Sample UDPs for MCA Final Year Students

1. **Introduction:** We are giving a list of problems, which MCA faculty members may allocate to their students. When a student completes the project by selecting one of these problems, the student will have developed one module. The design of the solution should include a careful consideration of the fact that each module should be able to talk to the other modules, which may be designed by some one else.

2. Each of the modules is to be developed in JAVA 6. MySQL should be the database. Public Internet, with necessary safeguards for security, is to be used for communication among various modules.

3. **Admin Procedure:** When any of your students/ group of students take up any of the modules, please inform gic@gtu.edu.in about the following:
   a. Name(s) of student(s) and his/ her (their) contact details
   b. Module
   c. Name of faculty supervisor and his/ her contact details
   d. name and complete contact details of the healthcare service provider

4. **Development Procedure:** When a student/ a group of students takes up such a project,

(i)   The student should visit a health service provider (hospital/ doctor's clinic/ laboratory/ radiologist etc.)

(ii)   The student should

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a)   draw a diagram of the whole of the system and situate the module, on which the student is working, in the whole of the system.

b)   visualize the method of communication between the student's module and the rest of the system.

c)   prepare the Requirements.

d)   Decide and learn about the platform and the database. (Please see 2 above.)

e)   design the application.

f)   think about the security and privacy issues and incorporate them in the design.

g)   plan the testing procedures.

h)   work out the plans for development and testing of each of the sub-modules.

(iii)   Begin the development.

(iv)   After every sub-module has been developed, one may iterate through steps (i), (ii) and (iii) so that wherever changes are required, these may be made.

If the Faculty Guide recommends, GTU will accept the work of (i) and (ii) as the Dissertation work of the 5th sem of MCA students. Then if the student completes (iii) and (iv) properly, and if the Faculty Guide recommends GTU will accept it as the Final Year project.

Notes: *1. For any query/inputs, please feel free to communicate with: Harshad.patel@gtu.edu.in, gic@gtu.edu.in*

2. *Health Care Management System is a versatile web based application which will provide a workflow management of all the healthcare services thereby providing time-effective and cost-effective solutions. The system is required to deal with all the stake holders viz Doctors, Hospitals, Nurses, Pathologist, Dietitians, Pharmacist, Insurance companies, Blood Banks and all entities related to health care services.*

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The system will help in achieving high accuracy in diagnoses, improving patient care service, reducing the human errors, decreasing the processing time, and increasing the quality of service.

Electronic Medical Record System (EMRS) takes the center stage in the healthcare information system. EMRS manages the complete clinical information that is critical for patient care services and has replaced the paper-based records. The function of electronic medical record system is to collect, store and manipulate the clinical information to provide better decision support system that enhances the quality and efficiency of the healthcare services. The main features of electronic medical record system are anytime, anywhere and secure access to the clinical information to enhance the processes of the healthcare organization.

The aim of the system is to automate the whole workflow viz full billing capabilities, disease management, prescription module, scheduling, resource management etc.

Electronic Medical record system

(EMRS)

Some of the possible modules of the system are listed below:

1. Patient Registration/Linking Module

Patient registration for capitation and roster management.

2. Role Management

helps to manage authorization, which enables administrator to specify the resources that users in the application are allowed to access

3. Appointment Management Systems for Healthcare Providers or Patients

Scheduling with highly customizable view of provider groups and individualized booking preference

4. Billing Module

Billing also features super-code for smart and simplified billing and third party billing

5. Pathology Reports Management

All laboratory results from private laboratories will be imported directly into the EMR

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6. Prescription Management

Prescription with drug-drug interaction and personal favorites, patient's pharmacy, drug allergy alerts is provided

7. Online Treatment

Allows patients to communicate with doctors located at far geographic locations and get the treatment online

8. Tickler (Alerts/Message) Management for Healthcare Providers or Patients

The Tickler system - a reminder system that can assign tasks to team members and set priority for each task

9. Healthcare Resource Management

This Module will help to manage Human Resource and non human resources pertaining to health care services.

10.   Health Insurance Management

This module will help to claim bill from insurance company and cashless services can also be included in it.

11.   Healthcare Provider Search Module

This module will help in searching for resources like Doctor, Hospitals etc.

12.   Inventory Management for Healthcare Providers

This module will help in stock management of stake holders of the system

Note: More problems for MCA Final Year students: At the McMaster University's OSCAR open source site, there is a list of enhancements requested by users. (http://sourceforge.net/tracker/?group_id=66701&atid=515435   ) The faculty members will be able to find that many of these user's requests can be appropriate UDPs for the MCA students.

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