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HOME APPLIANCE CONTROL OVER INTERNET

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Parth
Santosh





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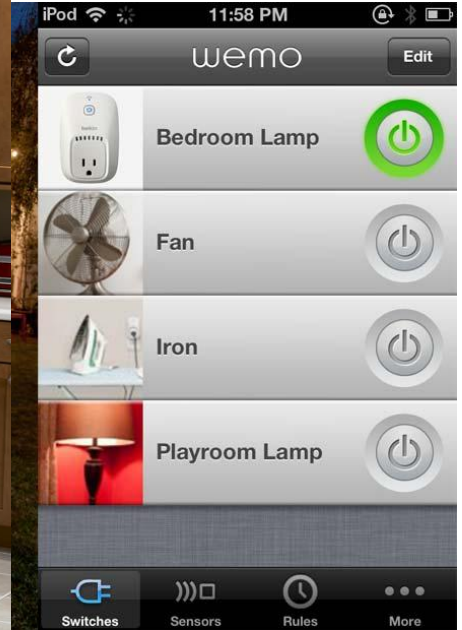
TODAY'S AGENDA

- Introduction
- Block diagram
- Video demo
- Python script
- HTML code
- Circuit diagram



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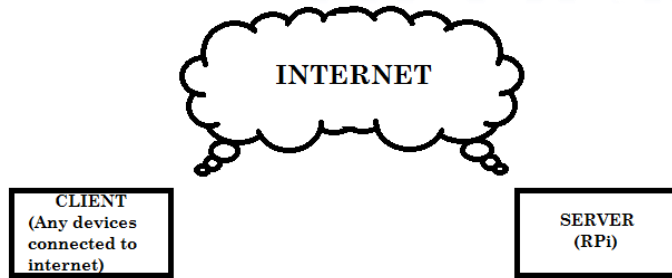
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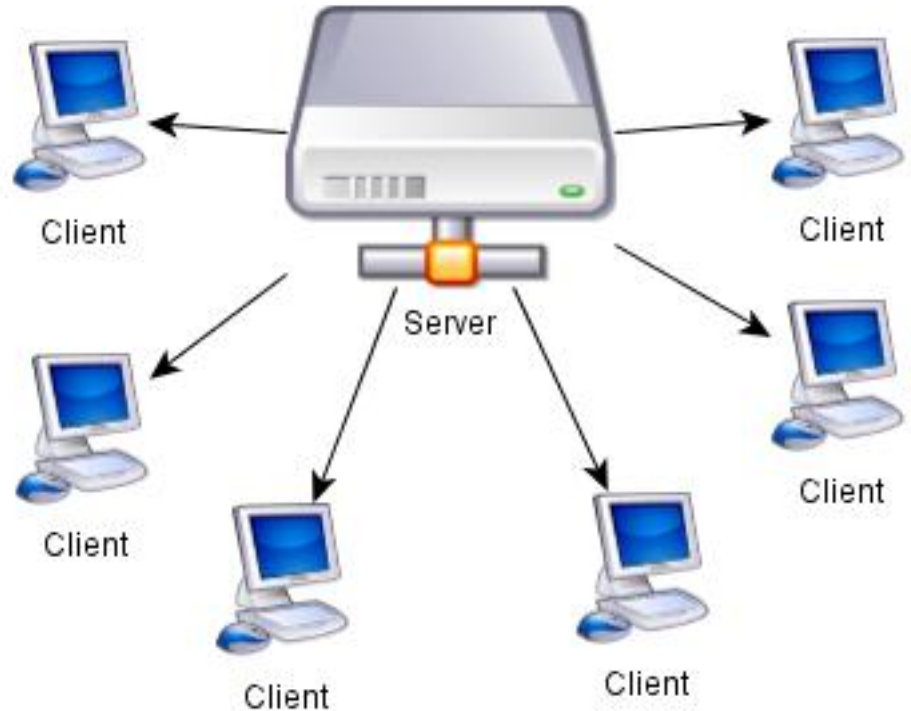
Maybe an appliance
out the door.



BLOCK DIAGRAM



The **client-server model** of computing is a distributed application structure that partitions tasks or workloads between the providers of a resource or service, called servers, and service requesters, called clients.





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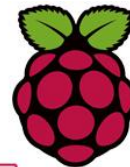
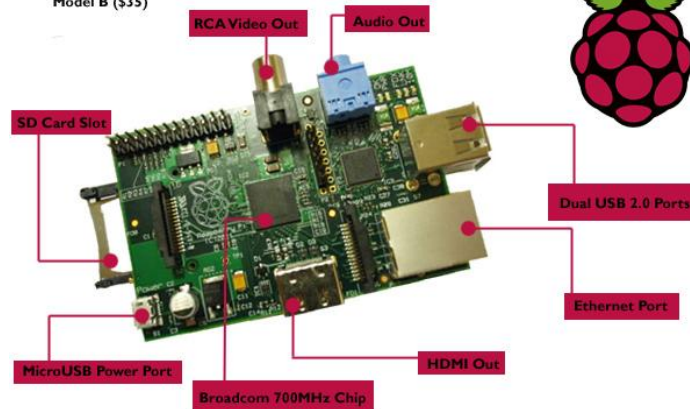
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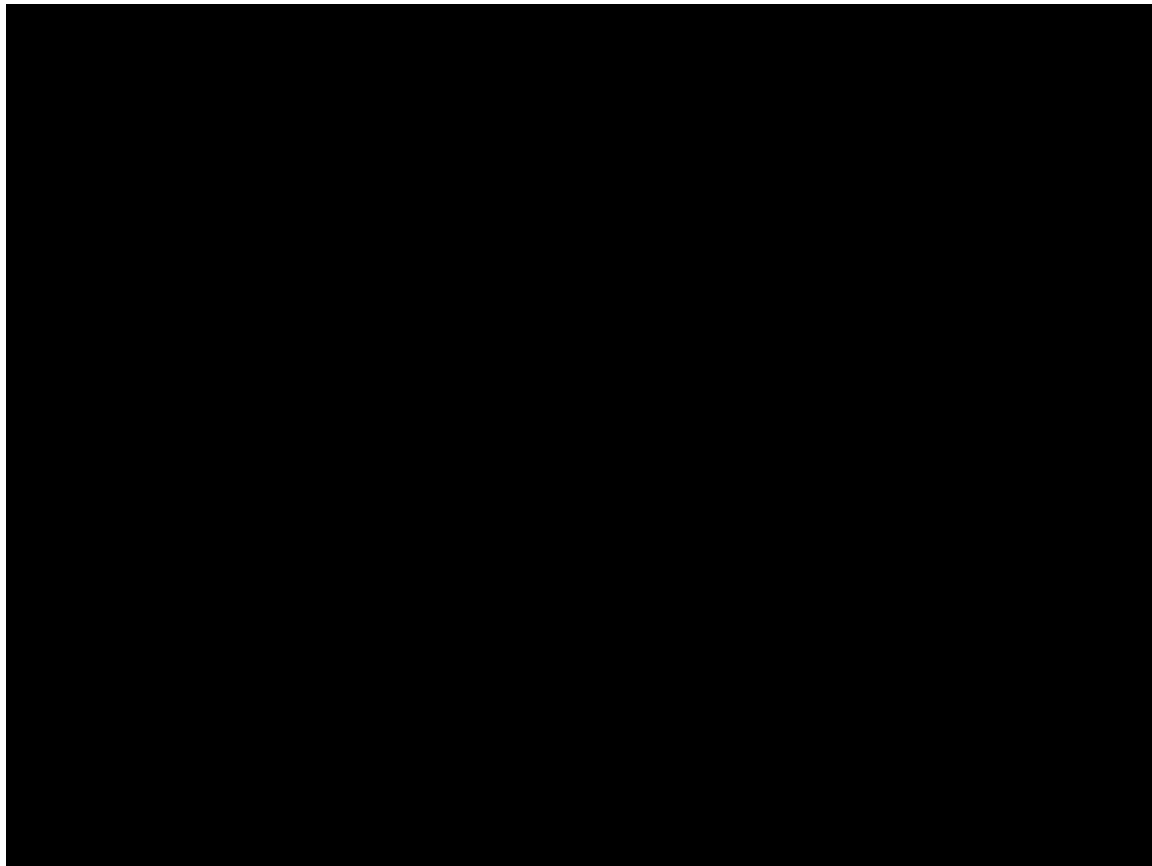
Raspberry Pi

Model B (\$35)



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PYTHON SCRIPT

```
import RPi.GPIO as GPIO
from flask import Flask, render_template, request
app = Flask(__name__)

GPIO.setmode(GPIO.BCM)

pins = {
    18 : {'name' : 'led1', 'state' : GPIO.LOW},
    23 : {'name' : 'led2', 'state' : GPIO.LOW},
    24 : {'name' : 'led3', 'state' : GPIO.LOW},
    25 : {'name' : 'led4', 'state' : GPIO.LOW}
}

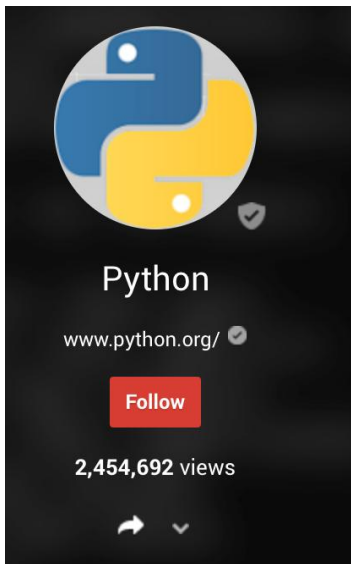
for pin in pins:
    GPIO.setup(pin, GPIO.OUT)
    GPIO.output(pin, GPIO.LOW)

@app.route("/")
def main():
    for pin in pins:
        pins[pin]['state'] = GPIO.input(pin)
    templateData = {
        'pins' : pins
    }
    return render_template('main.html', **templateData)

@app.route("/<changePin>/<action>")
def action(changePin, action):
    changePin = int(changePin)
    deviceName = pins[changePin]['name']
```

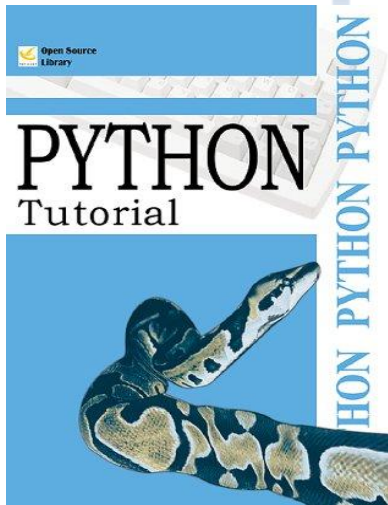
Where the
European Python
Community Meets

europython 2014
berlin 21-27 july





PYTHON SCRIPT



PyCon

Connecting The
Python Community

```
if action == "on":
    GPIO.output(changePin, GPIO.HIGH)
    message = "Turned " + deviceName + " on."
if action == "off":
    GPIO.output(changePin, GPIO.LOW)
    message = "Turned " + deviceName + " off."

for pin in pins:
    pins[pin]['state'] = GPIO.input(pin)

templateData = {
    'message' : message,
    'pins' : pins
}

return render_template('main.html', **templateData)

if __name__ == "__main__":
    app.run(host='0.0.0.0', port=80, debug=True)
```



HTML CODE

```
<!DOCTYPE html>
<head>
  <title>Current Status</title>
</head>
<body>
  <h1>Device Listing and Status</h1>

  {% for pin in pins %}
  <p>The {{ pins[pin].name }}
  {% if pins[pin].state == true %}
    is currently on (<a href="/{{pin}}/off">turn off</a>)
  {% else %}
    is currently off (<a href="/{{pin}}/on">turn on</a>)
  {% endif %}
  </p>
  {% endfor %}

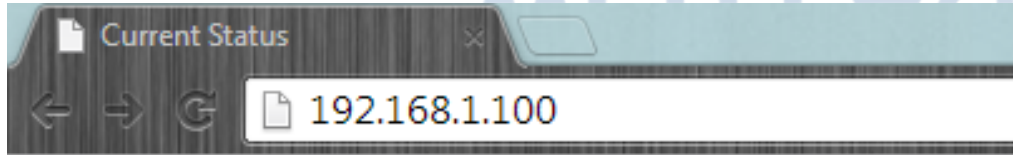
  {% if message %}
  <h2>{{ message }}</h2>
  {% endif %}

</body>
</html>
```





WEB PAGE



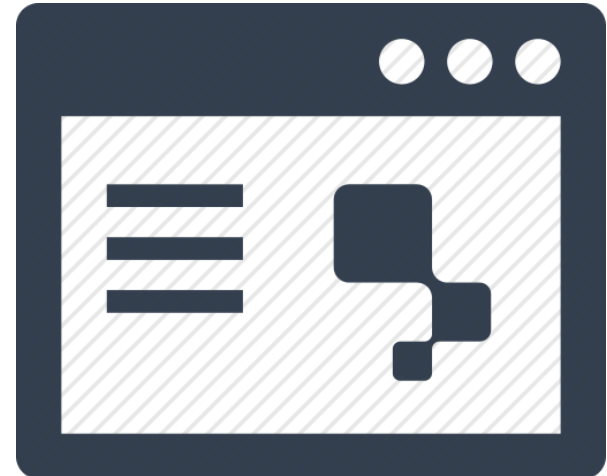
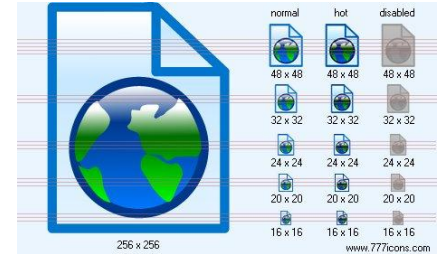
Device Listing and Status

The led3 is currently off ([turn on](#))

The led4 is currently off ([turn on](#))

The led1 is currently off ([turn on](#))

The led2 is currently off ([turn on](#))

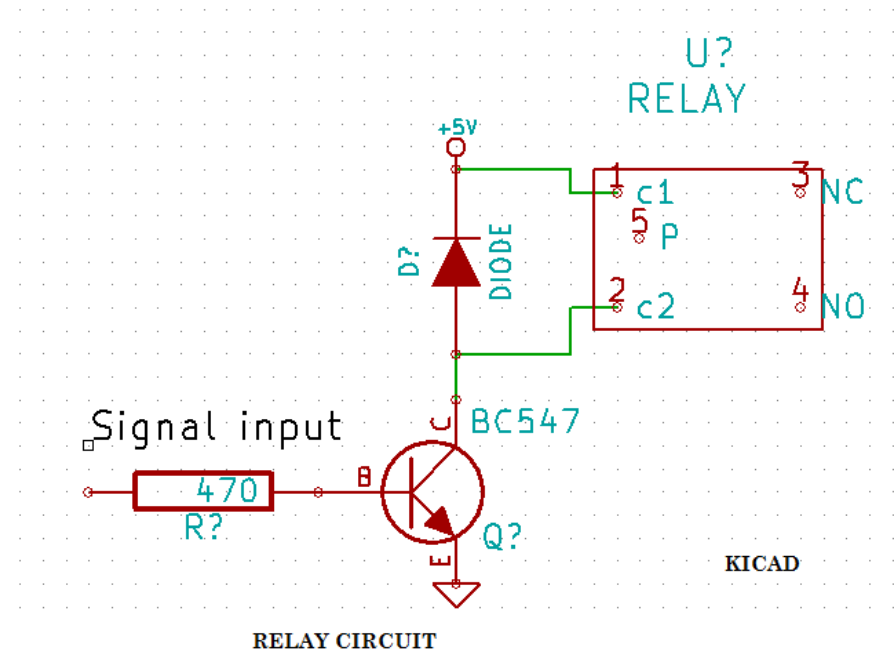
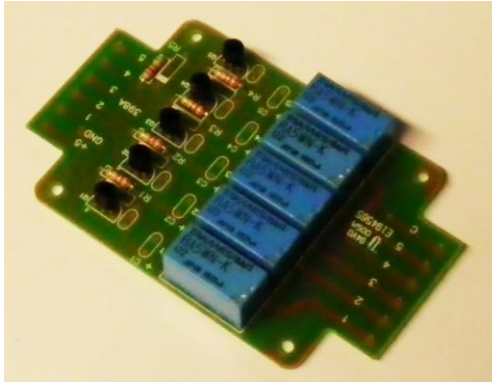




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CIRCUIT DIAGRAM





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THANK YOU