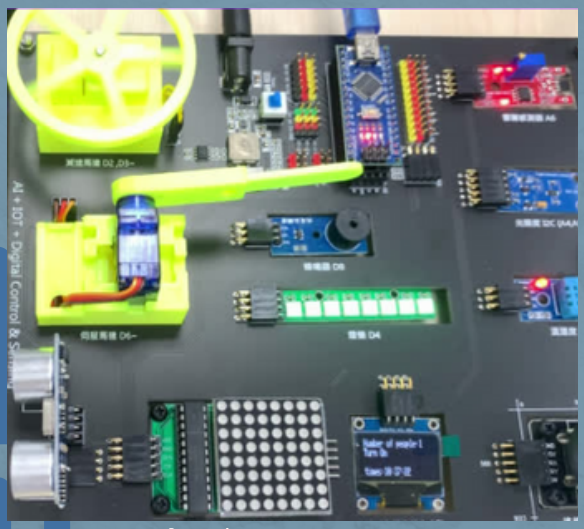
作品簡介

Ai感應教室自動開關電器

研究動機：

班上經常因為未關電風扇或冷氣和電燈就離開，而被老師責罵。為了防止老師的指責與浪費電，因而想出AI自動開關電器。想法是這樣：只要有人進入教室，感測器被觸發，電器自動啟動；若教室裡偵測到沒人，則自動關閉所有電器。

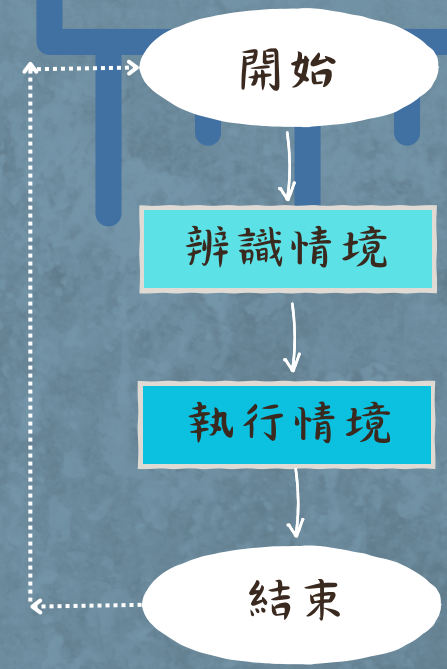


▲用來模擬的5016B教具

我們的想法：

辨識情境：
超音波是否偵測到人

執行情境一：
未感測到人時，RGB LED燈條全暗，減速馬達不動，OLED顯示人數(0)+時間。



執行情境二：
偵測到人時，RGB LED燈條呈綠色，減速馬達旋轉，OLED顯示人數+時間。

結束：
執行結束後，再回到辨識階段，重複動作

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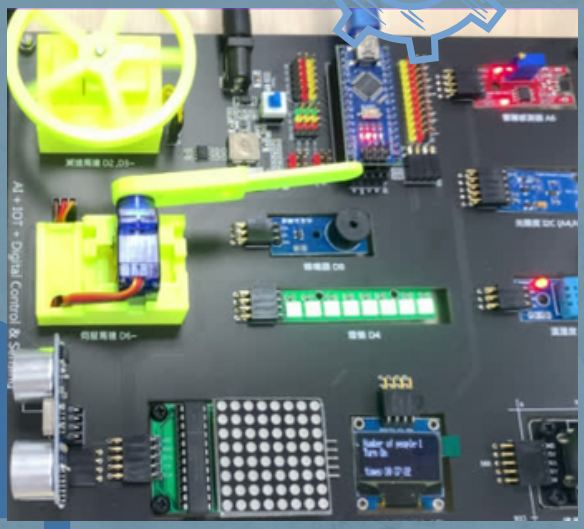
Introduction

Ai感應教室自動開關電器

Research Motivation:

In our class, students often get in trouble with teachers for not switching off fans, ACs, and lights when they leave. To avoid this and save electricity, we came up with the idea of making an AI system to handle these appliances automatically. Here's the plan: when someone enters the classroom, sensors turn things on; when nobody's there, everything switches off.

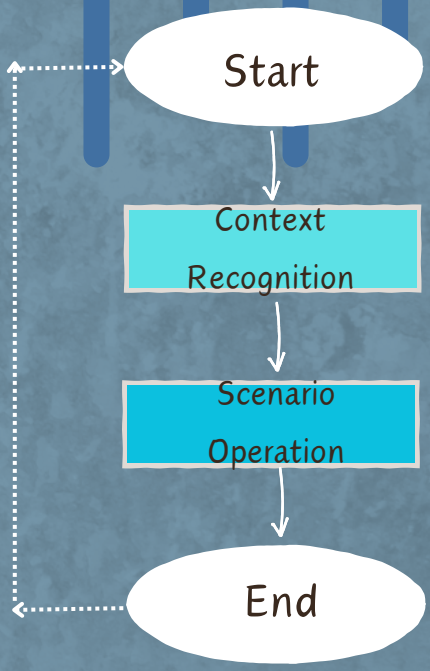


▲ The 5016B teaching aid used for simulation.

Our idea :

Context Recognition:
Whether the ultrasonic sensor detects a person.

Scenario One Operation:
If no one is detected, the RGB LED strip turns off, the stepper motor stops moving, and the OLED screen shows "People: 0" with the current time.



Scenario Two Operation:
When someone is detected, the RGB LED strip goes green, the stepper motor spins, and the OLED screen shows how many people are there along with the current time.

Completion:
After execution, return to the recognition phase and repeat the process.

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