

Advanced Programming (CSE 399)

Homework Assignment 8

Due Friday, March 25, at noon

The goal of the assignment is to get familiar with Wash's facilities for persistent server-side state.

Preparation: To save time and avoid complications with the Wash `Types` module, you should start with the file `World.hs` that is provided on the course web site. As in the last assignment, you'll be writing your own `Main.hs` on top of this. Aside from the new `World.hs`, you can use the same setup (Makefiles, web server setup, etc.) as the last assignment.

Assignment:

1. Point your web browser at

`http://fling-1.seas.upenn.edu/~dimitriv/cgi-bin/mud.cgi`

and experiment with what you find.

Note, in particular, what happens if two users try to edit in the same place at the same time. (You can experiment with this by opening two fresh browser windows, pointing each one at the above URL, clicking the Edit button in both, making edits in both, and pressing Save in both edit windows.)

Use WASH to write a CGI script that duplicates this functionality as closely as possible.

2. **Extra credit:** Use the `once` function (described in the Wash tutorial) to minimize the amount of state stored in the session log.
3. **Extra credit:** Change your implementation to use client-side persistent state (cookies) to store the current position in the world and keep the session logs from growing at all as people explore the world (except temporarily during editing).

Submission:

- Put an executable for your final program in your `cgi-bin` directory on `fling-1` (or any other publically accessible web server) and email its URL to `bcpierce@cis.upenn.edu`. Attach your source code to this message.