

Raspberry Pi Shutdown/Reset/Start Button

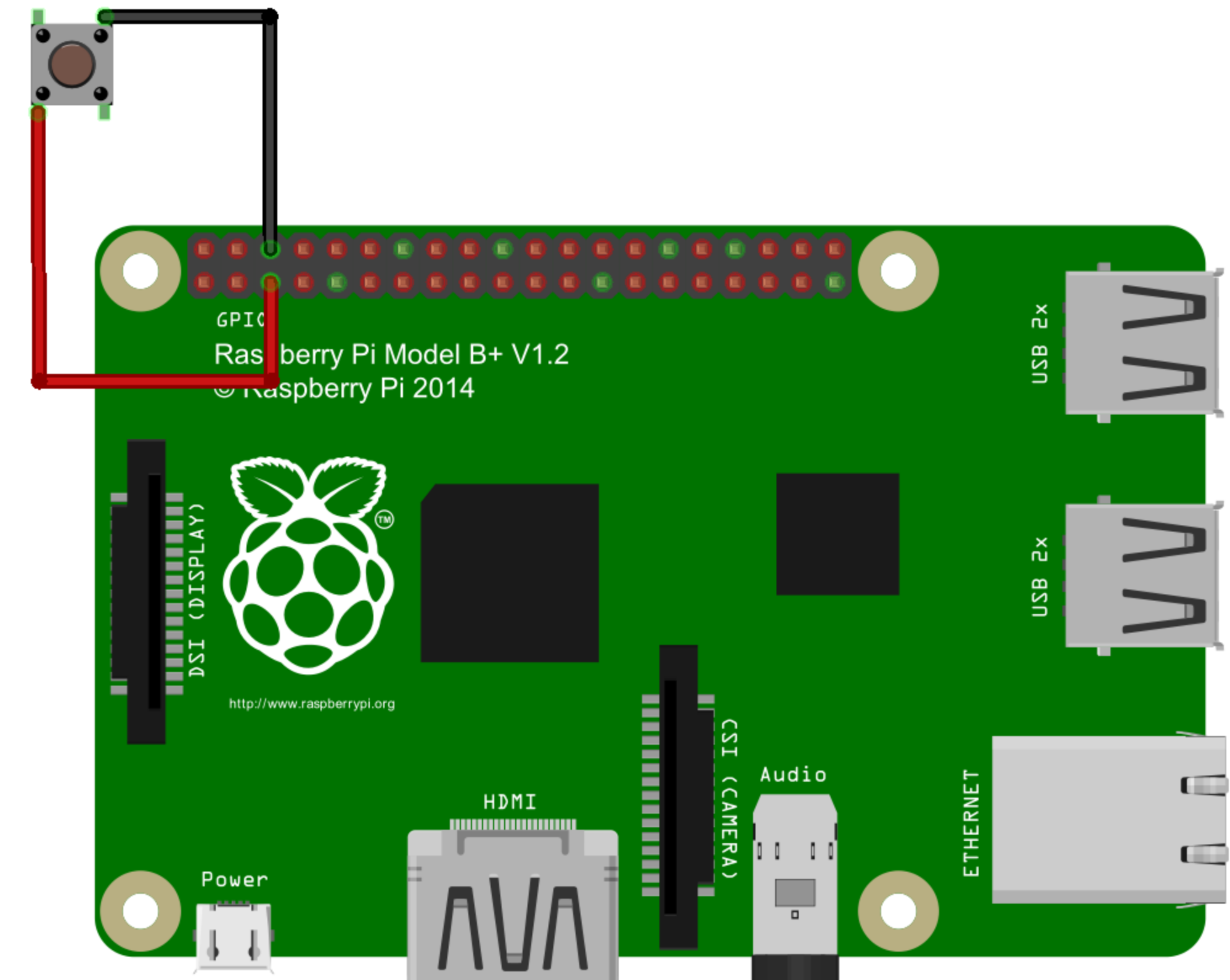
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Shutting down a Raspberry Pi by cutting the power while it is still running is not recommended and it can lead to data corruption. The Raspberry Pi does not have a built-in shutdown/reset button, but thankfully it is fairly simple to wire one up.

Wiring up the pushbutton

Note: info below applies to B+ and probably rev 2 A/B boards.

Take a pushbutton and simply wire it up as seen in the diagram below, one leg going via the red wire to **pin 5 (GPIO3)** and the other side going to ground at **pin 6 (GND)**. A **pull-up resistor** is also needed on the wire connected to **pin 5** (see e.g. [here](#) for reason) but the same can be achieved by just enabling the built-in pull-up resistor in code (see below).



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Pins other than number 5 could also be used, however a side benefit of using it is that when the Pi is powered off, shorting pin 5 with ground causes the Raspberry Pi to power on. So the **same button can be used for shutdown/reboot and also for power-on**.

Code

The code to control the button is fairly simple. First set up the GPIO pin:

```
GPIO.setmode(GPIO.BOARD)
GPIO.setup(5, GPIO.IN, pull_up_down=GPIO.PUD_UP)
```

Then, subscribe to button up/down events:

```
GPIO.add_event_detect(5, GPIO.BOTH, callback=buttonStateChanged)
```

Finally, in the event handler act on the button press:

```
def buttonStateChanged(pin):
    global buttonPressedTime

    if not (GPIO.input(pin)):
        # button is down
        buttonPressedTime = datetime.now()
    else:
        # button is up
        if buttonPressedTime is not None:
            if (datetime.now() - buttonPressedTime).total_seconds() >= shutdownMinSeconds:
                # button pressed for more than specified time, shutdown
                call(['shutdown', '-h', 'now'], shell=False)
            else:
                # button pressed for a shorter time, reboot
                call(['shutdown', '-r', 'now'], shell=False)
```

Using this code, if the button is pressed for more than a few seconds then the Raspberry Pi **shuts down**, otherwise it **reboots**.

The full script is available at <https://github.com/gilyes/pi-shutdown>

Located in Repository

Run the script

```
sudo python pishutdown.py
```

Autostart the script

If you're using `systemd` then create a file called `pishutdown.service` in `/etc/systemd/system/` (replace `path_to_pishutdown` with appropriate path):

```
[Service]
ExecStart=/usr/bin/python /path_to_pishutdown/pishutdown.py
WorkingDirectory=/path_to_pishutdown/
Restart=always
StandardOutput=syslog
StandardError=syslog
SyslogIdentifier=pishutdown
User=root
Group=root

[Install]
WantedBy=multi-user.target
```

Enable service:

```
sudo systemctl enable pishutdown.service
```

Run service (will be automatically started on next reboot):

```
sudo systemctl start pishutdown.service
```