

WES 237A Project, Part 1

Jagannathan Venkatesh

Ankit Baid

Partner work

- From Part 2 onwards, you will be working with a partner
 - Basic Linux Commands
 - C programming
 - Shell Scripting
- Partner people with complementary skills
 - Piazza Partner page – description & skills
- Links:
 - [Class web page](#)
 - [TED](#)
 - [Piazza](#)

Project Overview

- Platform
 - Android 4.0.3
 - Snapdragon MDP MSM8660/MSM8960
- Implement an intelligent energy management policy for a mobile device
 - Utilize performance counters on the CPU
 - Minimize power consumption for a variety of workloads



Project Part 1

- Laying the foundation for the rest of the project.
- Project part 1(Manager)
 - Environment setup guide(Engineer)
 - Project setup guide(Engineer)

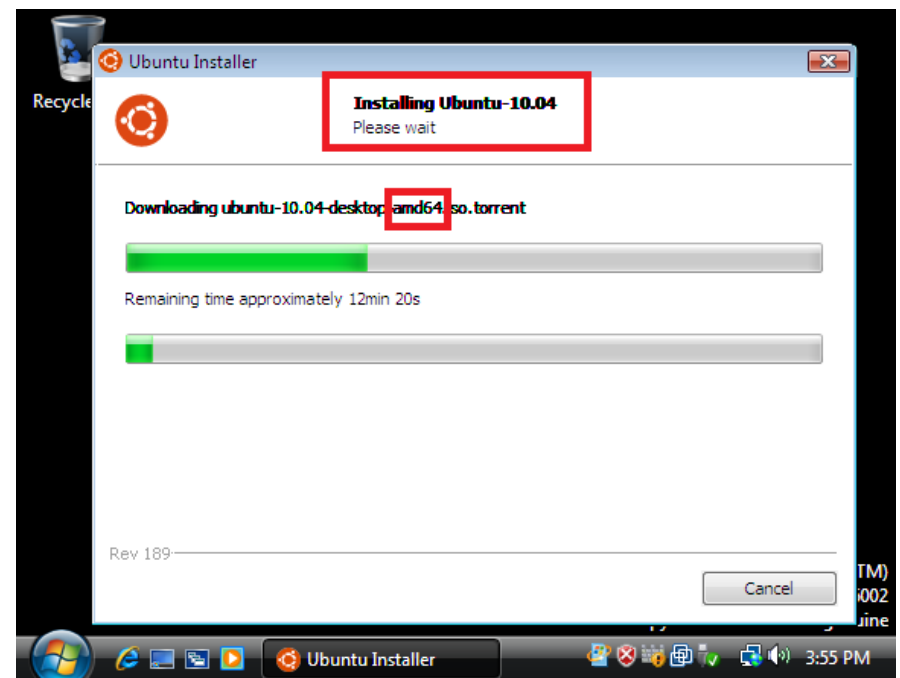
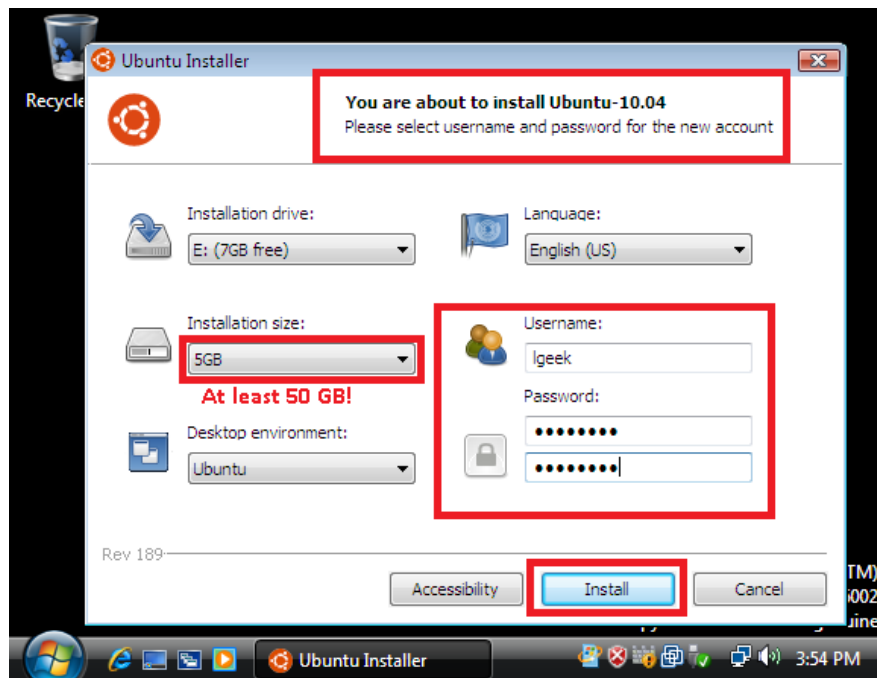
Ubuntu

- Version 10.04, **64-bit**
- Installation Options
 - Second OS on machine (Windows/Linux)
 - VirtualBox (Windows/Linux/Mac)
 - Instructions provided on class website, but YMMV
 - Windows Virtual PC (Windows)

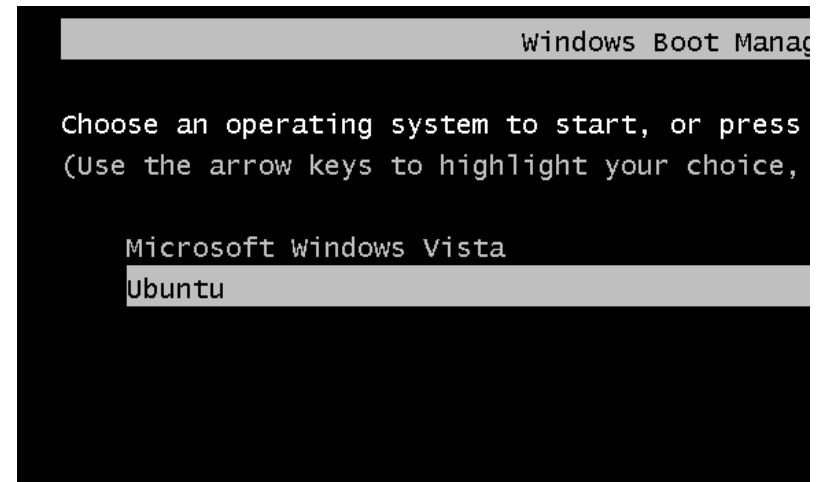
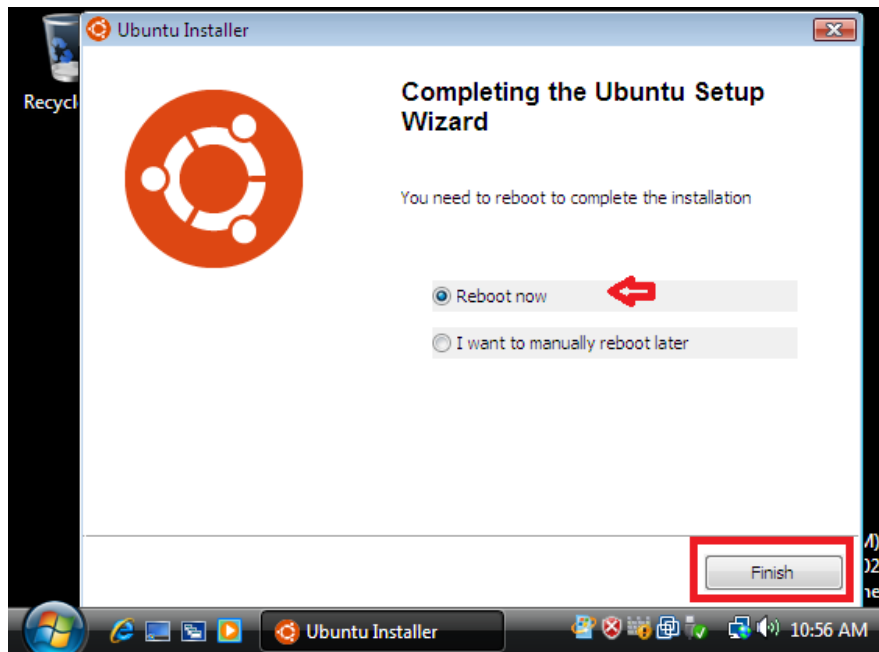
Ubuntu Installation on Windows

- ~~**Easy way:** wubi (Windows Installer)~~
 - ~~Download ubuntu-10.04-desktop-amd64.iso and wubi.exe from [here](#)~~
 - ~~Place them in the same folder~~
 - ~~Run wubi.exe from the folder you selected~~
 - Wubi is limited to 30GB, so it is no longer an option
- **Semi-easy way:** USB drive installation, instructions [here](#)
 - Download ubuntu-10.04-desktop-amd64.iso from [here](#)
- **Hard way:** CD, USB, virtual drive, network install.

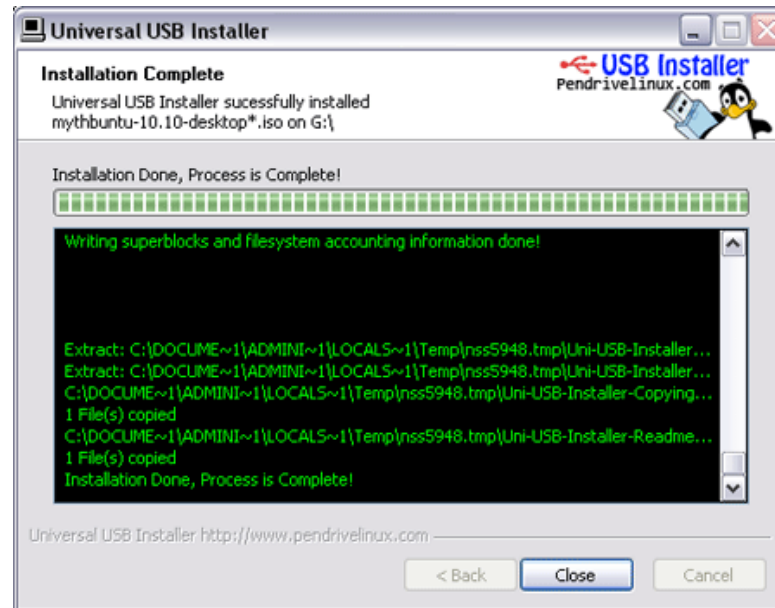
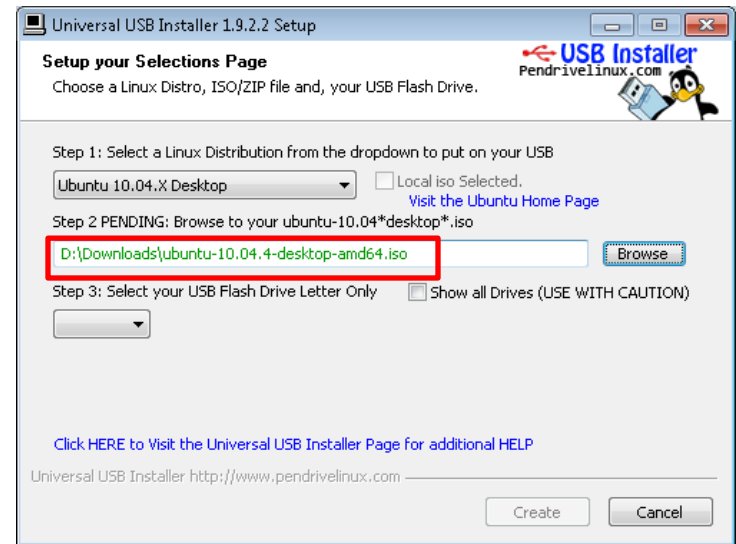
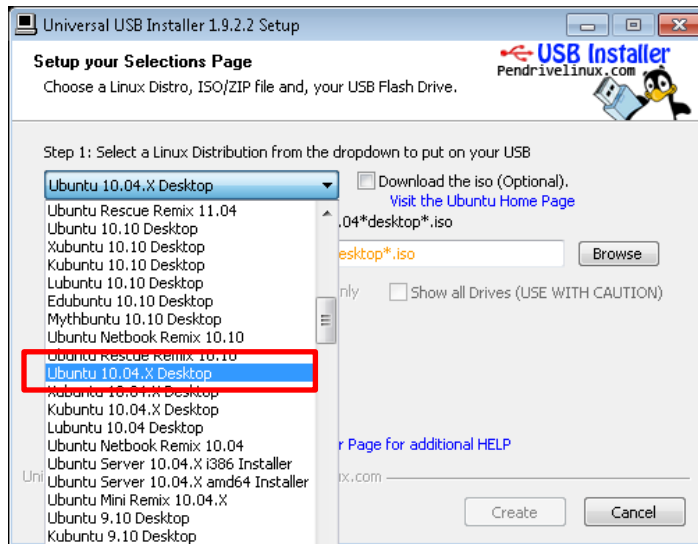
~~Wubi Installation~~



~~Wubi Installation (cont'd)~~



USB Drive Installation



Environmental Setup Guide

- Ubuntu 64-bit operating system 10.04 (at least 50GB)
- Installing the tools
 - Just executing commands listed in the doc.
- Downloading the adb
 - Android debug bridge is included with the android SDK
- Verification steps provided – please do them to make sure you did not make any mistakes!

Project Setup Guide

- **Download the Source** (about 1GB, so plan accordingly)
- `$ cd ~`
- `$ mkdir UCSD-CSE237A-Android`
- `$ cd ~/UCSD-CSE237A-Android`
- `$ repo init -u
git://codeaurora.org/platform/manifest.git -b
ics_chocolate -m M8260AAABQNLZA30135.xml --repo-
url=git://codeaurora.org/tools/repo.git`
- `$ repo sync -j4` (or j8 depending on the number of
cores on your Linux machine)

Compile the source

- `$ cd ~/UCSD-CSE237A-Android`
- `$ source build/envsetup.sh`
- `$ choosecombo 1 msm8660_surf eng`
- `$ make -j4 ( or j8 depending on the number of cores on your Linux machine)`

(This command takes multiple hours to finish, so make sure your host machine is ready to do this before executing)

Test Your Setup

- How?
 - Cross Compiling and submitting a simple program
- Course website – ProjPart1Files.tar
- Download and un-compress
- Should contain test.c and Makefile
- Run command 'make' in the directory of the files
- This would generate test.o
- Run test.o to test setup
- The output should look something like: 'ELF 32-bit LSB relocatable, ARM, version 1 (SYSV), not stripped'
- Turn in test.o file on TED and you are done 😊