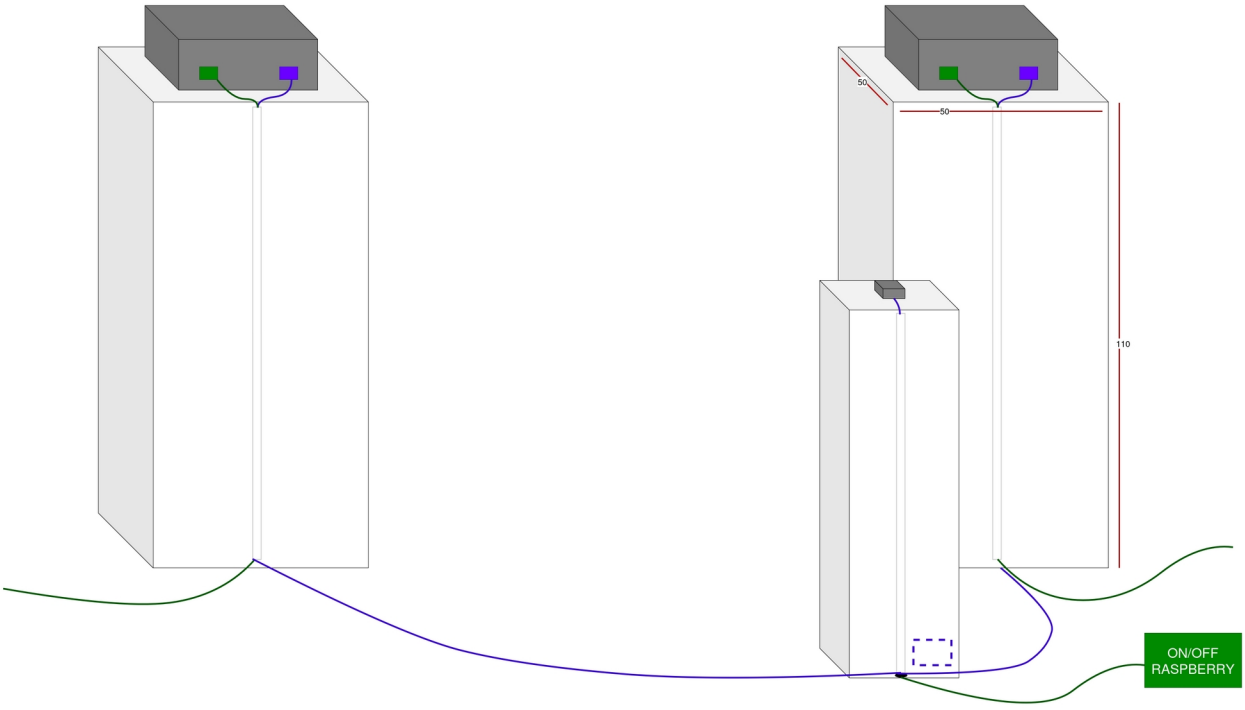
Raspberry Pi Setup for
Give me time/This page is no more

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0. Purpose

Synchronizing the projectors + button logic to start the show.



1. OS Settings

User: rasp, PW: rasp

Preferences -> Control Centre -> Performance -> Overlay file system -> activate

2. Scripts

Path: /home/rasp/projectors

Scripts: button_wait.sh, button_action.sh, projectors.py

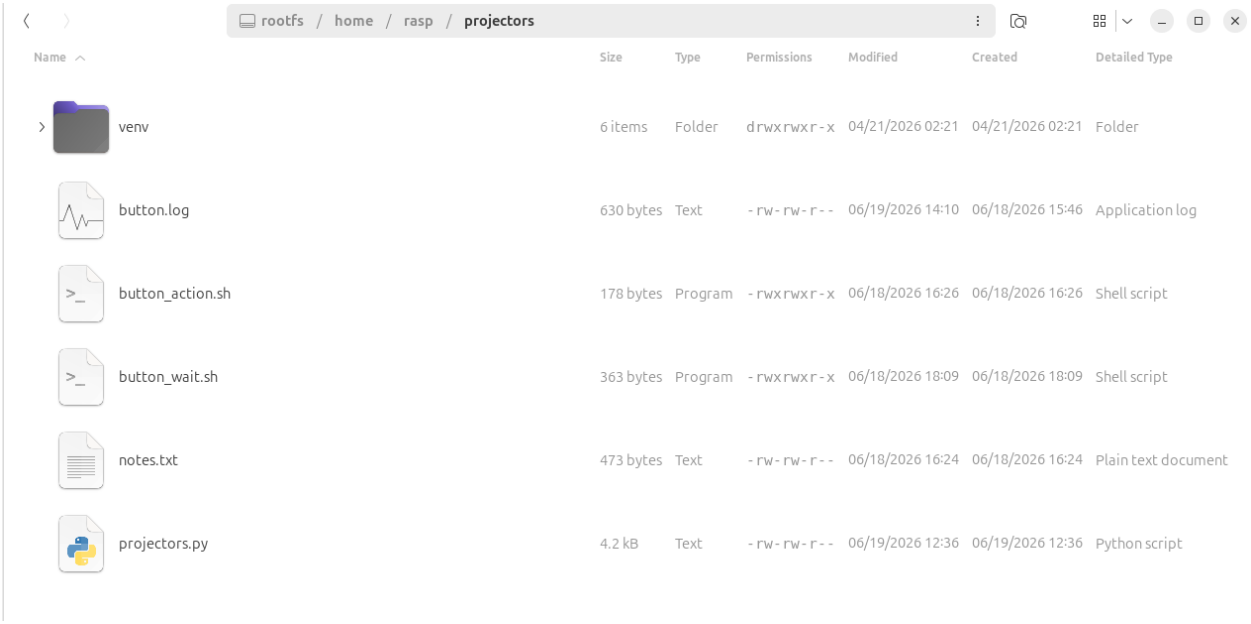


Figure 1: Scripts & directory

3. cron

```
@reboot /home/rasp/projectors/button_wait.sh > /home/rasp/projectors/button.log 2>&1
```

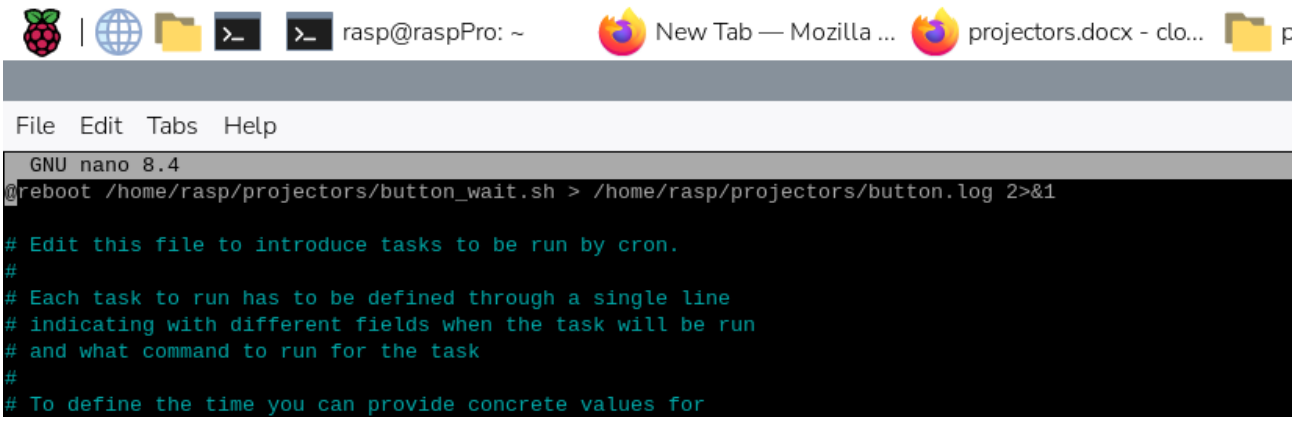


Figure 2: cron job

After boot up, the script button_wait.sh is executed.

4. button_wait.sh

The script waits for 10 seconds, to make sure button input is available.

It reads the input of the button by calling evtest command:

```
evtest /dev/input/by-id/usb-514c_USB_Composite_Device_EB60121120051103-if01-event-kbd
```

The input device is specific to the particular button and hard-coded into the script. If the button device is changed, this part of the script must be modified.

If the button is pressed, new lines are written to the evtest command output.

If new lines are recognized, the script button_action.sh is called.

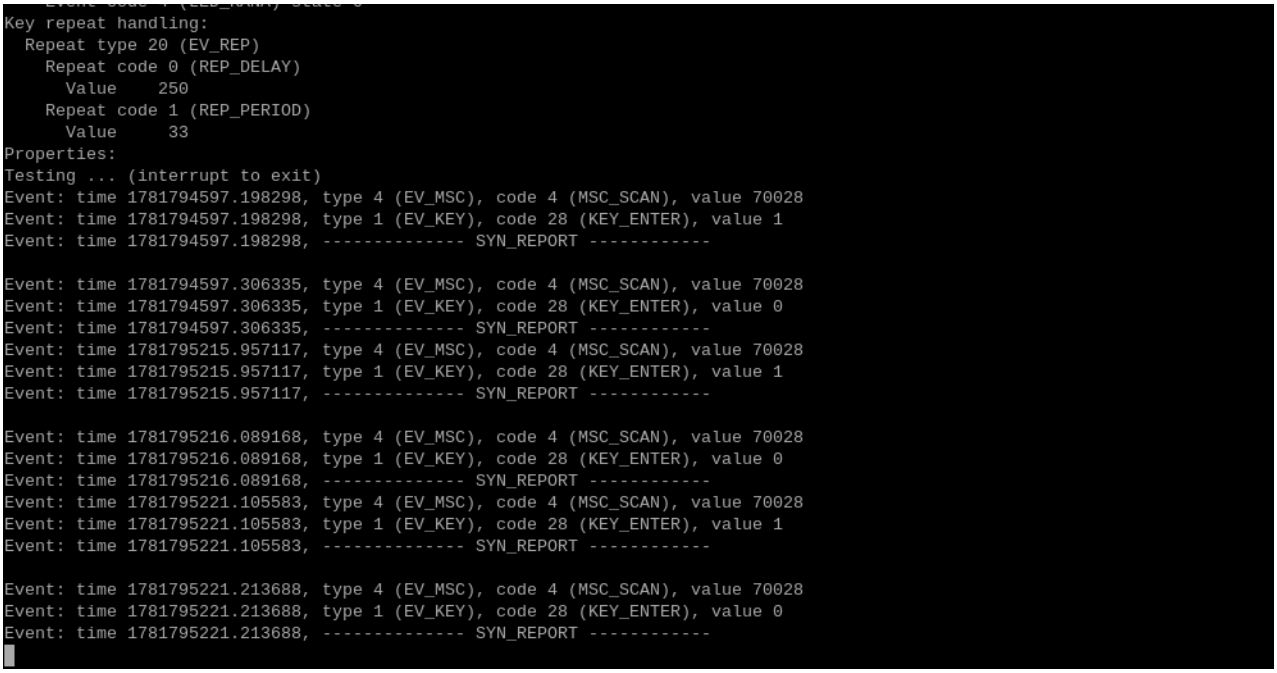


Figure 3: evtest output example

5. button_action.sh

The script checks if the script projectors.py is currently running by checking:

- pgrep -af [p]rojectors.py

If it is not running, the script projectors.py is executed.

6. projectors.py

The script defines (hard coded) USB devices as:

- p1 = serial.Serial("/dev/ttyUSB0", 9600, timeout=1)
- p2 = serial.Serial("/dev/ttyUSB1", 9600, timeout=1)

The script behaves as follows:

- At the beginning both projectors are reset to position 0.
- A reference slide number is set to 0.
- While loop through reference slide number until its 81 (projector Position 0)
    - For each step, the reference slide number is compared to the actual tray positions. If there is a mismatch, the script stops and the projectors are put to standby.
    - If the reference slide number and the actual tray positions match, the script sleeps for 15 seconds before doing the next iteration.
    - If the loop is finished on reference slide number 81 (projector Position 0), the script sleeps for 1 second and put the projectors to standby.