

Proposal Presentation On

“DENSITY BASED AUTOMATIC TRAFFIC LIGHT CONTROL SYSTEM”

Presented By:

- **BIPUL RANJITKAR** (07/BEX/070)
- **PRABINDRA PRADHAN** (18/BEX/070)
- **SAHAJ SHAKYA** (29/BEX/070)

25 MAY 2016

Overview

- Introduction
- Objectives
- System Overview
- Methodology
- Literature Review
- Rationale
- Expected Output
- Work Plan
- References

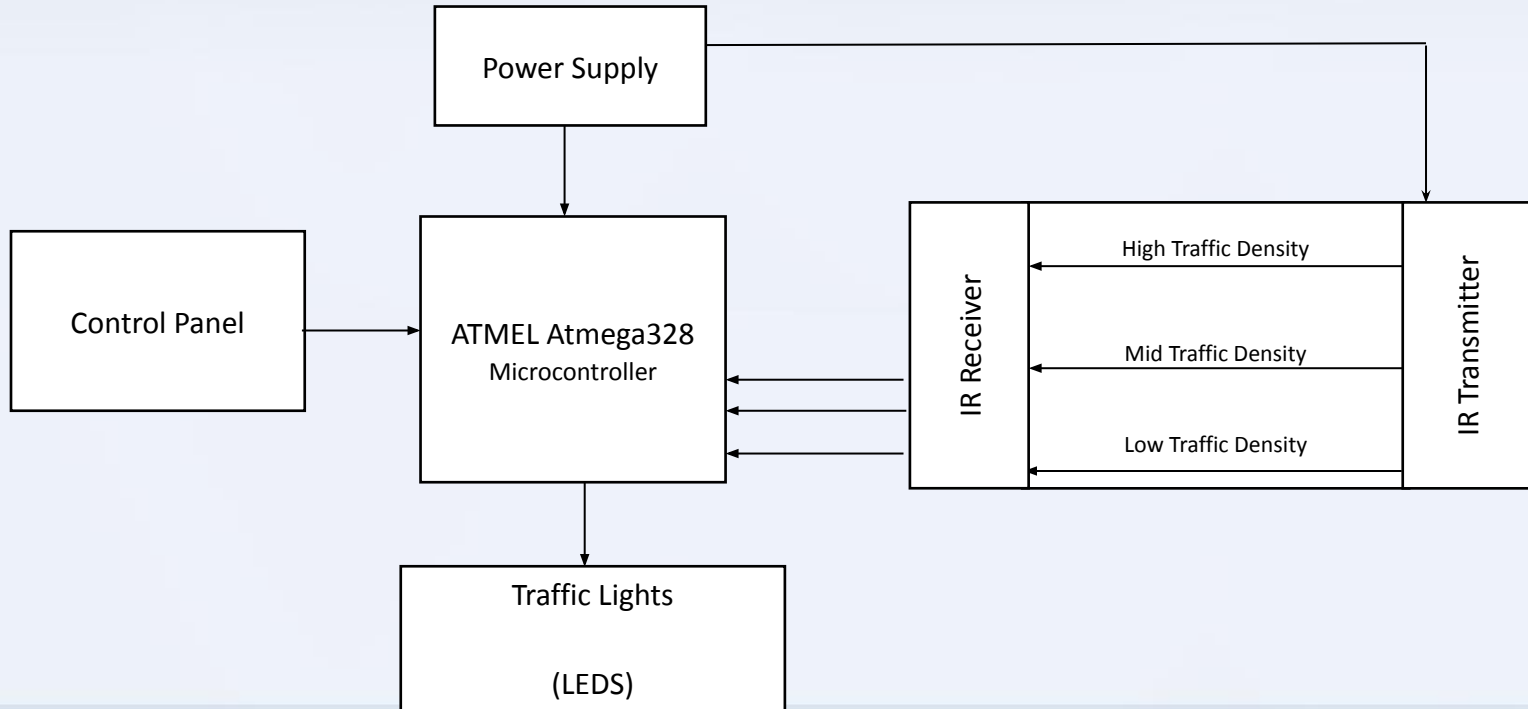
Introduction

- Automatic Traffic Light control system
- Controls traffic lights based on Traffic Density
- Uses Infrared to detect the traffic density
- Manual control panel incase of emergency

Objective

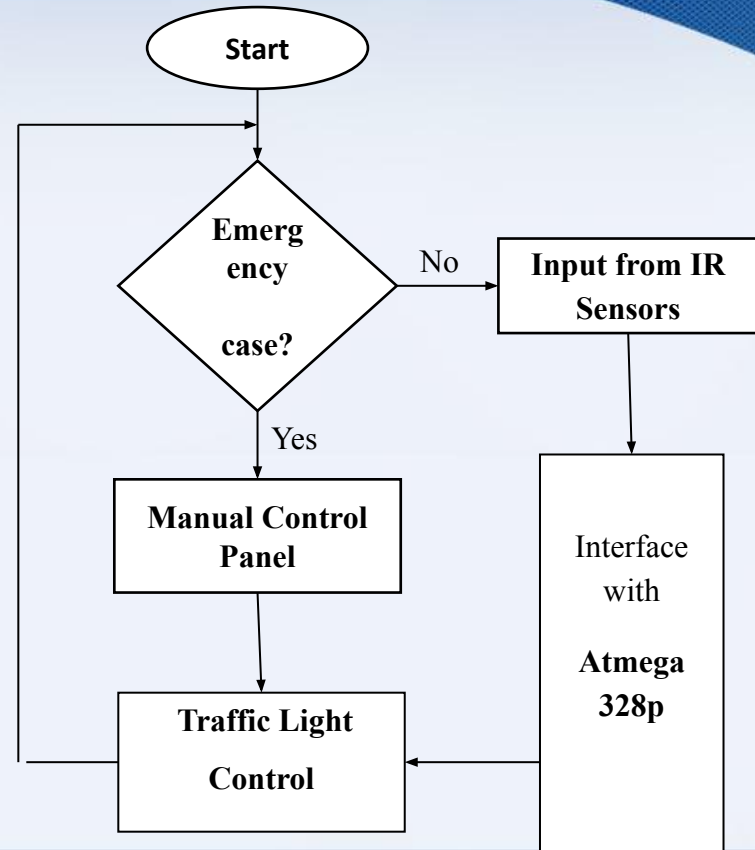
- To improve operation of automatic traffic lights
- To manage the flow of traffic at intersection
- To minimize occurrence of road accidents
- To prevent traffic jams at busy areas

System Overview



Methodology

- IR placed on each side of road
- Detects density using IR
- Turns signal to green of road with highest traffic density
- Each signal set to a fix time without feedback
- Switch to manual control in case of emergency



Literature Review

- Has been implemented since the early 20th
- Implemented in countries like Indonesia, China, USA, etc.
- Radar, Ultrasonic, Acoustic based traffic control
- GSM and GPS based for tracking

Continued Literature Review

Previous

- At89S52 microcontroller used
- Gsm based traffic control
- Fully manual control
- No density based traffic system

Current

- Atmega832p microcontroller used
- IR based traffic control
- Automatic control
- Density based traffic system

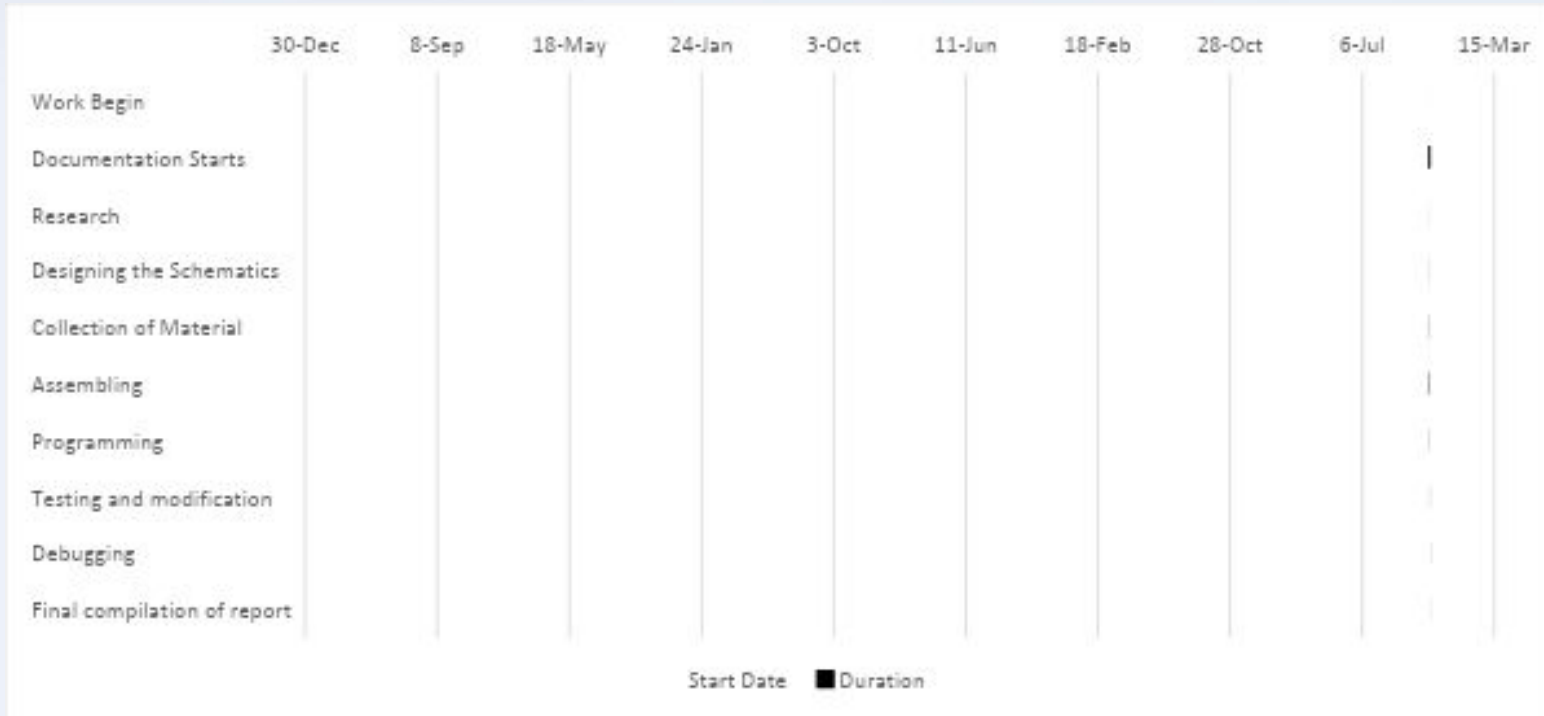
Rationale

- Although building cost is high, return cost is low
- Traffic control system mostly based on sequential logic
- Reduces manpower

Expected Output

- Accurate detection of traffic density of each lane
- Green light to highly traffic dens road
- Red light to all other roads
- Smooth changing of traffic light
- Manual operation using control panel for emergencies

Work Plan



References

- [1] Sinhmar Promila, “Intelligent Traffic Light and Density Control using IR Sensors and Microcontroller”, International Journal of Advanced Technology & Engineering Research (IJATER) ISSN NO: 2250-3536 VOLUME 2, ISSUE 2, March 2012.
- [2] Das Rupak,” Study OF PLC and its Application in A Smart Traffic Control System”,National Institute of Technology:Rourkela,2013,Online Available:
<http://ethesis.nitrkl.ac.in/5153/1/109EI0319.pdf>

Thank You!!!