

22C:002 Algorithms: From Euclid to the iPad

Homework 5 Due: 10-27, Th, in-class

There are all kinds of individuals and organizations who use Google maps to reach out to their customers, coordinate activities, etc. If you follow the links to “Google mashups” that appear under “Online Resources” in the course page, you’ll see many fascinating examples. You can see a real-time simulation of the Swiss rail system, you can see radiation effects from the explosions at the Fukushima nuclear plant in Japan, you can see locations of protests spawned by the “occupy Wall Street” protest, etc.

Look over these examples and imagine how Google maps might benefit you personally, or your family, or your student group, or the company that you might intern at this summer, etc. Then design a “mashup” based on your ideas that you would like to see on the web or as a mobile app. For example, I can imagine a mobile app called “myTimeTable” (I am sure you can think of a better name) that would be useful to freshmen at the University of Iowa. At the start of the semester, this app would ask the user (a University of Iowa student) for her registration, i.e., the list of classes she has registered for. Then the app would search University of Iowa webpages and extract locations and times of all her classes. For the rest of the semester, whenever the app is launched, it would show her a route from where she currently is to the location of her next class. It would tell her how long it would take her to walk to her class and it will send her reminders if it feels that time is getting tight and she might not be able to make it to class unless she starts running.

Use 1-2 pages of text and images to describe your “Google maps mashup.” Your description should contain a name for the mashup, a description of who the users might be and which organization (if any) might benefit from it. It should also clearly describe the functionality (what can one do with it?) of the mashup. Points will be given for creativity and clarity. Submit your solution as a neatly typed document.
