LoRa Traffic Control System - Project Report

Current Consumption:

Device	Components	Current Consumption
Controller	Lora	Idle: 14mA
		Active: 14mA
	Nextlon Display	Idle: 107- 110mA
		During changes: 107-112mA
	Total Current Consumption	130mA
Wand	Active State	160-180mA
	Idle State	82mA

Live Test Report:

We tested our device for half an hour in 2 No Gate Circle. It was successful but police recommended few features.
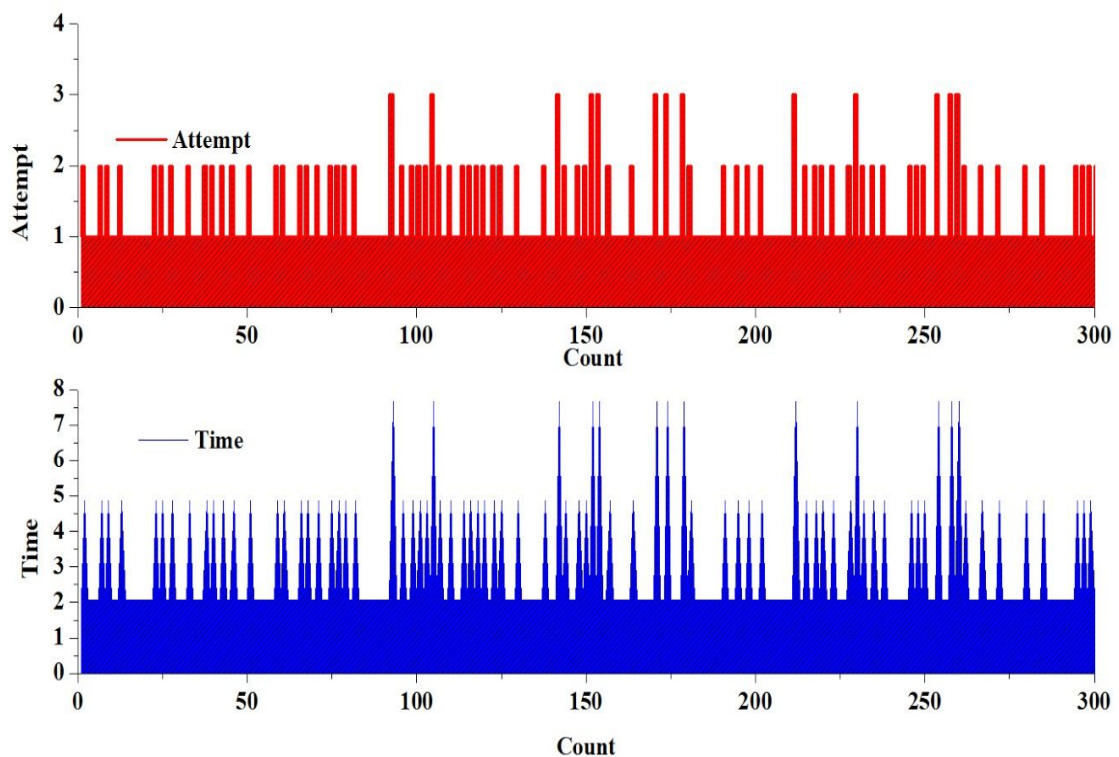
Features Needed:
1. Their baton has the following features:
   a. Button pressed, One time - Baton lights up. (Max brightness)
   b. Pressed again - Baton light dims slightly.
   c. Pressed again - Baton blinks rapidly. (Means emergency)
   d. Pressed again - Baton light goes to normal mode and turns on the torch
   e. Pressed again - Turns off everything
   f. They have another separate button that works as a whistle. In total two buttons
   g. Two Day Battery backup.

2. Traffic Control Algorithm: Our algorithm controls each lane individually. But in reality, sergeant controls traffic using a two-stage method. Look at the picture. Sergeant closes TL3 and TL4 opens TL2 and TL1. When TL3 and TL4 opens they close TL1 and TL2. So basically it's simple two-stage control method. Whereas our controller controls each lane individually.
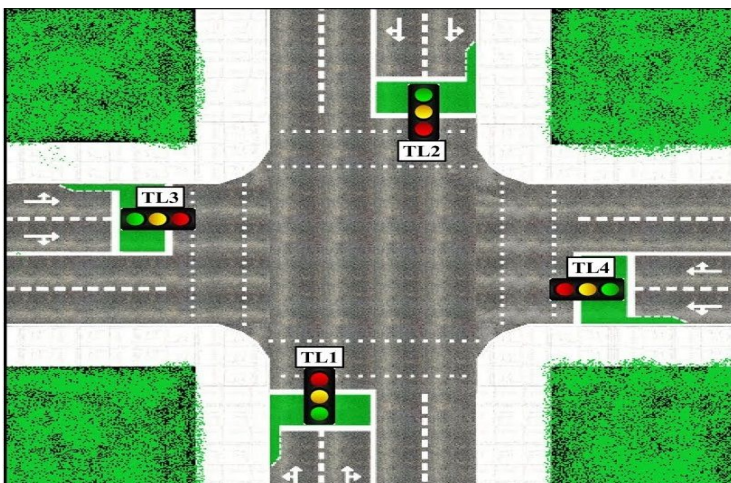
3. The controller controls baton state as of now, but we need to control Traffic Lights simultaneously with the baton. Basically, one command will change the state of Baton and Traffic Light simultaneously.
4. Automation system. We need to give Sergeant an option that will allow him to automate traffic control. This will be helpful if they are short in the manpower department or if they want to take a break. They can initiate automation mode.
5. The controller needs to be small, easy to carry and lightweight.
6. We need to increase the sunlight visibility of the NextIon Display. (Using brighter indicator color)

Data: (Link: Data Sheet)

For FSK mode:

Time Comparison in OOK mode: