Lecture 19 - INFO I211 - Information Infrastructure II

- SSH keys setup.
  - Set up the SSH configuration on your laptop computer.
    - On Mac OS X systems, "OpenSSH" is already included and you don't need to do extra configurations to run it.
    - On Windows systems, use PuTTY. If you don't have it yet installed on your laptop computer, download the *putty-0.63-installer.exe* file containing the Windows installer from the official PuTTY site (http://www.chiark.greenend.org.uk/%7Esgtatham/putty/download.html) and install PuTTY on your computer.
  - Generate SSH keys for your account on the *burrow* cluster. If you don't have a working SSH key pair setup, do the following:
    - Login to *silo.soic.indiana.edu* by using "WinSCP" on Windows or "OpenSSH" on Mac OS X as per I211 *Lab notes*. Following instructions at the IU KB page Generating SSH keys, generate the public/private key pair for your account.
    - While logged in to *silo.soic.indiana.edu*, append the content of the new *public key* you just created to the file *authorized_keys*, which will allow remote login by SSH key, thus:
      - `silo.soic.indiana.edu% cd ~/.ssh`
      - `silo.soic.indiana.edu% cat id_rsa.pub >> authorized_keys`
  - On your laptop computer, get the *private* SSH you just generated from *silo.soic.indiana.edu* and store it into the proper location for your local SSH client:
    - On Mac OS X systems, from the Terminal run the following:
      - `localhost$ mkdir ~/.ssh`
      - `localhost$ cd ~/.ssh`
      - `localhost$ scp -p mitja@tank.cs.indiana.edu:/u/mitja/.ssh/id_rsa .`
      - `localhost$ scp -p username@tank.cs.indiana.edu:/u/username/.ssh/id_rsa`
      - Modify the *windowspscpfile.bat* file included in the *a1startingcode* folder: adjust the *local* path, substituting *username* with the username you use on your laptop computer, and *a1remote* with the directory where you'll be running this batch script.
    - On Windows systems:
      - Modify the *windowspscpfile.bat* file included in the *a1startingcode* folder: adjust the *local* path, substituting *username* with the username you use on your laptop computer, and *a1remote* with the directory where you'll be running this batch script.
      - If you are running a 32-bit windows system, you'll also have to modify the *windowspscpfile.bat* file included in the *a1startingcode* folder to cd to the *Program Files* directory, instead of the *Program Files (x86)* directory. On *Windows XP* systems, you'll also have to replace the *Users* directory in the path with *Documents and Settings*, and include the resulting path in "double-quotes".
      - Using "WinSCP", from *silo.soic.indiana.edu* copy the file *id_rsa* contained in your home directory's *~/.ssh/* directory on silo to your laptop computer, into the *a1startingcode* folder where the other scripts are located.
      - On your laptop computer, start the *PuTTYgen* program (part of the PuTTY install), select the *Conversions->Import Key* menu, load the *id_rsa* private key file you just copied from *silo.soic.indiana.edu*, select "Save private key", and save it as *id_rsa_putty.ppk* into the same *a1startingcode* folder.
      - Modify the *windowspscpfile.bat* file included in the *a1startingcode* folder: to the *pscp* command, add the option *-i "\path\to\id_rsa_putty.ppk"* (including the double quotes), with the correct path to where you saved the *id_rsa_putty.ppk* file.

Once your webcam and SSH key setup is configured properly, proceed with editing the *a1remote.py* file on your laptop computer:

1. include *your own username* for login to *silo.soic.indiana.edu* instead of the generic username word.

2. modify the main code of the *a1remote.py* file, so that the entire process (snapshot from webcam and ssh copy of the file to *silo*) is repeated in an *infinite while loop*, sleeping for *1 hour* between each photo shoot/upload. Hint: use the sleep() function in Python.