



Final Project Presentation

*of Fundamental Programming for
Digital Music and Sound Synthesis*



Group: 8

40773003H WEI-TING, SYU
40840305S SHIH-CHENG CHEN
40773008H YU-HAO, TSAI

Let me show you our music game first!



Please have a try!

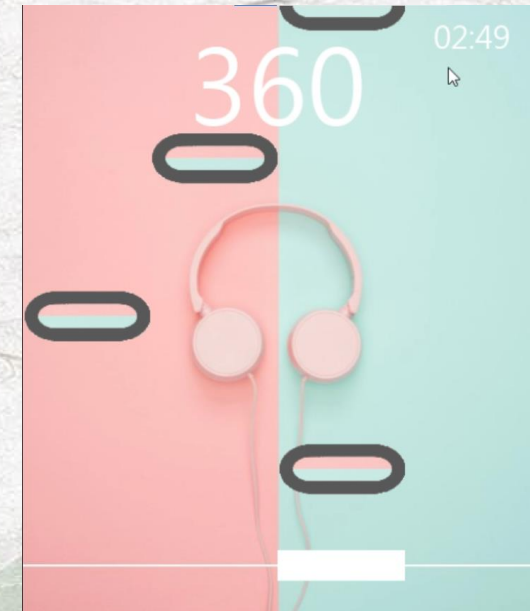
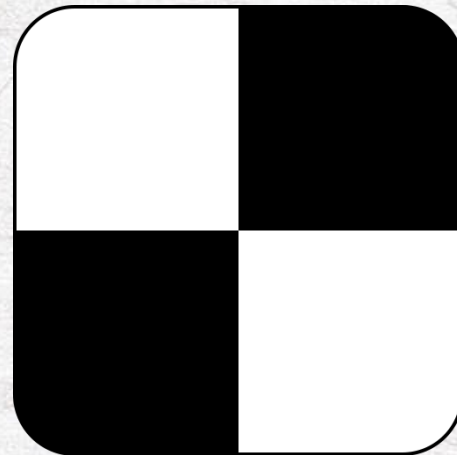
<https://drive.google.com/file/d/1cy4jL-fxDMIo45IvDAzat5-BR5EJVDds/view?usp=sharing>

You can use this link to download the zip file of this game.
Click the *game.exe* file to play. Have fun~



Introduction

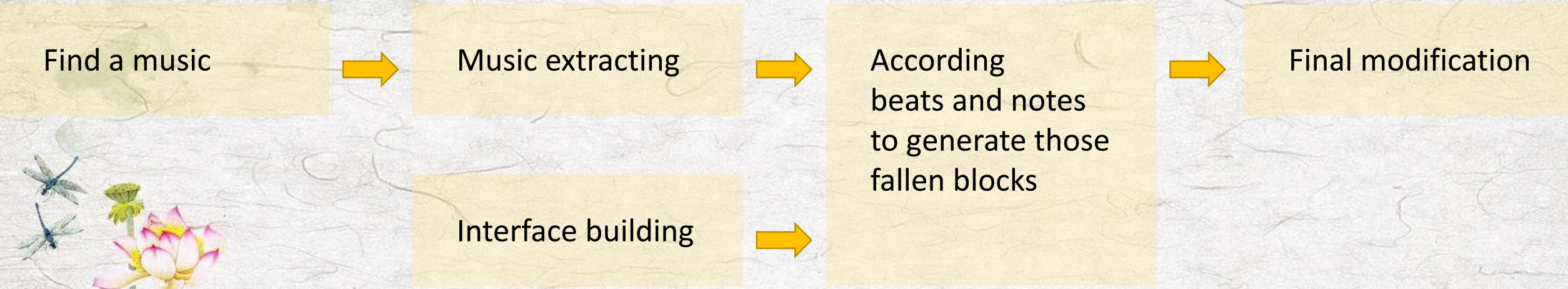
We came up with this game from a famous little game called “*Don't Tap The White Tile*”.
The music we use is Lady GaGa’s “Poker Face”.
We use Python to make this game.



How did we build this game?

It's not really a fun process, to be honest...





```
graph LR; A[Find a music] --> B[Music extracting]; B --> C[According beats and notes to generate those fallen blocks]; I[Interface building] --> C; C --> D[Final modification]
```

Find a music

Music extracting

According
beats and notes
to generate those
fallen blocks

Final modification

Interface building



5

6

15

Synth.

St.

Pn. Fl.

Bar.

Synth.

Con. Sn.

Synth.

Synth.

D. Set

Synth.

ke they

do in Te xas Plays

Fold em let em hit me raise it

17

Synth.

St.

Pn. Fl.

Bar.

Synth.

Con. Sn.

Synth.

Synth.

D. Set

Synth.

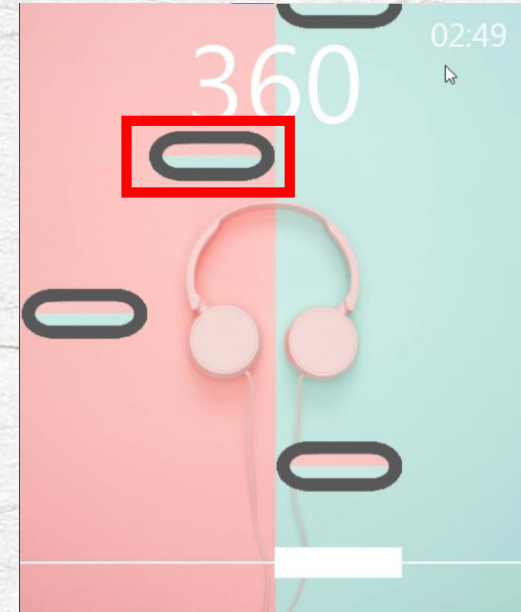
ba by stay with me (I love it Luck and in

| 名稱 | # | 標題 |
|--|---|----|
| <input type="checkbox"/> hit.flac | | |
| <input checked="" type="checkbox"/> PokerFace.flac | | |
| <input checked="" type="checkbox"/> PokerFace.mid | | |

```
beats = getBeats('sound/PokerFace.mid')
notes = getNotes('sound/PokerFace.mid')
```



```
if(counter >= beats[index]):
    if(notes[index] != -1):
        stone = Stone(midinum=notes[index])
        all_sprites.add(stone)
        stones.add(stone)
```



```
# game initialization and create windows
pygame.init()
screen = pygame.display.set_mode((WIDTH, HEIGHT))
clock = pygame.time.Clock()
```

```
# Name
pygame.display.set_caption("抖音一響 父母白養")
```

```
# img

background_img = pygame.image.load(os.path.join("img", "background.jpg")).convert()
stone_img = pygame.image.load(os.path.join("img", "stone.png")).convert()
```

Windows (C:) > 使用者 > USER > 下載 > ver2.1 > img



background.jpg



stone.png


```
running = True
show_init = True
offset = 0.9225
counter = 0.0
index = 0
beats = getBeats('sound/PokerFace.mid')
notes = getNotes('sound/PokerFace.mid')

start = 0.0
```

```
def task1():
    global counter
    global start
    global offset
    global index
    global show_init
    start = time.perf_counter() - offset
    while ~show_init and running:
        counter = time.perf_counter() - start
        time.sleep(1 / 5 / FPS)
```

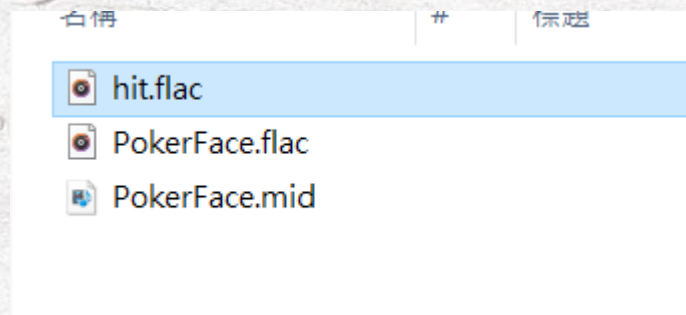
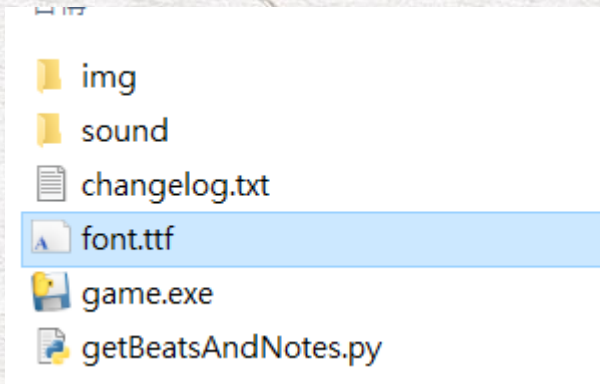
The screenshot shows a music software interface. At the top right, a timer displays '02:49'. The main area features a MIDI piano roll with a red and teal background, showing a sequence of notes. A large red arrow points downwards from the top right. Below the piano roll, a '記號面板' (MIDI Editor) window is open, displaying a list of MIDI events such as '譜號', '調號', '拍號', etc. A 'FPS = 120' label is positioned above the MIDI Editor. To the right, a score editor shows multiple staves for different instruments, with a tempo marking '♩ = 120' highlighted in a red box.

.py file

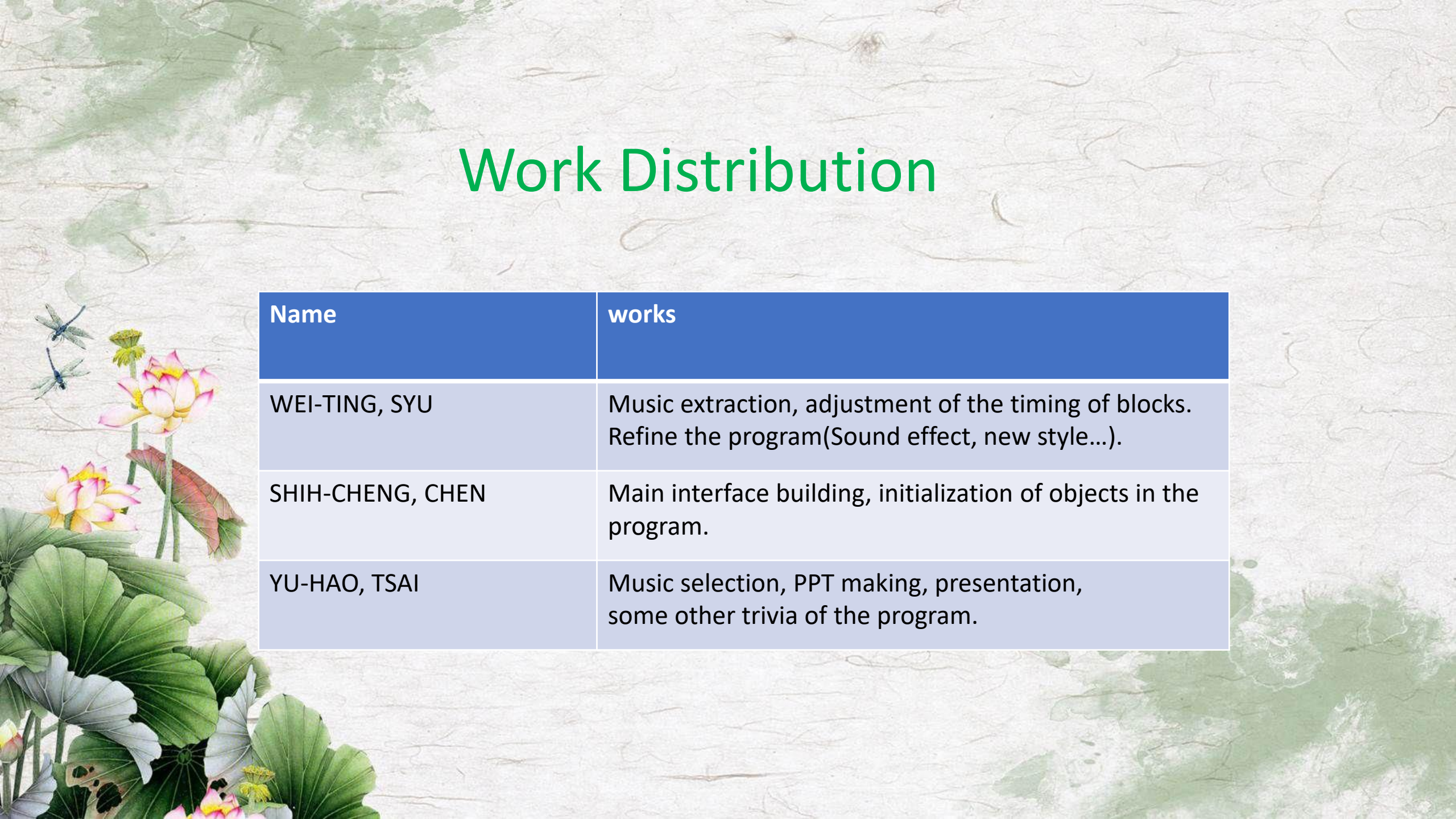
“auto-py-to-exe”



.exe file



Work Distribution



| Name | works |
|------------------|---|
| WEI-TING, SYU | Music extraction, adjustment of the timing of blocks. Refine the program(Sound effect, new style...). |
| SHIH-CHENG, CHEN | Main interface building, initialization of objects in the program. |
| YU-HAO, TSAI | Music selection, PPT making, presentation, some other trivia of the program. |

Any Question?

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We are willing to answer (we try 😊).

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Thanks for your listening.

