CS489 – Applied Software Development

Lab3

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1. The estimated time allotted for completing the tasks is about 2 hours.
2. Upon completion, to submit your work for review and grading, simply commit and push your requirements document and domain model uml class diagram, into a repository on your github account and then submit the url to the Assignment item on Sakai.

Software Requirements Discovery and Domain modeling (10 points)

Note 1: *You are expected to use a UML diagramming tool of your choice on your computer to create your domain model class diagram or alternatively you may draw by hand on pencil and paper and take/upload a photo of your diagram*.

Upon completion, to submit, simply commit and push your files/folders, into a repository on github and submit the url to the LabAssignment item on Sakai, as your submission.

TASK :

Given below, is the Problem Statement/Description of a Software system required by a company named, Advantis Dental Surgeries (ADS), which is an enterprise web application for managing their Dental Surgery operations. Assume you have been hired by the company to design and develop this software solution. Your tasks for this Lab Assignment is to:

- Identify and present the Software Requirements in a list of short statements.

- Perform System Analysis & Design, and create a Domain model UML Class diagram for the software solution.

Problem Statement/Description:

Advantis Dental Surgeries, LLC (ADS) are a company that are in the business of managing a growing network of dental surgeries which are located across cities in the South West region. Assume you have been hired by the company, as a Lead Software Engineer and tasked to lead the effort in designing and developing a web-based software solution (i.e. a website) which the company will be using to manage their business.

The system will be used by an Office Manager to register Dentists who apply to join their network of dental surgeries. Each Dentist is given a unique ID number and their First Name, Last Name, Contact Phone Number, Email and Specialization are recorded into the system. The Office Manager also uses the system to enroll new Patients who require dental services, including the Patient's First Name, Last Name, Contact Phone Number, Email, Mailing Address and Date of Birth. A Patient can call-in to request appointments to see a dentist. A Patient can also request appointment by submitting an online form on the ADS website. Upon receiving a request for an appointment, the Office Manager can then book the appointment and the system will send a confirmation email notifying the Patient and the appointment gets recorded accordingly.

Dentists should be able to sign-in to the system and view a listing of all their Appointments, including details of the Patients who they have been scheduled to see. Each appointment is normally made for a specific date and time and the dentist is expected to see/treat the patient at one of ADS's surgery locations. The system should provide information about each Surgery, including its name, location address and telephone number. Patients should be able to sign-in to the system and view their appointments, including the information of the dentist who they have been booked to see. Patients should also be able to request to cancel or change their appointments.

A dentist cannot be given more than 5 appointments in any given week. The system should prevent a Patient from requesting a new appointment if they have an outstanding, unpaid bill for dental service they have received.

Your tasks for this question is:

1.1 For the problem statement given above, perform Requirements discovery and identify the functional requirements for the system and present them in a list of short statements.

1.2 Perform System Analysis & Design, and create a Domain model UML Class diagram for the software solution. In your model, make sure to include the appropriate attributes for each class, and the relationships and multiplicities and roles (where appropriate). You may draw your diagram using a software tool on your computer (e.g. StarUML or draw.io etc), save/export it to a .PNG or .JPG image file. Or you may use paper and pencil, and then take a PNG or JPEG photo.

//-- The End --//