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Data Processing for Increased Driving Awareness and Oversight

According to studies performed by the CDC or Centers for Disease Control and Prevention, teenage drivers between the ages of 16 and 19 years-old are at the highest risk of being in a fatal crash. In 2014 alone, 2,270 drivers between the age of 16-19 were killed while 221,313 required medical treatment after suffering a car crash. This equates to approximately 6 teen drivers' deaths each day in the United States. In all, motor vehicle fatalities account for one third of the deaths to teenagers and the leading cause of accidental deaths. Our product will target newly licensed drivers, specifically teenager drivers, to create better driving habits and attempt to reduce the number of fatalities and accidents which occur each year.

What factors cause teens drivers to be more susceptible to motor vehicle fatalities and injuries? Based on studies performed by the CDC, "Teens are more likely than older drivers to underestimate dangerous situations or not able to recognize hazardous situations." The inexperience of new drivers can impact the judgement and actions performed behind the wheel, in turn, allowing for dangerous maneuvers to be performed. The lack of judgement additionally results in the increased presence of alcohol in drivers after motor vehicle crashes. In research performed by the National Highway Traffic Safety Administration, 17% of teen drivers in accidents had a BAC level of .08% or higher as well as 20% of teens reported that they have ridden with a driver who had consumed alcohol. The carefreeness of teenagers additionally

aids in their “invincible” mentality and lack of use of seatbelts in vehicles. In a 2013 study, they concluded that teens have the lowest rate of seatbelt use out of all age groups and found that 61% of teens consistently use seatbelts as a passenger. The lack of judgement as well as the lack of use of seatbelts combine to create deadly conditions and threaten the safety of teenage drivers and their passengers. In order to prevent future fatalities and accidents, preventative steps must be taken in order to educate safe driving habits in all drivers.

Cars today are now computers and track large amounts of information while being used. The data provided by the cars can provide insight on the driving behaviors which can in turn be used to inform drivers of bad driving habits in an effort to create safer drivers. The target market for our product is primarily focused on newly licensed drivers, specifically teenagers. However, because the product can be installed into nearly every car on the road, the market is not limited to a confined demographic but rather a much larger population. As more drivers are licensed each year, the roads are becoming increasingly crowded with cars. While constant improvements are being made in car safety and technology to increase survival in the case of an accident, prevention of accidents through the improvement of driver behavior can better improve the safety of America’s roadways. In instilling the responsibility and the importance of safe driving techniques in at least a small population of current drivers, our product can create more safe drivers on the road and aid in decreasing the number of accidents per year.

Currently, the existing products on the market place are limited in their abilities and therefore limited in their ability to provide inciteful information to impact driver behavior. Devices like the Zubie, SmartDriver, and Progressive’s Snapshot make use of the car’s OBD-II port to access the data tracked by the onboard computer in the car. Modern OBD-II ports provide access to upwards of 200 sensors and data outputs; however, in examination of current driver tracking solutions, the solutions primarily focus on three pieces of data: braking speed, fuel

efficiency, and speed. While crucial pieces of data, this only touches the surface in providing a complete examination of driving behaviors. The current marketplace for OBD-II port reading products is currently focused on two main uses: driver behavior tracking for insurance companies and parent/child tracking. Insurance companies such as Progressive utilize the OBD-II port to analyze the driving of their clients to determine whether or not they exhibit safe driving behaviors. By doing so, insurance companies can track the behavior of their clients and therefore introduce discounts to insurance plans; however, at the price of privacy. Insurance company solutions are not popular due to the possible negative financial impact caused by their collection of a user's data. In an article published by the US News, consumers often opt out of the insurance company tracking programs when they do not end up receiving discounts and have privacy and location concerns about the devices. On the more consumer targeted spectrum, products such as the Zubie, SmartDriver, and Automatic provide limited amounts of data collection. Such products are targeted as parent/child driver tracking solutions; however, do not actually provide in depth information on how their child behaves at the wheel, but rather focuses on where they are located. Currently, there is a lack of a product that takes full advantage of the data provided by the OBD-II port to provide a full picture analysis of driver behaviors. By tapping into this information and providing the information to the user or a concerned parent, better driving behaviors can be developed and enforced on drivers to create safer roads for all.

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