# **SYSTEM**

* **Lights device for cars contains:**
  + 1 x GREEN color LED
  + 1 x YELLOW color LED
  + 1 x RED color LED
* **Pedestrian Devices contains:**
  + 1 x lights device with:
    - 1 x RED color LED
    - 1 x GREEN color LED
  + 1 x OLED DISPLAY
  + 1 x Pedestrian REQUEST BUTTON
  + 1 x Pedestrian WAITING SIGNALING
    - 1 X YELLOW color LED
  + 1 x Pedestrian SPEAKER FOR BLIND PEOPLE

# **SYSTEM BEHAVIOIR**

* **Behavior for CARS lights device:** 
  + **CAR GREEN** - turn ON the GREEN color LED (car) for 20 s
  + **CAR YELLOW** – turn ON the YELLOW color LED (car) for 5 s
  + **CAR RED** – turn ON the RED color LED for 20 s
* **Behavior for PEDESTRIAN devices:**
  + **Pedestrian lights devices:**
    - **PEDESTRIAN RED** – turn ON the RED color LED (pedestrian) for 20 s
    - **PEDESTRIAN GREEN** – turn ON the GREEN color LED (pedestrian) for 20 s
  + **OLED DISPLAY**
    - **Walking animation** – display on the OLED DISPLAY a walking animation when the PEDESTRIAN GREEN is ON
    - **Stand animation** – display on the OLED DISPLAY a stand animation when the PEDESTRIAN RED is ON
  + **Pedestrian REQUEST BUTTON**
    - When the **request button** is pressed it must start the WAITING SIGNALING
  + **Pedestrian WAITING SIGNALING** 
    - **PEDESTRIAN REQUEST** **LIGHT**– toggles the YELLOW color LED (request) every 0.5 s
  + **Pedestrian SPEAKER FOR BLIND PEOPLE** 
    - **Pedestrian speaker** – generates a sound every 0.2 s when PEDESTRIAN GREEN is ON

# **FEATURES**

* The traffic light system must have two states **ON** and **OFF**
* The system must be turned **ON** with an external signal
* **ON STATE** – system must follow the traffic cycle
* **OFF STATE** – toggles the CAR YELLOW every 0.5 s

# **STARTING CONDITIONS**

* Traffic light system start in OFF state then. After the external signal occurs it goes in ON state.