**Debian Patching**

**dpkg** is the main package manager for Debian

* Used to install, move or remove Debian packages
* Lowest order tool that apps relies on to install packages
* Filename.deb will need to be locally in directory to be installed

Dpkg -i filename.deb

**Apt** isCommand line front end for dpkg for .deb and .rpm packages

* Advanced packaging tool

Sudo apt-get install nmap

**Aptitude** is the front end for apt

* Will install if package is available in **repositories**

Sudo aptitude install zenmap

**Apt-get dist-upgrade**

* Looks for any possible package updates and applies them
* Also handles changing dependencies with upgraded packages
* Will update more important packages at the expense of other not so important ones
* So can remove files from your distribution

Apt-get Upgrade is used to install the newest versions of all packages on the system from the sources enumerated

* Will not change the install state of any package
* So will not remove any packages like apt-get dist-upgrade

Updates are retrieved and upgraded

Packages currently installed with new versions available, are retrieved and updated

**Difference between updates and upgrades?**

**Synaptic**

GUI front end for the package manager

Cat /etc/apt.sources.list is where the package updates are stored

Apt-get update synchronises the package index files from their source

* The indexes of available packages are fetched from a location specified in the command

Apt-get update tells apt-get if there have been any package changes and update must be performed first so that apt-get update knows there are new package versions available before apt-get dist-upgrade is run

**For MacOS**

Homebrew missing package manager

MacUpdate for auto-updating apps not on the appstore