

Overview

ECE 155B Projects

Spring 2012

The ECE 155B Spring 2012 projects aim to provide communication between doctors and pharmacists, as well as patients, to improve the quality of service for health care services, using Java networking technology. Patients will be able to request appointments in the doctor's calendar. The patients' records will be stored in the doctor's computer system for future access. Moreover, the doctor's prescriptions for the patients will be sent to the pharmacies electronically, decreasing the possibility of both incorrect information and loss of information.

Project 1: Applet Programming

Doctor user interface:

- Create a patient's profile
- Add/Delete/Edit information (height, weight, blood pressure reading, temperature, specific notes) about the patient associated with the particular patient profile
- View a patient's profile
- Save this information in an XML-formatted file in the doctor's computer system.

Project 2: Socket Programming

Patient user interface:

- Authenticate patient
- Request an appointment in the doctor's calendar
 - Read calendar information, request appointment for a specific date/time
(When a patient is creating an appointment, no other patient can access the calendar unless the current client has finished his/her appointment setup).

Extend Doctor application:

- Extend the XML-formatted file to include appointment and prescription information
- Associate a prescription with a patient after an appointment with that patient
 - Assume medicine information is available to read from a source file. The doctor selects particular medicines for the patient's prescription.

Project 3: Remote Method Invocation

Pharmacy user interface and application:

- Create an XML-formatted file containing prescription information for all patients
- Allow a pharmacist to view all outstanding prescriptions from the doctors
- Allow a pharmacist to view all prescriptions for a particular patient
- Acknowledge to the doctor application that the prescription has been filled.

Extend Doctor application:

- Maintain information about the pharmacies in the local area
- Augment the prescription with the name of the pharmacy to which the doctor is to send the prescription
- Communicate with the pharmacy application by sending a prescription for a particular patient.

Project 4: Java Database Connectivity

Keep doctor's patient information in a database

- Patient profile records with notes
- Appointments related to patients
- Prescriptions related to appointments.

Project 5: Java Servlets

The doctor Servlet application will have *two different views*, *Patient and Doctor*, each with the same functionality as in the previous projects.

Patient view

- Authenticate patient
- Client requests doctor appointment from a Servlet interface.
- View prescriptions related to the particular patient.

Doctor view

- Create patient profile
- Associate notes with patients
- Create prescription for patient corresponding to a particular appointment.
- Send prescription to a particular pharmacy.

Project 6: Web Services

Using Web Services, allows a patient or doctor to find the pharmacy closest to the patient's home or the doctor's office.

The doctor application then communicates the prescription to the closest pharmacy.

Overall Project

