TRAFFIC MONITORING SYSTEM

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CURRENT SCENARIO

- In present day scenario , the road traffic safety is monitored by traffic cops manually with their physical presence at different convenient locations.

- Monitoring of speed violators is carried out by:
  - Video surveillance
  - Portable speed sensing device

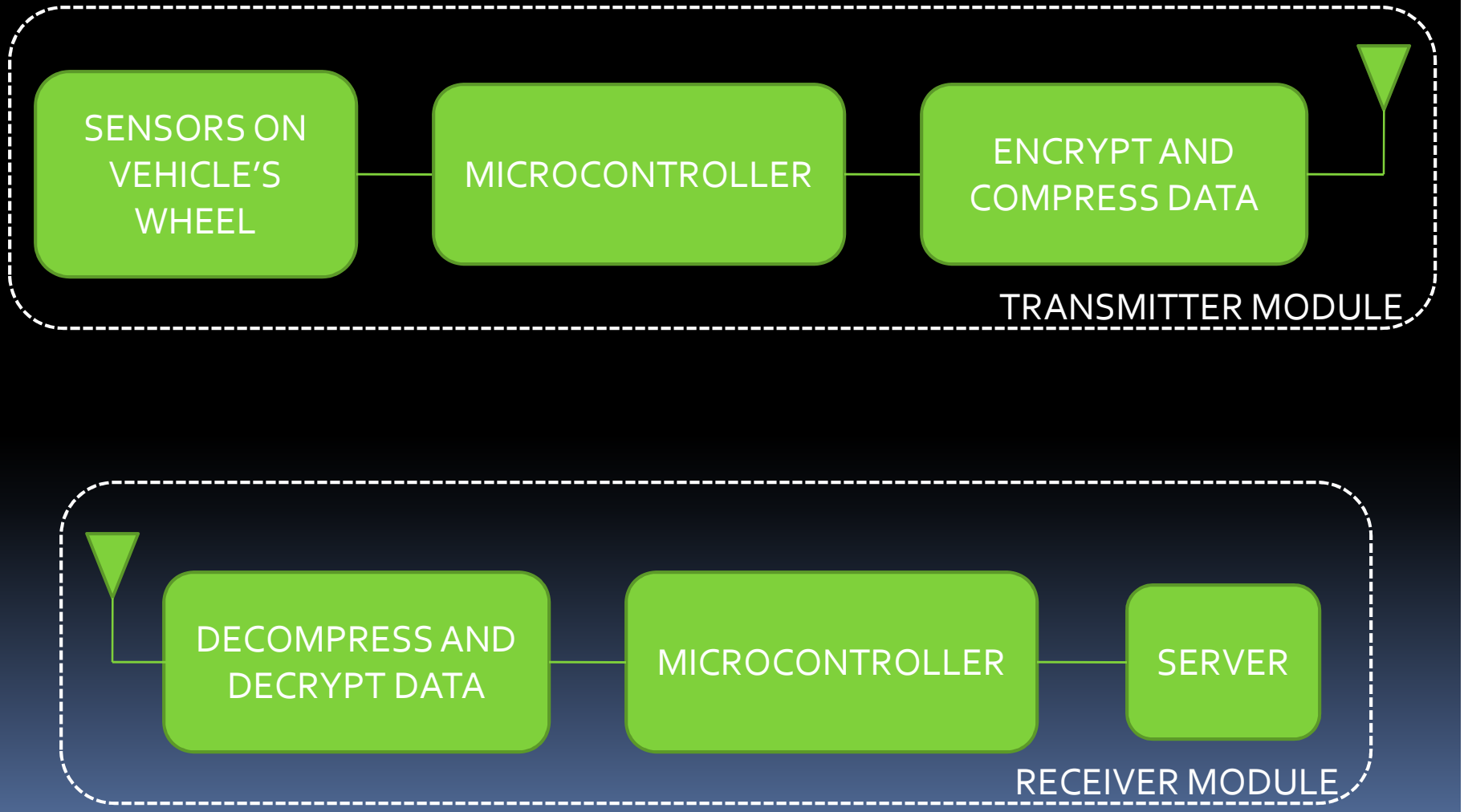
INTRODUCTION

- Traffic Monitoring System is a system developed with a view of strict enforcement of traffic laws.
- Our system mainly detects speed violation.
- TMS consists of a transmitter and receiver module which sends vehicle and it's speed information onto a server managed by traffic department.

TRAFFIC MONITORING SYSTEM

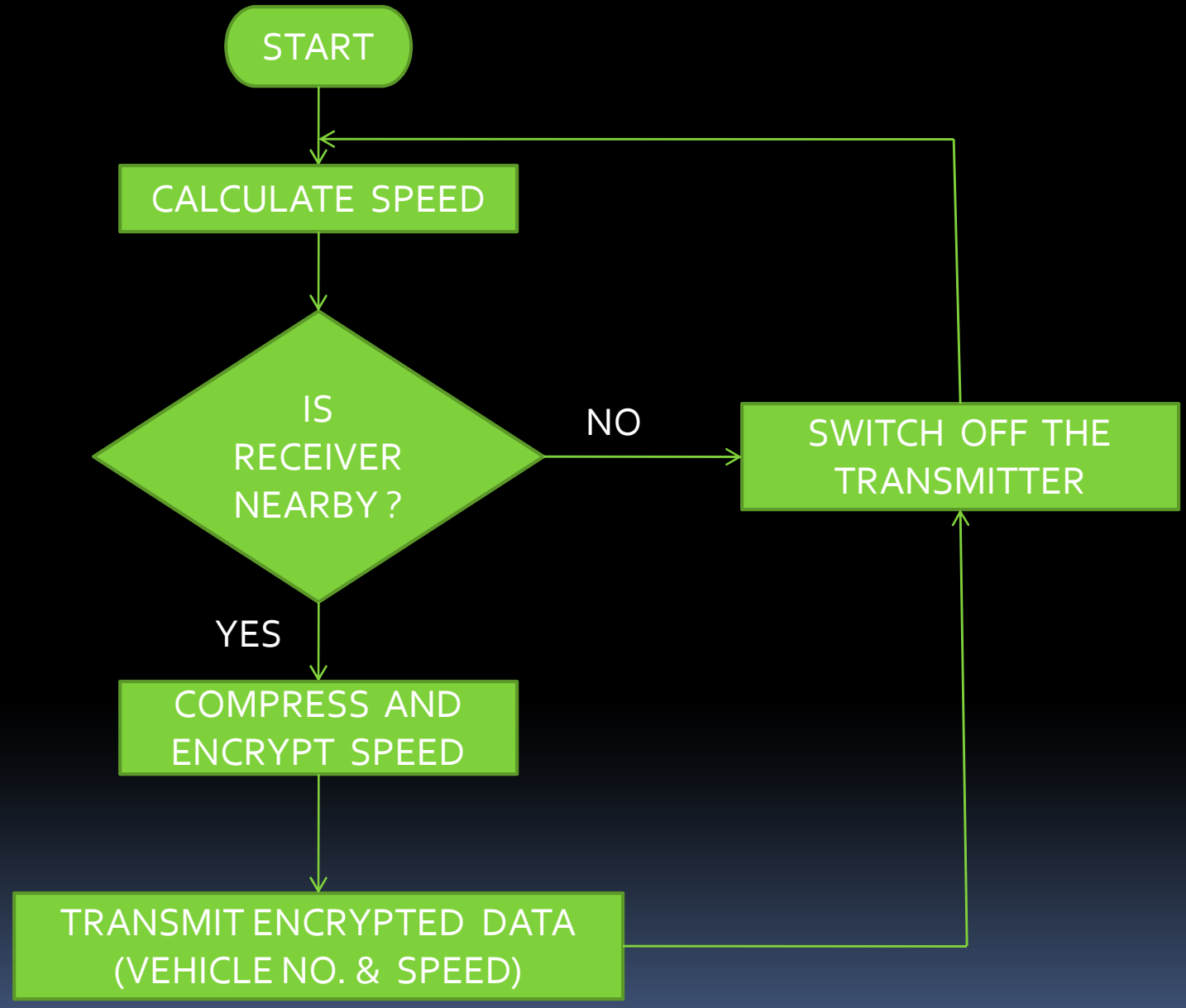
- An embedded system based on wireless communication.
- Deployed in two segments .
  - Transmitter module - mounted on vehicle during registration process.
  - Receiver module- installed at places where speed violation is to be checked.

BLOCK DIAGRAM OF TMS



TRANSMITTER MODULE

- Microcontroller based system
- Installed on vehicles
- Uses vehicle battery as power source
- Major Functionalities
  - Performs continuous calculation of speed
  - Senses receiver proximity
  - Compress and encrypt speed information
  - Sends vehicle number and current speed on being enabled ,through RF transmitter



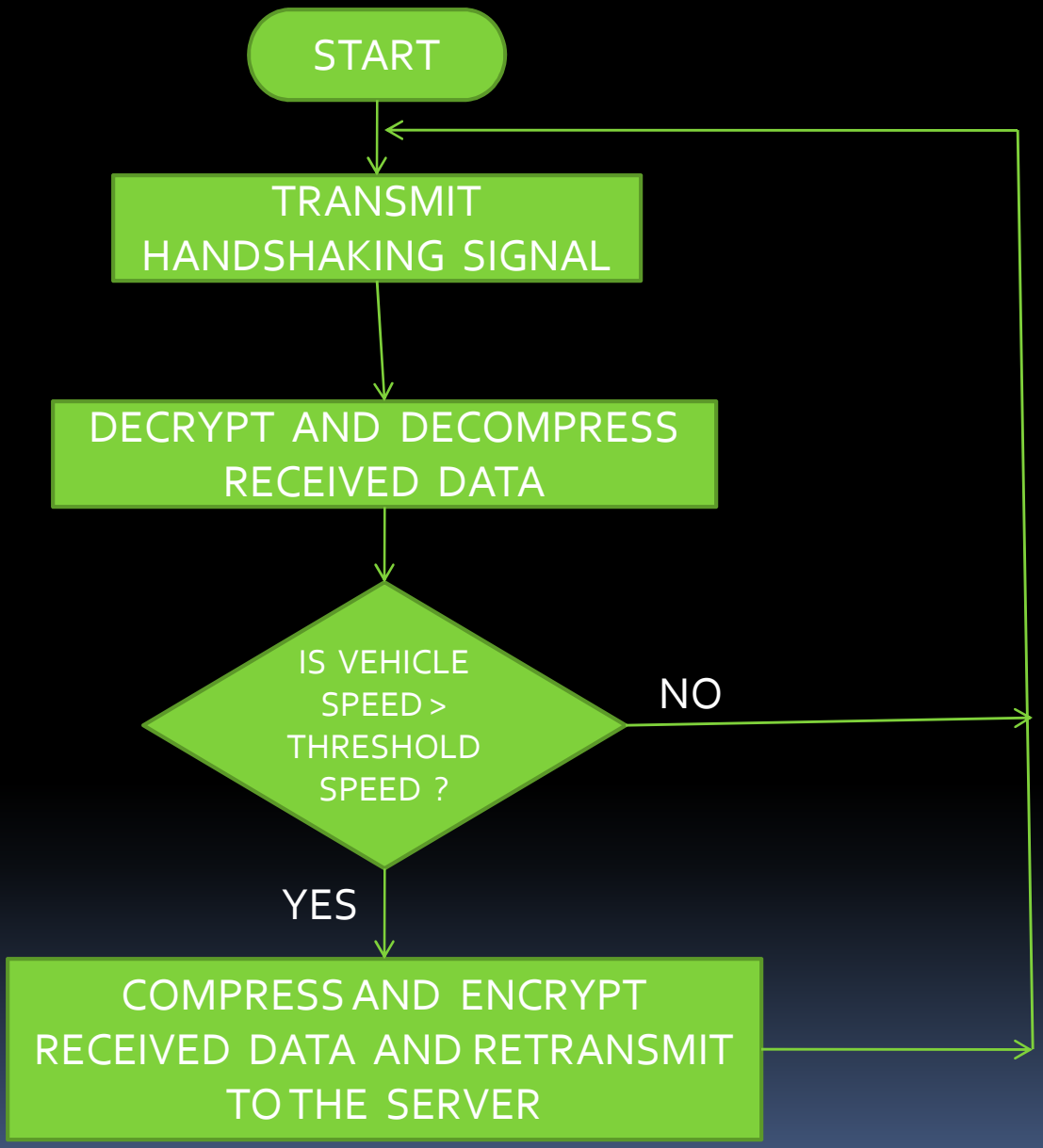
FLOWCHART OF TRANSMITTER MODULE

HARDWARE REQUIREMENT FOR TRANSMITTER MODULE

- MICROCONTROLLER
- TRANSMITTER-RECEIVER PAIR
- IR-SLOTTED SENSOR
- POWER SUPPLY

RECEIVER MODULE

- Microcontroller based system
- Installed at squares and any other places of interest
- Major Functionalities
  - Transmits handshake signal
  - Decrypt and decompress the received data
  - Compare the speed with threshold speed
  - Encrypt and compress and retransmit to the server



FLOWCHART OF RECEIVER MODULE

HARDWARE REQUIREMENT FOR RECEIVER MODULE

- MICROCONTROLLER
- TRANSMITTER-RECEIVER PAIR
- POWER SUPPLY

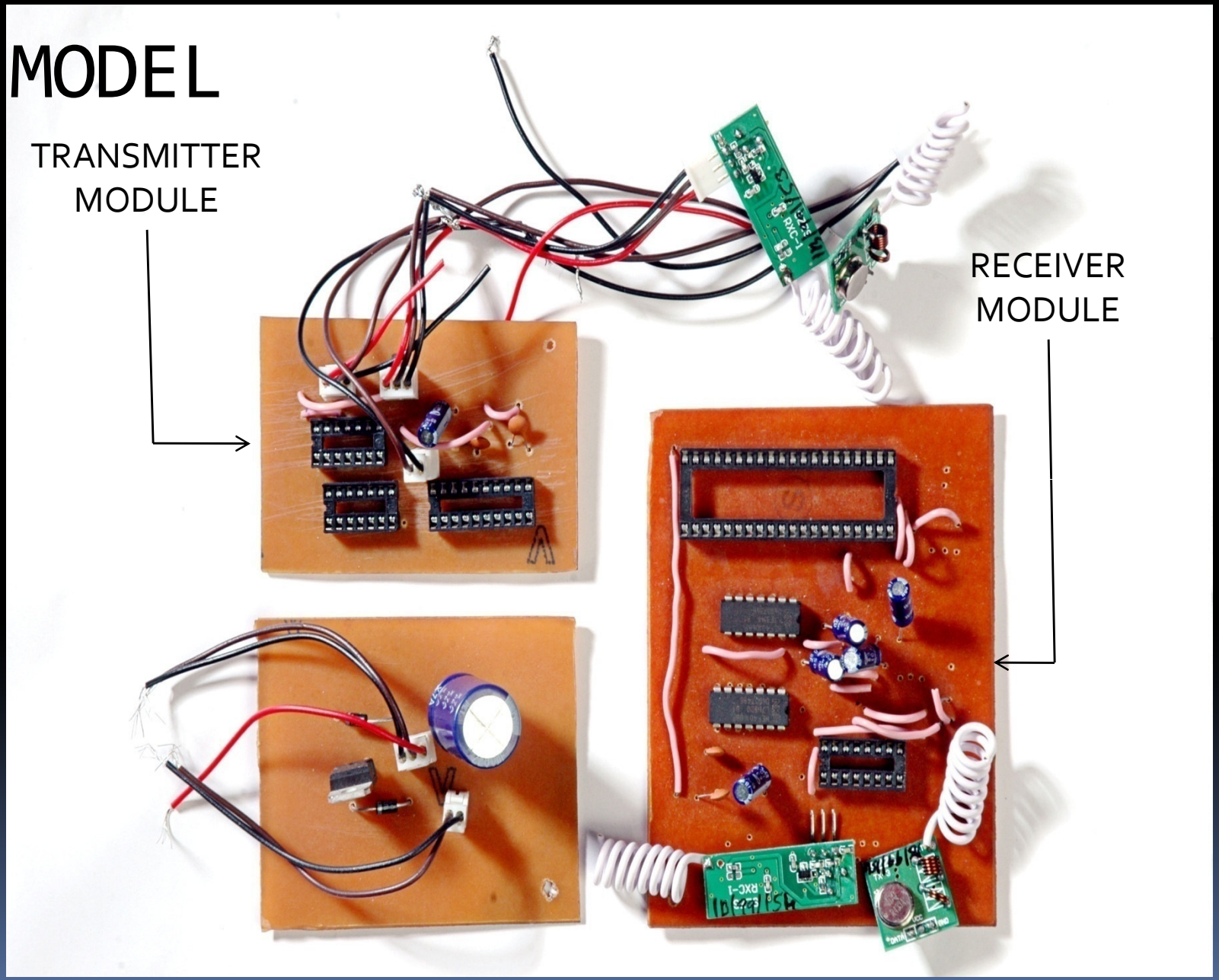
DATA SECURITY

- Security of information is achieved in TMS through encryption.
- When data is transmitted to receiver , it is encoded and compressed using polyalphabetic substitution algorithm.
- This also reduces time required for transmission of data as it compresses data as well.

FEASIBILITY

- TMS is easy to operate.
- It is cost-effective.
- Easy to install on any type of vehicle.
- Less time taken for data transmission.
- Data is secure.

MODEL



FUTURE SCOPE

Traffic monitoring system can be further extended for other traffic violations like

- Signal crossing violation
- Zebra crossing violation

THANK YOU