

Date : _____

Assignment — 02

Q. Decide the problem which will be solve & detail story about why the problem happens :-

Problem :- The accident happens in huge amount in the worldwide through the driving.

- Why the problem happens ?
The accidents happen due to combination of factors, including human error, environmental condition, & also by the mechanical failures.

For example :- Human error can happen by the individual or due to the alcohol & drugs. It also happens due to poor road or workplace condition. Mechanical failures can also happen due to sudden occurrences like animals crossing the road, unexpected obstacles.

- Why you decided this problem ?
We decided this problem because when the accident happens the person is not able to go to the hospital immediately. His / her life may go in danger & people do not help the person they click the photos / videos unnecessarily, then the humanity comes in front.

- How your thoughts to solve the identified problem of accident ?

When addressing the problem of accidents, its crucial to consider both prevention & responsive measures.

A) Preventative measures :-

- i) Improved safety standards.
- ii) Technology integration.

B) Responsive measures :—

- i) Emergency Response plan.
- ii) Accident investigation.
- iii) Support system.

• Solution on the problem.

Due to human errors like alcoholic driver we can detect it through the software technology.

It involves a combination of sensors, data analysis.

There are some solution through ~~th~~ we can detect the person.

a) Breathalyzer Integration :—

The drivers must blow into the breathalyzer, & if alcohol is detected above the legal limit. The vehicle will not start up modern system can transmit the data to a monitoring app or central database for real-time tracking.

b) In car cameras & AI :—

The cameras equipped with AI algorithms can monitor with drivers behaviour & detect the signs of impairment.

c) Steering wheel sensors :—

Sensors embedded in the steering wheel can measure the drivers sweat for alcohol content. If alcohol is detected the system can alert the drivers & prevent the vehicle from operating.

- The best solution with Justification.

The best solution to solve problem is (Automotive accident detection & notification) through the software, vehicle-to-everything (V2X) communication.

In the event of an accident, V2X-equipped vehicles can automatically get alert emergency services with precise location data & details about the severity of the incident & it also help to reach the accident site & hospitals faster.

- Justification about solution :-

The Ultimate result is reduced response times, improved patient outcomes, & a more efficient emergency medical system.

- The Prototype Model .

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- Accident occurs .

The alert is automatically generated, including GPS co-ordinates & severity .

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- Emergency Notification .

The system receives the alert & dispatches an ambulance .

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- Traffic Management .

Traffic lights on the ambulance's route are synchronized to turn green ensuring minimal stops .

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- Ambulance En-Route •

Nearby vehicles are notified to clear the path.

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- Hospital Preparedness •

Medical staff should prepare the necessary equipment & personal to receive the patient immediately.