Unity Project Setup

Project Type: 3D Core (but can be 2D if you don't need physics or perspective).

Unity Version Recommended: 2021.3 LTS or newer

Folder Structure

CopyEdit

Assets/

├── Scripts/

│ └── SerialButtonController.cs

├── Scenes/

│ └── SerialTestScene.unity

Creating a UI Button in Unity

1. In the **Hierarchy**, right-click → UI → Canvas.
2. Inside the Canvas, right-click → UI → Button (TextMeshPro or Legacy is fine).
3. Rename the Button (e.g., ActivateButton).
4. In the Inspector:
    - Scroll to **Button (Script) → On Click ()**
    - Click the **"+"** icon.
    - Drag the GameObject that holds SerialButtonController onto the field.
    - From the dropdown, select → SerialButtonController → SendPatternCommand().

ESP32 Summary

The ESP32 code is ready (see file: **Esp32 Serial Pattern**) and:

- Waits for the "ACTIVATE_PATTERN" command.
- Triggers a synchronized PWM pulse across the **VTA fingers** and **fan**.

- Resets them to 0 after 3 seconds.

What to Do Next

1. **Upload ESP32 code** to your board.
2. **Build Unity scene** with a button wired to SendPatternCommand().
3. **Ensure Arduino Serial Monitor is closed** (so Unity can access COM7).
4. **Run Unity** → Click button → Observe VTAs and Fan initialization

NOTE* review the documentation document!