

# Overview of LMS1

Software Engineering CSE435

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## Team members:

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Customer: Mr. Ayush Agrawal, Amazon

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\*Please direct all inquiries to the instructor.

# LMS Overview

- Provides a safer driving experience
  - Lane Centering System (LCS), Lane Keeping System (LKS), Lane Departure Warning System (LDWS)
- Why is it needed?
  - Distracted drivers
    - Texting, fatigue, etc.

# Features of LMS

- **Lane Keeping System (LKS)**
  - Returns vehicle back to desired position
- **Lane Departure Warning System (LDWS)**
  - Communication of warnings to user
- **Lane Centering System (LCS)**
  - Maintains desired position within lane markings

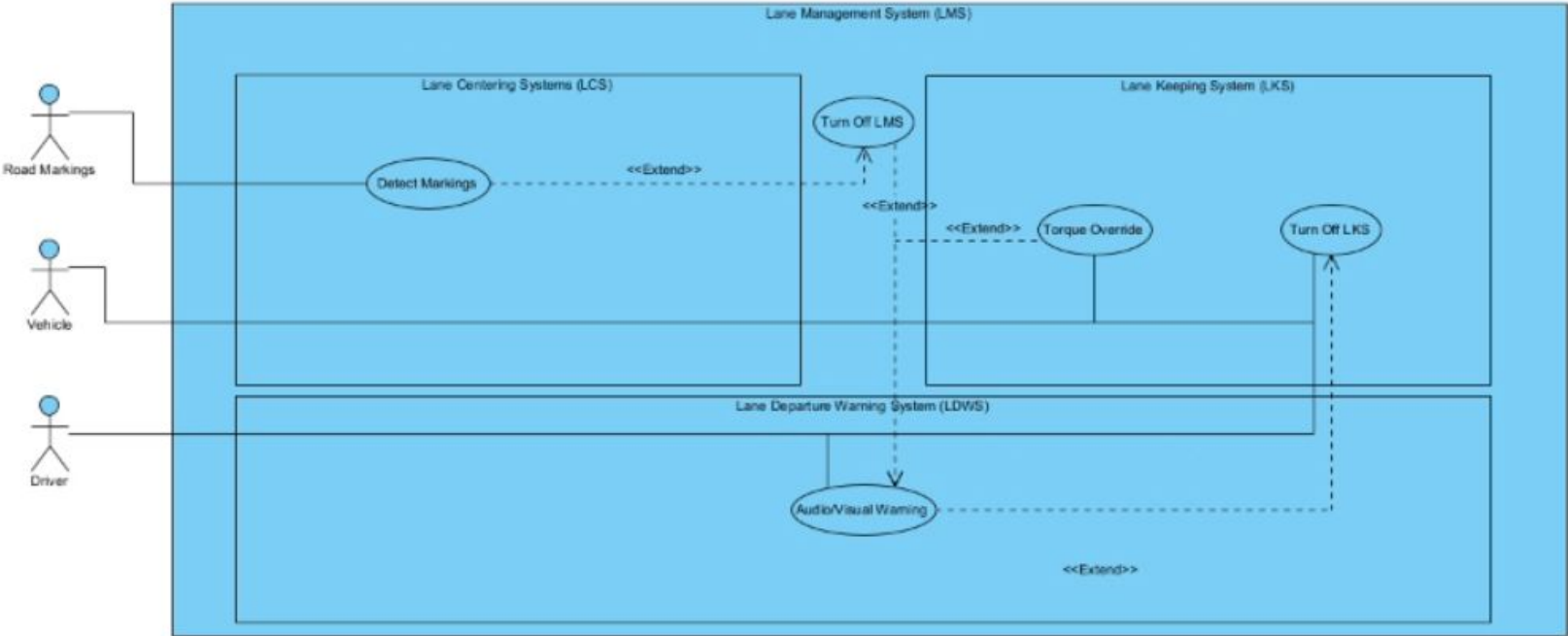
# The Need For LMS

- Inattentive and Fatigued Drivers
- Cater the System to Those Who Need it.



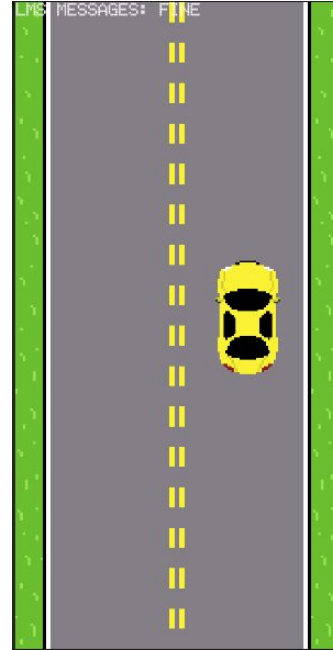
- Constraints
  - LMS Cannot Be Used in Every Scenario
  - LMS is Only in Production Vehicles
  - LMS Gives the Driver Control

# Use Case Diagram



# LMS Display

- LMS displays messages on the car's screen.
- Example messages are shown at the top left of our prototype.



# Scenario: Maintaining Lane



# Scenario: Approaching Lane Markings (No Blinker)





# Scenario: Attempting to Cross Markings (No Blinker)

- LKS Engages
  - Takes control of the car and returns to their lane
- LMS Prompts user with a button to disable LKS's control of the car.



# Scenario: LKS is Disabled by Driver



# Acknowledgements

- We gratefully acknowledge and appreciate the participation of our customer, Mr. Ayush Agrawal from Amazon