PyGame Flappy Bird Tutorial - Part 3

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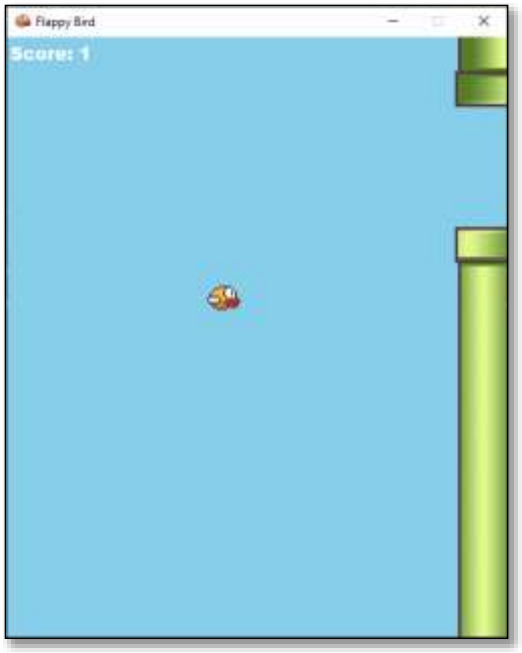
Time required: 30 minutes

Preview of the Game

Here's a sneak peak of the game that we are going to work on.

Flappy Bird Demo Video



Flappy Bird in Flight

We drew the background and the bird. It is time to fly!

Save **flappy_bird_2.py** as **flappy_bird_3.py**

Add a **self.gravity** variable.

```
31
32          # Only allow these events to be captured
33          # This helps optimize the game for slower computers
34          pygame.event.set_allowed([pygame.QUIT, pygame.KEYDOWN])
35
36          # Set the gravity to 3
37          # This is how fast the bird falls
38          # The higher the number, the faster the bird falls
39          # The lower the number, the slower the bird falls
40          self.gravity = 3
41
42          self.load_background()
43          self.init_bird()
```

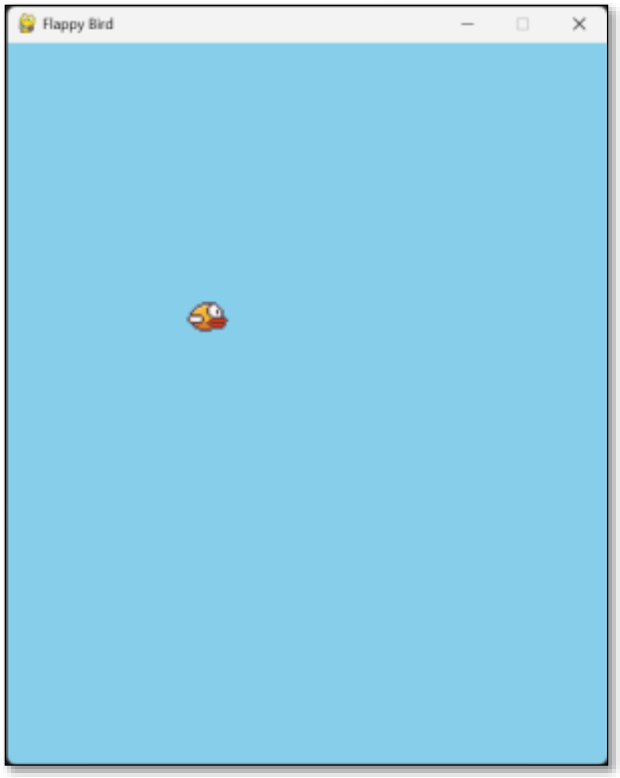
Let's add an **update_bird()** method.

```
74      # ------------------------ UPDATE BIRD ------------------------------ #
75      def update_bird(self):
76          """Update bird position"""
77          # Reset gravity to self.gravity each time through the loop
78          gravity = self.gravity
79
80          # Get list of keys being pressed
81          key_input = pygame.key.get_pressed()
82
83          # If up cursor pressed, move up 5 pixels
84          if key_input[pygame.K_UP]:
85              # Decrease gravity, the bird flies up
86              gravity -= 5
87
88          # Move the bird
89          self.bird_rect.y = self.bird_rect.y + gravity
```

Modify the game loop.

```
97      # ---------------------- GAME LOOP ---------------------------------- #
98      def game_loop(self):
99          """Infinite game loop"""
100         while True:
101             self.check_events()
102
103             # Update bird position
104             self.update_bird()
105
106             # ------------------- DRAW SURFACE ---------------------------- #
107             # Filling the surface with the background image
108             # clears the previous frame
109             self.surface.blit(self.background, (0, 0))
110
111             # Draw bird to the surface
112             self.surface.blit(self.bird, self.bird_rect)
113
114             # ---------------- UPDATE DISPLAY ------------------------------ #
115             # From surface, update Pygame display to reflect any changes
116             pygame.display.update()
117
118             # Cap game speed at 60 frames per second
119             self.clock.tick(60)
120
121
122 # Create flappy bird program object
123 flappy_bird = FlappyBird()
124 # Start infinite game loop
125 flappy_bird.game_loop()
```

Example run:



The bird goes up and down with the up cursor key on the keyboard.

Not very exciting . . . yet. Stay tuned for the next tutorial.

Assignment Submission

1. Attach a screenshot showing the operation of the program.
2. Zip up the program files folder and submit in Blackboard.