Camera/Radar Device

Our Camera/Radar will be placed on the front and back of the car, along with 2 cameras on each side of the car. This device is responsible for using electromagnetic technology to record surrounding objects, as well as their hardness and speed. Also, this device will produce a live camera feed, revealing any and all blind spots.

System Model

Our system model shows the layout of our sensors around the car, with the blue areas being camera feeds and the green area as the radar. The radar will be able to provide a longer range of data than the camera as shown in the diagram. The cameras on the side overlap at a 50 degree angle to minimize blind spots.

Occupancy Grid

The occupancy grid is responsible for displaying the surrounding objects of the point of reference. For our application, the point of reference will be the car, and the objects that the occupancy grid will display are other cars, fallen logs, etc. The occupancy grid will mark potential threats for future use by technology.

Bathtub Curve

The bathtub curve explicitly shows how age is related to the number of accidents. The data shows that a majority of accidents occur when a driver is just starting out, and when the drive has considerably aged. With the use of our sensor fusion technology, we will be able to flatten out the bathtub curve even further by helping identify potential dangers to inexperienced or elderly drivers.

Proposal Device System

Our proposal device system will layout the steps of our software. First the sensors gather data, then the data is sent and complied into an occupancy grid by the main computer. The complied data is to be displayed or can be used for system commands.

Acknowledgments

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References

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