LITERATURE SURVEY

ACCIDENT PREVENTION SYSTEM IN HAIRPIN BEND

INTRODUCTION

Vehicles play a significant part in our daily lives, such as commuting from one location to another, transporting goods, food, and so on, by reducing travel time for humans. According to past knowledge and reports many accidents occur on mountainous roads owing to the lack of vision of other vehicles approaching from the opposite direction, landslides, and adverse weather conditions. However, no safeguards or actions to avoid them have been implemented. Human life is lost as a result of this.

STATEMENT

Every day, accidents occur as a result of the increasing use of transportation and vehicles. Accidents are mostly caused by violations of traffic rules, negligence, and poor road conditions. Due to a lack of communication and zero visibility over the hairpin curves, vehicles travelling around these hairpin bends are extremely vulnerable to accidents. As a result, vehicles must use extreme caution when driving through hairpin curves. These problems are the major concerns in hilly areas. The proposed system detects the vehicles on one side of the curve using a highly configured camera, then classifies following vehicles into light motor vehicles (LMV) or heavy motor vehicles (HMV), and notifies the vehicles on the other side of the curve using a display board. This display board is a seven-segmented display that consists of information about the vehicle category, time taken by the vehicle to pass the curve, and the number of vehicles passing the curve. So the proposed system gives confidence to the drivers about the incoming vehicles in the deep curve and they are aware of the upcoming vehicle category. The proposed system reduces accidents in hairpin bends and there is less traffic congestion.

SOLUTION

The proposed system helps with accident avoidance and effective traffic management in hairpin curves. This system consists of two cameras and two display boards. To demonstrate the system, it uses

webcams for reading input and the Python GUI library Tkinter for display. This system is accurate for vehicle classification. It gives the preference for a vehicle according to its class. The proposed system assists the vehicles in the hairpin curve, so there is less traffic congestion.

ALTERNATION

In hairpin bend we should provide signals in both sides. While using ultrasonic sensor to detect the distance between both signals and used to help from one side to another side when vehicles are in both sides. Alarm also used in this method for safety purpose.

ADVANTAGE

- Safety measures
- Prevent accidents
- Lossless life
- Time invariant
- Cost efficient is less

DISADVANTAGE

- To check signal system continuously
- To protect sensor

REFERENCE

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Peden M, Hyder A. Road traffic injuries are a global public health problem. BMJ 2002; 324: 1153