CASE STUDY – HOSPITAL MANAGEMENT SYSTEM

SOFTWARE REQUIREMENT SPECIFICATION

Introduction:

The SRS is produced at the culmination of the analysis task. The function and performance allocated to software as part of the system engineering and refined by establishing a complete information description, a detailed functional description, a representation of system behavior, indication of performance requirements and design constrains, appropriate validation criteria and the other information related to requirements.

The SRS is technical specification of requirement of Hospital Management system. This specification describes what the proposed system should do without describing how it will do it. It also describes complete external behavior of proposed system.

Purpose:

The main purpose of our system is to make hospital task easy and is to develop software that replaces the manual hospital system into automated hospital management system. This document serves as the unambiguous guide for the developers of this software system.

Scope:

The document only covers the requirement specification for the hospital management system. This document does not provide any references to the other component of the hospital management system.

Definition, Acronyms and Abbreviations :-

CFD: - Context Flow Diagram

DFD: - Data Flow Diagram

IDE: - Integrated Development Environment

PHP:- Hypertext Preprocessor (General purpose scripting language.)

CSS:- Cascading Style Sheets.

SQL: - Structured Query Language SRS: - Software Requirement Specification.

Reference:

Course subject: Software Engineering

Php guide – W3Schools

Overview:

Hospital Management System is a process of implementing all the activities of the hospital in a computerized automated way to fasten the performance. This project is to maintain the patient details, lab reports and to calculate the bill of the patient. You can also manually edit any patient details and issue bill receipt to patient within few seconds.

General Description:

Product Prespectives :

This project gives the procedural approach how a patient gets treatment, details about date of treatment and finally depending on different criteria like room allocated, lab reports, treatment and medicine taken…..etc,how billing is calculated. During billing health card facility is also considered.

Product Functions:

The data represented in hospital management application will perform the following major function:

- Patient Details: - It includes inpatient and outpatient details.
- Lab reports
- Billing Details

This software will help to calculate the bill much quicker and simpler way. This enables the organization to keep the information in efficient and systematic way.

User Characteristics:

This software is developed such that total appearance of the product to make it more user friendly. The operator will be provided with login id and password. General users with basic computer skills can use this software.

General Constraints:

Any update regarding the patient information from the hospital are to be recorded to have updated and correct values.

Assumptions and Dependencies:

All the data entered will be correct and up_to_date.This software package is developed using HTML, CSS and php which is is supported by all system, MS SQL server as the back end which is supported by Microsoft windows xp.

Specific Requirements:

It describes all the details that the software developer needs to know for designing and developing the system. This is typically the largest and most important part of the document.

Functional Requirements:

Module Admin:

(This module enables the user to insert, update, view and delete the patient information and have to approve doctor's job application and deal with the appointment process.)

1. Admin will be dealing with the overall administration.
2. Every admin will have their respective details that are stored in the database and they will have to go through an authentication system before getting the access to the system.
3. All the new Job requests from the doctor will be authenticated and approved by the admin and the admin will assign the doctors with their respective departments.
4. All the Patients will be assigned to their respective doctors by the admin.
5. Admin will be providing the patients with their medical reports.
6. The admin is also responsible for handling the financials/income of the staff working.

Module Doctor:

1. New Doctors can apply for a job by filling in the required details which will then be approves or disapproved by the admin,
2. Doctors will have to go through an authentication system based on their details stored in the database.
3. Doctors will receive their patients from the admin and will get their symptoms that they will have to diagnose.
4. Doctors will provide the required medication that will be overseen by the admin.
5. Doctors will also be storing the details of their diagnosis and treatment in the database.

Module Patients:

(Id, Name ,Age, Sex, Address, Phone Number and other details. This module has following 2 sub modules:-

1. Person can log in into the system if they have been a patient at the hospital before or can create an account filling the form.
2. Patient will fill in all the required details about themselves and about their health issues that will be stored in database.
3. Patient will then be able to choose from the available doctors and this choice will be approved by the admin after which the patient will be given an appointment.

4. After the consultation the patient will receive their medications and their respective medical reports.
5. The patient will be charged for the services that were provided and that will be overseen by the admin.
6. Patient will pay the amount, that will be stored and the details of the patient's treatment will be stored for future referral.

External Interface Requirements :-

User Interface

User interface is designed in a user friendly manner and the user, in another end he has to give the order, for that he will interface with keyboard and mouse. This system is compatible with Windows version 7 and above and versions of php.

Hardware Interface:-

1) OS – windows XP
2) Hard disk – 80 GB
3) RAM – 1 GB
4) Keyboard – Standard QWERTY keyboard for interface
5) Mouse – Standard mouse with 2 buttons

Software Interface:-

1) Front end- HTML, CSS
2) Back end – PHP, SQL
3) OS – Net Beans IDE 6.9.1

Performance Requirements:-

The capability of the computer depends on the performance of the software. The software can take any number of input provided the database size is large enough. This would depend on the available memory space

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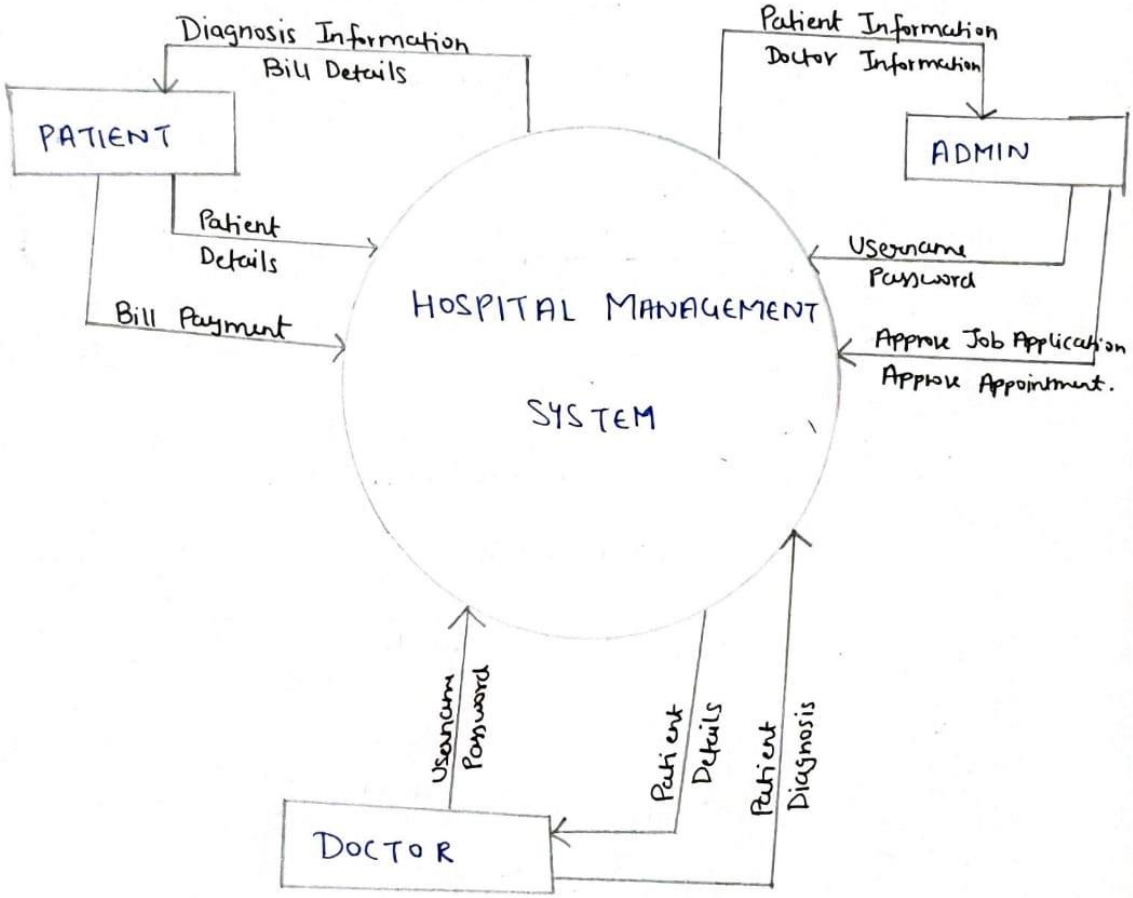
DESIGNING:

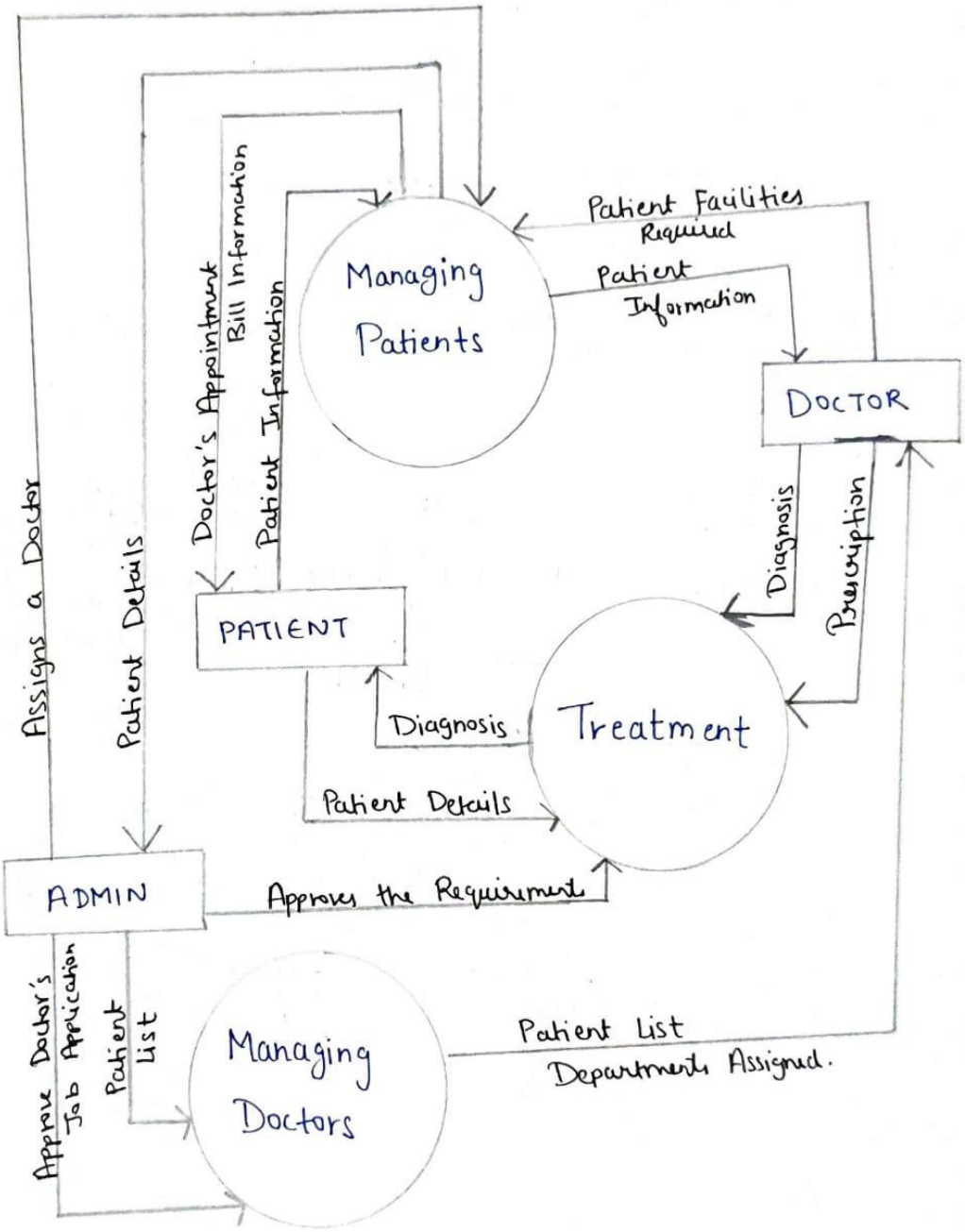
DESIGNING - HMS :-

* Data Flow Diagrams :-

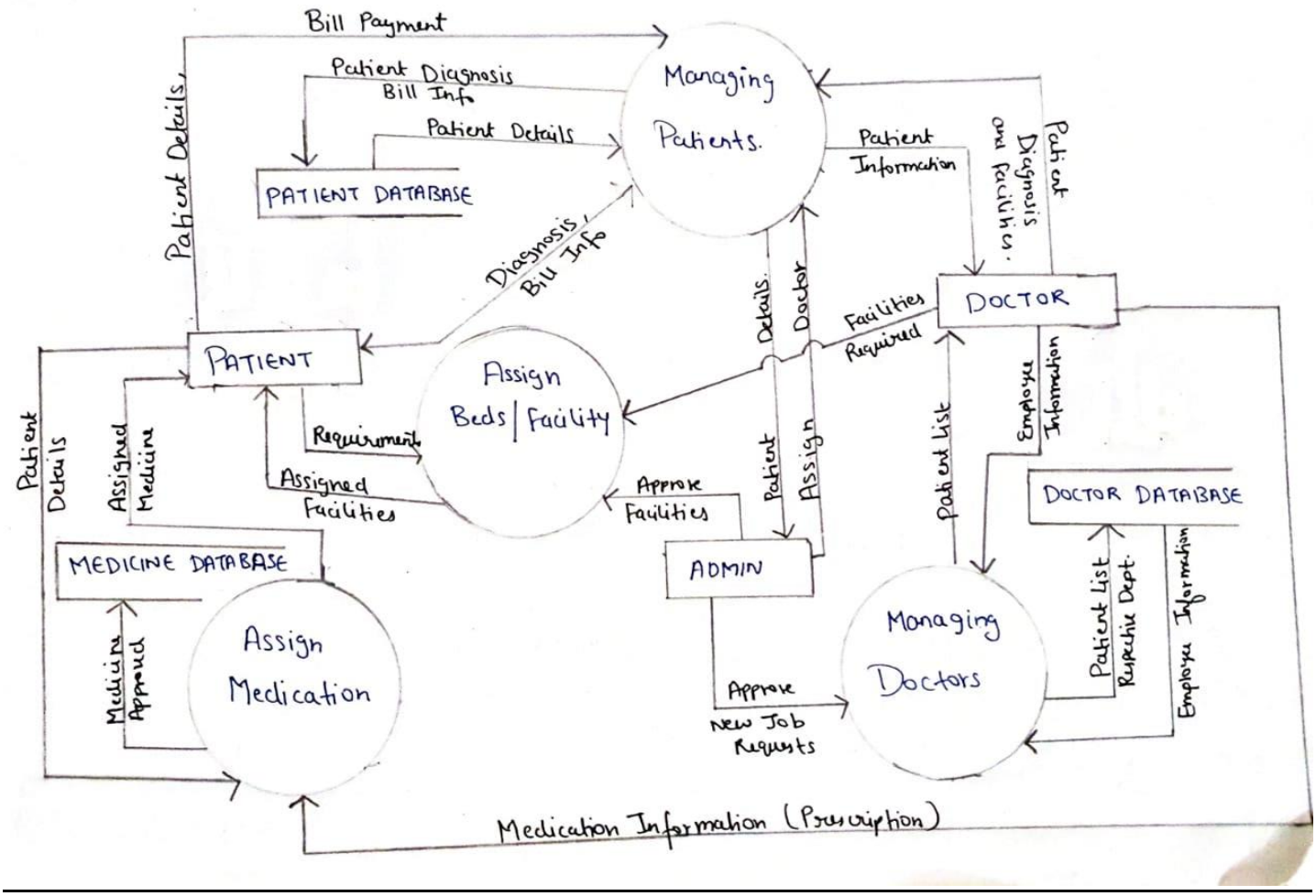
i) DFD - Level 0 [Context Diagram]

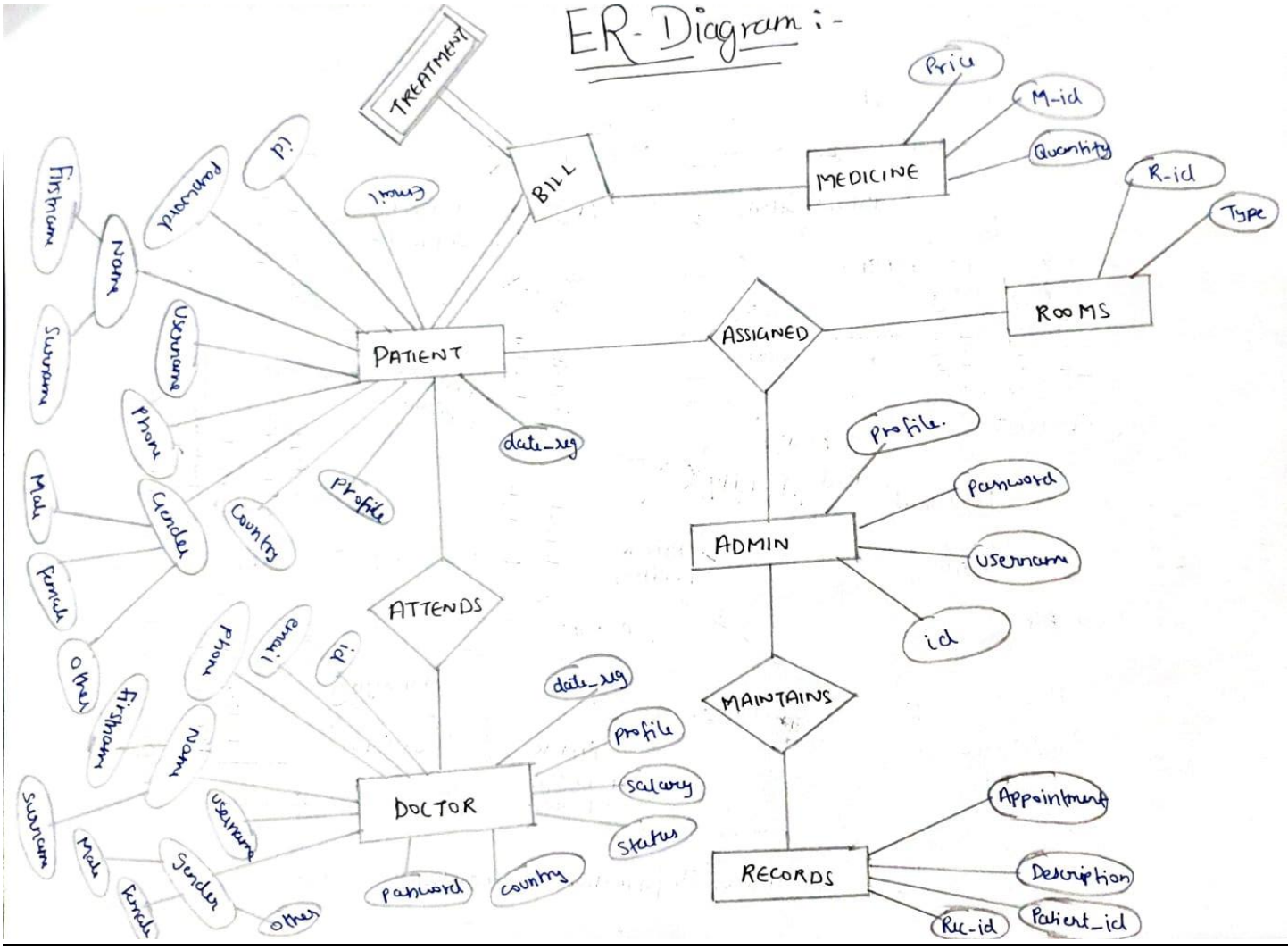


ii) DFD - Level 1 :-

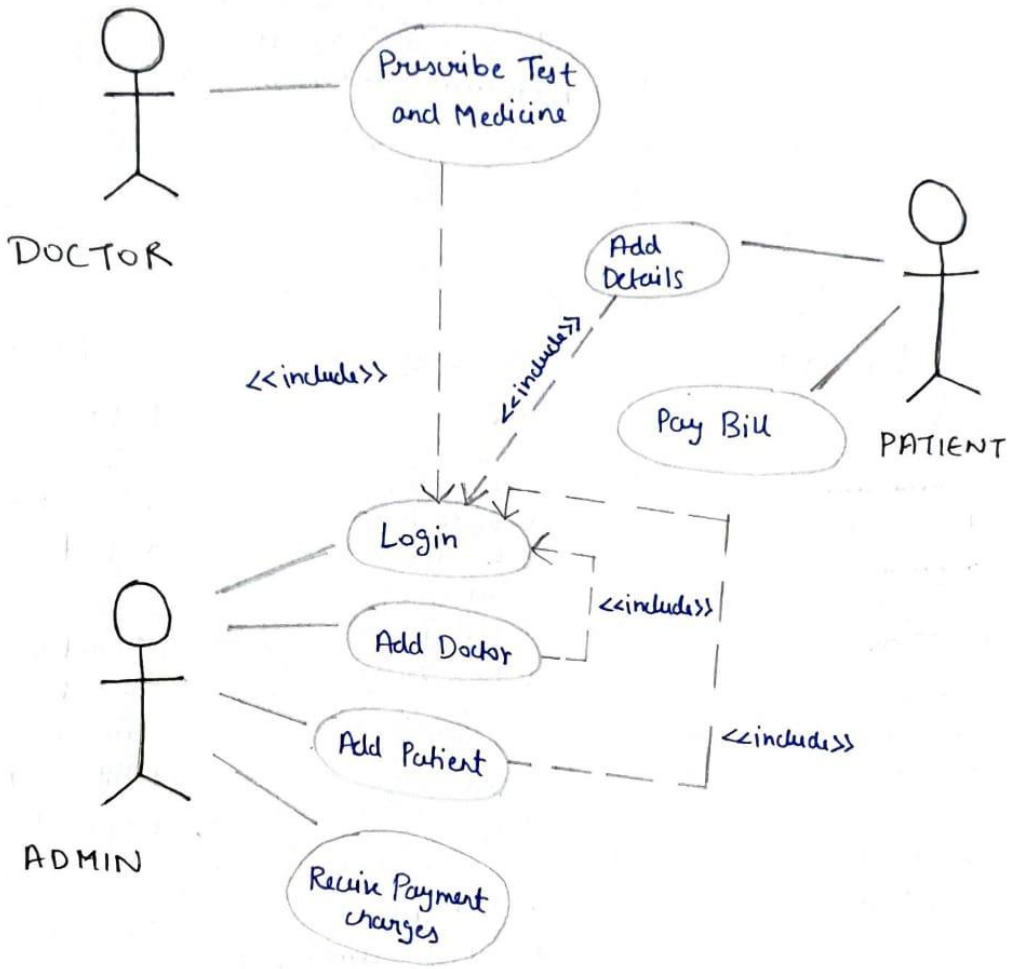


iii) DFD - Level II :-

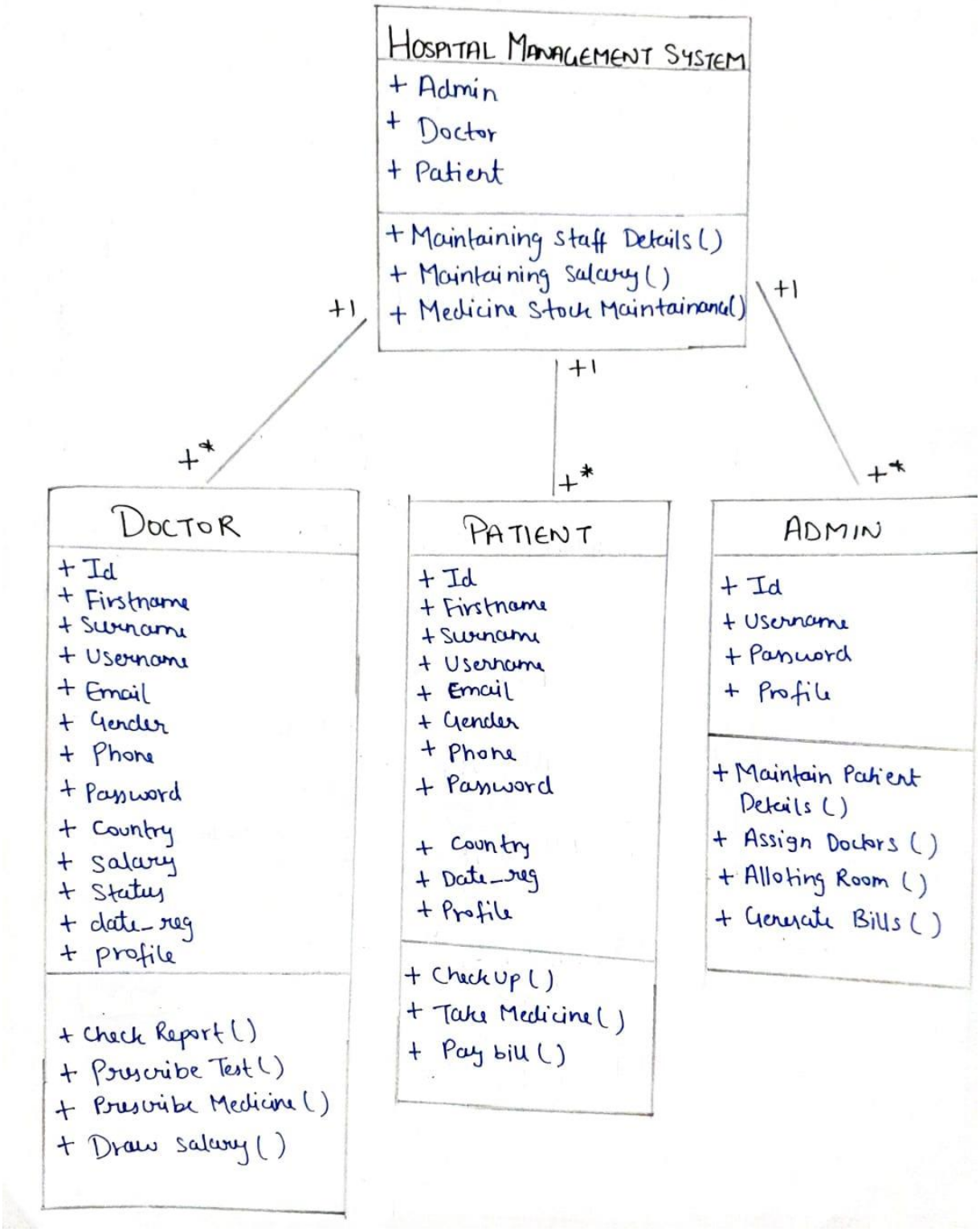



ER-Diagram :-
TREATMENT
BILL
MEDICINE
Price
M-id
Quantity
R-id
Type
ROOMS
ASSIGNED
PATIENT
Firstname
Name
Surname
Password
P.I
Email
Username
Phone
Gender
Male
Female
Other
Country
Profile
date_reg
ATTENDS
ADMIN
Profile.
Password
Username
id
MAINTAINS
DOCTOR
Firstname
Name
Surname
Phone
Email
P.I
Username
Male
Female
Gender
Other
password
country
date_reg
profile
salary
status
RECORDS
Appointment
Description
Patient_id
Rec-id

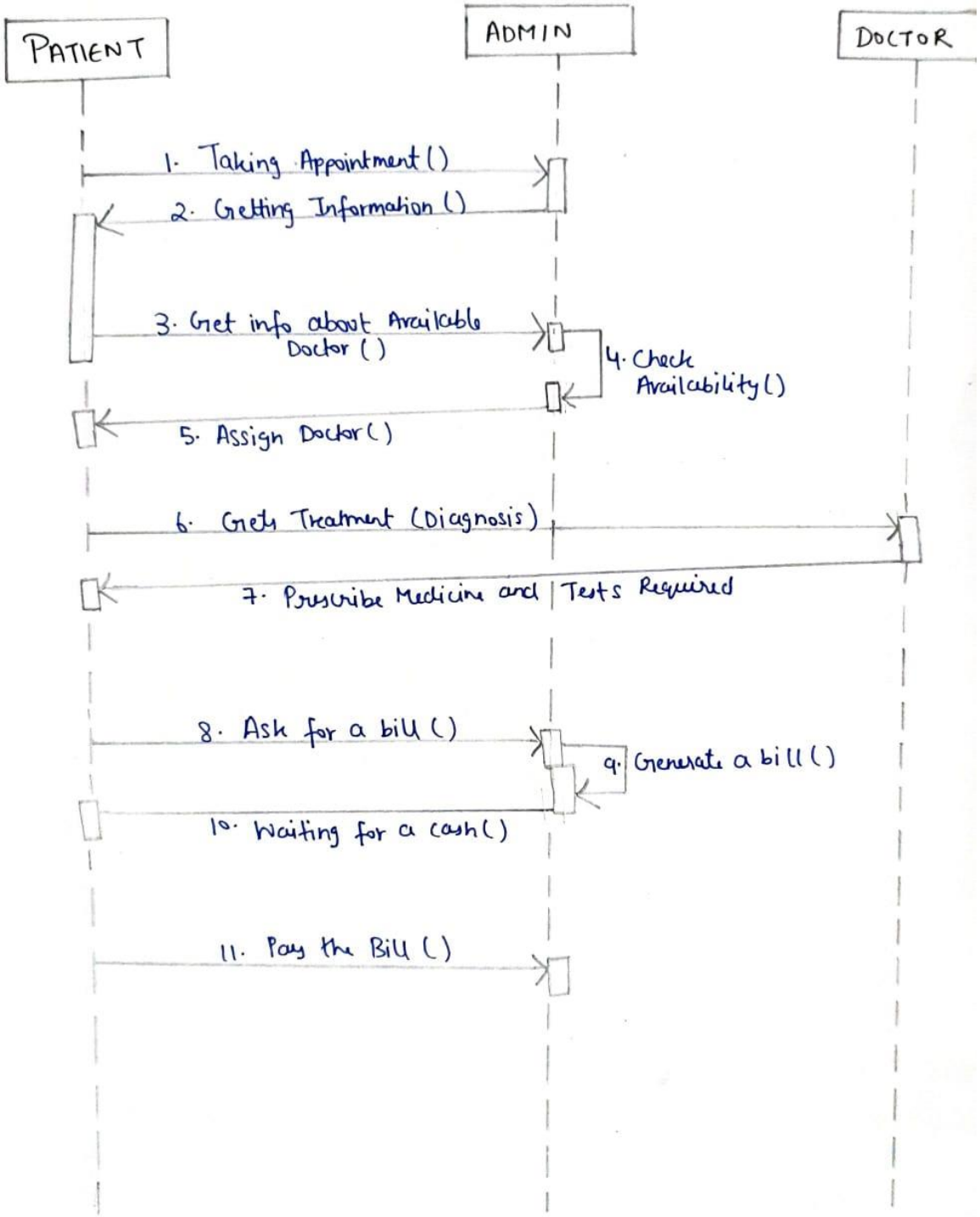
** USE-CASE DIAGRAM :-



** CLASS DIAGRAM :-



** Sequence Diagram :-



Data Dictionary:

Algorithm:

Admin Module:

- The Admin will have to go through an authentication system by entering their username and password which will be crosschecked through the database.
- The admin will then see a dashboard containing all the information.
- Admin can see the new job request and can approve or disapprove them:
    - If Approved:

    The new Employee (Doctor's) details will be added to the doctor database and he/she can access the system.
    - Else

    The applicant will be rejected and will not be able to access the system.
- Admin can add new admins to the database
- Patient details are visible to the admin and they can accordingly assign a Doctor's appointment.
- Admin also oversees the requirements asked by the patient and prescribed by doctor like admit bed, medicines, test reports or other facilities.
- Admin is responsible for ensuring that the patient is provided with the equivalent bill and an Invoice.

Doctors Module:

- Doctor is able to log into the system if they are approved by the admin and then they can use their username and password which is mapped with their database.
- Doctor will be provided with their patient list by the admin.
- The doctor can see the patient details and can form a diagnosis and make a prescription.
- Doctor can also request for facilities such as tests or patient admitting which will be approved by the administration.
- Doctor can access the patient Reports and can decide the course of treatment.
- Doctor is also responsible for ensuring that the treatment provided to the respective patient is documented and stored in the database for future referral.