

## CGIs with State Lab

Goal: To build a simple web application for managing an email list, a simple example of a web application with “state.”

1. Create a file with a set of “records” containing the following information:  
username | password | first name | last name | email address.
2. Create a CGI that “delivers” your list of names and email addresses. That is, it should list each name (first and last) and list the email as a clickable “mailto:” link.
3. Create a logon page and a logon CGI. The page will ask for username and password. The CGI will authenticate the username and password against the file. If valid, the user gets back a data page showing just their firstname, lastname, and email. If the user/password combination is not valid, the user gets back an error message.
4. Modify the data page from #3 so that the user gets the information back in an editable form. Add username and password as hidden fields of the form. Add update and reset buttons to the form.
5. Create an update CGI that handles the data page form. It should validate the username password from the form and then update the data in the file with the new information.
6. Once everything is working, add in appropriate file locking to prevent concurrent access to the database file.
7. If time allows add some extensions. Here are some possibilities:
  - Add a main page that includes a menu to list members or change member info.
  - Add search capability
  - Add an option to change a user's password
  - Allow members of the list to either upload or compose a message that is then sent to everyone on the list (hint: look at the Python SMTP module).
  - Manage the state with cookies, instead of hidden fields (hint: see Python Cookie module)
  - Make the application manage timed sessions rather than passing the username and password back and forth (ambitious)