Traffic Accident Alert Info System Using Internet of Things

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Abstract- *IoT based traffic congestion control unit design increases Careful investigation is done to develop a work-flow process for a real time traffic monitoring unit. The consequence of road accidents that involves a motorcycle is far more fatal for the rider than the other drivers. Traffic congestion is emerging as a major problem for everyone within a city. The reasons for this problem are increasing populations of vehicles in the city, poor management of roads. The increasing adult populations is also a big cause for congestion as they want to use their private vehicle rather than using public transportation. Our projected framework will distinguish driver laziness and gives cautioning in type of alert. As the number of cars increases, congestion in city also increases. That is why, the smaller towns and villages are unheard this problem, car accident data framework will ceaselessly screen the good ways from vehicle which remains finished by the ultrasonic sensor In this paper, we will speak to the structural way to deal with build up the android stage based request and IoT based equipment, which is propelled item identified with driver security on the streets utilizing mix of versatile figuring and advanced picture handling and controller.*

Keywords- GSM, GPS, IoT, Security system alert.

I. INTRODUCTION

These days because of simpler EMI alternatives individuals can manage the cost of vehicles, bicycles therefore adding to the traffic step by step. Indeed, even a few fabricates have embraced different promoting plans.Because of overwhelming traffic on certain streets with the goal that crisis vehicles can't show up on schedule so prompting more passing because of street mishaps. "As indicated by Forbes report, an expected 5000 lives lost in only USA by lazy driving, at a yearly expense of something like $109 billion". "The AAA says that 20% of all lethal mishap in the USA is because of sleepiness, we can just envision what details resemble for India which has most elevated street mishap in world at 18%". This venture utilizes "Internet of Things (IOT)" as an answer for the issue of mishap recognition and impact evasion utilizing present day advances and furthermore up then coming innovations like "Global Positioning System (GPS), Global System for Mobile (GSM), Smartphones".

The principle impartial behind this task is to build up a nonintrusive framework which container recognizes sluggish condition of the driver and subjects an admonition. The improvement of advancements for forestalling weakness is a significant test. To forestall sleepiness of driver during driving requires a technique for precisely distinguishing a reduction in motorist readiness. Smaller scale dozes which are brief time of dozes enduring 2 to 4 seconds are acceptable marker of weariness state. In this way by continually watching the judgments and mouth development of the driver it can distinguish the sluggish condition of motorist sufficiently initial to maintain a strategic distance from mishap.

II. LITERATURE REVIEW

2.1 Research on "Internet of Things for Smart Cities"

"The Internet of Things (IoT)" will have the selection to actualize consummately then predictable with huge number of several and varied frameworks. Building a sum up design for the IoT is the intricate assignment, in light of the fact that IoT has amazingly huge collection of gadgets, interface layer advancements, and administrations that might be associated with such a system.[1] The Internet of Things (IoT) is recently adjusted innovation which has a lot of space to develop, on the grounds that web of things have immense measure of utilization. This age is quickly pushing toward urban areas with the goal that urban areas must need to develop them personality for this departure. So additional individuals in city requirements better way of life, great lodging and quality framework. Thus the IoT which is broadly utilized in observing and controlling of various boundary. As we probably am aware, The Internet of Things have numerous requests, with the goal that produce huge amounts of information, henceforth the information the executives is experiment in IoT founded framework as information originates from various area in the system.

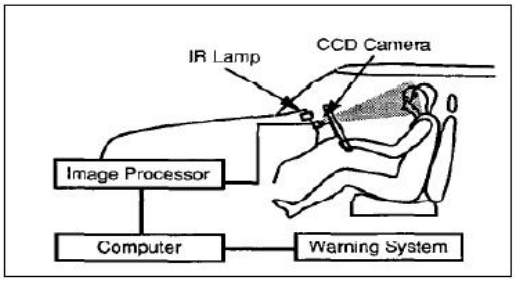
Savvy CITY NOTION AND FACILITIES

"As indicated by Pike Research on Smart Cities, the Smart City Market is assessed at 1000 of billion dollars by 2020, with a yearly spending of almost 16 billion". "This market comprise of various assistance segments, Smart E-Governance, Mobility, Smart Utilities, Smart Buildings, and Smart Environment".

Fig-1: Applications of smart city.

2.2 Real-Time Monitoring and Prediction of Driver Fatigue

"This on-going nonintrusive observing and expectation driver weariness framework utilizes two accuse coupled camera of infrared illuminator to screen the driver face without meddling the driving". "This framework approves under reality, constant sleepy conditions with human having distinctive ethnic foundations, sexes and ages; and under various lighting conditions". This framework establishes solid, powerful and productive for various ethnic individuals and give opportune admonition on driver's weariness. [2]



2.3 Drowsy Driver Warning System Using Image Processing

"Driver in-readiness is unique of the significant reason for greatest mishap identified with the vehicles crashes driver laziness coming about because of rest issue is a significant factor in the expanding number of the mishaps on the present streets". "Weariness is human boundary that shows he/she is worn out". "The best solution for exhaustion is appropriate rest tired driver cautioning framework can shape to conceivably diminish the mishaps identified with driver's languor". "By setting the camera inside the vehicle, we can screen the substance of the driver and search for the eye-developments the eye is primary facial boundary to screen in such a case that driver is getting smaller scale rest then it will shut eyes for few moments or longer which is the indication of driver tiredness". "So in such case framework will alarm the driver thus mishap can handle. This paper portrays how to discover and follow the eyes". "Likewise it discloses a technique to decide whether the eyes are open or shut the principle model of this framework is that this framework must be non-meddlesome and framework should begin when the vehicle is turned on without driver commencement the framework". "Driver shouldn't give any criticism to framework. The framework must work paying little mind to the shading, size surface of face and distinctive brightening". [3]

III. PROBLEM FORMULATION

Street mishaps have remained a significant issue for the majority of the nations. Educations show that the quantity of passings because of street mishaps is expanding step by step making wellbeing a significant concern. Driver laziness is one of the significant reason for street mishap in which driver's absence of focus on driving and traffic because of exhaustion. Web of Things (IoT) combined with Smartphone innovation, Image preparing calculation, intends to limit the passings that happens worldwide because of street mishaps and to build the life expectancy and death pace of individual, proposed System is configuration to lessen street mishap because of the languid driving .It will manage the significant issues about driver weariness and Collision location and recommend cures.

IV. PROPOSED METHODOLOGY

IoT based Drowsy Driving Warning and Traffic impact Data System will comprises of following procedure Lazy driving admonition framework will be execute on cell phone with the assistance of one of picture preparing calculation. Driver's face demeanor, for example, eye flickering , mouth position will consistently screen by cell phone camera .If the driver face looks coordinate with tired boundary then cell phone will alarm the driver. For crisis circumstance, driver can call for clinical help by talking "help" so cell phone will identify this order and will sent assistance message to closest medical clinic with its ebb and flow area.

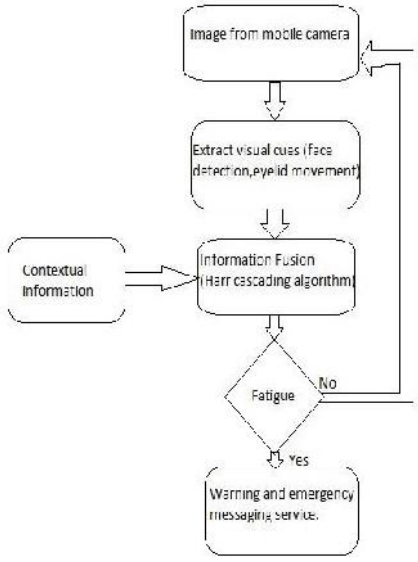


Fig-3: Block diagram of Driver fatigue monitoring system.

Car accident will recognize by sway estimating sensor. At the point when certain level of effect happens on sensor so framework will consider as Traffic impact. "Henceforth framework will send crisis message with co-ordinates of impact region to closest emergency clinic, police, according to database, by utilizing it's the GSM-GPS framework". Android application and online information entrance will make to follow impact zone

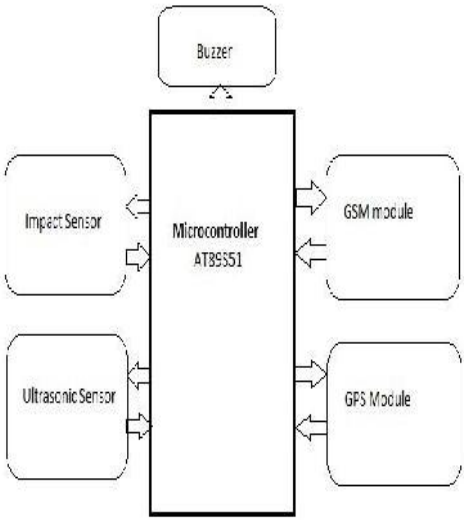


Fig-4: Block diagram of Traffic collision detection system.

V. CONCLUSION

In this work, future framework determination assists with decreasing Traffic mishap. Framework will screen driver's facemask prompts and it will caution driver on weariness disorder. Likewise this framework will give driver voice to message offices for health related crises. Car accident data framework will identify the crash and in a split second call to help closest emergency clinic, police headquarters, family members according to information base.

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