**TWO WHEELER SAFETY SYSTEM**

Vehicle security has become one of the top most concerns for an individual nowadays. Keeping safety as the important criteria, the objective of our proposed device is to construct a safety system which could be integrated with motor bikes(especially the high speed bikes) to reduce the probability of road accidents. Despite having all the safety rules, Indian road conditions take lives to critical conditions. The accidents are fatal sometimes as potholes may not be visible at the night time or due to the common negligence of not properly watching the roads during rides. Facilitating the comfortable and more secured travel in such roads, our proposal has just reached the requirements of our country. So we propose this “two-wheeler safety system” which aims to prevent accidents by detecting the pothole/humps on the road and reporting to the drivers before some distance. After the detection, this system immediately alerts the rider and suspends engine control from the wheels. Thereby we can control the two wheeler speed easily. This device also senses the vehicles in front and gives warning to the rider(through buzzer sound) at a safer distance as to avoid any collisions. This would be very useful for the ones who take night rides. This helps to prevent dashing invisible vehicles or unexpected obstacles(Eg., animals, humans or any objects without lights). When the distance limit is too small, it automatically insist the bike system to apply Clutch & brake smoothly, thereby preventing vehicle from collision. Additionally, this system offers a continuous monitoring of the vehicle for any suspicious movement using GPS that helps prevent theft. Also, we have added the live speed monitoring option which helps the third party(accessible housemates/family members) to observe the speed of the bike, ensuring happy/fearless housemates as well. This system also detects the angle tilt of the vehicle, reporting any fallen bike, reducing the probability of two-wheeler accident/damage.

**Objectives: Avoiding potholes/humps, automatic emergency braking, vehicle monitoring safety method, location, speed detection, reporting pothole/hump, third party speed and location monitoring, anti-vehicle theft(GPS).**

**Design a2-wheelersafetysystemwithhurdledetection**

**(pothole,hump,etc)(TVSMotorCompany)**

**ProblemDescription SmartTwo-WheelerSystem**

**Withtheincreaseintheworld’spopulationandeconomy,therehasbeenan**

**increasingloadonthetransportationinfrastructure.Roadshavebeenfloodedwith**

**vehiculartraffic.Ithasbecomeincreasinglydifficulttomanagethistraffic.Road**

**accidentsundoubtedlycausethemostdamagewithcloseto1.5lakhdeathseveryyear**

**inIndiaalone.Poormaintenanceofroadsduetolowfundingisoneofthemajor**

**causesofroadaccidents.Speedbreakerswithincorrectheightsandpoorqualityroads**

**withpotholesleadtothelossofmanypricelesslives.Also,thefuelconsumptionof**

**vehiclesincreasesanddeterioratestheeconomicgrowthofthecountryandharmsthe**

**environment.**

**Thisistheprimemotivationbehindmakingavehicleintelligentenoughtoaidthe**

**driverinvariousaspects.**

**Topic:**

**Pothole/humpdetectionforatwo-wheeler,forpre-warning/takingrequiredauto/**

**manualactions.**

**Part/systems:**

**Two-wheelerorLabmodel**

**Expectedoutput:**

**Parametersusedfordetection,Attributes/Metricsusedtodefinesafety,comfort,**

**etc.Workingmodeldepictingtheconceptandthebenefits.**

**OutputCriteria:**

**Itshouldbepracticalandeconomical.Exceptionscanbeforverycreative/novel**

**ideas.**

This system, using the concepts of IoT, will intimate the owner of the vehicle/ third party who has the access, In order to add more benefits,,about the location of the vehicle in case of any casualties or over speeding whenever detected.