

John Romero Programming Proverbs

- 9. “Encapsulate functionality to ensure design consistency. This minimizes mistakes and saves design time.”
- John Romero, “The Early Days of Id Software - John Romero @ WeAreDevelopers Conference 2017”

Script to automatically build and run touchmap

- here is a script you can run from the command line to automatically rebuild and run your touchmap (<http://floppsie.comp.glam.ac.uk/download/targz/run>)

- you can install it via:

```
$ wget http://floppsie.comp.glam.ac.uk/download/targz/run  
$ chmod 755 run
```

- you can run it via:

```
$ ./run
```

Script to automatically build and run touchmap

- the contents of `run` is shown on the next slide
- it removes the `touchgui` cache rebuilds `touchmap`
- it also reconfigures `touchmap`
 - necessary if you make significant changes to `Makefile.am`
- `run` hides all these and will lastly run your version of `touchmap`

Script to automatically build and run touchmap



run

```
#!/bin/bash

VERSION=0.2

cd $HOME
if [ -d .cache ] ; then
    cd .cache
    rm -rf touchgui
    mkdir touchgui
fi
```

Script to automatically build and run touchmap



run

```
cd $HOME/Sandpit/touchmap-${VERSION}
autoreconf

cd $HOME/Sandpit
rm -rf build-touchmap
mkdir build-touchmap
cd build-touchmap

../touchmap-${VERSION}/configure
make
./localrun.sh touchmap.py
```

Adding image assets to touchmap

touchmap-0.2/Makefile.am

```
all: doorh.png doorv.png doorh-bw.png doorv-bw.png hingeh.png \  
    wallh.png wallv.png wallh-bw.png wallv-bw.png \  
    newname.png  
  
newname.png: $(srcdir)/images/newname.png  
°convert -resize 100x100 $< $@
```

- notice that ° needs to be replaced by a single tab character
 - you might need to alter preferences in gedit to allow you to add a tab character

Loading a map into touchmap



`$HOME/Sandpit/touchmap-0.2/touchmap.py`

```
def load_map (name):  
    f = open (name, "r")  
    f = read_map (f)  
    f.close ()  
  
def myimport (name, tap):  
    global clicked  
    pygame.display.update ()  
    load_map (current_map_name)  
    clicked = True  
    pygame.display.update ()
```

Loading a map into touchmap

■ `$HOME/Sandpit/touchmap-0.2/touchmap.py`

```
def read_floor (lines):
    seen_start = False
    y = 0
    ypos = 0
    for line in lines:
        if len (line) > 0:
            if len (line.split("#")) > 0:
                seen_start = True
            if seen_start:
                add_xaxis (line, y, ypos)
                y += 1
                ypos += cell_size
```


Loading a map into touchmap



`$HOME/Sandpit/touchmap-0.2/touchmap.py`

```
def read_map (f):  
    lines = f.readlines ()  
    read_assets (lines)  
    read_floor (lines)  
    return f
```

Loading a map into touchmap

■ `$HOME/Sandpit/touchmap-0.2/touchmap.py`

```
#
# add_xaxis - adds a line of buttons.
#             y is the index on the yaxis.  ypos is the screen coordinate.
#
def add_xaxis (line, y, ypos):
    global cell_array, button_array
    xpos = 0
    x = 0
    for ch in line:
        b = button (xborder + xpos, yborder + ypos, cell_size)
        if ch == "#":
            cell_array.set_contents (xoffset+x, yoffset+y, "v")
            b.to_wall ()
        elif ch == " ":
            cell_array.set_contents (xoffset+x, yoffset+y, " ")
        button_array.set_contents (xoffset+x, yoffset+y, [b])
        xpos += cell_size
        x += 1
```

Loading a map into touchmap

■ `$HOME/Sandpit/touchmap-0.2/touchmap.py`

```
def read_assets (lines):  
    for line in lines:  
        words = line.lstrip ().split ()  
        if (len (words) > 2) and (words[0] == "define"):  
            include_asset (words[1], words[2])
```

Thoughts on Checkpointing and forward/next

- assuming that basic saving and loading is complete
 - we notice that it saves to a file `current_map_name`
 - therefore we can take advantage of this and create temporary filenames
 - save periodically

- might be good for `touchmap` to create a directory `$HOME/.cache/touchmap`
 - under which the checkpoint files might be kept
 - notice that many applications keep their file cache contents under `$HOME/.cache` (including `touchgui`)

Thoughts on Checkpointing and forward/next

- it would be possible to have a *forward* and *next* button to cycle through the checkpoint files
 - maybe the application should create a new checkpoint file every 5th action?

- might implement a naming scheme
 - for example: `touchmap-%3d.txt`

Thoughts on Checkpointing and forward/next

- using

- ```
cp_name = os.path.join (".cache", "touchmap")
cp_name = os.path.join (cp_name, "touchmap-%3d.txt" % cp_num)
cp_name = os.path.join (os.getenv ("HOME"), cp_name)
```

- notice the cp\_num which is the check point number and this should cycle 0–999