# Obtaining touchmap

- you can obtain the skeleton `touchmap` using the terminal and the command line

```
$ cd
$ mkdir -p Sandpit
$ cd Sandpit
$ wget http://floppsie.comp.glam.ac.uk/download/targz/touchmap-0.1.tar.gz
$ tar zxf touchmap-0.1.tar.gz
$ ls touchmap-0.1
```

- some of these commands act silently (as is the UNIX default)
  - write down a summary of each command line (hint use `man`)

# Obtaining touchmap

- in the directory `touchmap-0.1` there are a number of files
  - `touchmap.py` is the main program
  - there are a number of simpler versions of the same program `touchmap-1.py`, `touchmap-2.py`, `touchmap-3.py` and `touchmap-4.py`

- these simpler versions might be interesting to examine as they show how the main program was developed
  - they also serve to show how the GUI touchgui works

# Building touchmap in the University laboratories

- you will need to have downloaded touchmap as above before attempting these command here

- to build touchmap, you should use the command line terminal:

- 
```
$ cd $HOME/Sandpit
$ rm -rf build-touchmap
$ mkdir build-touchmap
$ cd build-touchmap
$ ../touchmap-0.1/configure
$ make
```

- again make a summary of these command lines in a notebook (see `man`)

# Building touchmap in the University laboratories

- these commands build some of the map assets
  - in particular the door, wall png images which are used by `touchmap`

- **note that anything placed inside the directory `build-touchmap` is temporary**
  - examine the contents of `build-touchmap` (we can see the png images for walls and doors)
  - these images are built from `groff` scripts!

# Output from the build

```
$ ../touchmap-0.1/configure
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /bin/mkdir -p
checking for gawk... gawk
checking whether make sets $(MAKE)... yes
checking whether make supports nested variables... yes
...
```

# Output from the build

```
$ make
groff -I../touchmap-0.1 < ../touchmap-0.1/doorh.ms > t.ps
echo "" | gs -q -dBATCH -dSAFER -sDEVICE=pnmraw -r100 -sOutputFile=t.pnm t.ps
>>showpage, press <return> to continue<<
pnmcrop t.pnm > doorh.pnm
rm -f t.ps t.pnm
pnmscale -xsize=100 -ysize=100 doorh.pnm > t.pnm
pnmtopng t.pnm > doorh.png
pnmtopng: 1 colors found
rm -f t.pnm
...
```

# Running touchmap

```
$ cd $HOME/Sandpit/build-touchmap
$ ./localrun.sh touchmap.py
```

- notice the capital `S` for `Sandpit`
- notice the `./` before `localrun.sh`
  - this is required as it means use `localrun.sh` in this directory

# Controlling touchmap

- the quit button at the top right, terminate the program
- the return button at the top left, displays the current map (to stdout)
- the expand and shrink buttons zoom in and out of the map

# Controlling touchmap

- you can create a map by clicking in the middle of the screen
  - a tap will create a wall, a further single tap converts a wall into a door
  - another tap will convert a door into a space

- a double tap defines the start of a wall
  - the next wall square created along a straight line will create a long wall (rather than an individual block)