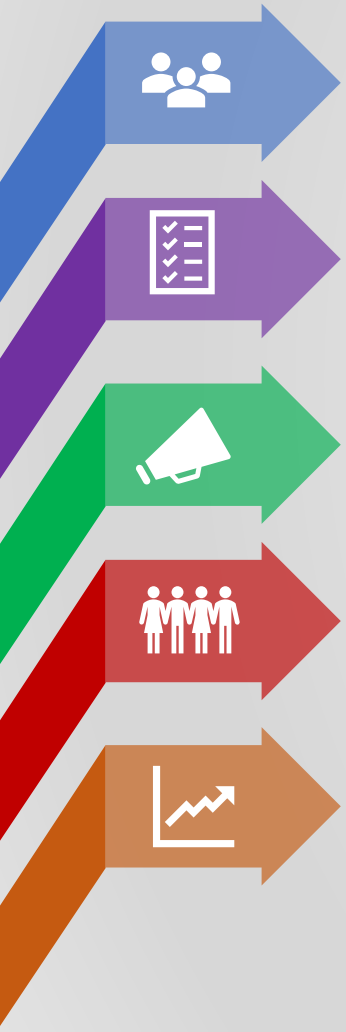
Alert System for drivers by traffic sign board Recognition.

Literature Survey Review

Under the Guidance of :
Dr Chalumuru Suresh
Assistant Professor
CSE department

Agenda



01 Abstract & Introduction

02 Literature Survey

03 Existing System v/s Proposed System

04 System Requirement Study

05 Scope/Objectives

Abstract

- **The universe is governed by a combination of several laws which are environmental, physical and many more. Likewise, mankind has created a set of traffic rules, to guide the people travelling and to regulate the traffic flow.**
- **Traffic Sign boards are a great source of avoiding accidents, when observed and followed properly.**
- **It is very difficult for a driver to notice all the sign boards and act accordingly.**
- **An automatic recognition system is proposed to recognise the sign boards and alert the driver by a voice message.**
- **The project can be extremely useful for autonomous vehicles as it detects signs and helps drivers take the necessary actions.**

Introduction

- With the rapid development in societal and economical section, automobiles have become almost one of the convenient modes of transportation in each household.
- This makes the road traffic environment more complicated, and people expect to have intelligent Vision assisted system that provide drivers with traffic sign information, regulate operations of driver, or assist in vehicle control to ensure road safety.
- In the current traffic system there may be the probability of drivers missing the traffic sign because of traffic or even the drivers might ignore the traffic sign. With the continuous growth of urbanization this problem is only expected to grow worse.
- A traffic sign detection and recognizing system can be applied to the vehicles where the system capture the traffic sign, detects them and recognizes the significance of the sign and informs the driver about the sign.

Literature Survey Review

https://docs.google.com/spreadsheets/d/1kl_OGhF4GceBSZEoWMhcWjB1NhTlaOoNz52X8PcsZiw/edit#gid=0

Existing System/ Methodology

*__TSR__ – Traffic Sign Recognition

Summary of some reported TSR applications:	A TSR vendor support process can aid the operators by alerting forward road sign particulars, along with prohibitions, warnings and restrictions.
	TSR systems are a very crucial part of driverless cars getting them aware of the current public road traffic regulations.
	By sensing those types of signs forward, TSR can reduce energy intake by finding ideal traffic signs of velocity, reducing the use of breakage.
The drawbacks of existing system are:-	During internet connectivity issues or in unchartered terrain.
	Small fuzzy traffic signs and high-resolution pictures. During bad weather and in nights.
	Color detection in RGB.
	Costlier installation.

Proposed System

- The basic idea of proposed system is to provide alertness to the driver about the presence of traffic signboard at a particular distance apart. It generates a warning to the driver in advance of any danger. The warning allows the driver to take appropriate actions in order to avoid the accident.
- The system takes continuous video input from the console monitor or camera installed on the car's bonnet. The underlying algorithm extracts the features of the input image and matches them with an existing library of traffic sign.
- The output is fed to the driving assistance system and in turn drives the car accordingly. We are going to develop this intelligent system using computer vision (CV) or machine vision.
- This device will take camera feeds and upgrade the system instantaneously.

Functional and Non-Functional Requirements

System Requirement Study

Functional Requirements

Preprocessing will check contrast, brightness, and clarity. This block will make sure the image is ready to have image processing done to it.

The application of processing algorithms shall take the preprocessed image and find colors of interest and look for shapes relating to the sign or signs we are searching for.

The classify sign block shall take the regions of interest passed from the algorithms block. These regions will be analyzed and used to compare to 'templates' of known signs.

The highlight image subsystem shall create some sort of distinguishing box or highlight around the actual sign.

The recommend appropriate action subsystem shall give a recommended action as an output based on the type of sign encountered.

Non-Functional Requirements

- The software to be developed must:

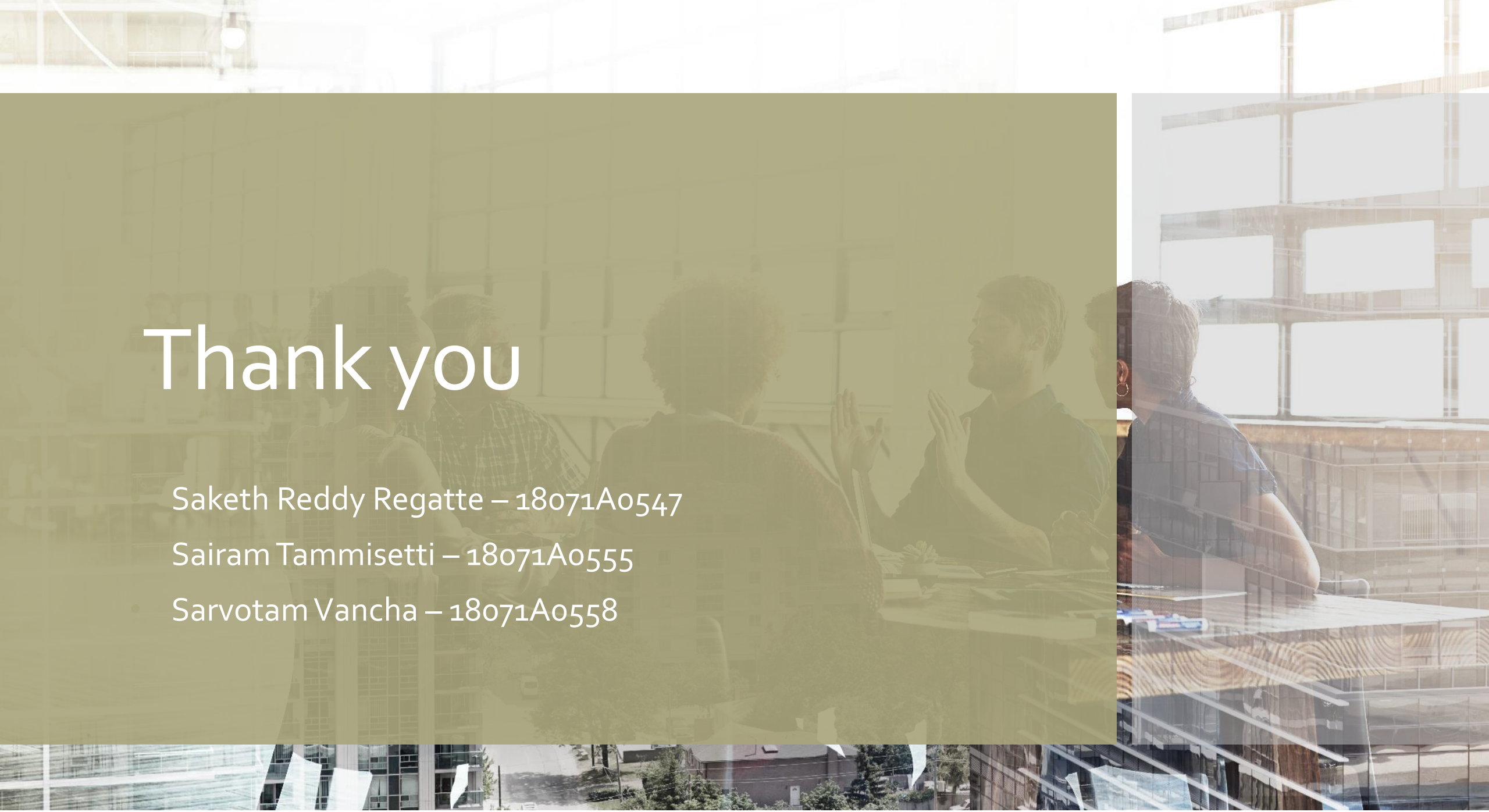
1. Detect only road sign boards.
2. Ignore all other objects except road sign boards.
3. Recognize the road signs correctly.
4. Display the road sign in textual format.
5. Convert the text output to voice output.

Scope of the Project

- This system is used to save the valuable life by preventing accidents due to the negligence of traffic signs boards.
- At present 40% of deaths that are taking place these days are mainly due to the road accidents.
- People die in these road accidents which is a great loss for the family. Our project provides maximum efficiency and is user friendly.
- This project mainly focuses on majority of the society who travel especially the night travelers and it also helps traffic police to reduce the traffic issues.
- The main idea for this project is from the road accidents that take place due to driver's ignorance of traffic signs.

Status of project

- Problem is identified.
- Literature survey is carried out in an effective manner.
- Implementation of the project is in process.



Thank you

Saketh Reddy Regatte – 18071A0547

Sairam Tammisetti – 18071A0555

Sarvotam Vancha – 18071A0558