CS3773 Assignment II

For this assignment, you will write a partial Software Requirements Specification (SRS) for the software system described below. You will work individually for this assignment.

Deliverables

You will create a partial SRS (partial Section 3) for a software system, Electronic Medical Information System (EMIS). The partial SRS shall include the following descriptions, diagrams and tables.

1. Table of contents, table of figures, and list of tables.
2. A UML use case diagram, showing all identified use cases, along with a brief description of the use case diagram and a description of each use case.
3. A UML class diagram for the whole system, showing all identified classes and their attributes (no operations are required), along with a brief description of the class diagram.

Due Date

Please bring a hard copy to class on February 18 (Tuesday).

Electronic Medical Information System (EMIS)

The EMIS is a computer-based system that manages electronic patient records to provide rapid and efficient means to handle medical information of a clinic. Traditionally, a clinic uses paper-based patient records, which are expensive and take up space to maintain. Moreover, filing, retrieval of, and refiling paper patient records are more labor intensive and less efficient compared to the electronic patient records. These problems shall be alleviated by using the EMIS. The overall goal of the EMIS is to provide physicians, nurses, and clinical staff with a powerful, easy-to-use tool that securely assists them in gathering, storing, and manipulating patients’ information. The essential requirements of the EMIS are summarized as below.

The EMIS shall allow patients, including both new and ongoing patients, to enter their information, such as personal information, the insurance-related information, and medical history, at the clinic or at a patient preferred place. To enable a smooth transition from paper medical records to electronic ones, the EMIS shall allow the clinical staff to enter the patients’ information into the new system as well. Additionally, EMIS should be able to handle medical records in a variety of forms, such as images, scanned scripts, and audio recording.

The EMIS shall enable patients to schedule appointments with the doctors at the clinic. Using the EMIS, patients are able to request appointments with the doctors by exchanging messages with receptionists. Also, the EMIS shall send a reminder to a patient 24 hours before the appointment time.
The EMIS shall assist a patient’s office visit, enabling a nurse to enter into the system the patient’s current medical conditions, such as the blood pressure and the weight. A doctor’s diagnosis shall be entered into the patient’s chart.

EMIS shall support financial billing applications, which will collect the co-payments and transmit the appropriate information to the patients’ insurance agencies.

After each visit, a patient shall receive the electronic, itemized receipt of the treatment, which will also be put into the patient’s electronic chart. If a doctor issues drug prescription(s) to a patient, the prescription(s) shall be put into the patient’s chart as well as the order(s) of test(s), such as a blood test and an ultra-sound exam.

As many of the patients records contain sensitive information, the EMIS shall ensure the storage and processing of medical records are regulatory compliant. Upon receiving the test results, the EMIS shall store the test results in the patients chart and send the results to the patient’s doctor for her or him to review. The test results shall be sent to the patients or other people by following the legal regulatory (e.g., HIPAA), which requires more complete, secure, and auditable ways to gather, store, check-out, and transmit medical information.

In summary, the EMIS to-be-built will facilitate a clinic to provide a dependable and effective health care to the patients at reduced cost while respecting the privacy of the patients.