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

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- 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-
$ sudo apt-get install g++ libsdl-dev libpthread-dev libc
$ 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
```

- and fetch the engine

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

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- 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/ske
$ 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_exi` 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/
4bc4f3ba04ec2b4f4837be40e840a3c1   /usr/share/dhewm3/base/
fa84069e9642ad9aa4b49624150cc345   /usr/share/dhewm3/base/
f22d8464997924e4913e467e7d62d5fe   /usr/share/dhewm3/base/
38561a3c73f93f2e6fd31abf1d4e9102   /usr/share/dhewm3/base/
2afd4ece27d36393b7538d55a345b90d   /usr/share/dhewm3/base/
a6e7003fa9dcc75073dc02b56399b370   /usr/share/dhewm3/base/
6319f086f930ec1618ab09b4c20c268c   /usr/share/dhewm3/base/
28750b7841de9453eb335bad6841a2a5   /usr/share/dhewm3/base/
```

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
```

- 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