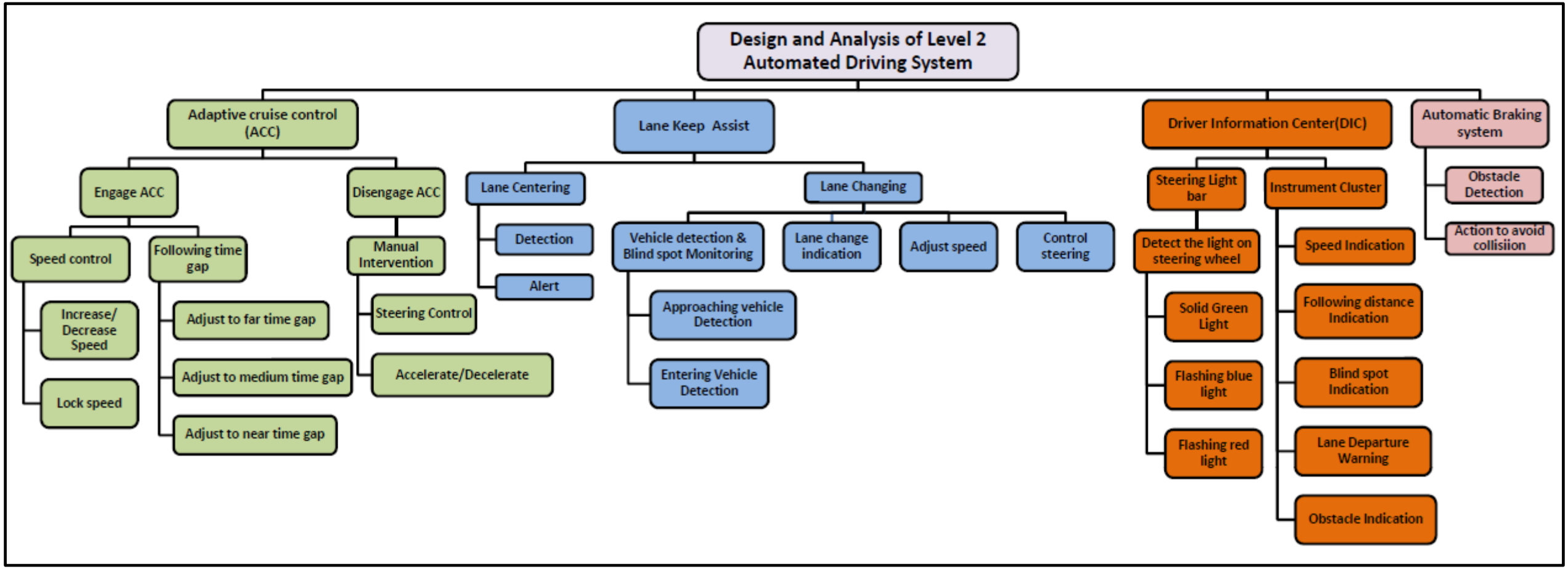
OBJECTIVE

To analyze and redesign a level 2 automated vehicle system, to establish better communication between ADAS and the driver by optimizing Human machine interactions.

PROJECT DELIVERABLES

- TASK ANALYSIS – decompositions of tasks into subtasks
- PROTOTYPING – draft version of a design to explore ideas
- USABILTY TESTING – Evaluation of the developed system

HIERARCHICAL TASK ANALYSIS



Prototyping

To develop a prototype for the proposed level 2 automated vehicle system with following advantages

- To get the driver accustomed to ADAS.
- To decrease the physical and cognitive workload of the driver.
- To enhance the driver's experience.
- To improve driver trust on the ADAS system.

Tachometer

Driver Messages

Odometer

Current Instrument Cluster

Developed Prototype With Adaptive Cruise Control Warnings

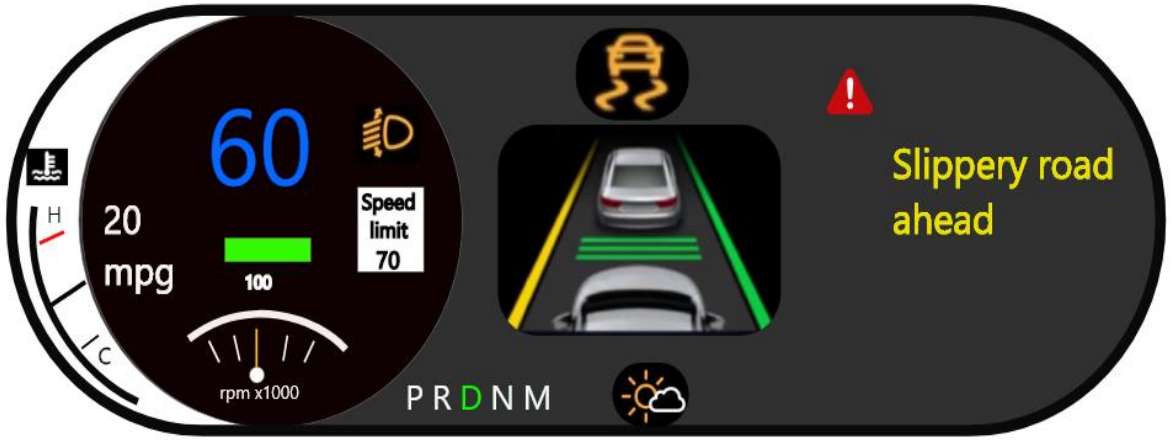
Active ADAS

Red band
ACC Disengaged

Over speeding

Green band
ACC Engaged

Developed Prototype- With Warning Systems and Navigation



Usability testing

Usability refers to the user's interaction with any system.

- Usability evaluation for any design gives a clear picture of how the user's interact with a system and also helps the designer to understand any potential issues with design.
- It also reflects the effectiveness and efficiency of the system.

The outlines of the usability evaluation of the re-designed level 2 automated driving system is as follows

- A group of 10 participants were selected following stratified random sampling.
- Both qualitative and quantitative research design methods have been used.
- Qualitative research method used is **Ethnography**.
- The quantitative research method used is **questionnaires and surveys.**