CS 416 - Operating Systems Design

xv6 Setup Instructions
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1 Introduction

This document will help you set up xv6 so that you can work on the class projects.

We advise that you work on the Rutgers iLab machines, as this is the environment that we can officially support. You may attempt to run xv6 on your own hardware, but this is up to you to configure, and at your own risk.

All source code for this class should be managed using the **git** source control tool.

If you don't already have an iLabs account, you should create one immediately at
http://www.cs.rutgers.edu/resources/systems/ilab.

2 Getting the Code

2.1 Official Instructions

To get the code checked out into your home directory, follow these instructions:

1. Connect to any iLab machine (example: **cd.cs.rutgers.edu**) using an ssh client such as the standard Linux **ssh** utility. Alternatively you can use the iLab remote console facility, or physically go to the iLabs and sit at a machine.

2. The xv6 git repository with the following command:
   git clone https://github.com/wkatsak/xv6.git [1]
   You will now have a copy of the xv6 code in your home directory in directory **xv6**

3. The **xv6** directory will be a local git repository. You can make changes, commit and roll back changes, create and destroy branches, etc. using the standard git tools.

4. You should create a branch for each project and/or project stage called **hw0**, **hw1-stage1**, etc. This will help you keep track of your code.

5. Please read up about the proper use of git.
   This web site has a good crash course: **http://git-scm.com/docs/gittutorial**

[1] This is my GitHub repo containing the original xv6 code with a few minor patches to make things nicer for our class.

2.2 Checking out xv6 on your own machine (unsupported)

You may want to try checking out and running xv6 on your own hardware. We don't officially support this, but give these hints/suggestions:

- Clone as in the previous section.
- You need to make sure that you have **gcc** and **QEMU** installed on your machine.
- You will need to modify the Makefile to either unset (comment out) the **QEMU** variables or set it to the actual path to QEMU on your own machine.

3 Compiling and Running xv6

Once you have the code checked out, ensure that you can compile and run xv6:

1. Type **cd xv6** to change to the source directory.
2. Type **make** to compile the code.
3. Type **make qemu** to start the system. Note that you need to be on a graphical console for this to work properly, e.g. not just **ssh**.