

Trendy and Follow the Trend—Smart Dehumidifier Barrel

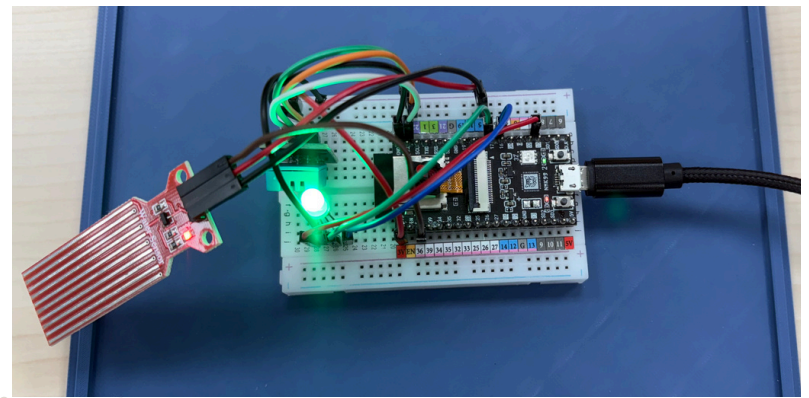
Motivation and Ideation

Taiwan's climate is humid year-round, and small, enclosed spaces such as wardrobes, shoe cabinets, or car interiors often become breeding grounds for mold due to poor ventilation, leading to damaged clothing or unpleasant odors. While traditional dehumidifier buckets are inexpensive and widely available, they have many drawbacks.



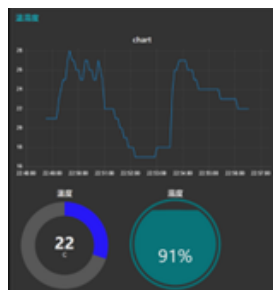
Product Introduction

Temperature and humidity module: Responsible for accurately reading environmental data. Water level module: Through an externally extended sensor plate, it can detect the water level in the tank in real time and send a signal when the tank is full to prevent overflow. Bluetooth module: Employs low-power transmission technology, allowing users to remotely monitor the tank via a mobile app.



Water level sensor

The Node-RED receives JSON-formatted sensor data transmitted from the ESP32 and performs real-time parsing and processing. The data is then presented in charts and dashboards.



An FDM 3D printer was used, and PLA filaments were used for layer-by-layer printing to complete the physical finished product of the system casing.



The green light was on at first, but it didn't touch the water.



A blue light will illuminate when the water level is above the midpoint of 2000.



A red light will illuminate when the water level exceeds the median value of 2150.

LINE Connect App

The status of dehumidifiers can be monitored in real time via LINE Bot, and push notifications will be sent to remind users of any abnormalities, allowing them to quickly determine whether any action is needed.



```

76 // 獲取 Latest 類別 (你的欄位名稱: A-F)
77 const latest = getLatestRow();
78 const temperature = latest.temperature;
79 const humidity = latest.humidity;
80 const water = latest.water;
81 const pm25 = latest.pm25;
82 const filter = latest.filter;
83 const updated_at = latest.updated_at;
84
85 let replyText = "收到~\n你可以輸入: 狀態 / 水位 / 濕度";
86
87 if (text.includes("狀態") || text.toLowerCase().includes("status")) {
88     replyText =
89     `目前狀態
90     濕度: ${humidity} %
91     溫度: ${temperature} °C
92     水位: ${water}
93     PM2.5: ${pm25}
94     濾網: ${filter} %
95     更新: ${updated_at}
96     `;
97 }
98 if (text.includes("水位")) {
99     replyText = `水位狀態: ${water} \n 更新: ${updated_at}`;
100 }
101
102 if (text.includes("濕度")) {
103     replyText = `濕度狀態: ${humidity} % \n 更新: ${updated_at}`;
104 }
    
```