In this project, you will design, implement, document and present a mobile client/server system using standard Java and Java 2 Micro Edition (J2ME) platform. Other platforms may be used but prior approval is required.

Specifically you will design and implement a system that consists mainly of a mobile client (MC) and a Proxy Server (PS). MC will be written in J2ME, MIDP 2.0, while PS will be written in standard Java.

You may have to use other components or existing resources (servers) as needed. For instance a database local to PS or a web service available on the Internet that can be invoked by the PS.

The architecture of your system should look like the architecture below.

You will use a mobile phone emulator to develop and demo your project. Information about how to get started, and which emulator to use are included in the Help Page of this assignment.

You should quickly study J2ME and toy with the most basic features and mobile application interaction concepts (lists, text boxes, buttons, radio boxes, soft buttons, graphics, etc), and then move quickly to creating a simplest Client Server program to put your knowledge of using TCP/IP and its programmatic interface (Sockets) to test. Then you should move on to your specific project.

There are two themes allowed this year. The first theme is “Personal Health & Wellness”. You should think and research enough to come up with an application idea that is: (1) substantial (not trivial), (2) cool, and (3) of high impact. The application must be networked (not stand-alone) and must use at least one network resource. You should think of chronic diseases such as asthma, diabetes, obesity, etc. Think of how diseases are difficult to manage and come up with ideas and good implementations that provide solutions that help individuals better cope with the disease. You may also think of wellness and
proactive health in which, the issue is to assist individuals to maintain a healthy lifestyle.

The second theme is “Personal Energy Saving and Conservation”. This could be applied to many aspects of an individual’s life but we will focus in this project on energy saving at home/apartment.

Requirements:
• This is a group project. You are required to team up with other classmates, forming groups of three. This should be done immediately.
• Your PS is required to exhibit at least one adaptation as covered in class.
• Your PS is required to be developed using the Eclipse IDE.
• If you are to use any kind of health records or databases, you are required to use Google Health (www.google.com/health). The API for Google Health can be found at (http://code.google.com/apis/health/)
• To simulate medical personal devices, use separate processes on the emulator machine. Also use a separate thread on the MC to listen to medical device requests (Medical devices pull to request receipt of readings). Similarly to simulate power sources and energy meters, use separate processes on the emulator machines.
• Do some readings and research about what is available in way of prototypes or products before you finalize your ideas.
• Report should includes title, names, and up to one page narrative of the idea behind the project. Up to one page of a variety of screen shots, and up to two pages describing the details of your implementation.
• You are required to document your code clearly
• Report, project code, and a short (4-5 slides) powerpoint presentation should be sent as a single zipped file to the TA by no later than 5:00pm on the due date. All files should be named as project<k>.* based on a number k that the TA will assign to you.

Your grade will be based on: (1) adherence to the architecture and requirements, (2) the idea being substantial, cool and impacting, (3) implementation of the MC including rich look and feel, simplicity and ease of use of the interface, (4) the reliability and performance of your PS, (5) your code and its documentation, (6), your 4 page report, and (7) your presentation and demo.

Use the mailing list if you have questions, instead of emailing me or the TA alone. This way all of you can benefit from the interactions and get answers quickly.

Start immediately and score progress daily.