

Software Requirements Specifications

Problem Statement :

Develop an application using BeagleBone Black / ARM Cortex A5 development board to simulate the working of signal lights.

Scope :

This document describes the software requirements for traffic control simulation system. The intended audience of this document exclusively includes the developers, the testers, and the end-users of the system.

Functional requirements :

1. The system controls all the pedestrian and traffic lights at a given intersection.
2. The intersection could be as simple as a one-way street interrupted by a crosswalk.
3. The intersection could be as complex as two two-way streets with left-turn lanes.

Non-functional requirements :

1. Time interval.
2. Proper synchronisation of LEDs
3. Proper connection of pins.

Hardware requirements :

1. Beagle Bone Black Board.
2. Traffic simulation kit.
3. Power adapter.

Software requirements :

1. OS – Ubuntu
2. Debian minicom interface

Constraints :

1. Power constraint.
2. Limited user interface options.

Conclusion :

The traffic simulation system is implemented. It is just a simulation. So, in real life application, some changes may be needed to be made.