

太鼓達人！

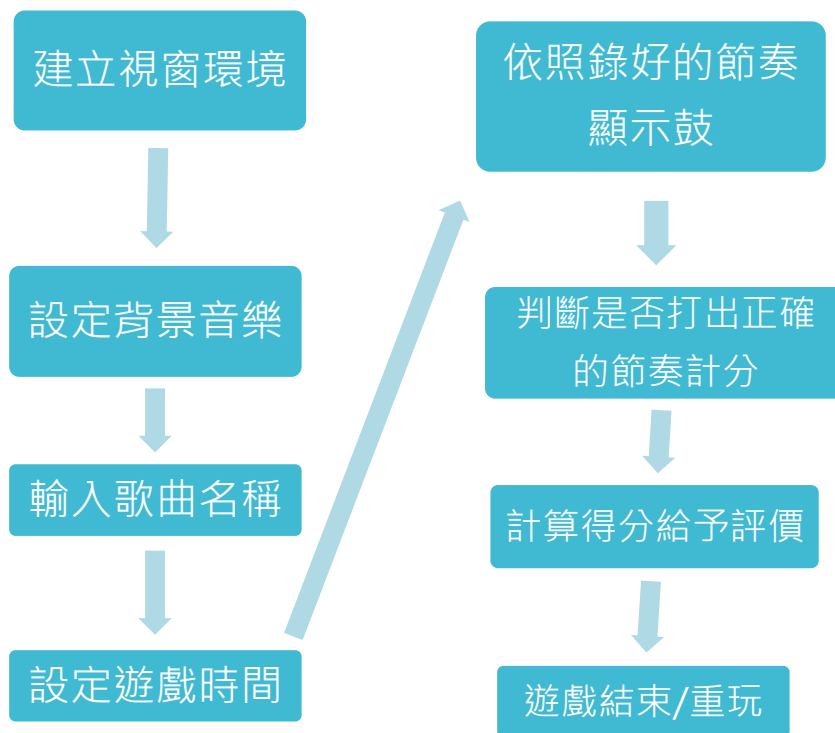
第23組

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初步構思

- 太鼓達人為雛形
- 按鈕擊打
- 圖片移動
- 時間與節奏

流程圖



函式庫

```
1 import pygame,time
2 from pygame.locals import *
3 from pygame import mixer
4 import tkinter as tk
5 import tkinter.font as tkf
```

檢查按鍵擊打 及計分

```
123 ▼ while (endTime-startTime <= 10): # 設定遊戲時間
124     clock.tick(30) # 設定while迴圈每秒執行30次
125     timing += 1
126 ▼ for event in pygame.event.get():
127     if event.type == QUIT: # 關閉程式視窗
128         pygame.quit()
129 ▼ elif event.type == KEYUP:
130 ▼     if event.key == 308:
131         pressr = 1
132         new_drums1.append(370 + 8 * timing)
133 ▼     if event.key == 307:
134         pressb = 1
135         new_drums2.append(370 + 8 * timing)
136     screen.blit(background, (0,0)) # 重繪視窗
```

```
149 max = 99999999
150 ▼ for i in range(len(new_drums1)): #紅鼓的運行及打擊
151     new_drums1[i] -= dx
152 ▼ if pressr == 1:
153     if (abs(min(new_drums1) - 375)) <= 25: #若按下且在範圍內
154         new_drums1[new_drums1.index(min(new_drums1))] = max
155         score += 5 * (1 + combo / 100) #加上combo的計分，越多越高分
156         screen.blit(good_image, good)
157         pressr = 0
158         combo += 1
159     elif (abs(min(new_drums1) - 375)) >= 25: #若按下但不在範圍內
160         screen.blit(bad_image, bad)
161         pressr = 0
162         combo = 0
163 ▼ if min(new_drums1) <= 340: #若超過
164     new_drums1[new_drums1.index(min(new_drums1))] = max
165     screen.blit(bad_image, bad)
166     combo = 0
167     screen.blit(drumr_image, pygame.Rect(new_drums1[i], 220, 50, 50))
```

鼓的運行

```
149         max = 99999999
150     for i in range(len(new_drums1)):#紅鼓的運行及打擊
151         new_drums1[i] -= dx
152     if pressr == 1:
153         if (abs(min(new_drums1) - 375)) <= 25:#若按下且在範圍內
154             new_drums1[new_drums1.index(min(new_drums1))] = max
155             score += 5 * (1 + combo / 100)#加上combo的計分，越多越高分
156             screen.blit(good_image, good)
157             pressr = 0
158             combo += 1
159         elif (abs(min(new_drums1) - 375)) >= 25:#若按下但不在範圍內
160             screen.blit(bad_image, bad)
161             pressr = 0
162             combo = 0
163     if min(new_drums1) <= 340:#若超過
164         new_drums1[new_drums1.index(min(new_drums1))] = max
165         screen.blit(bad_image, bad)
166         combo = 0
167     screen.blit(drumr_image, pygame.Rect(new_drums1[i],220,50,50))
168
```

藍鼓依此類推

記錄鼓出現時間

先把鼓移動的code先註解掉

```
137
138     max = 99999999
139     for i in range(len(new_drums1)): #紅鼓的運行及打擊
140         # new_drums1[i] -= dx
141         if pressr == 1:
142             if (abs(min(new_drums1) - 375)) <= 35: #若按下且在範圍內
143                 # new_drums1[new_drums1.index(min(new_drums1))] = max
144                 score += 5 * (1 + combo / 100) #加上combo的計分，越多越高分
145                 screen.blit(good_image, good)
146                 pressr = 0
147                 combo += 1
148             elif (abs(min(new_drums1) - 375)) >= 35: #若按下但不在範圍內
149                 screen.blit(bad_image, bad)
150                 pressr = 0
151                 combo = 0
152         if min(new_drums1) <= 340: #若超過
153             # new_drums1[new_drums1.index(min(new_drums1))] = max
154             screen.blit(bad_image, bad)
155             combo = 0
156             screen.blit(drumr_image, pygame.Rect(new_drums1[i], 220, 50, 50))
157
```

記錄鼓出現時間

```
123 while (endTime-startTime <= 10):           # 設定遊戲時間
124     clock.tick(30)                           # 設定while迴圈每秒執行30次
125     timing += 1
126     for event in pygame.event.get():
127         if event.type == QUIT:                 # 關閉程式視窗
128             pygame.quit()
129         elif event.type == KEYUP:
130             if event.key == 308:
131                 pressr = 1
132                 new_drums1.append(370 + 8 * timing)
133             if event.key == 307:
134                 pressb = 1
135                 new_drums2.append(370 + 8 * timing)
136     screen.blit(background,(0,0))              # 重繪視窗
```

```
Hello from the pygame community. https://www.pygame.org/contribute.html
!!!!!!It's the data of red !!!!!
Red: [626, 826, 866, 1106, 1210, 1298, 1498, 1602, 1698, 1746, 1922, 2010, 2194, 2474, 2506, 2642, 2690, 2722, 2762, 2802, 3050, 3138, 3354, 3746, 3802, 3946, 4050, 4138]
Blue: [722, 922, 1138, 1234, 1330, 1402, 1522, 1626, 1834, 2090, 2282, 2354, 2586, 2858, 2890, 2930, 2970, 3074, 3170, 3242, 3282, 3458, 3554, 3586, 3626, 3762, 3826, 3858, 3890, 3986, 4082, 4162, 4394, 4434, 4474, 4522, 5018]
請按任意鍵繼續 . . .
```

```
193 print("!!!!!!It's the data of",songstr,"!!!!!!")
194 print("Red:",new_drums1)
195 print("Blue:",new_drums2)
```


視窗轉換

```
44 pygame.init() # 初始化 pygame
45 font = pygame.font.SysFont(None,60) # None:使用系統預字型
46 font2 = pygame.font.SysFont(None,30) # None:使用系統預字型
47 screen = pygame.display.set_mode((WINDOWWIDTH, WINDOWHEIGHT+40))
48 pygame.display.set_caption("太鼓達人") # 設定視窗標題
49 screen.fill(BACKGROUND_COLOR)
50 image = pygame.image.load('/Users/chien/Desktop/logo_taiko.png') # 載入圖片
51 screen.blit(image,(0,0)) # 繪製圖片
52 drawText('Press a key to start.', font, screen, 400,600)
53 pygame.display.update()
54
```

```
88 background = pygame.Surface(screen.get_size()) # 建立畫布
89 background.fill(BACKGROUND_COLOR) # 顯示畫布為白色
90 image = pygame.image.load('/Users/chien/Desktop/drum_Basemap.png') # 載入圖片
91 background.blit(image,(0,0)) # 繪製圖片
92
```

```
206 screen = pygame.display.set_mode((WINDOWWIDTH, WINDOWHEIGHT+40))
207 screen.fill(BACKGROUND_COLOR)
208 image = pygame.image.load("/Users/chien/Desktop/score_Basemap.png") # 載入圖片
209 background.blit(image,(0,0)) # 繪製圖片
210 screen.blit(background,(0,0)) # 重繪視窗
211
```

輸入歌曲

```
59 class asksong(tk.Frame):
60     def __init__(self):
61         tk.Frame.__init__(self)
62         self.grid()
63         self.create()
64     def create(self):
65         s = tk.NE + tk.SW
66         f1 = tkf.Font(size = 36, family = "Courier New")
67         f2 = tkf.Font(size = 28, family = "Courier New")
68         self.txt = tk.Text(self, height = 1, width = 15, font = f2)
69         self.txt.grid(row = 0, column = 0, columnspan = 15, sticky = s)
70         self.lbl = tk.Label(self, text = "請輸入歌曲", height = 1, width = 20, font = f1)
71         self.lbl.grid(row = 1, column = 0, columnspan = 20, sticky = s)
72         self.btn = tk.Button(self, text = "確認", height = 1, width = 5, font = f2, command = self.clickbtn)
73         self.btn.grid(row = 0, column = 16, columnspan = 5, sticky = s)
74     def clickbtn(self):
75         global song
76         song = self.txt.get("1.0", tk.END)      #將輸入值回傳
77 window = asksong()
78 window.master.title("Song")
79 window.mainloop()
80
```

顯示分數成果

```
203     if score >= 300 and score < 500:
204         level = "Good!"           # 分數 300~499 Good!
205     elif score >= 500:
206         level = "Excellent!"      # 分數 >500 Excellent!
207     else:
208         level = "OK!"             # 分數 <300 OK!
209
210     msgstr1 = "YOUR SCORE : " + str(int(score))
211     msg1 = font.render(msgstr1, True, (255, 0, 0))
212     screen.blit(msg1, (550, 170))
213     msg2 = font.render(level, True, (0, 128, 128))
214     screen.blit(msg2, (550, 250))
215     msgstr3 = "YOUR MAX COMBO : " + str(maxcombo)
216     msg3 = font.render(msgstr3, True, (0, 0, 255))
217     screen.blit(msg3, (550, 210))
218     """以上為顯示分數、combo、評價"""
```

是否重玩

```
20 ▼ def waitForYN(): # 等待使用者按y/n鍵
21     global Running
22 ▼     while True:
23 ▼         for event in pygame.event.get():
24             if event.type == pygame.QUIT: # 直接關閉程式視窗
25                 pygame.quit()
26             keys = pygame.key.get_pressed() # 檢查按鍵被按
27 ▼             if keys[pygame.K_y]: # 按下 y
28                 Running = True
29                 return
30 ▼             if keys[pygame.K_n]: # 按下 n
31                 Running = False
32                 return
```

```
222     drawText('PLAY AGAIN (y/n)?', font, screen, 430, 600)
223     pygame.display.update()
224     # 按下y鍵再玩一次，n鍵離開。
225     waitForYN()
```

遇到的困難 how to solve

- 長按空白鍵的bug
→ 用KEYUP取代KEYDOWN
- 音檔播不出來(wav.mp3)
→ 換程式庫 (mixer.sound → mixer.music)
- Tkinter跟pygame難以配合
→ 上網爬文 [global](#)

痛苦但快樂的 成長

- 看不懂的函式庫 → 多試幾次就會了
- 看不懂其他組員的程式碼 → 詢問組員的思路邏輯
- 時間,打擊一直對不到 → 修正數據, 多次嘗試
- 第一部下手難, 尤其是設置視窗 → 勇敢給他寫下去
- 期末時間爆炸 → 激發潛能

未來發展

- 把選歌單的tkinter關掉（？）
- 雙人對戰 or 線上對戰
- 挑戰難度（簡單 中等 困難）
- 排行榜
- 輸入歌 可以自動創建節奏

心路歷程