國立虎尾科技大學

機械設計工程系

計算機概論

組別: bg8

期末遊戲報告

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1. 一開始我們將遊戲模組導入

```
from random import random, randint
from ggame import (
    App,
    Color,
    LineStyle,
    Sprite,
    RectangleAsset,
    ImageAsset,
    CircleAsset,
    EllipseAsset,
    PolygonAsset,
    Frame,
    MouseEvent,
    SoundAsset,
    Sound,
    TextAsset,
)
import math
from time import time
#Ggame導入模組
```

2. 利用老師提供之範例加以改編編寫,利用了兔子跳及太空船的範例,加以統合

```
#定義物件(黑洞吸入及倉鼠的跳動)
class blackhole(Sprite):

    asset = ImageAsset("images/blackhole.png")

    def __init__(self, position):
        super().__init__(blackhole.asset, position)

    def step(self):
        pass
class Hamster(Sprite):

    asset = ImageAsset("images/Hamster.png")

    def __init__(self, position, app):
        super().__init__(Hamster.asset, position)
        # register mouse events
        app.listenMouseEvent(MouseEvent.mousedown, self.mousedown)
        app.listenMouseEvent(MouseEvent.mouseup, self.mouseup)
        app.listenMouseEvent(MouseEvent.mousemove, self.mousemove)
        self.blackhole = app.blackhole
        self.dragging = False

    def step(self):
        if self.blackhole.x <= self.x <= self.blackhole.x + self.blackhole.width and self.blackhole.y <= self.y <= self.blackhole.y + self.blackhole.height:
            self.visible = False
        if random() < 0.04:
            self.x += randint(-20,20)
            self.y += randint(-20,20)
```

3. 設定滑鼠對物體如何作動

```
def mousedown(self, event):#定義滑鼠
    # capture any mouse down within 50 pixels
    self.deltax = event.x - (self.x + self.width//2)
    self.deltay = event.y - (self.y + self.height//2)
    if abs(self.deltax) < 40 and abs(self.deltay) < 40:
        self.dragging = True
        # only drag one bunny at a time - consume the event
        event.consumed = True

def mousemove(self, event):
    if self.dragging:
        self.x = event.x - self.deltax - self.width//2
        self.y = event.y - self.deltay - self.height//2
        event.consumed = True

def mouseup(self, event):
    if self.dragging:
        self.dragging = False
        event.consumed = True
```

4. 最後設定和啟動參數, 讓遊戲能夠順利執行

```
  #啟動定義參數
class DemoApp(App):

    def __init__(self):
        super().__init__()
        self.blackhole = blackhole((self.width/2, self.height/2))
        self.bu = []
        for i in range(20):
            self.bu.append(Hamster((randint(50,self.width),randint(50,self.height)), self))

    def step(self):
        for Hamster in self.bu:
            Hamster.step()
            Hamster.scale = 1
        self.blackhole.step()

# Create the app
app = DemoApp()
# Run the app
app.run()
```

以下是遊戲做動支相關影片：

https://youtu.be/08Eo5NCeTj4