The upper levels of autonomy are full autonomous driving. This system seeks to replace the human driver, which will ultimately increase safety and efficiency in traffic. While this system also implements localization and perception sensors, there is a need for more advanced machine intelligence and IoT technologies for the system to function. The separation of perception sensors and localization sensors was done to create an instantiation of the "separated safety pattern." This allows for safer technician access and isolation of each component, as IoT Hugs the Lanes is focused on high-quality system management. An example of what the vehicle is equipped with is the following perception sensors: Ranging and Vision Cameras, and Ultrasound (for Radar and Positioning). These sensors provide high accuracy information regarding the distance between the vehicle and other objects. The LiDAR system offers high accuracy and can localize against high-definition maps, but is susceptible to noise caused by certain weather conditions. The second level of defense against obstacle collision is the vision cameras, placed strategically around the vehicle. The way we conveyed what these sensors were seeing to our driver is via colored alerts in the display/interface. There are three colors that can pop up depending on the alert or lack of alert in place; green for when there are no alerts, yellow for when an alert is about to occur if attention is not given to the issue at hand, and red for emergency alert. Concise sentences appear within the alert to ensure that the user does not take his eyes off the road for too long, for example, some of the possible alerts are: STOP, YIELD, TRACTION LOSS, OBJECT IN BLINDSPOT… These concise descriptions and colors allow for the issue to be understood by the user in a timely manner and the solution to the issue fixed efficiently.