

EECS 481 Software Engineering

Project 2 Description

Driver Information/Notification System

The Driver Information/Notification System (DINS) is being developed to provide drivers with information upon request and to notify them of potential hazards or emergencies. DINS interacts with both an external controller and internal sensors. The external controller monitors various conditions (such as, weather patterns, road hazards, etc.) and passes any relevant information on to the DINS. DINS also contains GPS information about current location. DINS monitors sensors on the vehicle and collects information to pass on to the driver, either automatically or upon request. The information provided by DINS will be displayed using Heads Up Display (HUD). A HUD is a system that displays information to the user on the windshield of the vehicle in sight of the driver so that the driver is not required to divert their attention from the road to view the information. You do not need to worry about the HUD or the external controller. Your group is responsible for designing the DINS which will receive information from the external controller and the on-board sensors, and send information to the HUD where it will be presented to the driver.

Constraints

- The DINS will receive external information about potential weather hazards and will notify the driver in the event of upcoming problematic weather conditions, such as dense fog, rains, snow, etc.
- The DINS will receive external information regarding upcoming road hazards, such as construction, detours, accidents, traffic jams, etc. and notify the driver accordingly.
- The DINS has an embedded Global Positioning System.
- The DINS will monitor internal sensors and notify the driver regarding routine maintenance, troubled components in the vehicle that need attention, such as low tire pressure, low fuel, low oil, temperature, etc.
- The DINS will provide information on demand regarding any of the information it can provide. An appropriate user interface must be created to receive input requests from the driver.