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1. Titlu: Implementarea și controlarea unui led

2. Rezumat: Proiectul își propune realizarea unui proiect ce va permite implementarea și controlarea unui led cu ajutorul unui site web.

3. Resurse:

1. Raspberry pi
2. Led-uri
3. Blackboard
4. Fire conectoare
5. Rezistentă
6. Microcard SD

4. Atributii:

Calanciuc Madalina-Elena: documentatie/realizare site/scripting .

Constantin Diana-Gabriela: documentatie/configurare raspberry pi

5. Explorare documentara

[https://www.youtube.com/watch?time\\_continue=176&v=81y5Z9c1uI0](https://www.youtube.com/watch?time_continue=176&v=81y5Z9c1uI0) exemplu de program pentru realizarea acestui proiect- in C

<http://thepifactory.com/raspberry-pi-project-how-to-control-an-led-with-your-raspberry-pi/>

6. Ciorna solutie

- Instalare sistem de operare pe Rpi- Raspbian
- Descarcare sistem operare pentru Raspberry:

<https://www.raspberrypi.org/downloads/raspbian/>

- Instalare Etcher și scrierea pe cardul MicroSD (arhiva), ca în link-ul de mai jos:

[https://www.youtube.com/watch?v=xj3MPmJhAPU&list=LL\\_Behr\\_7hn2t-\\_ortdrHsTA&index=3](https://www.youtube.com/watch?v=xj3MPmJhAPU&list=LL_Behr_7hn2t-_ortdrHsTA&index=3)

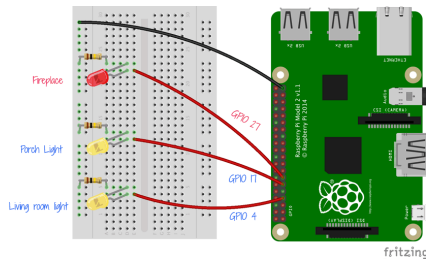
- Configurare wpa\_supplicant.conf

[https://www.systutorials.com/docs/linux/man/5-wpa\\_supplicant.conf/](https://www.systutorials.com/docs/linux/man/5-wpa_supplicant.conf/)

- Instalare server Apache2 ca în link-ul de mai jos:

<https://www.youtube.com/watch?v4OyJVDhoN0A>

- Am conectat ledurile la pin 12,16 si 18 pentru ca PWM:



- Am instalat GPIO library pentru a putea seta pinii:

<http://abyz.me.uk/rpi/pigpio/>

- Scriere cod server (utilizand HTML) si codul pentru programul php
- Descrierea activității, implementare cod php, care descriere aprinderea ledului:

```
<html>
<?php
if (isset($_POST['bon'])) // Blue on
{
echo ("<center>LED APRINS</br></center>");
exec('sudo python /var/www/html/aprinde.py');
}
if (isset($_POST['boff'])) // Blue Off
{
echo ("<center>LED STINS</br></center>");
exec('sudo python /var/www/html/stinge.py');
}
if (isset($_POST['bamb'])) // Blue Ambiantal
{
echo ("<center>LED AMBIENTAL</br></center>");
exec('sudo python /var/www/html/frecv.py');
}
if (isset($_POST['yon'])) // Yellow on
{
echo ("<center>LED APRINS</br></center>");
exec('sudo python /var/www/html/aprinde2.py');
}
if (isset($_POST['yoff'])) // Yellow Off
{
echo ("<center>LED STINS</br></center>");
exec('sudo python /var/www/html/stinge2.py');
```

```

}
if (isset($_POST['yamb'])) // Yellow Ambiental
{
echo ("<center>LED AMBIENTAL</br></center>");
exec('sudo python /var/www/html/frecv2.py');
}
if (isset($_POST['ron'])) // Red on
{
echo ("<center>LED APRINS</br></center>");
exec('sudo python /var/www/html/aprinde3.py');
}
if (isset($_POST['roff'])) // Red Off
{
echo ("<center>LED STINS</br></center>");
exec('sudo python /var/www/html/stinge3.py');
}
if (isset($_POST['ramb'])) // Red Ambiental
{
echo ("<center>LED AMBIENTAL</br></center>");
exec('sudo python /var/www/html/frecv3.py');
}
?>

<title>Tema Sisteme Incorporate</title>

<style>
table {
font-family: arial, sans-serif;
border-collapse: collapse;
width: 100%;
height: 100%;
}
</style>
</head>
<body>
<center>
<table width="500" border="1" bgcolor="silver">
<td>

<Font color='blue'><b>
<center>
Implementarea si controlarea unui led <br>
<br>

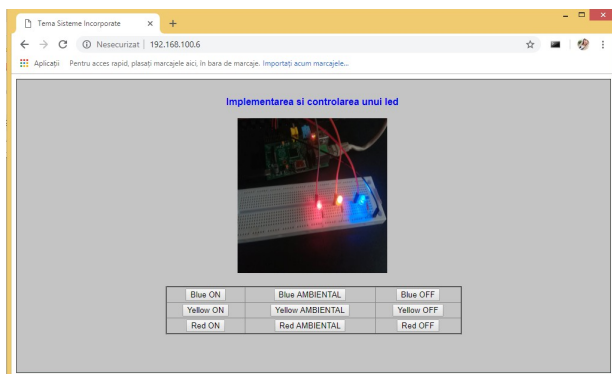
<br>
<br>

```

```

</center>
</Font><b>
<center>
<form action="index.php" method="post">
  <table style="width: 50%; text-align: left; margin-left: auto; margin-right: auto;"
border="2" cellpadding="2" cellspacing="2">
  <tr>
    <td style="text-align: center;"><button name="bon">Blue ON</button></td>
    <td style="text-align: center;"><button name="bamb">Blue AMBIENTAL</button></td>
  <td style="text-align: center;"><button name="boff">Blue OFF</button></td>
</tr>
<tr>
  <td style="text-align: center;"><button name="yon">Yellow ON</button></td>
    <td style="text-align: center;"><button name="yamb">Yellow AMBIENTAL</button></td>
  <td style="text-align: center;"><button name="yoff">Yellow OFF</button></td>
</tr>
<tr>
  <td style="text-align: center;"><button name="ron">Red ON</button></td>
    <td style="text-align: center;"><button name="ramb">Red AMBIENTAL</button></td>
  <td style="text-align: center;"><button name="roff">Red OFF</button></td>
</tr>
</tbody>
</table>
</form>
</center>
<br>
</td>
</table>
</body>
</html>

```



- Am folosit cod python:

aprinde.py

```
#!/usr/bin/env python
```

```
import RPi.GPIO as GPIO
import time
GPIO.setmode(GPIO.BCM)
GPIO.setwarnings(False)
GPIO.setup(18,GPIO.OUT)
GPIO.output(18,GPIO.HIGH)
```

### stinge.py

```
import RPi.GPIO as GPIO
import time
GPIO.setmode(GPIO.BCM)
GPIO.setwarnings(False)
GPIO.setup(18,GPIO.OUT)
GPIO.output(18,GPIO.LOW)
GPIO.cleanup()
```