

On-demand Traffic light control

❖ System Description:

It's a System to Control The Traffic Light, And Manage The Flow Of The Street Between Cars And Pedestrians.

In This System There Is Two Modes:

1. Normal Mode:

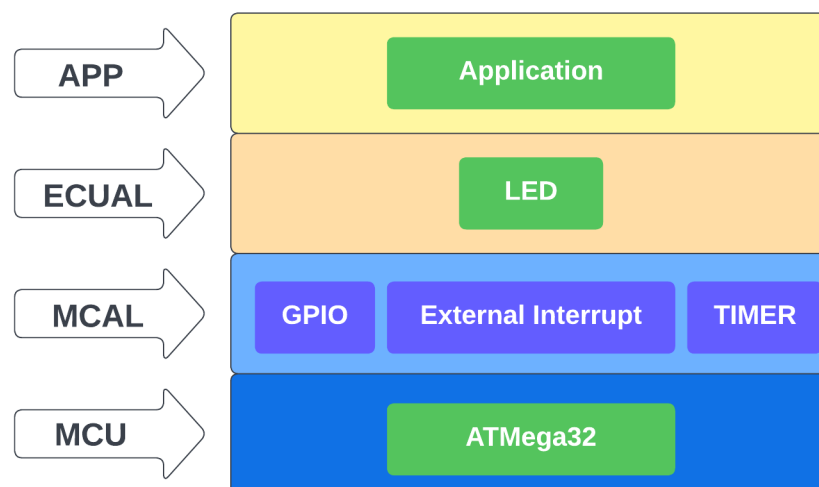
In This Mode, The Traffic Light LEDs Change Every 5 Seconds from Green To Yellow (Blinking) Then Red, Then Yellow Again Then Green, And So On.

2. Pedestrian Mode:

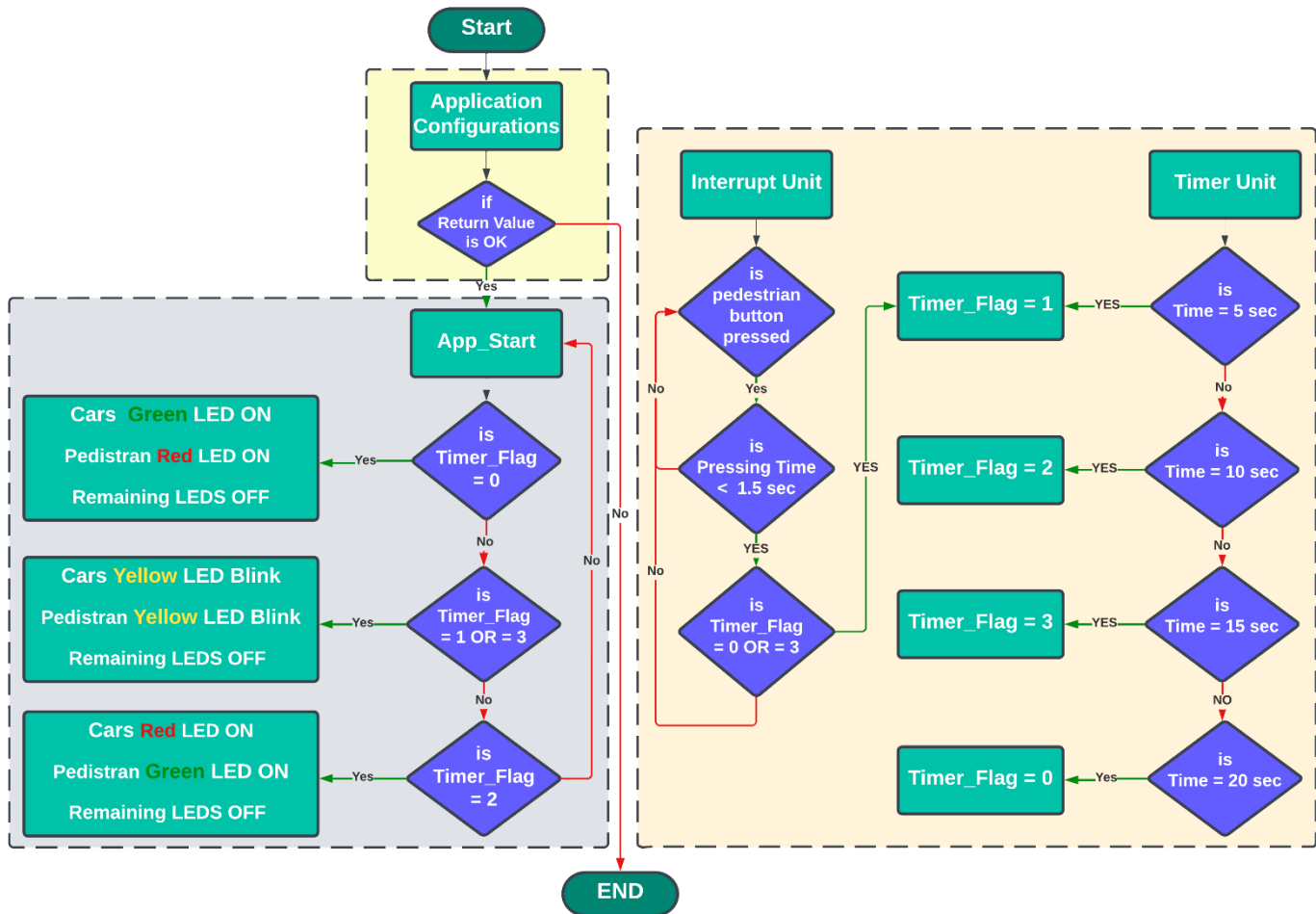
3. In This Mode, If A Pedestrian Pushed the Pedestrian Button, And It's a Short Press (Time of Press Less Than 1.5 Second), It Check on The Current Active LED:

- If The Current Active LED Is Green or Yellow And Next Active LED After Yellow Is Green, It Will Turn Yellow LED On Blinking For 5 Seconds, Then Turn Red LED For Cars To Make Pedestrian Can cross the street.
- Else Nothing Will Be Occur.

❖ System Design:



❖ System Flowchart:



❖ System Constraints:

- The Button Pressing Time must be less than 1.5 second to take action, If time more than 1.5 second, System won't do anything.
- If button pressed while cars red led is on, System won't do anything.

❖ Explanation Video:

<https://youtu.be/k4CvNfRWLSk>