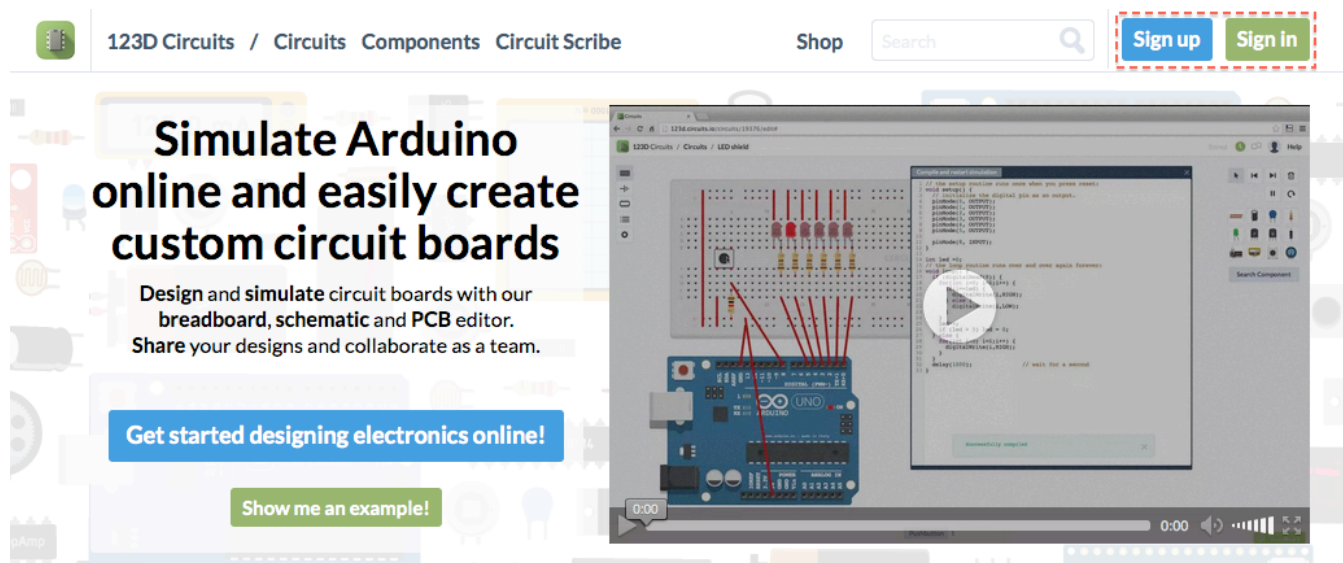


# Universidade Fernando Pessoa

## Hardware and Sensors

### Traffic Lights

1. Access the webpage *123d.circuits.io*<sup>1</sup> webpage;



2. Create a project to simulate a Traffic Lights system (sequence is cyclically green, yellow, and red light) using the following components:
  - a. 3 x 220 $\Omega$  ohm resistor
  - b. Red led
  - c. Yellow led
  - d. Green led
  - e. Arduino Uno
  - f. Voltmeter
3. Adjust the lights period to be realistic.
4. Use the voltmeter to check voltage at led during the simulation.
5. Try to implement a UK traffic light system, following this sequence:
  - Green
  - Yellow
  - Red
  - Red and yellow (indicating it will turn green)
6. Submit your code and circuit screenshot into the eLearning Hardware and Sensor dropbox.

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<sup>1</sup> <http://123d.circuits.io/>