

捷豹小勇士

——新竹縣湖口鄉中興國民小學——

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01

動機與目的



動機與目的

本校位於湖口裝甲營區附近，駐紮有捷豹部隊，具有戰地色彩。本校初始原名《捷豹國小》，後來更名為中興國小，所以學校每一位孩子都是小捷豹，我們期待孩子們都能擁有強健體魄和堅韌耐力的特質，勇於挑戰任何難關。





02

設計理念



設計理念



結合學校多元發展特色「校園農場」、「獨輪車」、「扯鈴」主題等，希望透過科技課程的導入，讓學生動腦想、動手做，培養學生對於學校文化的認同感，激發學習的熱情，勇於挑戰。



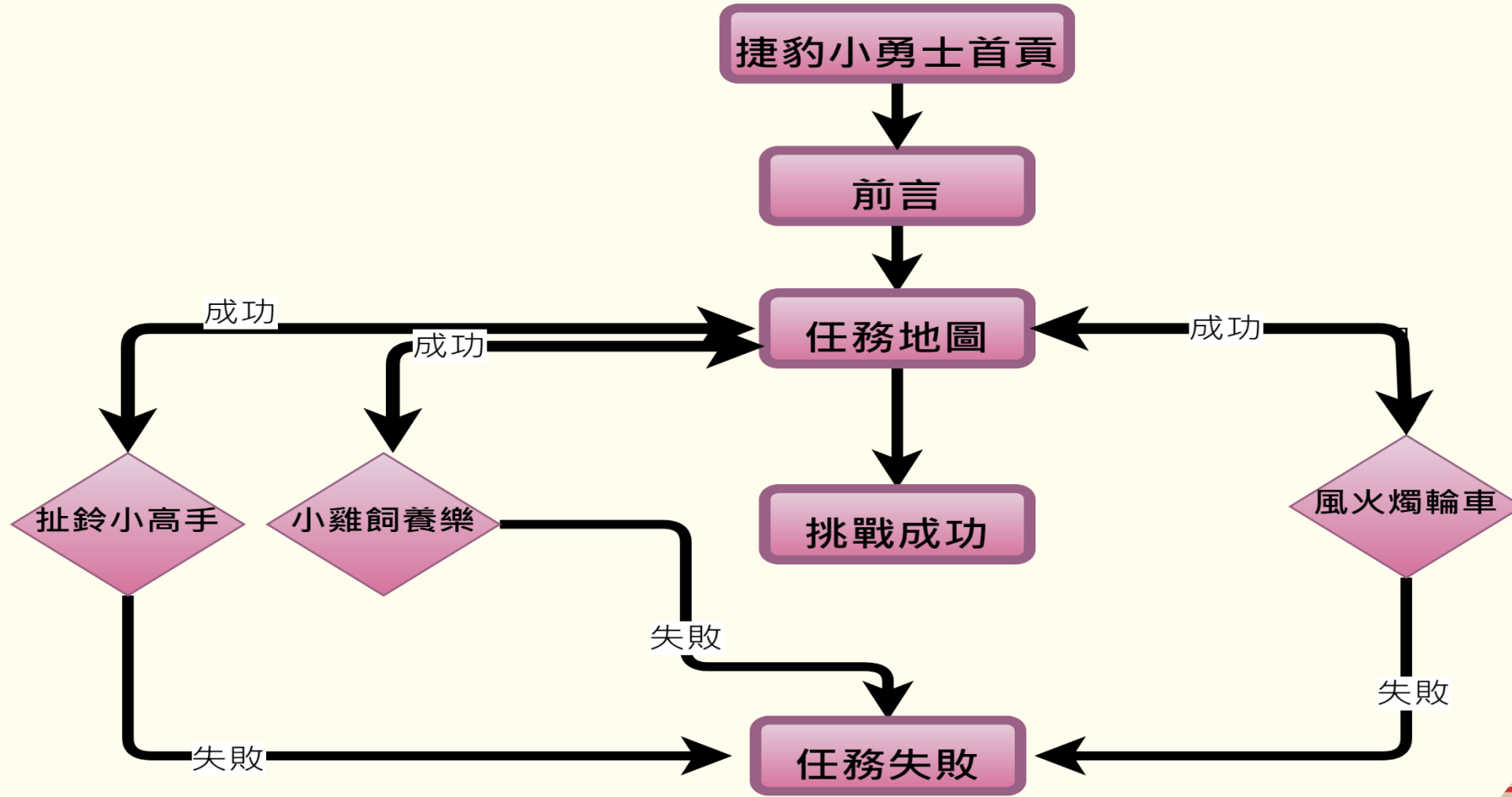


03

遊戲簡介



遊戲設計流程圖



遊戲任務

1

扯鈴小高手

2

小雞飼養樂

3

風火獨輪車



任務一：扯鈴小高手任務說明

1

扯鈴小高手

任務說明：

1. 利用robboni左右控制捷豹接落下的扯鈴闖關。
2. 闖關時間倒數30秒，30秒內扯鈴不落地或不超過左右二側，即任務成功，獲得捷豹智慧徽章一枚。



任務一：扯鈴小高手(捷豹)程式碼

1

扯鈴小高手

The image displays the Scratch programming environment. On the left, the code editor shows a script for a character named '扯鈴豹(紅)2'. The script starts with a '當被點擊' (When clicked) event, followed by '變數 倒數計時 隱藏' (Hide variable '倒數計時') and '隱藏' (Hide). A '當收到訊息 扯鈴' (When I receive message '扯鈴') event triggers a sequence: '顯示' (Show), '造型換成 豹(紅)2' (Change costume to '豹(紅)2'), '定位到 x: 1 y: -80' (Move to x: 1, y: -80), '變數 倒數計時 設為 30' (Set variable '倒數計時' to 30), '變數 倒數計時 顯示' (Show variable '倒數計時'), a '重複 30 次' (Repeat 30 times) loop containing '等待 1 秒' (Wait 1 second) and '變數 倒數計時 改變 -1' (Change variable '倒數計時' by -1). A red box highlights a movement logic block: '如果 csps 加速度 X < -0.7 那麼' (If csps acceleration X < -0.7 then) containing '面朝 90 度' (Face 90 degrees), '移動 5 點' (Move 5 steps), and '迴轉方式設為 左右' (Turn mode set to '左右'). A second '如果 csps 加速度 X > 0.7 那麼' (If csps acceleration X > 0.7 then) block contains '面朝 -90 度' (Face -90 degrees), '移動 5 點' (Move 5 steps), and '迴轉方式設為 左右' (Turn mode set to '左右'). On the right, the stage shows a tiger character in a red outfit juggling. The '倒數計時' (Countdown) variable is visible at the top right of the stage, showing a value of 29. The character's position is set to x: 1, y: -80, with a direction of -90 degrees. The stage background is a photograph of a building entrance.

利用rabboni 控制角色左右移動接拋扯鈴

任務一：扯鈴小高手(扯鈴)程式碼

1

扯鈴小高手

The image shows a Scratch project titled "扯鈴小高手" (Tiger Bell Master). The code is written in Chinese and uses a sequence of blocks to create a parabolic path for a bell. Two red boxes highlight specific sections of the code: one for the initial movement and another for the parabolic path calculation. The stage features a cartoon tiger character in a red outfit, a target icon, and a school building background. A timer in the top right corner shows "倒數計時 29". The bottom right panel displays the character's properties, including its name "扯鈴", x and y coordinates (49, -14), size (100), and direction (90). A library of assets is visible at the bottom, including "捷豹小...", "導言", "豹", "學校背景", and "扯鈴遊戲".

利用拋物線程式讓扯鈴上升落下產生變化

任務二：小雞飼養樂任務說明

2

小雞飼養樂

任務說明：

1. 利用用動robboni產生小雞的食物，小雞成長值增加。
2. 當小雞成長值達100時，即任務成功，獲得捷豹仁愛徽章一枚。



任務二：小雞飼養樂(小雞)程式碼

2

小雞飼養樂

The image displays the Scratch programming environment. On the left, the code editor shows a script for a chicken character. The script starts with a '當被點擊' (When clicked) event, followed by '隱藏' (Hide) and '變數 成長值 隱藏' (Hide variable 'Growth Value'). A '當收到訊息 小雞飼養' (When I receive message 'Chicken Feeding') event triggers a sequence of actions: '顯示' (Show), '定位到 x: 4 y: -63' (Move to x: 4, y: -63), '造型換成 costume1' (Switch to costume1), '變數 成長值 設為 0' (Set variable 'Growth Value' to 0), '變數 成長值 顯示' (Show variable 'Growth Value'), '播放音效 Tropical Birds' (Play sound 'Tropical Birds'), and a '重複直到 成長值 > 100' (Repeat until 'Growth Value' > 100) loop. Inside the loop, there is an '如果 關 驅動 那麼' (If 'Off' is checked, then) block containing '等待 3 秒' (Wait 3 seconds), '造型換成 Hatchling-c' (Switch to costume 'Hatchling-c'), '播放音效 Hello' (Play sound 'Hello'), and '說出 Hello! 持續 0.7 秒' (Say 'Hello!' for 0.7 seconds). The loop ends with another '重複直到 成長值 > 100' block. On the right, the stage shows a white chicken character with a red comb and a yellow beak, standing on a green field under a blue sky with a sun and clouds. The character's position is set to x: 4, y: -63, with a size of 100 and a direction of 90 degrees.

利用成長值變化，呈現小雞不同的成長面貌

任務二：小雞飼養樂(飼料)程式碼

2

小雞飼養樂

The image shows a Scratch project titled "小雞飼養樂" (Chicken Raising Fun). The code editor on the left contains the following logic:

- When a message is received from "蛋孵出小雞了" (Egg hatched a chick), the chicken costume is displayed and set to "costume1".
- A "Repeat" block is highlighted with a red circle, containing:
 - An "If" block with the condition "RAB 驅動 那麼" (If RAB is driven, then).
 - Inside the "If" block:
 - "Change to next costume" block.
 - "Go to" block (target: 飼料定位, position).
 - "Slide in" block (duration: 0.7 seconds, target: 小雞, position).
 - "Go to" block (target: 飼料定位, position).
- Other messages include "當被點擊" (When clicked) leading to "隱藏" (Hide), and "當收到訊息 小雞飼養成功" (When message received: Chicken raising successful) leading to "隱藏" (Hide).
- A message "當收到訊息 母雞生蛋了" (When message received: Mother hen laid an egg) also leads to "隱藏" (Hide).

The stage view on the right shows a chicken character on a green field under a blue sky with a sun and clouds. A "成長值" (Growth Value) indicator shows a value of 8. The bottom interface includes a character selection area with "小雞飼料" (Chicken Feed) selected, and a "舞台" (Stage) area with a "背景" (Background) of 5.

利用甩動robboni產生飼料，增加小雞的成長值

任務三：風火獨輪車任務說明

3

風火獨輪車

任務說明：

1. 利用甩動robboni控制捷豹獨輪車跳躍闖關。
2. 闖關時間倒數30秒，30秒內捷豹獨輪車不碰觸障礙物，即任務成功，獲得捷豹勇氣徽章一枚。



任務三：風火獨輪車(獨輪車)程式碼

3

風火獨輪車

The image displays the Scratch programming environment. On the left, the code editor shows a script for a unicycle character. The script starts with a 'when green flag clicked' event, followed by 'hide' and 'move to top layer'. It then moves the character to x: -150, y: -36. A 'when green flag clicked' event block is followed by 'set score to 0'. A red box highlights an 'if' block: 'if RAB is pressed, then play sound Boing, repeat 5 times, change y by 20, change sprite to next, wait 0.1 seconds, repeat 4 times, change sprite to next, change y by -25'. To the right, another script for 'when green flag clicked' sets a 'countdown' variable to 30, shows it, and enters a loop: repeat 30 times, change countdown by -1, wait 0.5 seconds, play sound success, say success for 2 seconds, and hide countdown. The stage on the right shows a unicycle character on a track with a traffic cone obstacle and a 'countdown 22' display. The bottom right shows the character's properties: '獨輪車2', x: -150, y: -67, size: 40, direction: 90.

利用甩動robboni產生獨輪車跳躍躲避障礙物

任務三：風火獨輪車(障礙物)程式碼

3

風火獨輪車

The image shows the Scratch code editor and stage view for a game titled "風火獨輪車" (Wind Fire Unicycle). The code is organized into three main sections:

- Start/Hidden:** A "當被點擊" (When clicked) event block followed by a "隱藏" (Hide) block.
- Unicycle Start:** A "當收到訊息 獨輪車" (When I receive the message 'Unicycle') event block followed by a "隱藏" (Hide) block. This section is highlighted with a red rounded rectangle. It contains a "重複直到 倒數計時 < 2" (Repeat until countdown < 2) loop. Inside the loop, there is a "建立 自己 的分身" (Create a clone of myself) block, a "造型換成下一個" (Switch to next costume) block, and a "等待 隨機取數 2 到 5 秒" (Wait random number 2 to 5 seconds) block.
- Clone Movement:** A "當分身產生" (When clone created) event block followed by a "顯示" (Show) block and a "定位到 x: 200 y: -110" (Go to x: 200 y: -110) block. This is followed by a "重複無限次" (Repeat forever) loop containing:
 - "x 改變 -5" (Change x by -5)
 - An "如果 碰到 邊緣? 或 碰到" (If hit edge? or hit) conditional block. Inside the "if" block, there is a "等待 0.25 秒" (Wait 0.25 seconds) block and a "分身刪除" (Delete clone) block.

The stage view on the right shows a unicycle character on a track with a traffic cone obstacle. A "倒數計時" (Countdown) timer shows 22. The bottom right shows the "舞台" (Stage) area with a "背景" (Background) of 5 and a "角色" (Character) of "三角錐" (Traffic cone) at x: 75, y: -110.

利用分身的程式並隨機2到5秒產生障礙物

開始遊戲操作

敬請指教!

