

Requirements

1. When the WALK push button is pressed the traffic the Red LED should be On
2. When the CAR sensor is active the traffic the Green LED should be On
3. WALK has higher priority than CAR
4. Once the Red LED is On it stays for 10 sec then the inputs are checked
5. Once the Green LED is On it stays for 10 sec then the inputs are checked
6. When a GetStatus message is received on USART the software responds with current status (WALK/CAR) and which LED is currently On (Red/Green)

Static Design

Inputs

- Car Sensor
- Walk Button
- Serial In

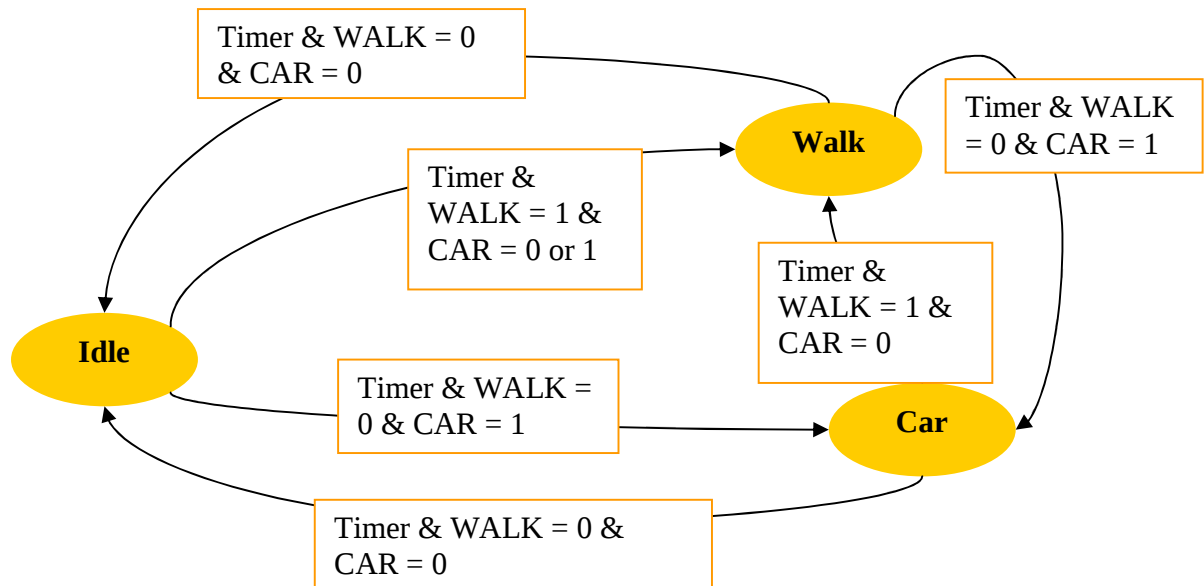
Outputs

- Red LED
- Green LED
- Serial Out

States

- Walk

- Car
- Idle



Module

Module	Functionality
Drivers	
USART	Send and receive UART frames
Timer	Set time delays
DIO	Read and write I/O pins
Application	
LEDOOutput	Output 1 or 0 to switch LEDs (RED & GREEN) On and Off according to system state
SerialComm	Prepare status frame and send it when requested to PC
ControlState	Detect Walk button & Car sensor status and upstate software state

LEDOOutput	ControlState	SerialComm
Timer	DIO	USART