

Pisanie gier 2D w Pythonie

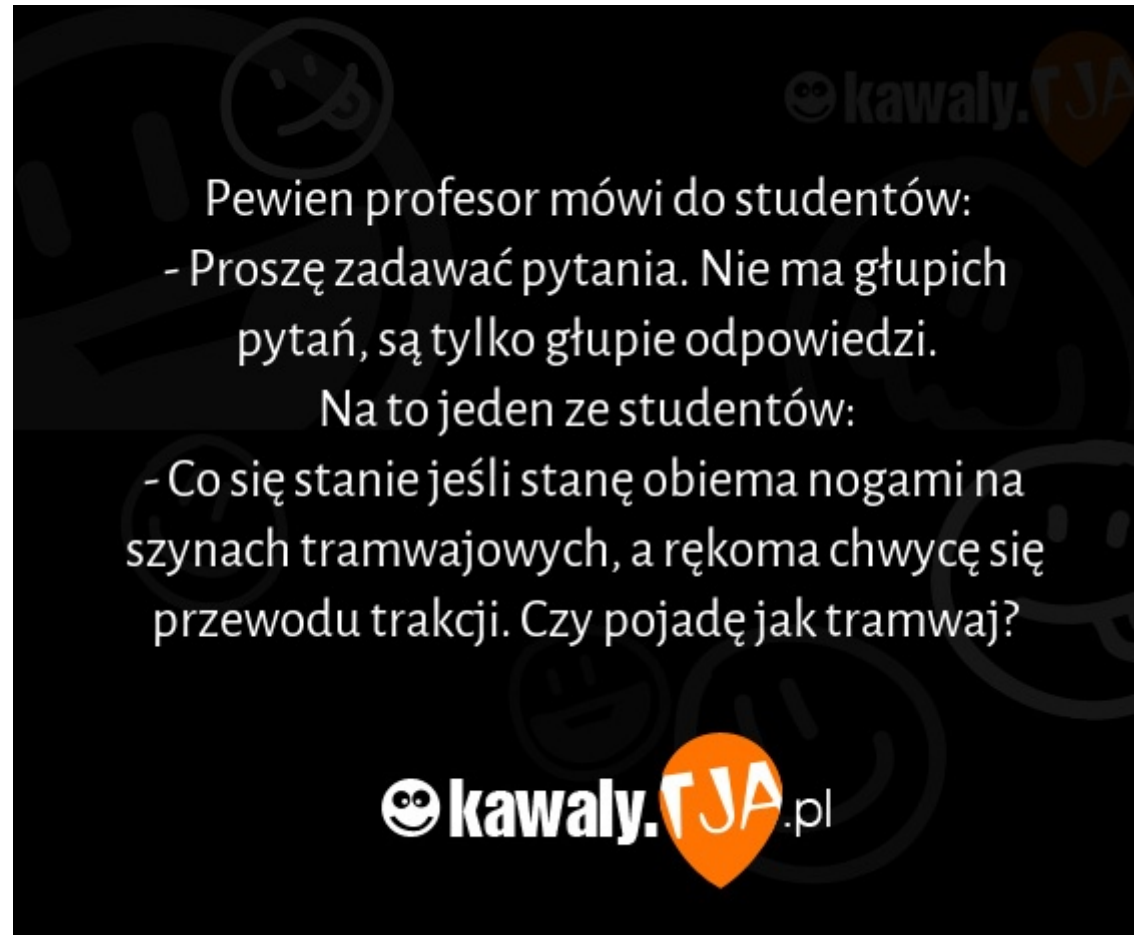
prezentacja

23 March 2014

Konrad Brodzik

Network Software Engineer, Intel NPG

Reguły gry



FAQ

- Czemu Python?
- Czemu PyGame?
- Czy to ma zastosowanie?

Co?

Example platformer game using Pygame and sprite sheets

Jak?

How to draw an owl

1.



2.



Przygotowanie środowiska

* Wymagane

- Python 2.7.8
- PyGame 1.9.1

Co jest w pudełku

- ładowanie grafiki (image)
- obsługa dźwięku (mixer)
- obsługa wideo (movie)
- obsługa tekstu (font)
- sprite i kolizje (sprite, Rect)

Podstawy PyGame

```
pygame.init()

window = pygame.display.set_mode((1024, 768))
screen = pygame.display.get_surface()

image = pygame.image.load("manga-sprites.png")
#image.set_colorkey(colorkey)
x_pos = 300
y_pos = 0

while True:
    screen.fill(bgcolor)
    #screen.blit(image, (x_pos, y_pos))
    #y_pos += 1
    #screen.blit(image, (x_pos, y_pos), (0, 0, 27, 32))
    pygame.display.flip()
    event = pygame.event.poll()
    if event.type == pygame.QUIT:
        sys.exit(0)
```

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Sprite

???

Sprite





Sprite

```
class Player(pygame.sprite.Sprite):
    def __init__(self):
        pygame.sprite.Sprite.__init__(self)
        self.images = []
        self.images.append(pygame.image.load("m1.png"))
        self.images.append(pygame.image.load("m2.png"))
        self.images.append(pygame.image.load("m3.png"))
        self.image = self.images[0]
        self.frame = 0
        self.rect = self.image.get_rect()

    def update(self):
        self.rect.x += 1
        self.frame = (self.frame + 1) % len(self.images)
        self.image = self.images[self.frame]

player = Player()
active_sprite_list = pygame.sprite.Group()
active_sprite_list.add(player)
while True:
    screen.fill(bgcolor)
```

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Sprite

```
active_sprite_list = pygame.sprite.Group()
active_sprite_list.add(player)
while True:
    screen.fill(bgcolor)
    active_sprite_list.update()
    active_sprite_list.draw(screen)
    pygame.display.flip()
```

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Ruch

```
def update(self):  
    self.rect.x += 1  
    self.frame = self.rect.x % len(self.images)  
    self.image = self.images[self.frame]  
  
player = Player()  
active_sprite_list = pygame.sprite.Group()
```

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Sterowanie

```
def update(self):
    self.rect.x += self.change_x
    self.frame = self.rect.x % len(self.images)
    self.image = self.images[self.frame]
```

```
player = Player()
active_sprite_list = pygame.sprite.Group()
active_sprite_list.add(player)
while True:
    clock.tick(30)
    event = pygame.event.poll()
    if event.type == pygame.QUIT:
        sys.exit(0)
    elif event.type == pygame.KEYDOWN:
        if event.key == pygame.K_LEFT:
            player.change_x = -1
        if event.key == pygame.K_RIGHT:
            player.change_x = 1
    if event.type == pygame.KEYUP:
        player.change_x = 0
    screen.fill(bgcolor)
```

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Grawitacja

```
def update(self):  
    self.rect.x += self.change_x  
    self.rect.y += self.change_y  
    self.frame = self.rect.x % len(self.images)  
    self.image = self.images[self.frame]
```

```
player = Player()
```

Run

Kolizje

```
screen.fill(bgcolor)
rectangles = [pygame.Rect(0,35, 500, 35), pygame.Rect(500,105, 500, 35)]
for r in rectangles:
    pygame.draw.rect(screen, (255,0,0), r , 0)
if player.rect.collidelist(rectangles) > -1:
    player.change_y = 0
else:
    player.change_y = 5
active_sprite_list.update()
active_sprite_list.draw(screen)
pygame.display.flip()
```

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Czcionka

```
font = pygame.font.Font('FreeMono.ttf', 18)
help_text = ["Help", "spacja      urzyj dzidy"]
for i, line in enumerate(help_text):
    line_of_text = font.render(line, 700, textcolor)
    screen.blit(line_of_text, (700, 18 * i))
active_sprite_list.update()
active_sprite_list.draw(screen)
pygame.display.flip()
```

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A mógłby Pan w 3D?



Thank you

Konrad Brodzik

Network Software Engineer, Intel NPG

konrad.b.brodzik@intel.com (<mailto:konrad.b.brodzik@intel.com>)

<http://brodzik.it> (<http://brodzik.it>)

[@lamafix](http://twitter.com/lamafix) (<http://twitter.com/lamafix>)

