

## Capstone Abstract

1. Project number: 3
2. Project title (as will appear on the poster): Transparent Heads-Up Display
3. Team members: Arjun Bedi, Namit Patel, Harsh Patel
4. Adviser(s) name(s): Yanyong Zhang
5. Up to 5 keywords that will help to classify the project scope:  
Automobiles  
Safety  
Linux application development  
Raspberry pi integration  
LIDAR detection
6. Project abstract (up to 250 words) to be shared with judges:

Cars are an integral part of today's society. It is a well-known fact that older cars, which constitute a major part of the car market, lack many of the safety features and standards that have become mandatory for new production cars. If you choose to approach your car manufacturer about being able to add on these new safety features to your old car, there is a good chance this is not something your manufacturer would be able to do for you, and if by a small chance they do tell you they can assist you, it would certainly be for a very significant sum of money. Our project consists of building a module that utilizes a transparent display to show the driver crucial information directly in front of them so that he or she keeps their eyes on the road. The information being presented consists of speed, car alerts, navigation, current road speed, police/traffic alerts, and frontal proximity warning. Most of this information will be pulled either directly from the car or Google Maps and Waze. The exception to this is the frontal proximity warning which will be provided through a LIDAR system that will be built into the module. We will be using a Raspberry Pi as the brains of this module and the display that will convey all this information to the driver will be a beam splitter. We believe that by building this module, we will be able to significantly increase driver awareness and safety and help an immense amount of people.