

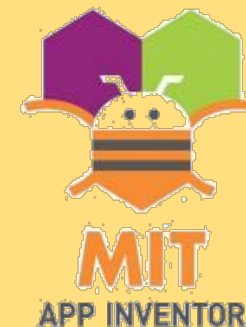
Rabboni 藍牙連線 APP Inventor

矽導研發中心 余成斌

lotus@nycu.edu.tw

2024/04/17 #

Rabboni





App Inventor2介紹

- 由Google 在2010年開發，2011年終止開發，之後由MIT中心手機學習部門支持運營這個應用軟體，改名為 MIT APP Inventor 。
2013年發表 APP Inventor 2 Beta
2020年推展iOS 版本
- 為一個透過視覺化圖形介面來設計行動應用服務的工具，使用圖形化界面，非常類似於Scratch程式語言，使用積木式程式以圖像方式來呈現讓程式初學者能或不熟悉程式設計夠更快上手。



官網 <https://appinventor.mit.edu>

雲端檔案下載 <https://reurl.cc/nNzapD>

1.擴充套件 BluetoothLE :
[edu.mit.appinventor.ble-20230728.aia](https://reurl.cc/nNzapD)

2.USB連線 Windows安裝
[MIT_App_Inventor_Tools_30.265.0_win_setup64.exe](https://reurl.cc/nNzapD)

3.範例 a. rabboni搖搖 [Rabboni_NCTU_Demo_0816.aia](https://reurl.cc/nNzapD)
b. rabboni 急擊球 [BLE_fist_0408.aia](https://reurl.cc/nNzapD)

我的雲端硬碟 > APPInventor ▾

類型 ▾

使用者 ▾

上次修改日期 ▾

名稱 ↑

| | | |
|---|-------------------------------------------------|---|
| ☰ | BLE_fist_0408.aia | 👤 |
| ☰ | edu.mit.appinventor.ble-20230728.aia | 👤 |
| 📁 | MIT_App_Inventor_Tools_30.265.0_win_setup64.exe | 👤 |
| ☰ | Rabboni_NCTU_Demo_0816.aia | 👤 |



官網 <https://appinventor.mit.edu>

← → ↻ appinventor.mit.edu [Icons]

MIT APP INVENTOR **Create Apps!** About For Educators News & Events Get Involved Resources **Donate** [Search]

GLOBAL AI HACKATHON


Mit RAISE Initiative
Responsible AI for Social
Empowerment and Education

App Inventor
Foundation



<https://appinventor.mit.edu>

Create App，使用 Google 帳戶登入

 使用 Google 帳戶登入

登入

繼續使用「[App Inventor Authentication](#)」

電子郵件地址或電話號碼



[忘記電子郵件地址？](#)

如要繼續進行，Google 會將您的姓名、電子郵件地址、語言偏好設定和個人資料相片提供給「App Inventor Authentication」。

[建立帳戶](#)

下一步



<https://appinventor.mit.edu>

Create App , 同意使用。

To use App Inventor for Android, you must accept the following terms of service.

Terms of Service

You agree to defend, hold harmless and indemnify MIT, and its subsidiaries, affiliates, officers, agents, and employees from and against any third-party claims, actions or demands arising out of, resulting from or in any way related to your use of the Site, including any liability or expense arising from any and all claims, losses, damages (actual and consequential), suits, judgments, litigation costs and attorneys' fees, of every kind and nature. In such a case, MIT will provide you with written notice of such claim, suit or action.

Miscellaneous

Termination Rights. You agree that MIT, in its sole discretion, may terminate your use of the Site or your participation in it thereof, for any reason or no reason.

Entire Agreement. This Agreement constitutes the entire agreement between you and MIT with respect to your use of the Site, superseding any prior agreements between you and MIT regarding your use of the Site.

Waiver and Severability of TOS. The failure of MIT to exercise or enforce any right or provision of the TOS of Site shall not constitute a waiver of such right or provision. If any provision of the TOS is found by a court of competent jurisdiction to be invalid, the parties nevertheless agree that the court should endeavor to give effect to the parties' intentions as reflected in the provision, and the other provisions of the TOS remain in full force and effect.

Choice of Law/Forum Selection. You agree that any dispute arising out of or relating to these Terms or any content posted to a Site will be governed by the laws of the Commonwealth of Massachusetts, excluding its conflicts of law provisions. You further consent to the personal jurisdiction of and exclusive venue in the federal and state courts located in and serving Boston, Massachusetts as the legal forum for any such dispute.

Effective Date: April 20, 2015.

登入後，新增專案



擴充套件 BluetoothLE : 下載<https://mit-cml.github.io/extensions/>

BluetoothLE.aix , 之後匯入 , 在iSO上尚不能執行。

The screenshot shows the MIT App Inventor interface. On the left, the sidebar contains a menu with options: 元件面板, 搜尋元件..., 使用者介面, 介面配置, 多媒體, 繪圖動畫, 感測器, 擴充套件, and 匯入擴充套件. A green arrow points to the '匯入擴充套件' button. The main area displays the MIT App Inventor logo and a note about the companion application. Below this, a section titled 'Supported:' contains a table with the following data:

| Name | Description | Author | Version | Download .aix File |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------|---------------------------------|
| BluetoothLE | Adds as Bluetooth Low Energy functionality to your applications. See BluetoothLE Documentation and Resources for more information. | MIT App Inventor | 20230728 | BluetoothLE.aix |

面板說明

專案 新增/匯入/管理

連線 執行程式

建置 產生APK檔

切換語系

畫面設計

程式畫面

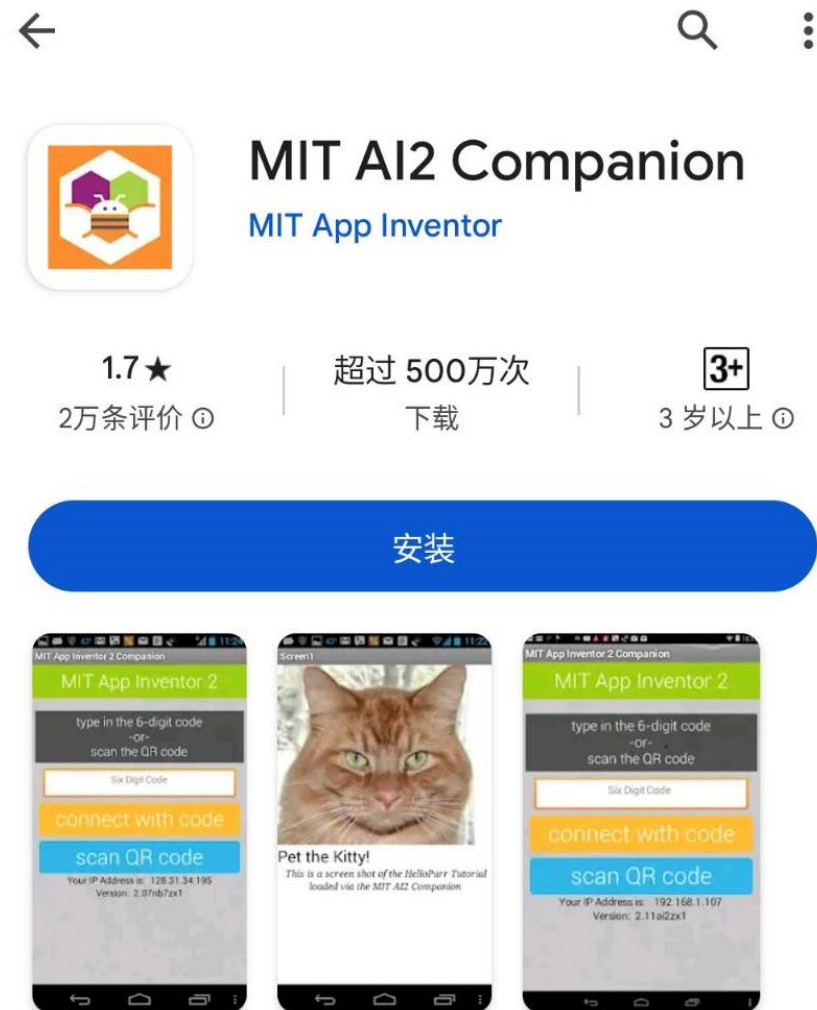
The screenshot shows the MIT App Inventor web interface. At the top left is the MIT App Inventor logo. The main navigation bar contains several buttons: '專案' (Projects), '連線' (Connect), '建置' (Build), '設定' (Settings), '說明' (Help), '我的專案' (My Projects), '檢視垃圾桶' (View Trash), '指南' (Guides), '回報問題' (Report Problem), '正體中文' (Traditional Chinese), '畫面編排' (Screen Design), and '程式設計' (Code Editor). The '專案', '連線', '建置', and '正體中文' buttons are highlighted with green boxes. Annotations with arrows point to these buttons: '專案 新增/匯入/管理' points to '專案', '連線 執行程式' points to '連線', '建置 產生APK檔' points to '建置', and '切換語系' points to '正體中文'. Below the navigation bar, the interface is divided into four panels: '元件面板' (Component Palette) on the left, '工作面板' (Workspace) in the center, '所有元件' (All Components) on the right, and '元件內容' (Component Properties) on the far right. The '工作面板' shows a mobile phone preview with 'Screen1' displayed. The '元件內容' panel shows settings for 'Screen1 (螢幕)', including '外觀' (Appearance) with options for '應用程式說明', '水平對齊' (Horizontal Alignment), '垂直對齊' (Vertical Alignment), '背景顏色' (Background Color), and '背景圖片' (Background Image).

登入後，載入專案 .aia


The screenshot displays the MIT App Inventor web interface. At the top left is the MIT App Inventor logo. The top navigation bar includes '專案' (Projects), '連線' (Connect), and '建置' (Build) menus. A dropdown menu is open under '專案', showing options: '我的專案' (My Projects), '新增專案' (New Project), and '由電腦匯入專案 (.aia) ...' (Import Project from Computer (.aia) ...). The central workspace shows a mobile app preview for 'Rabboni Demo' with a 'Scan' button. A right-hand panel lists components: 'Screen1', 'RabboniLogo', 'HorizontalArrangement1', 'HorizontalArrangement2', and various buttons and labels. The bottom left shows a list of components like 'CircularProgress', '日期選擇器', '圖像', '標籤', 'LinearProgress', '清單選擇器', '清單顯示器', and '對話框'.

程式執行 ➡ 連線

實體機(手機)：Android機上安裝
MIT AI2 Companion，(在Play
商店尋找安裝)




← 🔍 ⋮

 **MIT AI2 Companion**
MIT App Inventor

1.7 ★ | 超过 500万次 | 3+
2万条评价 ⓘ | 下载 | 3岁以上 ⓘ

安装

MIT App Inventor 2 Companion
MIT App Inventor 2
type in the 6-digit code
-or-
scan the QR code
Six Digit Code
connect with code
scan QR code
Your IP Address is: 128.31.34.195
Version: 2.07nb7zx1

Screen1

Pet the Kitty!
This is a screen shot of the HelloKitty Tutorial
loaded via the MIT AI2 Companion

MIT App Inventor 2 Companion
MIT App Inventor 2
type in the 6-digit code
-or-
scan the QR code
Six Digit Code
connect with code
scan QR code
Your IP Address is: 192.168.1.107
Version: 2.11a2zx1

程式執行 ➡ 連線

手機之WIFI、藍牙、GPS，請先開啟

1. AI Companion：以WIFI連線，手機與電腦在同一網段。
2. USB：手機與電腦連接USB線，USB文件傳輸，手機開發者選項->ON。
3. 產生 .APK 安裝檔。



程式執行 ➡ WIFI連線

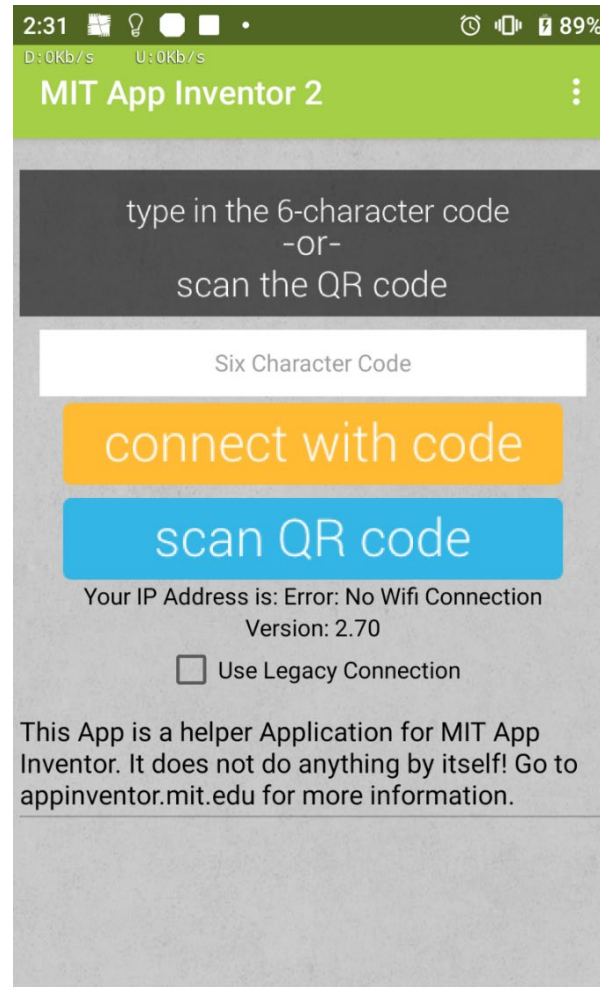
1. AI Companion : 手機上執行MIT AI2 Companion , 輸入 (或掃Qr碼) 。



程式執行 → WIFI連線



輸入代碼(或掃Qr碼)



程式執行 ➡ USB連線

- 2. USB : a. 手機與電腦連接USB線。
- b. 安裝Windows 程式。

<https://appinventor.mit.edu/explore/ai2/windows>



Note: These instructions are for the new Emulator package that requires 64-bit Windows. You can find th

Installing the App Inventor Setup software package

You must perform the installation from an account that has administrator privileges. Installing via : supported.

Note: You will need to be logged in as an Administrator to complete the steps below.



1. [Download the installer.](#)

2. Locate the file **MIT_App_Inventor_Tools_30.265.0_win_setup64.exe (~1.5 GB)** in your Download download on your computer depends on how your browser is configured.

3. Open the file.

程式執行 ➡ USB連線

2. USB：桌面上 執行執行



，即可在手機上看到程式畫面。

檢測連線是否成功 <https://appinventor.mit.edu/test.html>



Vabboni

3. 產生 .APK 安裝檔。
下載 .apk檔 或 手機
掃Qr 碼直接安裝。

Rabboni_NCTU_Demo_0816__1 的 Android App



按下按鈕開始下載這個 **app**，請點選滑鼠右鍵來複製下載連結，或使用條碼掃描程式來掃描並安裝。

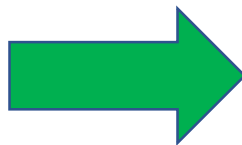
注意：本連結和條碼有效時間只有 2 小時。如何把 app 與其他好友分享，請參考常見問題 中的相關說明 [。](#)

放棄

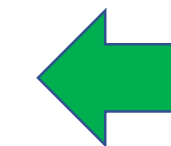
範例一說明

rabboni搖搖。

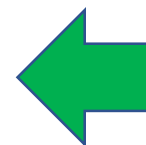
輸入MAC 碼



SCAN 尋找
rabboni



Reset 重新
計算



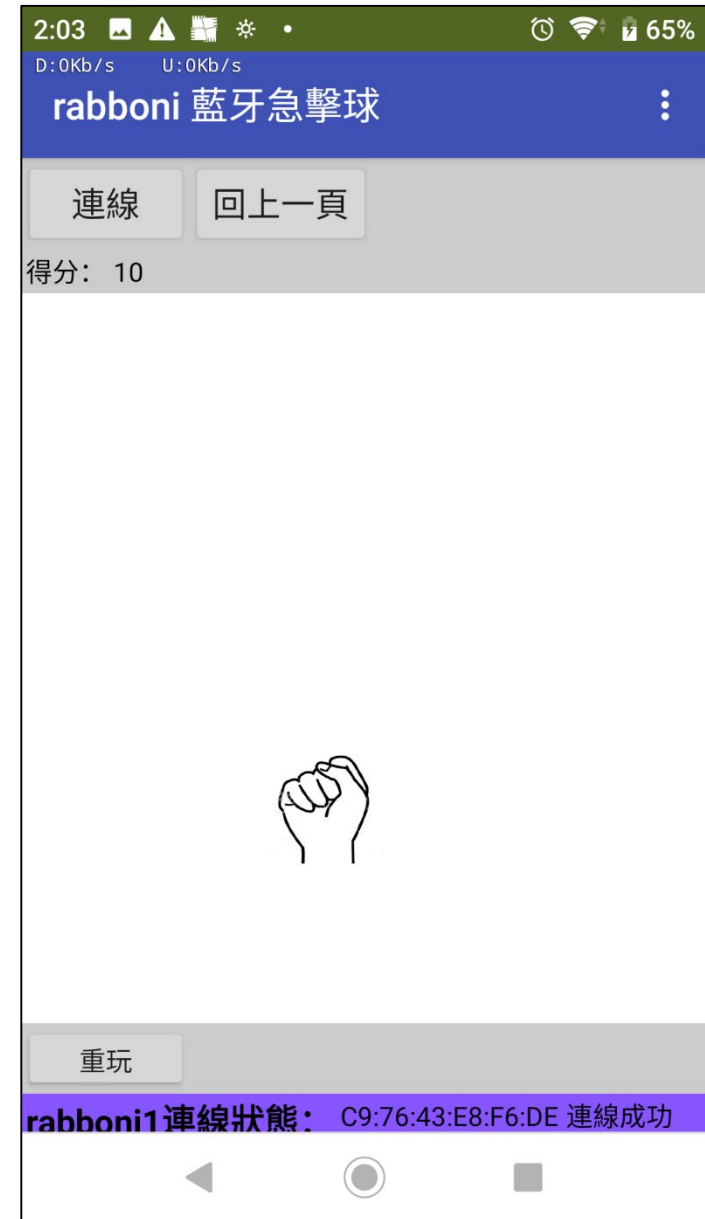
Start 開始計次



範例二

rabboni 急擊球。

1. 藍牙連線rabboni。
2. 遊戲開始，以rabboni遙控拳頭撞擊圓球，計得分(score_fit)。
3. 抓取X、Y軸加速度值(aX1、aY1)去判別拳頭前進方向。
4. 圓球隨機出現位置在畫布的寬度、高度範圍中。

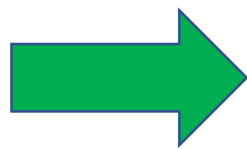


範例說明二

連線

掃描藍牙裝置。

掃描藍牙裝置
找出 rabboni

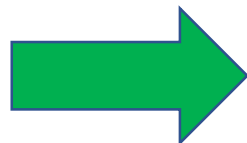


範例說明二

rabboni 連線成功。

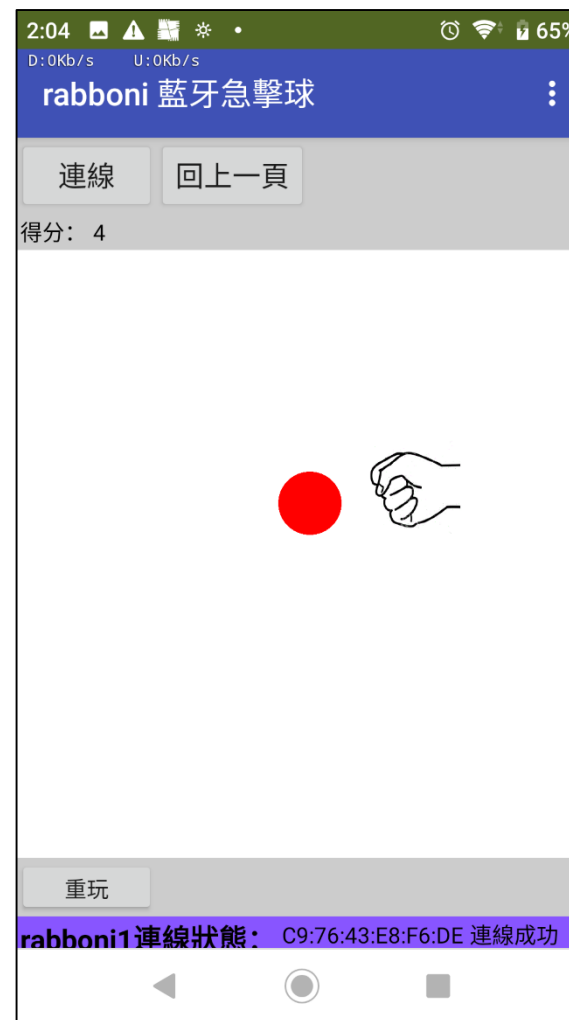
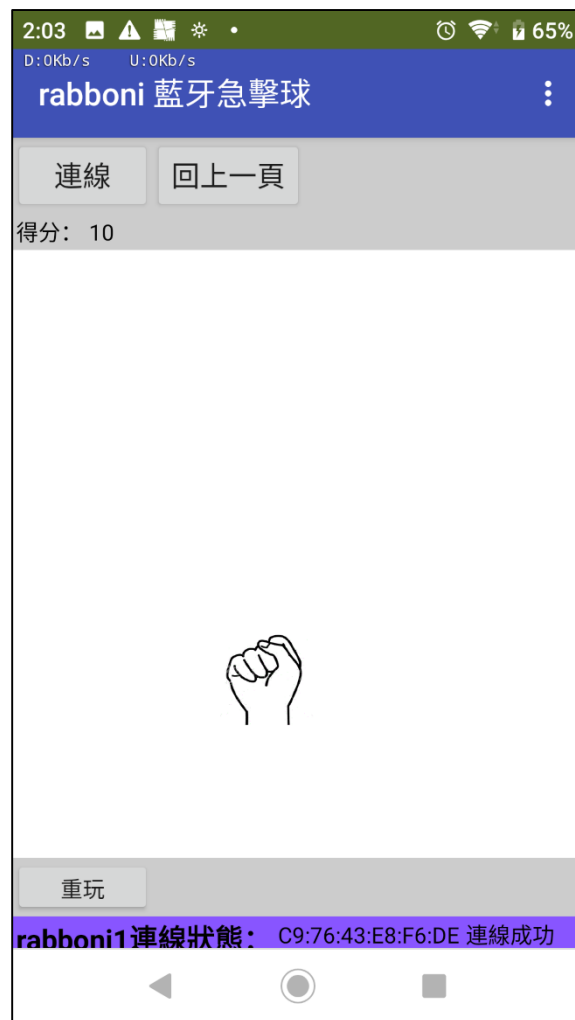
出現MAC碼、加
速度、角速度

aX1 : X軸加速度
aY1 : Y軸加速度
aZ1 : Z軸加速度
gX1 : X軸角速度
gY1 : Y軸角速度
gZ1 : Z軸角速度



範例說明二

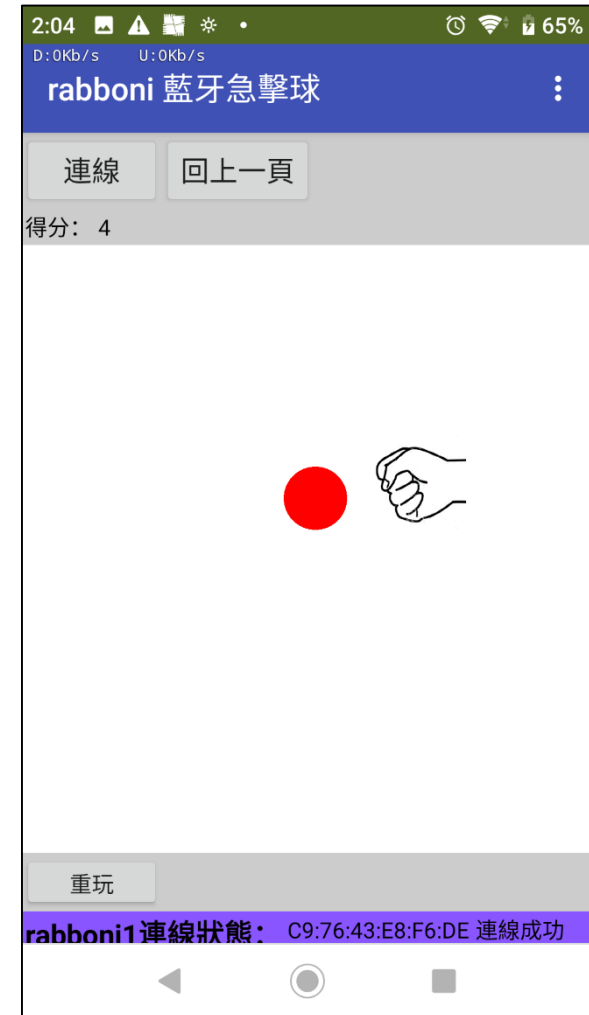
以rabboni 控制拳頭前進方向，碰撞紅球得分。

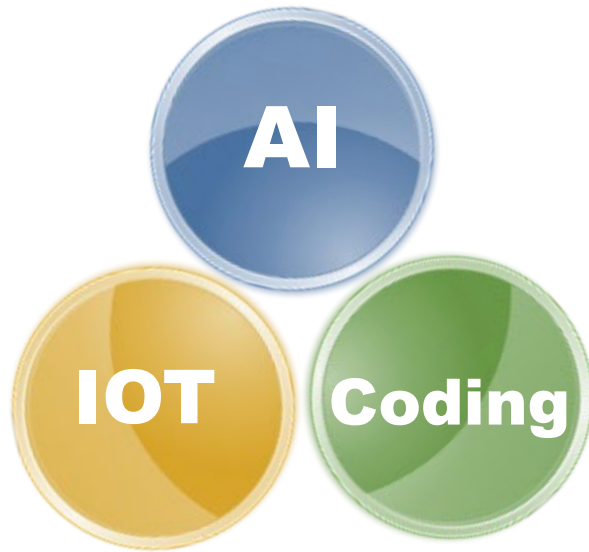


範例說明二

發想

1. 調整拳頭移動速度。
2. 多一個拳頭，由第2個rabboni控制。
3. 增加球數。





WITH **FUN !**



引用資料

- MIT APP INVENTOR <https://appinventor.mit.edu>
- 12U10 <https://12u10.lab.nycu.edu.tw>