Web Apps: Just Another Program

HCS Boot Camp Day 4

Serving Web Content

- When you point your browser to a particular URL, all of the following will happen (often many times in a row)

- The web server accepts your browser's TCP connection.

- Your browser sends down some text.

- The web server interprets the text and sends back an appropriate response on the TCP socket.

Focusing on the Application

- Developers building an end-user application shouldn't have to worry about the low-level stuff.

- How do we abstract away the low-level mechanics and allow developers to focus on the app?

- Early technologies: CGI, PHP. (PHP has continued to stay relevant, sort of).

- Currently in vogue: Model-View-Controller frameworks.

MVC

- Models: program-friendly representations of data

- Views: logic for constructing the application UI

- Controllers: the mapping from URL's to views and building program-friendly representations of requests.

Today's Exercise

- We're going to look at a watered down version of MVC.

- Built on CherryPy, which provides the C part of MVC.

- We'll see how having good models and views would make web-dev easier.

Setup

- You should already have Python installed. If not:

  - http://www.python.org/download

  - Download the latest version of Python 2.7 for your platform.

- Debian-based systems:

  - apt-get install python-cherrypy

- Windows/Others:

  - http://pypi.python.org/pypi/CherryPy/3.1.2

Get The Example Code

- http://www.hcs.harvard.edu/~jhoon/mvc.zip
- Unzip with your favorite compression utility.
  - Linux: unzip mvc.zip
- To run your code, run
  - python mvc.py
- Point your browser to http://127.0.0.1/8080

Tasks

- Play around with the link on the index page. See how the controller class maps URL's to functions?

- Fill in the hostname function. All it needs to do is display your computer's hostname in the function. Check the rest of the code for a good way to get the hostname.

- Currently, the schedule method displays schedule items in a list. Can you change this method to display the items in a table? Also, play around with the schedule.csv file. Is this a convenient type of model? Can you think of some things that could be improved?

- Complete the ps method. It should display a list of running processes in the template.