



# Traffic Light System

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# Issues Resolved

## Problem 01

Cars were waiting at a stop for a very long time. A traffic light adds order as well as providing clearance for cars.

## Importance

Saves time for the commuters and minimizes reckless driving due to impatience (including collisions).



## Problem 02

Cars were not stopping for the pedestrians. The pedestrians needed to cross the road safely.

## Importance

The danger is avoided as exclusive rights to the road are given to pedestrian soon after it is sensed that they need to cross.

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# Solutions



01

## Main Layout

Created an intersection with alternating traffic lights

02

## Sensors

Utilize line sensors to detect if cars are at a red light: If so, swap the light connected to that sensor to green and the other light to yellow then red

Utilize PIR motion sensors to detect if pedestrians are at a green light: If so, swap the light connected to that sensor to yellow then red and the other light to green

03

## Application

Created a mobile application so users can see the current colors of the lights and the amount of time remaining before the lights change

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# Lessons Learned



## Design

We should have had a better plan for how the frontend and backend would have connected.



## Design

If redone, the server would probably be before things such as the app.



## Management

We should have all started a bit sooner on each part. Also, exchanging hardware more often would have speeded up the process

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