The Web Community
For
Students of Geophysics

The Project Proposal
By
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- introduction -

There are numerous Web communities where students can engage in sharing their opinions, ideas and problems but, arguably, none that would cast this general need for cyber socializing into a specific need of the geophysical community. I found myself many times looking for broad topics in geophysics on the Internet but unless the (similar) information was posted on a major (geophysical) meeting web site (like AGU) or a university it was almost impossible to find any additional link or useful pointers how to continue my search. Students of geophysics, regardless how computer savvy they are tend to stay away from posting useful (or even useless) geophysics related information on the web not to mention taking the steps towards indexing the material.

- importance of the project -

By introducing students of geophysics to a Web community of their own I hope to show them a way to better communicate their ideas to anyone interested but mainly other students. Since many of them are members of other more general or specific communities I am certain that they will recognize the opportunity and start contributing material regarding their research, evaluating other students’ work or said simply share needed information. Giving and receiving feedback from other students may be less stressful then doing so exclusively with their professors.

- method of approach -

I wish to start off simply but organizing the problem in such a way so it can be modified an expanded beyond the scope of this proposal by the author and hopefully others. This involves setting up a Web application in a client – server environment. The client side incorporates a standard Web browser with enabled JavaScript. The user will actively participate (submit information) using standard HTML forms. JavaScript may provide some generic form validation. There will be no need for the user to install any kind of software although the use of cookies may be required.

The server side will be solved using Java (Servlets or JSP). The server side should be able to receive text entries via submitted HTML forms and JPEG files. Submitted data including user profiles will be handled by a elementary mySQL database (PointBase that comes bundled in JSEE2 is also an option). I will be using Default Server (JSEE2) which provides an environment to run servlets. My office computer at CERI
(http://rabak.ceri.memphis.edu:8888) should be able to handle connections over a port serving as the server. This part has been successfully tested. The database will be implemented on the same computer too.

There will be three types of users: Anyone, Registered Users and Administrators. Anyone can view pages. Registered User can upload material and post comment. Administrator can change content but only through accessing the database locally.

Users will have to provide a screen name, password, email address, graduate-undergraduate level and their home school and wish to be on the Invite-me list or not. Only the password field must be filled out to be logged on. People on the Invite-me list will be sent an email informing them that a new post has been made and the author invites them to take a look and comment.

The home page will include links to several major topic in geophysics: GPS, Wave Propagation, Earthquakes, Applied Geophysics, Inverse Problems, Hazards, and Rest.

Links will lead to a chosen topic where the posts will be sorted chronologically but the user will be able to perform a search by author (screen name) or key-word. The major search text-box on the home page will also be available to search all the topics. The Registered User can post a comment on each entry. Comments can be collapsed leaving only original posts visible.

- work plan -

Oct 4 thru Oct 11. Learning how to attack the major points at the server side: implementing a server, building, packaging & deploying(*.WAR).

Oct 11 thru Oct 18. Learning how servlets deliver HTML on request – replay on GET & POST (HTTP)


Oct 31 thru Nov 9. Looking into what web pages (parts) should be dynamically (servlet) created and which looked up (static images) from a Web accessible folder.
Nov 10 thru Nov 21. Actual coding of the previous steps. Converting scripts that helped to provide insight in how things work into commented (and javadoc accessible) Java/HTML code. “Won’t run” debugging.

Nov 21 thru Dec 2. “Populating” & test-driving the application. Fixing problems in implementation and looking for “unexpected behavior” of the application. Getting screen captures and an outline for the final report.

Dec 2 thru Dec 4. Writing the final report.

Dec 4 thru Dec 6. Preparing Project presentation.

Dec 6 thru Dec 8. Preparing Project demonstration & Final report and some final thoughts on what I have learned.

-references & rest-

It is by providing multiple software options above to show that I am still finding out which solutions will better meet my goal. I am also still learning various capabilities of Java programming. I hope to get students from my department (CERI) to give the community a jump start in the test-drive phase (I hope they don’t get to busy with final exams. On the other hand there is a good discussion for the community. Hmm, that means I have to come up with another topic: Students’ black lists.)

Marty Hall . Core Web Programming (especially including the web page where the updated classes are).

David Kroenke. Database Processing, Fundamentals, Design and Implementation
http://sun.java.com