

CH. 2

HELLO WORLD

HORAZON

應用程式設計

本章目標

1. 建立第一個專案 (Project)
2. 認識按鈕 (Button) 與標籤 (Label)
3. 讓手機與電腦連線 (AI Companion)
4. 完成 "Hello World" (點按鈕變文字)

建立新專案

1. 在 AI2 網頁左上角，點選 "專案" (Projects) -> "新增專案" (Start new project)
2. 輸入專案名稱：Hello_學號

○ 注意：名稱不能用中文！也不能用數字開頭！

- 正確範例：Hello_A1234567
- 錯誤範例：你好、123Hello

The screenshot shows the MIT App Inventor 2 web interface. At the top, there is a navigation bar with the MIT App Inventor logo, user account information (horazons@gmail.com), and links for '我的專案' (My Projects), '檢視垃圾桶' (View Trash), '指南' (Guide), '回報問題' (Report Problem), '正體中文' (Traditional Chinese), and an email link. Below the navigation bar is a green header bar with tabs for '專案' (Projects), '新增專案' (Start New Project), '新增資料夾' (New Folder), '移動...' (Move...), '移到垃圾桶' (Move to Trash), '檢視垃圾桶' (View Trash), '登入藝廊' (Log in to Gallery), and '發佈作品到Gallery' (Publish Work to Gallery). The main content area is titled '我的專案' (My Projects) and lists one project: 'App01'. The project details show it was created on 2024/11/28 下午3:42:07 and last modified on 2025/9/11 下午3:25:47.

登入後，你會看到這個畫面 (如果是英文，可在右上角選 "繁體中文")：

四大區域

1. **元件面板 (Palette)**: 拿材料的地方 (按鈕、標籤...)
2. **工作面板 (Viewer)**: 你的手機畫面預覽
3. **元件清單 (Components)**: 用了哪些東西
4. **屬性面板 (Properties)**: 設定顏色、大小

認識開發介面

The screenshot displays the MIT App Inventor development environment. The top navigation bar includes the MIT App Inventor logo, user account information (horizons@gmail.com), and links for '我的專案', '檢視垃圾桶', '指南', '回報問題', '正體中文', and 'horizons@gmail.com'.

The main workspace shows a smartphone screen titled "Screen1" with the text "標籤1的文字". The workspace toolbar at the top right includes buttons for "Screen1", "新增畫面...", "刪除螢幕", "專案屬性", and "發佈作品到Gallery".

The left sidebar contains the "元件面板" (Component Panel) with sections for "使用者介面" (User Interface) and "介面配置" (Interface Configuration). The "使用者介面" section lists various UI components like Buttons, Checkboxes, Progress Bars, etc. The "介面配置" section includes options for Multimedia, Drawing Animations, Maps, Charts, Data Science, and Sensors.

The right sidebar contains the "元件內容" (Component Content) panel for "Screen1". It shows the "Appearance" tab with settings for Horizontal Alignment (Left: 1), Vertical Alignment (Top: 1), Background Color (Predefined), and Background Image (None). Other tabs include "Media" (Uploading files) and "Properties" (Title: Screen1, Show Title checked).

The bottom of the interface includes links for "隱私政策與使用條款" and "Accessibility: accessibility.mit.edu".

設計畫面 (DESIGNER)

我們還在「外觀編排 (Designer)」模式：

1. 拉一個「按鈕 (Button)」：從左邊拉到中間手機畫面。
2. 拉一個「標籤 (Label)」：也拉進去。

修改屬性 (右邊面板)

- 點選剛拉進去的按鈕，在右邊「屬性」更改「文字」為：**按我有驚喜**
- 點選標籤，更改「文字」為：**wwwwww**
- 試著改改看「字體大小」或「背景顏色」！

設計畫面 (DESIGNER)

The screenshot shows the Designer interface for a mobile application. On the left, a smartphone screen displays a blue header bar labeled "Screen1". Below it, the main content area has a red background with the text "WWWWWW" in white. At the bottom, there is a green rectangular button with the text "按我有驚喜" (Press me for a surprise) in white. The top of the screen shows a toolbar with settings for "顯示器尺寸 (768 x 1024)" and "Android 裝置版本 3.0-4.4.2".

The right side of the interface is the Properties panel, which is divided into several sections:

- 所有元件**: A tree view showing the hierarchy: Screen1 > 標籤1 > 按鈕1.
- 元件內容**: A section for the selected "按鈕1" (Button1). It includes:
 - Appearance**:
 - 背景顏色: 預設 (Solid color)
 - 粗體: 不選 (Bold)
 - 斜體: 不選 (Italic)
 - 字體大小: 30 (Font Size)
 - 字型: 預設字型... (Font Style)
 - 高度: 自動... (Height)
 - 寬度: 自動... (Width)
 - 圖像: 無... (Image)
 - 形狀: 預設 (Shape)
 - 顯示互動效果: (Show Interaction Effect)
 - 文字: 按我有驚喜 (Text)
 - 文字對齊: 置中 : 1 (Text Alignment)
 - 文字顏色: 藍色 (Text Color)
 - 可見性: 可見 (Visible)
 - 媒體**: Includes a "上傳檔案..." (Upload File...) button.

撰寫程式 (BLOCKS)

畫面做好了，但它還不會動。我們要切換到「**程式設計 (Blocks)**」模式。

1. 點擊右上角的 "Blocks" (程式設計) 按鈕。
2. 進入像拼圖一樣的畫面。



撰寫程式 (BLOCKS)

The screenshot shows the MIT App Inventor workspace interface. At the top, there is a navigation bar with the MIT logo, user account information, and links for "我的專案", "檢視垃圾桶", "指南", "回報問題", "正體中文", and an email address "horizons@gmail.com". Below the navigation bar is a toolbar with buttons for "Screen1", "新增畫面...", "刪除螢幕", "專案屬性", and "發佈作品到Gallery". The main workspace is titled "App01" and has a green header bar with tabs for "工作面板" and "Toggle Console" (which is currently selected). On the left side, there is a sidebar titled "積木" (Blocks) containing a tree view of the project structure:

- 內建指令
 - 控制
 - 邏輯
 - 數學
 - 文字
 - 清單
 - 字典
 - 顏色
 - 變數
 - 程序
- Screen1
 - 標籤1
 - 按鈕1
- 任何元件

Below the sidebar are buttons for "重新命名" and "刪除". To the right of the workspace is a vertical toolbar with icons for "剪切" (Cut), "複製" (Copy), "粘貼" (Paste), "增加元件" (Add component), "減少元件" (Remove component), and a trash can icon.

At the bottom of the workspace, there are two small status indicators: one with a yellow triangle and another with a red circle, both labeled "0". A button labeled "顯示警告" (Show Warnings) is located at the bottom center. The bottom of the screen also features a footer with links for "隱私權政策與使用條款" and "Accessibility: accessibility.mit.edu".

拼積木的時間！

我們的目標：當按鈕被按下時，標籤的文字變成 "Hello World!"

1. 在左邊點選 "Button1" -> 拉出 <當 Button1. 被點選> (黃色積木)
2. 在左邊點選 "Label1" -> 拉出 <設 Label1. 文字 為> (深綠色積木)
3. 把它們卡在一起！
4. 在左邊點選 "文字 (Text)" -> 拉出最上面的 " " (紅色字串積木)
5. 改裡面的字為 "Hello World!"，並卡在最後面。



這樣就完成了，我們需要測試看看！

測試 (AI COMPANION)

1. 電腦網頁上方點選 "連線 (Connect)" -> "AI Companion"
 - 會出現一個 QR Code。
2. 拿起你的手機，打開 MIT AI2 Companion App。
3. 點選 "scan QR code" (掃描 QR Code) 或輸入 6 位數代碼。
4. 等跑條跑完...

成功了嗎？

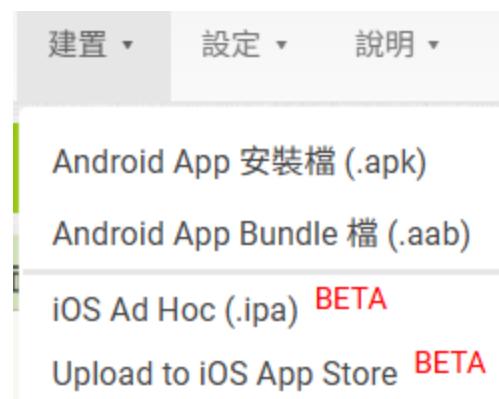
試著按按看手機上的按鈕，標籤變字了嗎？

建置測試 (BUILD APK)

AI Companion 的方法，有時候蠻常失敗的。

我這邊建議用建置的方式

1. 上方建置(Build) -> 建置專案(Build Project)
2. Android App 安裝檔 (.apk)
3. 下載到電腦
4. 使用模擬器安裝



重點回顧

- Designer (外觀)：用來排版，放按鈕、標籤。
- Blocks (程式)：用來寫邏輯，拼積木。
- AI Companion：用來讓手機跟電腦同步，馬上看到結果。
- Build APK：用來建置 App，安裝到手機(或模擬器)上。

下一章：做一個可以用的計算機！