

ESOF 3050 SOFTWARE ENGINEERING DESIGN

TEAM PROJECT: CLIENT-SERVER HOSPITAL MANAGEMENT SYSTEM



STATEMENT OF PROBLEM

- Design a client-server Hospital Management System (HMS) that will manage various hospital operations. Particularly, the system will manage patient appointment and medical history in a database system.

SCOPE OF PROBLEM

- Main scope of HMS
 - book appointments
 - browse for physicians and hospital rooms
 - schedule hospital rooms and inpatient length of stay (LOS)
 - enter/view/modify patient medical data and appointments in the database system.
 - one more hospital management function (selected by the team based on domain analysis).

HOSPITAL MANAGEMENT SYSTEM

- Members of a hospital community
 - Employees
 - Physicians
 - specialist physicians or general practitioners
 - Nurses
 - Healthcare assistants
 - Technicians
 - Administrative staff
 - Clerical staff
 - Patients
 - Inpatients
 - Outpatients

MEMBER ATTRIBUTES

- Attributes of the hospital members:
 - first name
 - family name
 - Date of birth
 - SIN
 - home/work address
 - employee ID/patient ID
 - Job title
 - Speciality/Department
 - other information maintained by the HMS.

CLIENT-SERVER FRAMEWORK

- The users of the system use a client program to access the HMS located on a server machine.
- Socket technology is used to implement client-server.

MAJOR REQUIREMENTS (BUT NOT LIMITED TO)

- Users must log in to the system to access the resources.
- A user must have the ability to search for physicians by first name, last name, or specialty.
- Administrative staff must have the ability to add a new staff member or to remove an existing member from the system.
- Administrative staff must have the ability to add a new hospital room, to remove an existing room, and to modify room capacity/type.
- Administrative staff must have the ability to export all resources and relevant data to an arbitrary file.
- Certain users of the system must have the ability to search for room availability and sort or filter the results by one or more attributes (e.g. by date).

MAJOR REQUIREMENTS (BUT NOT LIMITED TO)

- Patient medical data is entered to the database by appropriate hospital employees and can be viewed by patients and authorized medical staff (using secure passwords).
- You must ensure the robustness of your software product: the product must handle intentionally erroneous input data without crashing.
- The server must handle multiple concurrent clients (connections) and respond to each and every client requesting service.
- You must use Object Oriented methodology.
- The system must contain a tutorial or help on how to search and use the system.
- one more hospital management function (selected by the team based on domain analysis).
- More requirements/additional details will be communicated in the Lab sessions.