How to install the development tools and build doom3 at home on GNU/Linux

- these instructions will hopefully show you how to install enough packages on your machine at home
  - so that you can build the modified doom3 we are using in the coursework

- these instructions assume
  - you have a debian based installation (includes Mint or Ubuntu)
  - you can trouble shoot a few minor differences between these notes and your system

- if you cannot get doom3 working at home, please use the games development lab J109
  - as these have been tailored your course

How to install the development tools and build doom3 at home on GNU/Linux

- firstly we need to install a few packages, so open up a command tool and type:

```
$ sudo apt-get install emacs gdb gcc libsdl-dev libopenal-dev python libogg-dev cmake
$ sudo apt-get install g++ libsdl-dev libpthread-dev libcurl-dev libopenssl-dev
$ sudo apt install lib-openssl-dev libcurl4-openssl-dev
$ sudo apt install libvorbis-dev libjpeg-dev libsdl2-dev
```

- now make sure you have the same directory structure as we use in the labs:

```
$ mkdir -p $HOME/Sandpit/git-doom3
```

How to install the development tools and build doom3 at home on GNU/Linux

- and fetch the engine

- ```
  $ cd $HOME/Sandpit/git-doom3
  $ git clone https://github.com/gaiusm/pybot-dhewm3
  ```
  ```

How to install the development tools and build doom3 at home on GNU/Linux

- we need to configure the data directories:

```
$ cd $HOME
$ rm -f skeleton-doom3-data.tar.gz
$ wget http://floppsie.comp.glam.ac.uk/download/targz/skeleton-doom3-data.tar.gz
$ tar zxf skeleton-doom3-data.tar.gz
```

Compile the doom3 engine from the command line

- we will compile it from within `emacs`
- start emacs and press F5 to compile and debug doom3

Installing data files at home

- dhewm3 is the game engine which is free software (GPL)
- the data files are not free and thus need to be bought from steam (please see these notes ⟨`https://github.com/gaiusm/pybot-dhewm3/blob/master/README.md`⟩) and also the FAQ ⟨`https://github.com/dhewm/dhewm3/wiki/FAQ`⟩
- once you have your doom3 pk4 files they must be placed into the directory `/usr/share/dhewm3`

Installing data files at home

- once you have copied the pk4 into /usr/share/dhewm3
  - hint this is done in GNU/Linux by:

```
$ cd into_your_directory_where_the_pk4_files_exist
$ sudo mkdir -p /usr/share/dhewm3/base
$ sudo cp *.pk4 /usr/share/dhewm3/base
```

- where `into_your_directory_where_the_pk4_files_exist` will vary from user to user
- now you can run a tool to verify you have the correct pk4 files

```
$ md5sum /usr/share/dhewm3/base/*.pk4
71b8d37b2444d3d86a36fd61783844fe  /usr/share/dhewm3/base/pak000.pk4
4bc4f3ba04ec2b4f4837be40e840a3c1  /usr/share/dhewm3/base/pak001.pk4
fa84069e9642ad9aa4b49624150cc345  /usr/share/dhewm3/base/pak002.pk4
f22d8464997924e4913e467e7d62d5fe  /usr/share/dhewm3/base/pak003.pk4
38561a3c73f93f2e6fd31abf1d4e9102  /usr/share/dhewm3/base/pak004.pk4
2afd4ece27d36393b7538d55a345b90d  /usr/share/dhewm3/base/pak005.pk4
a6e7003fa9dcc75073dc02b56399b370  /usr/share/dhewm3/base/pak006.pk4
6319f086f930ec1618ab09b4c20c268c  /usr/share/dhewm3/base/pak007.pk4
28750b7841de9453eb335bad6841a2a5  /usr/share/dhewm3/base/pak008.pk4
```

Running doom3 at home

- the `d3` command is not on your machine, but you can either run dhewm3 by hand

- ```
  $ $HOME/Sandpit/git-doom3/build/dhewm3
  ```

- or you can create a simple shell program which executes this command

- ```
  $ sudo emacs /usr/local/bin/d3
  ```

- now type into the editor

- ```
  #!/bin/bash

  $HOME/Sandpit/git-doom3/build/dhewm3
  ```
  ```

Running doom3 at home

- save the file
- ```
  $ sudo chmod 755 /usr/local/bin/d3
  ```
- all done! You should be able to type `d3` from the command line and see doom3 appear
  ```