Accelerate your Game Development with Pyglet

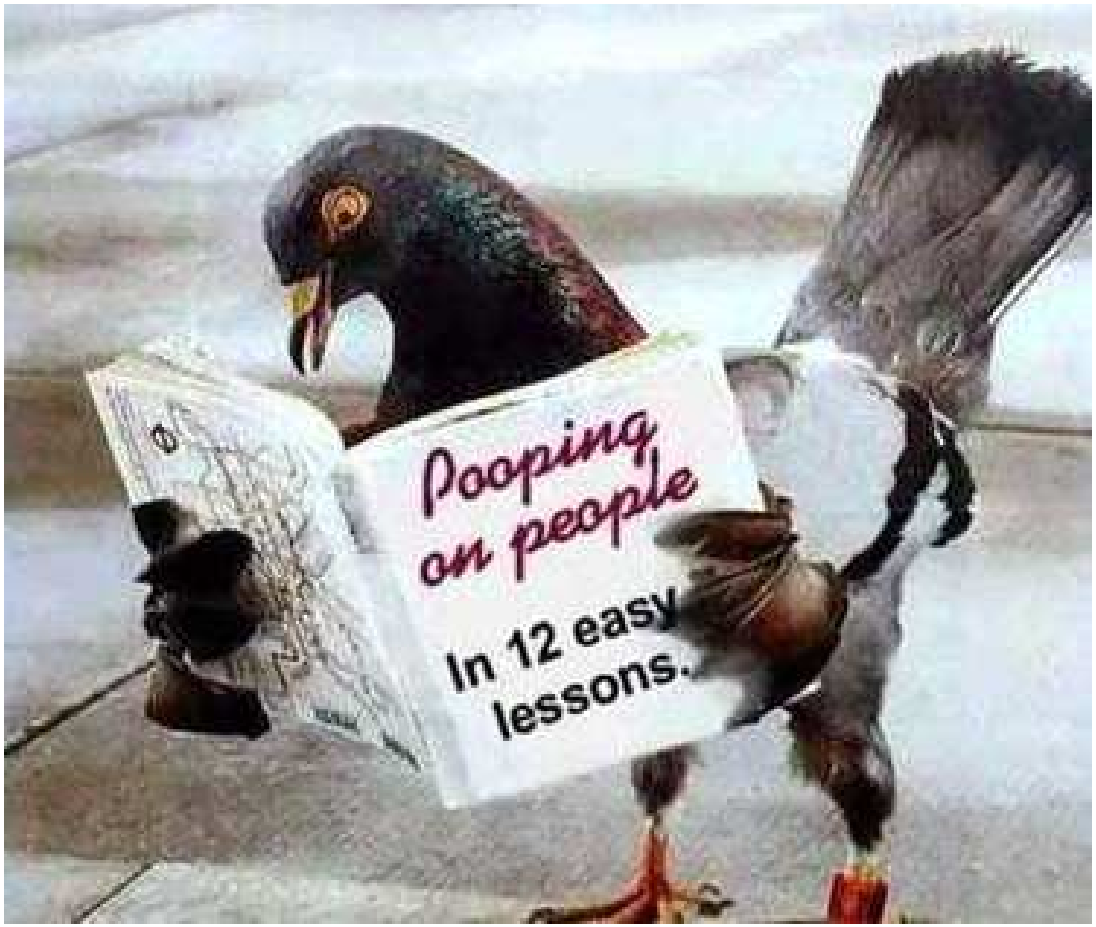
Arun Ravindran

www.arunrocks.com

Who am I?

Programmer | Blogger | EAI Consultant | Python Fan | Game Developer | Web Designer

In Real Life…



www.arunrocks.com

I have worked on…

Actionscript | Haxe | Python |
C++ | Lisp | VB | Haskell

Pyglet?

Pyglet != Minor Carrier of Swine Flu

Pyglet is a cute library

Pyglet is so easy

That even you can make games in 10 mins

Yes, YOU

YOU

YOU

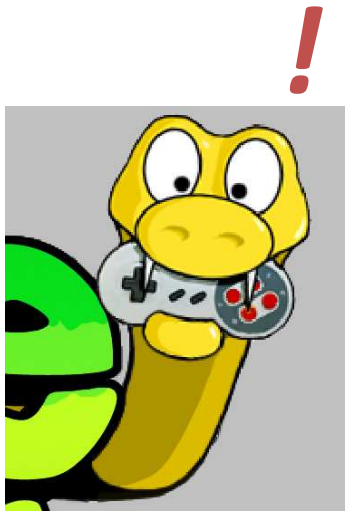
YOU

YOU

YOU

</Marketing>

pyglet: a cross-platform windowing and multimedia library for Python



Hang on… isn’t that Pygame?

Pygame != Pyglet

Pyglet is a wrapper to **OpenGL**

Pygame is a wrapper to **SDL**

Pyglet has no external dependency

Pygame has dependency on **SDL**

Pyglet lives in 3D World

Pygame lives in 2D World

Pyglet can use OpenGL Accel easily

Hardware acceleration on Pygame not easy

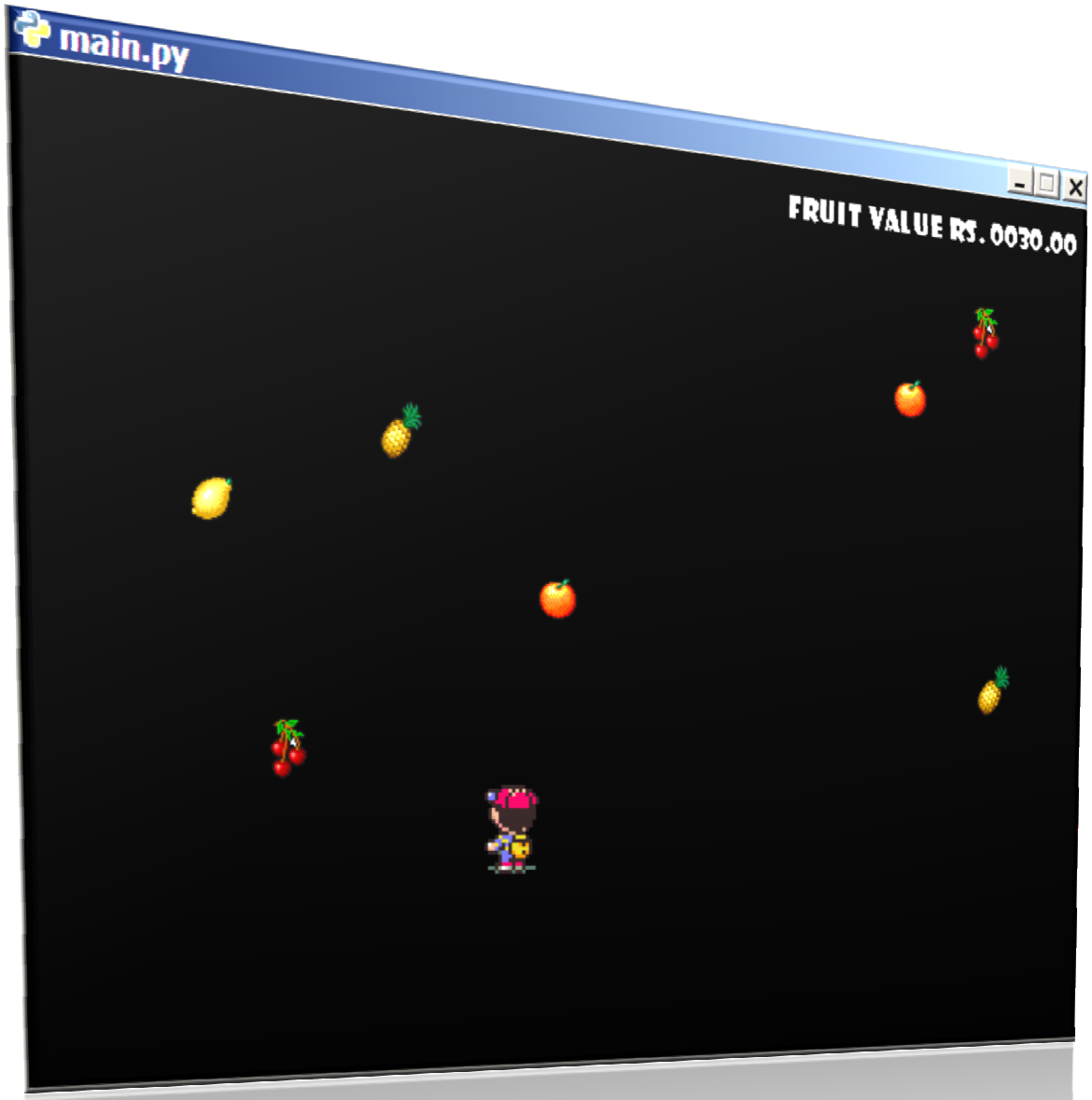
Things I ♥ Love about Pyglet

I ♥ the Pythonic code

I ♥ the BSD license

I ♥ the Multi-monitor support

Let’s get to the meat of this talk



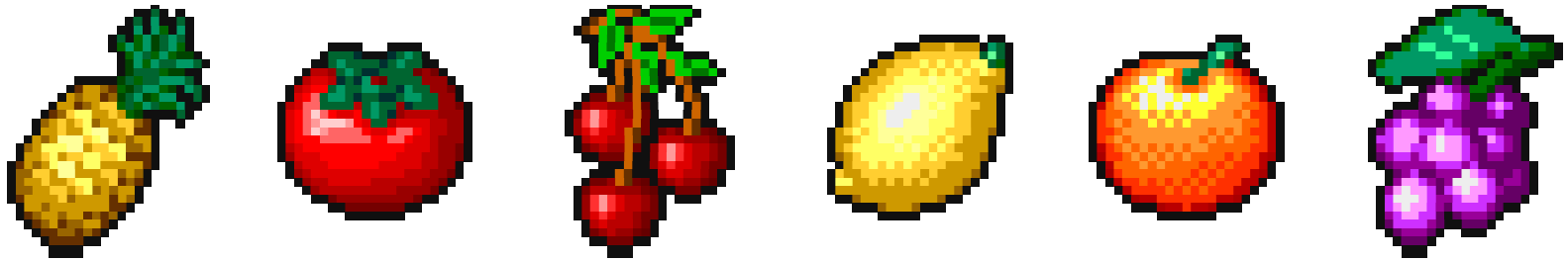
Fruit Catch

One Shy Hero

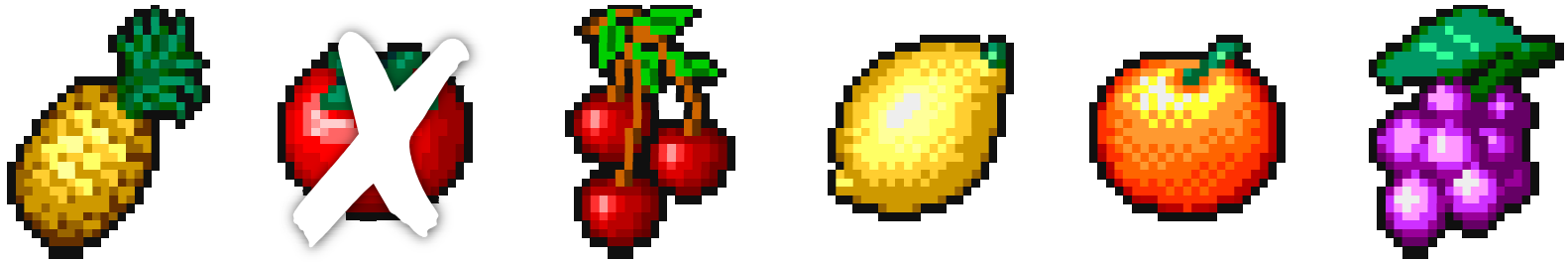
Simple Mission:

Catch Fruit

Many Goodies



Except one

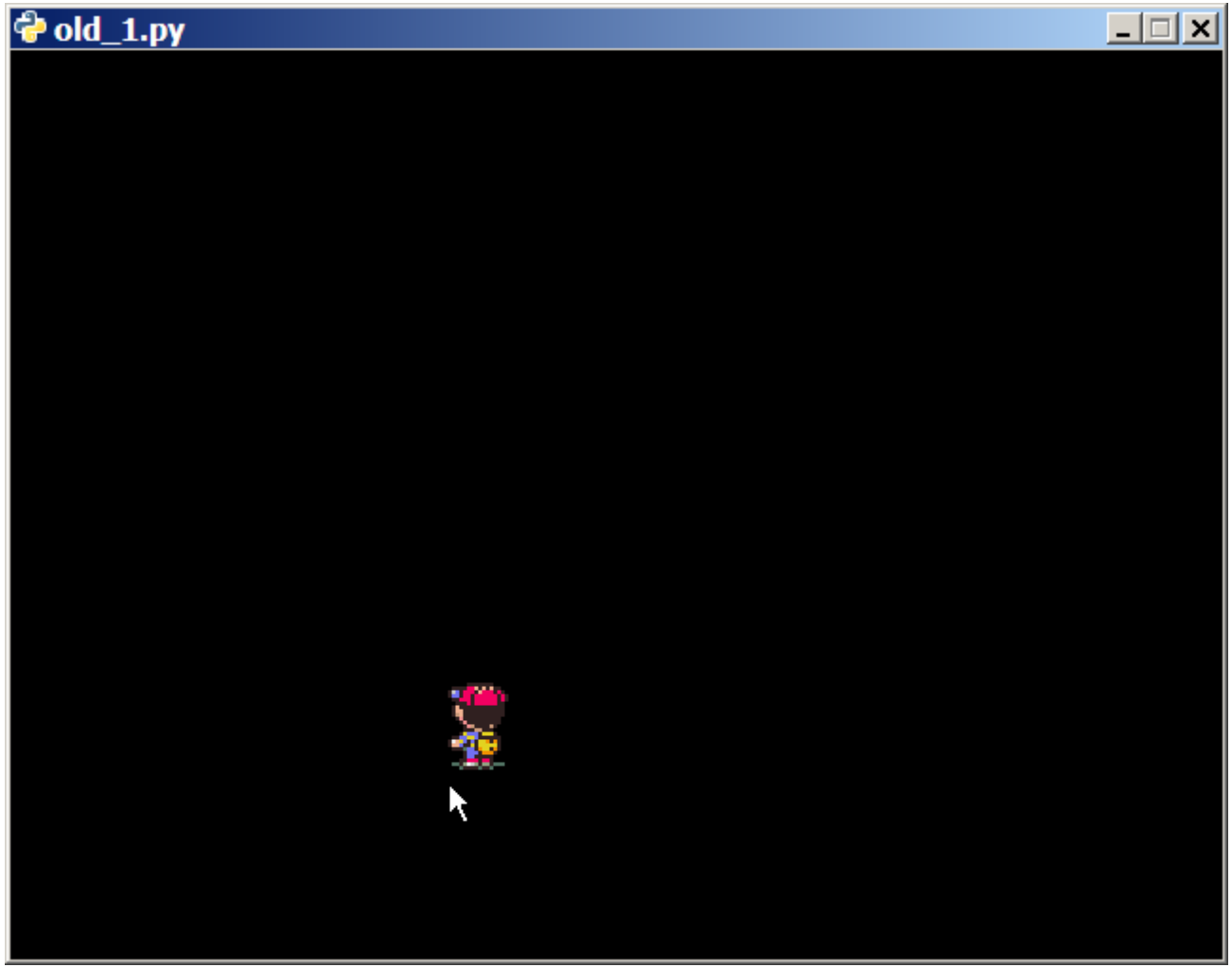


Coding Begins…

First Version

```
1  import pyglet
2  # To avoid a particular bug crashing on my laptop
3  pyglet.options['graphics_vbo'] = False
4
5  # Create game window and GUI
6  window = pyglet.window.Window()
7
8  # Initialise global objects like sprites of PC and NPC
9  player = pyglet.sprite.Sprite(pyglet.image.load("catcher.png"))
10
11 @window.event
12 def on_mouse_motion(x, y, dx, dy):
13     player.x, player.y = x, 100
14
15 @window.event
16 def on_draw():
17     window.clear()
18     player.draw()
19
20 pyglet.app.run()
```

Run using: python main.py



Not Bad, eh?

Full Code

```
import pyglet
from pyglet.gl import *
from random import randint

# To avoid a particular bug crashing on my laptop
pyglet.options['graphics_vbo'] = False

glEnable(GL_BLEND)              # Enable alpha blending
glBlendFunc(GL_SRC_ALPHA, GL_ONE_MINUS_SRC_ALPHA)

# Load Score font
pyglet.font.add_file('SHOWG.TTF')
bladerunner = pyglet.font.load('Showcard Gothic')

# Create game window and GUI
window = pyglet.window.Window()
scorelabel = pyglet.text.Label('Fruit Pick',
                           font_name='Showcard Gothic',
                           font_size=12,
                           x=window.width - 10, y=window.height - 10,
                           anchor_x='right', anchor_y='top')

# Initialise global objects like sprites of PC and NPC
player = pyglet.sprite.Sprite(pyglet.image.load("catcher.png"))
fruits_seq = pyglet.image.ImageGrid(pyglet.image.load("fruits.png"), 1, 6)
fps_display = pyglet.clock.ClockDisplay()
falling = [[0, 50, 400], ]
```

```
28
29 @window.event
30 def on_mouse_motion(x, y, dx, dy):
31     player.x, player.y = x, 100
32
33 @window.event
34 def on_draw():
35     window.clear()
36     scorelabel.draw()
37     for f in falling:
38         fruits_seq[f[0]].blit(f[1], f[2])
39     player.draw()
40     #fps_display.draw()
41
```

```
41
42 ticks = 0
43 score = 0
44 def update(dt):
45     global ticks, falling, score, scorelabel
46     ticks += 1
47     if not falling:
48         return
49     for f in falling:
50         # Check for a catch. Player must be close to the fruit
51         if 100 <= f[2] <= 120 and player.x - 30 <= f[1] <= player.x + 30:
52             if f[0] == 1:
53                 print "You caught a tomato. It is not a fruit!"
54                 pyglet.app.exit()
55             f[2] = 0
56             score += 10
57             scorelabel.text = "Fruit Value Rs. %04d.00" % score
58         f[2] -= 4
59     # Purge caught fruits and fruits outside the screen
60     falling_new = [f for f in falling if f[2] > 0]
61     # Add new fruits if less fruits on screen
62     if len(falling_new) <= 10 and ticks % 10 == 0:
63         falling_new.append([randint(0,5), randint(20,800), 400])
64     falling = falling_new
65
66 pyglet.clock.schedule_interval(update, 1/60.0) # update at 60Hz
67 pyglet.app.run()
68 print "Your Score is", score
```

Demo