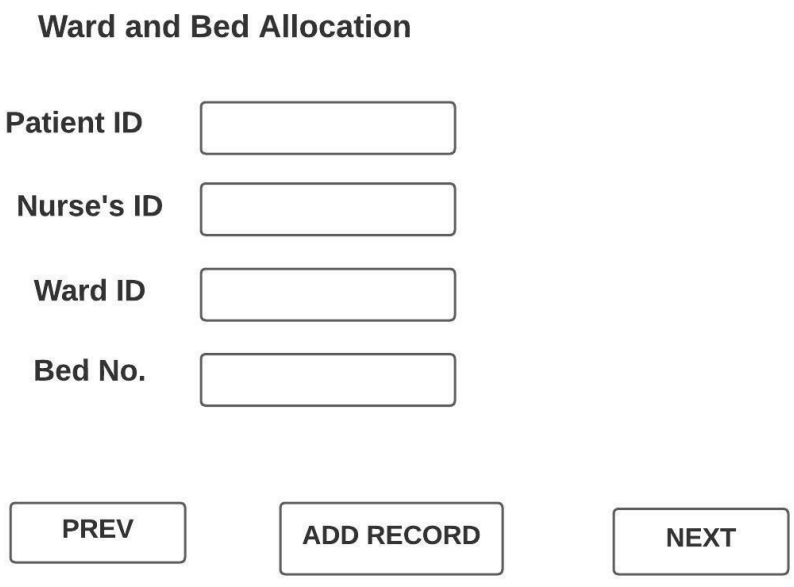
Ward Information Form



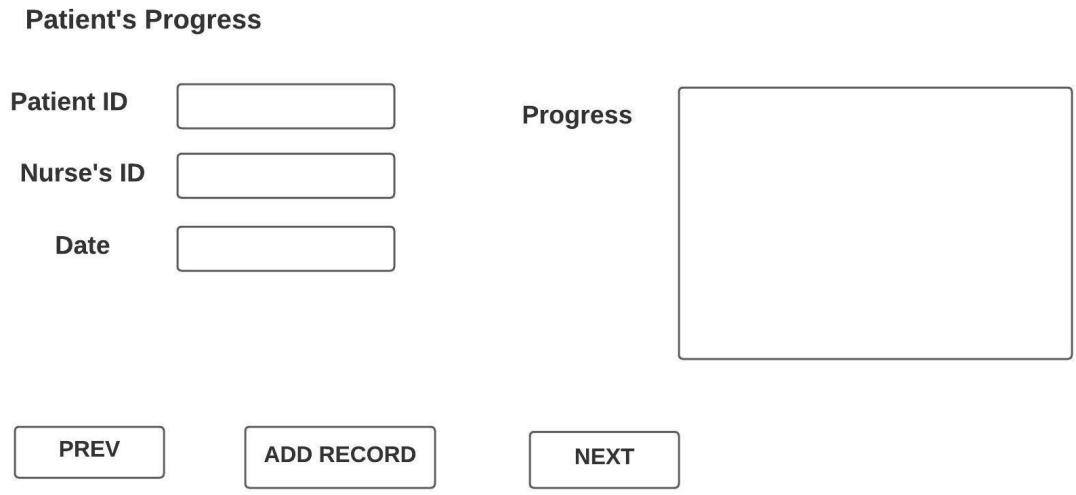
Doctor’s Diagnose Form



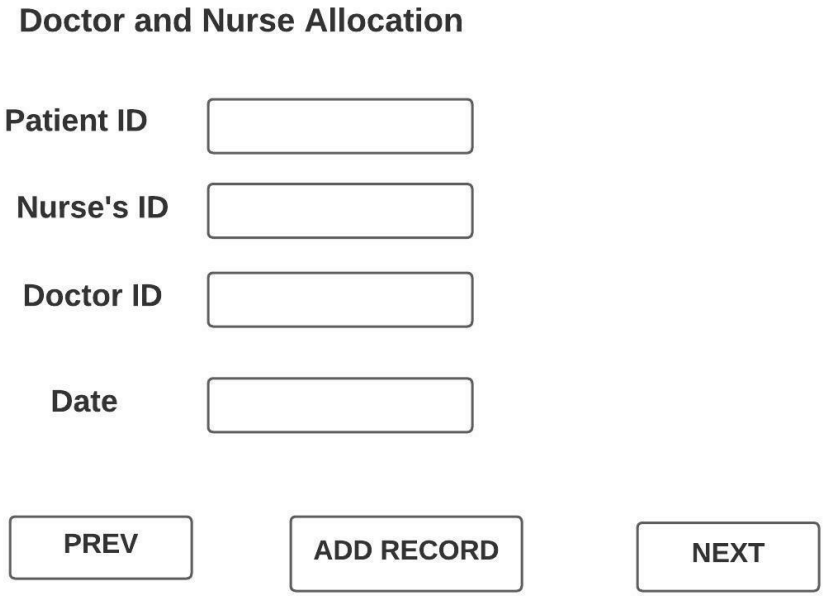
Bed and Ward Allocation Form



Patient's Progress Form



Doctor and Patient Allocation



ii) System Output Design

Patients in the Hospital

Patient's ID	First Name	Last Name	Birthday	Age	Gender	Address	Date Reported

Patient Allocation to doctors

Doctor's ID	Patient ID	First Name	Last Name	Age	Gender

Patient Allocation to Nurses

Nurse's ID	Patient ID	First Name	Last Name	Age	Gender

Patient's Ward and Bed No

Ward ID	Patient's ID	First Name	Last Name	Gender	Bed No

Patient's and their diagnose

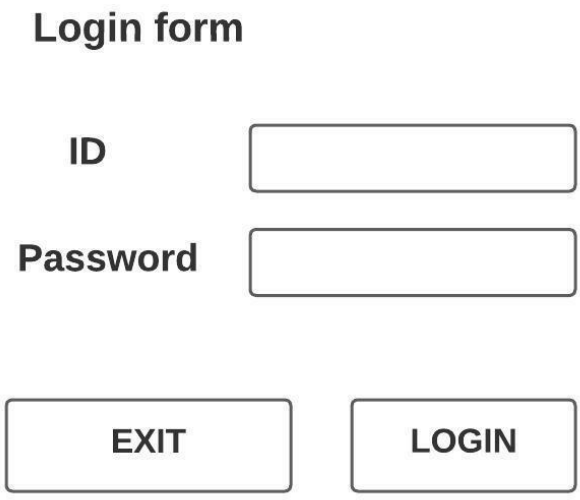
Doctor's ID	Patient's ID	First Name	Last Name	Diagnose	Recommended Treatment	Date of Diagnose

Patient's and their Progress

Nurse's ID	Patient's ID	First Name	Last Name	Progress	Date

7. System Integrity controls

Login form



Admin credentials table

Admin ID	Passwords

Doctors credentials table

Doctor's ID	Passwords

Nurse's credentials table

Nurse's ID	Passwords

Front-end desk credential's table

Staff ID	Passwords

References

John C. (2019). Software Specification and Design

Arthur L. (2020). Analysis and Design of Information Systems.

Andreas G. (2021). System Design. A practical Guide

Charles S. (2019). System Engineering Analysis, Design and Development.