

COS 116
The Computational Universe
Laboratory 1: Web 2.0

Must be completed by the noon Tuesday, February 9, 2010.

In this week's lab, you'll explore some web sites that encourage collaboration among their users; also you will create your own web site. They harness the power of "human computing" to provide a variety of remarkable services. You are probably already familiar with some of these sites: Wikipedia, Yelp, Flickr, YouTube, blogs, etc. This rapidly growing category of the web has been called "Web 2.0".

This assignment is a take home lab. After completing it, you'll write a blog post on the course blog describing yourself and your experiences during the lab. You'll also complete a brief questionnaire about the lab, and submit this in lecture. (More details below.) You should follow the instructions and complete the lab on your own. However, as in all the labs in this course, discussion with friends is encouraged. You can also email us at pu.cos116@gmail.com for help if you get stuck.

Part 1: Google Labs (30 minutes)

In addition to search engine and mail services Google offers a range of other applications. Many of them can be easily accessed via GMail web interface.

1. **Open a GMail account** (you can skip this if you already have one)
 - a. Go to <http://gmail.com>
 - b. Click on 'Create an account' button in the bottom right corner
 - c. Fill the online form and create an account
 - d. You can now login to your account at <http://gmail.com> with your login and password.

2. **Fill values in a shared spreadsheet.**

Google Docs allows you to share your documents: spreadsheets, text files or presentations with other users. We have created an open spreadsheet (even people who do not have a gmail account can edit it).

- a. Go to <http://tinyurl.com/cos116lab1sheet>
- b. Find your Princeton NetID in the 1st column. If it isn't there, insert a row at the right place.
- c. Fill values for your **height in centimeters** (to convert to cm you can Google Search, e.g. "5ft 10in in cm"), **miles from home** (to find the distance go to <http://maps.google.com> and search e.g. "from Vancouver to Princeton", if your city is not in North America find a distance from your favorite city that can be reached by car), **favorite movie**

For future reference, you can create your own spreadsheet by logging into your GMail account and clicking on 'Documents' link in the upper left corner. Such documents are easy to share with others just as we shared this with the class.

3. Subscribe to at least 5 RSS feeds

RSS feeds allow you to get frequently updated news in a form of an electronic digest. Many newspapers are also printed in a form of RSS feeds.

- a. Login to your GMail account.
- b. Click on 'Reader' link in the upper left corner.
- c. You can find new feeds in a few ways:
 - **Add a subscription:** a button in the top left corner.
Use it only if you know exactly what you are looking for.
 - **Browse for stuff:** a link in a middle of the left column.
You can subscribe to several feeds combined into a bundle
 - **Explore:** a subsection in the bottom of the left column. Click on 'View all recommendations' and 'subscribe' to the feeds you like.
- d. Watch these feeds throughout the week and blog about your favorite (see below for the blog.)

Part 2: Wikipedia (40 minutes)

Wikipedia is a free online encyclopedia written entirely by its users. Anyone can add to or edit any page of Wikipedia, and as a result, the number of subjects it covers has grown dramatically in a short amount of time (it was started in 2001, and currently contains more than 2.2 million articles in English alone).

1. Visit <http://en.wikipedia.org>.

If you haven't used Wikipedia before (or even if you have), spend a little time browsing the articles. Follow links from the front page to get started, or search for something you like using the search utility.

2. Visit <http://meta.wikimedia.org/wiki/Meta:Sandbox> to experiment with Wikipedia's editing environment. This is a kind of scratch page to allow new users to learn how to edit in Wikipedia.

- a. Click on the "edit" tab that appears on the top of the Sandbox page.
- b. A large text box will appear. Enter some text, and click "Show Preview" to see the results. You can also click "Save Page" to commit your edit to Wikipedia.
- c. Experiment with the formatting buttons that appear above the large text box, and also with the symbols you can insert by clicking the links near the bottom of the page. Note that Wikipedia uses a special "markup" language to control the appearing of text. For example, you can just type ``*italicized text*`` in the text box, and it will appear as *italicized text* when you view the changes.

3. Once you are comfortable with editing, make a real contribution to Wikipedia.

- d. Find a page that discusses a topic you are interested in and know something about.
- e. Edit the page to add some information, correct some existing information, or otherwise improves it in a substantive way. (If you are really ambitious, you can start a brand new page on a topic that Wikipedia doesn't cover yet.)
 - If you are having trouble with this, note that your contribution does not have to be terribly momentous. For example, you could find the page on your favorite movie, and add a section of memorable quotes. Or, you could add a useful link to the "External Links" section of the page.
 - Summarize your changes in the "Edit Summary" box that appears below the editing area. This helps other contributors track modifications to the page.
 - Be sure your contribution has some value, and cannot be interpreted as vandalism.

Part 3: Image Labeler (20 minutes)

There are many tasks that humans are much better at than computers. One of these is deciphering the content of an image. Any person can easily recognize a picture of a tree, but this is very difficult for a computer to do reliably. An application like Google Image Search would be vastly improved if each image in their database was labeled with a few keywords describing the image. As you might imagine, this labeling process is extremely labor-intensive.

Luis von Ahn, a computer scientist at CMU, devised an ingenious method to coax people on the Internet to label random images: he turned it into a game. Google has licensed this technology.

1. Visit <http://images.google.com/imagelabeler/>.
2. Click "Begin as Guest", and wait for the program to locate a partner.
3. **Play the game.** You'll be shown a series of images. For each image, you must enter keywords describing the image. Your partner will be doing the same thing. As soon as you both enter a matching keyword, you'll be awarded points and the game will move on to the next image. After 1.5 minutes, the game is over.
4. **Play the game a total of five times. Make a note of your highest score.**

Part 4: Creating a web site (15 minutes)

Creating a web site can be difficult if it is complex as in commercial web sites, but it is pretty easy if you are creating a personal web site. In this part, you will just edit a word document and convert it to a web page and publish it by placing it into your university account directory.

Here are the steps:

1. Login one of the cluster machines, or the lab machine where you login with your OIT account.
2. Open a word document in your desktop, write your personal information such as “Email”, “Class”, “Hometown”, “Interests”, etc. Also you can place a picture on the document by simply copying the image file and pasting it at the document.
3. After finishing the editing, from the file menu select save as, then “Web Page” from the “Save as type” menu. The file name should be “index.htm” while saving.
4. In your desktop, click Windows start at left bottom, then click “\Files”, and go in “public_html” directory. Drag your “index.htm” file and the “index_files” folder into “public_html” directory. Now you have a web page! You can view it by typing “www.princeton.edu/~NetID” in your browser, where the NetID is replaced with your NetID (what you use to login). **Note:** see appendix on page 7 about possible file permissions problems in this step.
5. Ask one of your friends who is off campus to view your page: Supply him/her with the page address “www.princeton.edu/~NetID”, and ask them to view the contents of your page. By now you are reachable by all over the world!

Part 5: Review in Yelp (15 minutes)

1. **Visit** <http://www.yelp.com/>
2. **Sign Up for Yelp** (link at the top right corner). Note: you will receive an e-mail to confirm your address before you can write a review.
3. Select **Write a Review** link in the header.
 - a. Search for your favorite restaurant in Princeton or your home town
 - b. Click on ‘**Write a review**’ button next to the restaurant name
 - c. Fill out the form and click on ‘**Post**’ button

Part 6: Blogging (40 minutes)

This semester we’re going to have a class blog for COS 116. You, the students, are the blog authors. (The staff will occasionally contribute too.) From time to time we’ll ask you to write short blog posts about a variety of topics. Your posts will be visible to the rest of the class, but not to members of the general public. We hope to generate some interesting discussion. You are also expected to read other students’ post and comment on them. Part of your course participation grade will come from these activities.

You should have already received an email informing you that your blog account has been created. If you didn't receive it, please contact us at pu.cos116@gmail.com and we'll set up the account.

You should choose a nickname through the profile page to preserve your own anonymity, since these pages are publicly viewable. The course staff will be able to see your identity, but not the class.

1. **Visit the course blog:** <http://courseblog.cs.princeton.edu/spring10/cos116>
2. **Login with your NetID and LDAP password.**
3. **Post a blog entry.**
 - a. **Click “Login (your NetID)” on the right-hand side, and then click “Write” at the top of the page.**
 - b. **In about 200-300 words, introduce yourself to the class and say a little bit about your interests. Tell why you are taking the class and what you hope to learn.**
 - c. **For the remainder of the blog post, describe what you did during this lab. Your post should contain the following elements.**
 - i. **A link to the Wikipedia page you modified. You should also explain why you chose this page, and what changes you made.**
 - ii. **What restaurant did you review in Yelp?**
 - iii. **Your highest score for the Image Labeler game.**
 - iv. **Your experience in creating the web page. We should be able to view your page by going to the link corresponding to your NetID. (Note: do not post the link in your blog entry to preserve anonymity.)**
 - d. **Click “Publish” to post your blog entry.** You can also click “Save” to save a draft of your post before you are ready to publish it.

Part 7: Questionnaire for Lab 1

Briefly fill out the following questionnaire and email it to pu.cos116@gmail.com by noon Tuesday, February 9, 2010.

Name:

Email:

Briefly describe your previous experience with “Web 2.0”-style applications, your general interests about the applications like the kind you explored in this lab. Can you comment on the notion of “crowdsourcing”?

Was any part of this week’s lab particularly difficult or confusing?

How long did you spend on this week’s lab:

APPENDIX for people having trouble with file permissions on their web pages:

You might encounter a problem with access permissions when opening your webpage after it is posted. Instead of your htm file, you would only see '403 error - forbidden' (exact appearance might differ from browser to browser). The problem is that file's properties are set by default so that no one can view it. The solution is a bit tricky, but by fixing it you'll learn some tricks that will be helpful in the future. Do the following:

STEP A

Mac Users:

1. Go to spotlight (lens in the upper right corner)
2. Find 'Terminal' and run it.
3. Type: ssh username@arizona.princeton.edu (where username is your princeton ID)
4. Type your princeton password

Windows Users:

1. Download and run this executable: <http://the.earth.li/~sgtatham/putty/latest/x86/putty.exe> which is program named PuTTY that is small, useful, and harmless.
2. When you start PuTTY, fill in the following values (in text boxes):
 - a. 'Host Name' - arizona.princeton.edu
 - b. 'Connection type' - SSH
 - c. Press Open
 - d. Window should pop-up and you click on 'Yes'
3. Your username and password are same as the ones you use for your e-mail.

NOTE: if you make a mistake typing it, you might have to re-start PuTTY - just close it and run again

STEP B

Both OS users will see a black screen (like the one hackers use in movies).

Type the following commands:

1. cd public_html
2. ~helpdesk/scripts/protect
3. Yes

After you do all of above steps you should be able to access your webpage externally.

Good luck!

For help, please drop by office hours or contact us at pu.cos116@gmail.com.