ESS-NW/CAR

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Overview

Introduction

- Autonomous Driving (AD) and Advandced Driving Assistance Systems (ADAS)
- Communication in self driving cars
  - CAN
  - LIN
  - FlexRay
  - Ethernet
- Intelligent system monitoring
  - Startup
  - Fault detection
  - Network statistics
- Adaptation services
  - Failsafe
  - Network reconfiguration

SDN

- Software defined Network (SDN)

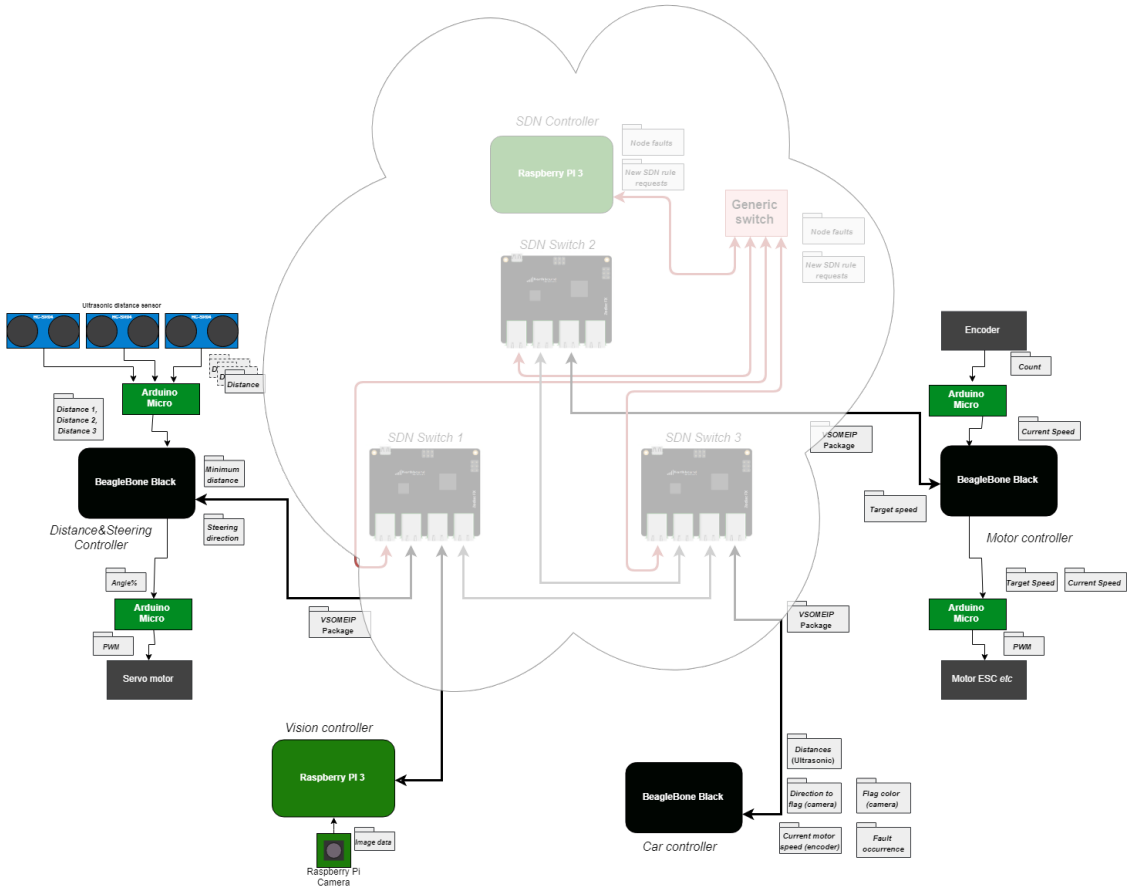


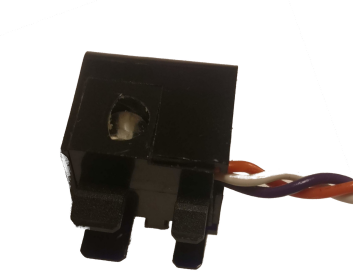
Figure: Network

VSOME/IP

Sensors

- Ultrasonic sensor

- Reflective object sensor



- Camera

Actuators

- Motor controller
- Steering controller

Autonomous behaviour

- Services
- State machine

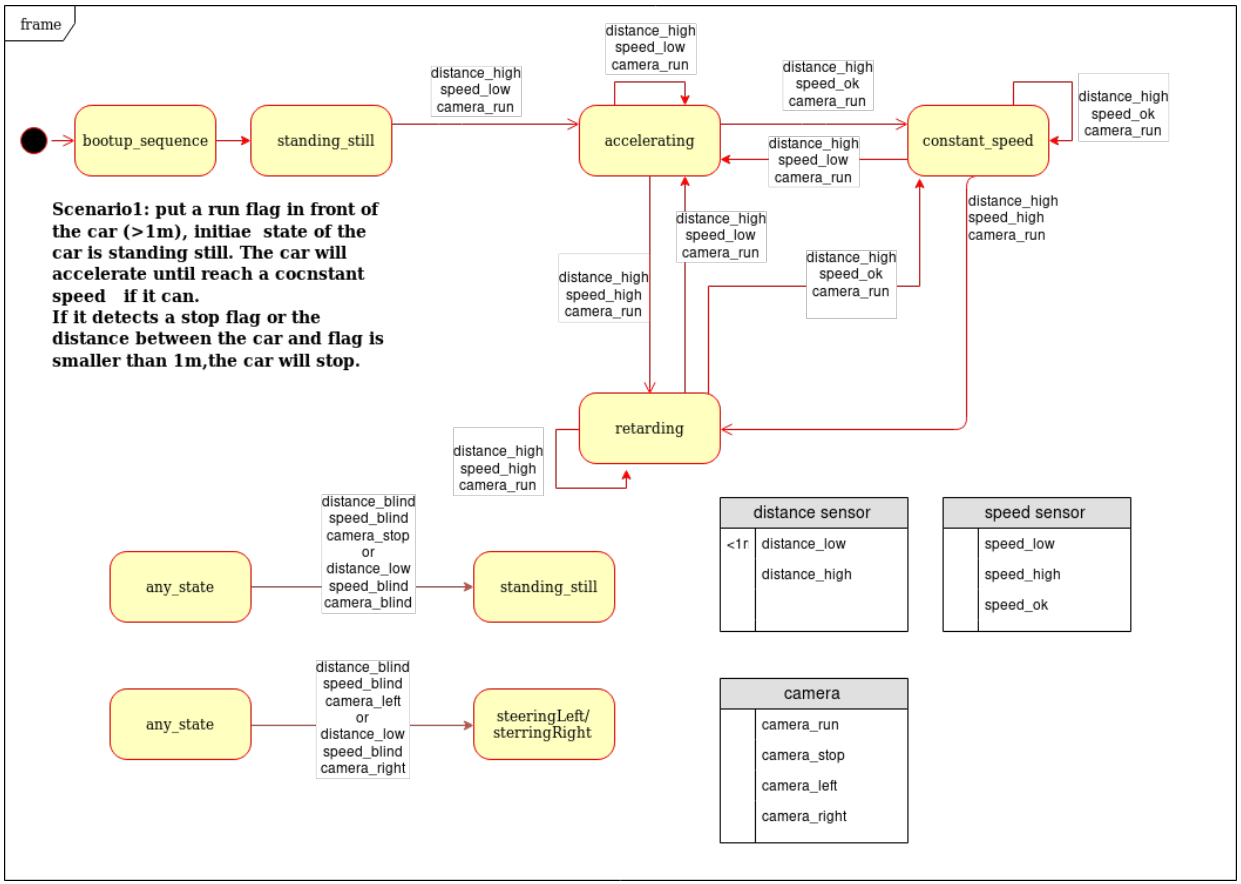


Figure: State machine

Conclusion

- Ethernet is a promising candidate for increasing demand on bandwidth for communication in autonomous cars.
- Ethernet is not without problems, which of many SDN is a promising candidate to solve.
- SDN networks allow for safe, fast and customisable communication on autnomous vehicles.
- Thanks to our project owners!

References

John Smith (2012)

Title of the publication

Journal Name 12(3), 45 – 678.

The End