CIS 192 Final Project Proposal

Team Members
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Description
Our team is interested in using image processing for our final project. We will be working on a native OSX application for gesture scrolling, or as we like to think of it - lazy reading. A user will open the app, hide it, and use vertical hand movements to scroll through their current window as well as horizontal movements to switch Mac workspaces.

The components of the project involve image processing, key bindings, and calibration. We will need to recognize both shape and movement of the hand using the Python Imaging Library (PIL) as well as the PyObjC library to build the Cocoa app.

Expected Work Breakdown (man hours)
Recognizing hand position - 6 hours
Recognizing hand movement - 6 hours
Programmatically pressing keys and moving mouse - 6(?) hours
Mapping hand gesture to keypress - 10 hours
Calibration - 10 hours
Implementing more hand gesture -> keypress or mouse movements - 20 hours

Similar Work
https://flutterapp.com/

Libraries
Python Imaging Library - adds image processing capabilities to your Python interpreter
http://www.pythonware.com/products/pil/

PyObjC - writing Cocoa GUI applications on Mac OS X in Python
http://pythonhosted.org/pyobjc/