CSC-220 Database Management System

Complex Engineering Problem

The project aims for a better understanding of the Labs and the practical aspects of Database with proper management. This is a group base project and max three members are allowed in a group.

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## Course Instructor

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## Lab Engineer

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**Pharmacy Management System**

Everyday many patients visit hospitals and clinics for checkup; some of them are prescribed with medicines and few are advising to visit next time. Therefore, it is necessary to keep record of patients & their prescriptions in all health care organizations. But, the traditional system of storing details of patient and maintaining prescription is tedious, unsecured and risky in Pakistan. Due to these drawbacks, the development of computerized patient management system is necessary. You have to design the database for a hospital which control the Patient information and medicine prescribed to them.

Pharmacy Management System Project should have two major modules which are as following

* **Patient Record Management**
  + This module should keep the details of patients who visited the hospital so that they can be accessed at any time.
  + Their Next Planned Visit with the doctor
  + Medicine Prescribed by the physician.
* **Pharmacy Management**

**This module should have the following details associated with patient record management system.**

* + The details of medicine regarding batch number
  + Medicine Name
  + Price
  + Medicine Type (e.g. Syrup, Tablet)
  + Medicine Manufacturing date
  + Medicine Expiry date
  + Medicine Salts used
  + Medicine Company
  + Available Stock of Medicine
  + Daily Prescribed Medicines (Quantity)
  + Refund and Replace policy
  + Proper Receipt

These details should be updated to the system database by the admin.

You project report should also include the detailed documentation, screenshots, data flow, ER diagram of whole project. Above, I’ve briefly introduced the project abstract and modules which should be in your Semester project of DBMS

Submissions

Phase 01

(8TH -JAN-2021)

In phase 1, you are required to submit the report under the title of “Complex Engineering Problem” in your respective class which covers the following criteria.

**Requirement Specification Report**

Design complete requirement specification report for your proposed system. Report should have

complete introduction and details of proposed system. You can also use diagrams to express your

system in more meaningful way. You also have to clearly mention entities, relationship

and constraints of proposed system. You must have all types of relationship (1:1,1:m, m: n) in

your proposed system.

**Tables Details**

Give details about all identified tables. Identify all possible attributes and constraints of every

table. Also identify primary key of the table.

**Dataflow diagrams**

Design data flow diagrams for proposed system. These diagrams should properly explain flow and sequence of proposed system. Any tool (MS word, MS Visio) can be used for designing.

**ERD**

Design detailed ERD for proposed system. Identify all possible entities with their relationship. Also identify cardinality ratio.

**Relational Model**

Convert ERD of your project into a relational model. Specify primary keys, foreign keys and all

other possible constraints for the relational model. Also specify domains of attributes where

required.

**Normalization**

Normalization of the tables according to the requirements

**SQL Scripts**

Provide Data Definition Language (DDL) script(s). You have to completely build your database

using SQL based on normalized relational model.

Phase 02

(22ND -JAN-2021)

**Front End Application Design and Development**

Design suitable database application for your proposed project. You can use JAVA/C# for application

development. Your application must fulfill following requirement

1. It must have forms to add/update/delete data.
2. It must have options of all types of search for your proposed project.
3. It must have different kinds of reports that show complete aggregate summary of data and

consolidated information at one place.

1. Also provide reports that fetch data from multiple tables. You can generate simple reports

from one table. But project that is only generating simple reports from one table is not

acceptable.

1. Properly design format and layout of forms and reports.
2. All checks/constraints should be present on fields of forms.
3. All functional requirements should be handled properly.

**Connection Establishment**

Connect your front-end application with back-end database that you developed of this

project. After this, test working of all forms and reports that you created in Front End.

**Project Report**

Write a complete report of your system under the title of **Complex Engineering Problem**. The report should include the followings.

1. Introduction of your proposed project
2. Functional requirements of system
3. Dataflow diagrams
4. ERD
5. Normalization of ERD with Functional dependencies
6. Relational Mapping with all constraints and checks
7. Database design and development (SQL queries)
8. Few forms and reports of your system
9. Conclusion
10. Advantages of using your system
11. Weaknesses of your system and suggestion for improvement

Use chapters to design your report that should cover all above-mentioned contents

**Guidelines:**

* Code should be properly commented
* Use proper terminologies for your schema and data members.
* Every student should be present at the time of demo. Any absent student will get zero marks in the project.
* If caught any cheating, etc. or not able to explain during the demo will give you zero credit.
* Copying and sharing of code among students will result zero credit in the project.
* Zero credit for not following above guidelines.
* ***In case of any ambiguity feel free to contact and start working on project from today.***
* The report should be in spiral binding. And the title page should be same for all the students.