Python Games

Session 8

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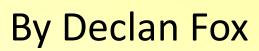
Rules

"Above all, be cool."

General Information

Wi-Fi Name: CoderDojo

Password: coderdojowireless

Website: http://cdathenry.wordpress.com/

Useful Links

Recommended reading:
http://inventwithpython.com

Reference Guide

http://www.tutorialspoint.com/python/

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Installation

As we will be moving on to graphical games we will need to install both Python and Pygame*

* If you have Python 3.x.x and Pygame installed you can ignore the next slide

Installation

We are using version 3.2 of Python go to
https://www.python.org/download/releases/3.2.5/

Select Windows x86 MSI Installer (3.2.5)

To install Pygame go to

http://pygame.org/download.shtml

Select pygame-1.9.2a0.win32-py3.2.msi

Adding Audio

Why use audio in games
- It helps generate atmosphere
- It helps set up a scene
- It can make your games more realistic
- It can be used to give information to the player
- Some games depend on audio more than graphics(Singstar)

Adding Audio

All our music was downloaded from http://www.nosoapradio.us/ under the Creative Commons Attribution Licence

Adding Audio

First we have to load our audio into memory

```
hit = pygame.mixer.Sound("resources/audio/scrape.wav")

pygame.mixer.music.load('resources/audio/tune_1.wav')
```

We can set the volume if we need to

```
hit.set_volume(0.5)

pygame.mixer.music.set_volume(0.25)
```

Then we can play the audio

```
hit.play()

pygame.mixer.music.play(-1, 0.0)
```

Adding Audio

pygame.mixer.Sound v. pygame.mixer.music
As you may have noticed we have used two different modules to play our audio.

pygame.mixer.sound is used to create a new Sound object from a file the mixer module has a limited number of channels for playback of sounds. The default is 8 simultaneous channels, but complex programs can get more precise control over the number of channels and their use

Adding Audio

pygame.mixer.music is Used to control the playback of music in the sound mixer.

The difference between the music playback and regular Sound playback is that the music is streamed, and never actually loaded all at once. The mixer system only supports a single music stream at once.

Be aware that MP3 support is limited.

Health Bars

Health bars are a great way of building tension into a game and are also useful for telling the story of a game without having to resort to long text based explanations.

Our health bar is going to be very simple, it will be an image coloured Red ten pixels high by ninety nine pixels long. We will create another image coloured green ten pixels high by one pixel long which we will draw over the other image ninety nine times.

Health Bars

As health is reduced we will reduce the amount of times we draw the green image over the red image.
First we need a variable for our health level.

```
health_value = 99
```

In our demo we will lose 1/3 of our health every time the green block touches a red block.

```
health_value -=33
```

Health Bars

Now we need to draw our health bars.

```python
screen.blit(health_bar, (8,8))
for i in range(health_value):
    screen.blit(health, (i+8,8))
```

```python
screen.blit(health_bar, (8,8))
```

This draws the red background bar.

```python
for i in range(health_value):
    screen.blit(health, (i+8,8))
```

This draws one green bar (ten pixels by one) every time it runs through the for loop

This is not a game

Back to our ocean game.

Next session

Next Saturday will be our last session until after Christmas we will have a show and tell where we will show off our work followed by Pizza. We will have a donations tin in the main room for donations of 0 to2 Euro.

Absolutely no pressure to donate

Christmas jumpers/hats optional