Human-Centred Systems Design Group Project

4.   Software System

You will develop a software system that implements your design for the *Sheffield Dental Care* information system. All teams will build a suitable MySQL database implementation to store the relevant information, and demonstrate that certain SQL queries run effectively and retrieve the intended results.

4.1   System Behaviour (with Evidence)

Your software systems will be tested to ensure that they can perform specific queries, which are detailed below. Your reports should contain captured screen-shots to demonstrate that your systems behave correctly (with before/after state of the database) in response to the queries.

- Postgraduates (PG): will give screenshots of SQL queries running on any suitable MySQL client, showing the queries, and before/after database snapshots;
- Undergraduates (UG): may give screenshots of their Java UI, showing how the state of the system is updated after each interaction (if displayed in Java); otherwise use database snapshots as above;

4.2   Query Processing

Marks will be awarded proportionately for being able to run each of the following queries, and for obtaining the correct responses and system states:

- Registering a new patient and then showing that the new patient exists in the DB.

- Subscribing a patient to a healthcare plan and then showing that the patient is linked with the relevant plan in the DB, through a new record of relevant treatment-credits for the plan, for the current year;

- Creating an appointment for a patient to see the dentist and showing that this appointment appears in the receptionist's week-to-view calendar for the dentist, and also appears in the dentist's appointments for that day;

- Attempting to create two appointments for a patient that are refused, either because the patient or the partner already have appointments at this time;

- Booking two days holiday for the hygienist and then showing that blank appointments fill the relevant two days on the hygienist's week-to-view calendar;

- Recording two treatments given by the dentist to a patient and then showing that these have been added to the bill for the appointment;

- Displaying the total cost of an appointment for a patient who is on a healthcare plan, showing the total cost of treatments and the amount owed by the patient;

- Processing a payment by a patient who is on a healthcare plan, showing how their treatment-credits for that year are adjusted, and that they now owe nothing.

4.3   User Interfaces

Marks will be awarded for the design of your user interfaces for the different stakeholders. These should clearly support the ergonomic working style of that kind of user.

- Postgraduates (PG): will develop full mock-ups of their user interfaces
- Undergraduates (UG): will develop a Java Swing implementation

You should give suitable screen-shots (UG) or mock-ups (PG) to demonstrate your layouts, and show how they support the working style.

4.4   Code Submission

You should submit an electronic zipped file with all your code to MOLE, by the due deadline.