



# Extending touchgui: adding a worldspawn button

```
def main ():
    global players, grid, cell_size

    pygame.init ()
    if full_screen:
        gameDisplay = pygame.display.set_mode ((display_width, display_height), \
                                                FULLSCREEN)
    else:
        gameDisplay = pygame.display.set_mode ((display_width, display_height))

    touchgui.set_display (gameDisplay, display_width, display_height)
    controls = buttons () + glyphs ()

    gameDisplay.fill (touchguipalate.black)
    while True:
        grid = button_grid (cell_size)
        forms = controls + grid
        touchgui.select (forms, event_test, finished)
```

## Extending touchgui: adding a worldspawn button

- at this point the call back `worldspawn` is in place
  - `worldspawn` can be made turn on worldspawn mode
- then `callback` can be modified to detect this mode and add the appropriate tile
- hint it might be sensible to use an indirect function
  - `empty_cell_click`
  - which is initially set to `empty_to_wall`
  - and can be changed to `empty_to_worldspawn`
- this technique allows `touchmap` to be extended to place hellknights, imps, ticks and pickups

## Local images

- local images should be placed inside the `touchmap` directory
  - for example: `touchmap-0.1/images`
  - these images are kept in the source directory `touchmap-0.1`
  
- our build occurs in: `build-touchmap`
  - therefore the `Makefile.am` needs to have rules inside it to copy the images from the into the build directory

## Build directory

- should be treated as volatile
  - can be destroyed and created
- therefore all assets and source files **must** be kept in the `touchmap-0.1` directory

## autotools

- are used to configure and maintain the building rules
  - see `Makefile.am` and `configure.ac`
- the file `Makefile.am` contains the building rules
- in our case we just need extend `Makefile.am` to copy the image from the source directory into the build directory

# autotools

touchmap-0.1/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  
  
newimage.png: $(srcdir)/images/newimage.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

# autotools

■ touchmap-0.1/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  
  
newimage.png: $(srcdir)/images/newimage.png  
    cp -p $< $@ # this line must start with a tab character
```