

Pokemon 遊戲對戰設計

大學部人工智慧應用


數位系三年級

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寶可夢對戰遊戲設計

目標

- 設計一個寶可夢對戰遊戲

資料結構

- 儲存遊戲勝負、玩家和電腦選擇的神奇寶貝

演算法

- 隨機產生電腦選擇的寶貝，並依照玩家與電腦所派出的寶貝判斷誰勝誰負。

遊戲角色



皮卡丘



小火龍



水劍龜

需要瞭解的程式技巧

按鈕控制

圖片控制

If else判斷

亂數產生

變數

音樂播放



螢幕設計

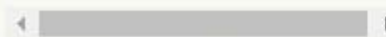
Display hidden components in Viewer

Check to see Preview on Tablet size.



Components

- Screen1
 - Title_Label
 - HorizontalArrangement1
 - Pika_Button
 - Dragon_Button
 - Turtle_Button
 - Reset_Button
 - TableArrangement1
 - player_Image
 - computer_Image
 - Result_Label



Rename Delete

Media

pika.png
dragon.png
turtle.png

Upload File ...

Properties

computer_Image

Height

150 pixels...

Width

150 pixels...

Picture

None...

RotationAngle

0.0

ScalePictureToFit



Visible



演算法

If 水 vs. 火 , 水 win



If 電 vs. 水 , 電 win



If 火 vs. 電 , 火 win



遊戲設計要考慮相生相剋、角色能力的平衡。

用變數來記錄角色

電腦端

```
initialize global c_pet to 0

to init
do set Result_Label . Text to "對戰結果："

when Screen1 . Initialize
do call init
```

螢幕一啟動就執行Init副程式

玩家的選擇

```
initialize global player_pet to 0

when Pika_Button . Click
do set global player_pet to 1

when Dragon_Button . Click
do set global player_pet to 2

when Turtle_Button . Click
do set global player_pet to 3
```

用亂數1~3來決定電腦角色

電腦端的亂數決定角色

```
to computer_play
do
  set global c_pet to random integer from 1 to 3
  if get global c_pet = 1
  then set computer_image . picture to "pika.png"
  if get global c_pet = 2
  then set computer_image . picture to "dragon.png"
  if get global c_pet = 3
  then set computer_image . picture to "turtle.png"
```

玩家端 (加入呼叫
COMPUTER_PLAYER的副程式)

```
initialize global player_pet to 0
```

```
when Pika_Button . Click
do
  set global player_pet to 1
  set player_image . picture to "pika.png"
  call computer_play
```

```
when Dragon_Button . Click
do
  set global player_pet to 2
  set player_image . picture to "dragon.png"
  call computer_play
```

```
when Turtle_Button . Click
do
  set global player_pet to 3
  set player_image . picture to "turtle.png"
  call computer_play
```


加上平手與WIN的判斷

```
to check_win
do
  if (get global player_pet - get global player_pet = 0)
  then set Result_Label . Text to join ["對戰結果：", "平手!!!"]
  else if (get global player_pet = 1 and get global c_pet = 3)
  then set Result_Label . Text to join ["對戰結果：", "YOU WIN!!!"]
  else if (get global player_pet = 2 and get global c_pet = 1)
  then set Result_Label . Text to join ["對戰結果：", "YOU WIN!!!"]
  else if (get global player_pet = 3 and get global c_pet = 2)
  then set Result_Label . Text to join ["對戰結果：", "YOU WIN!!!"]
```

要如何加上輸的
判斷呢？
自己練習一下吧。



不要偷看喔



勝負的判斷

```
to check_win
do
  if (get global c_pet - get global player_pet = 0)
  then
    set Result_Label . Text to join " 對戰結果： "
    " 平手 !!! "
  else
    if (get global player_pet = 1 and get global c_pet = 3)
    then
      set Result_Label . Text to join " 對戰結果： "
      " YOU WIN !!! "
    if (get global player_pet = 2 and get global c_pet = 1)
    then
      set Result_Label . Text to join " 對戰結果： "
      " YOU WIN !!! "
    if (get global player_pet = 3 and get global c_pet = 2)
    then
      set Result_Label . Text to join " 對戰結果： "
      " YOU WIN !!! "
    if (get global player_pet = 1 and get global c_pet = 2)
    then
      set Result_Label . Text to join " 對戰結果： "
      " YOU LOSE !!! "
    if (get global player_pet = 2 and get global c_pet = 3)
    then
      set Result_Label . Text to join " 對戰結果： "
      " YOU LOSE !!! "
    if (get global player_pet = 3 and get global c_pet = 1)
    then
      set Result_Label . Text to join " 對戰結果： "
      " YOU LOSE !!! "
```

最後的全部程式



你確定要看嗎？



最後的全部程式



```

initialize global c_pet to 0

to init
do set Result_Label . Text to "對戰結果："

when Screen1 . Initialize
do call init

to computer_play
do set global c_pet to random integer from 1 to 3
if get global c_pet = 1
then set computer_image . Picture to "pika.png"
if get global c_pet = 2
then set computer_image . Picture to "dragon.png"
if get global c_pet = 3
then set computer_image . Picture to "turtle.png"
call check_win

```

```

initialize global player_pet to 0

when Pika_Button . Click
do set global player_pet to 1
set player_image . Picture to "pika.png"
call computer_play

when Dragon_Button . Click
do set global player_pet to 2
set player_image . Picture to "dragon.png"
call computer_play

when Turtle_Button . Click
do set global player_pet to 3
set player_image . Picture to "turtle.png"
call computer_play

```

```

do if
if get global c_pet = get global player_pet = 0
then set Result_Label . Text to join "對戰結果：" "平手 !!!"
else if get global player_pet = 1 and get global c_pet = 3
then set Result_Label . Text to join "對戰結果：" "YOU WIN !!!"
if get global player_pet = 2 and get global c_pet = 1
then set Result_Label . Text to join "對戰結果：" "YOU WIN !!!"
if get global player_pet = 3 and get global c_pet = 2
then set Result_Label . Text to join "對戰結果：" "YOU WIN !!!"
if get global player_pet = 1 and get global c_pet = 2
then set Result_Label . Text to join "對戰結果：" "YOU LOSE !!!"
if get global player_pet = 2 and get global c_pet = 3
then set Result_Label . Text to join "對戰結果：" "YOU LOSE !!!"
if get global player_pet = 3 and get global c_pet = 1
then set Result_Label . Text to join "對戰結果：" "YOU LOSE !!!"

```



0 Warnings



加分題

加上記錄贏幾次、輸幾次、平手幾次。

每隻角色出現時加上音效。

後續可以延伸

增加更多的神奇寶貝

可以藍芽對戰

對戰結果儲存至資料庫

寶貝可以升級

有HP與AT攻擊力，多回合才會死

有對戰動畫

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