

Product Requirements Document

Traffic Light Simulation with buttons for Emergency situations

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Overview

This Traffic Light simulation is design to simulate 2 case: peak hours and off-peak hours controlled by 2 buttons. Button 1 change mode between the 2 cases. Button 2 triggered for emergency case (Fire truck, Military vehicle, Police car, Ambulance) which help the police to control the vehicle traffic.

Priority Description

P0: Must Have Requirement i.e. Product will not launch without it

P1: Not a requirement for launch but is needed 3-6 months post-launch

Product Requirements

I. Industrial Design

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
I.1	Dimensions	Shall be 24x20cm	P0		
I.2	Visual Interface	Shall have an LCD display,two traffic light and four 7-segment LED	P0		
I.3	Connectors	Shall have a USB cable to any type port	P0		

II. LCD Display

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
II.1	Turn on when machine run	The display show: <ul style="list-style-type: none">- “Emergency please give way” (button 2)- “Peak time run slowly” (Peak mode)- “Be careful no alcohol drink” (Default)	P0		
II.2	Display Controls	Embedded code, 2 buttons to interact: <ul style="list-style-type: none">- Button 1: change mode- Button 2: Emergency mode triggered 3 modes: <ul style="list-style-type: none">- Normal mode (default mode) +Green (40 secs) +Yellow (3 secs) +Red (35 secs)- Peak mode: +Green (60 secs) + Yellow (3 secs) +Red(30 secs)- Emergency mode: triggered for prioritize the authorized vehicles	P0		
II.3	Orientation	Display only allow for landscape orientations	P1		

III. Connectivity

#	Feature/ Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
III.1	USB cable (default cable)	Shall has a USB – Type C	P0		

IV. Power

#	Feature/Characteristic	Product Requirements	Priority	Technical/Engineering Specifications	Comments
IV.1	Power	Shall be supply by 12V 2A module supply	P0		