

**ROYAL COLLEGE OF ENGINEERING & TECHNOLOGY  
AKKIKAVU**

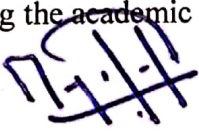


**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

**CERTIFICATE**

Certified that this design project report “ INTELLIGENT DAM MONITORING USING IOT AND MACHINE LEARNING” is the bonafide work of “VISHNU.T (RCE16EE024), VARSHAVINOD (RCE16EE023), SNEHA.P.P (LRCE16EE030), MOHAMMED ZIYAD (RCE16EE011)” of Department of Electrical & Electronics Engineering in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology (B.Tech) in Electrical & Electronics Engineering under APJ Abdul Kalam Technological University (KTU) during the academic year 2018-19.

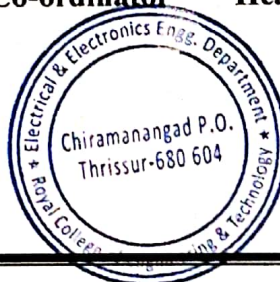
  
Project Guide

  
Project Co-ordinator

  
Head of the Department

Place: Akkikavu

Date: 30/11/18.



## **ABSTRACT**

The proposed project introducing a new methodology for dam monitoring. Here checking the strength of the dam, by analyzing the vibration level. The vibrations are sensed by the peizo vibrational sensors that placed in the dam's wall. The output from the sensor is processed and visualized graphically, so that it provides a real time monitoring of the dam. The second phase of the project is predicting the Chances for leakages in the dam's wall by the help of statical analysis (machinelearning).

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**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**



Certified that this design project report "AMBULANCE ALERT" is the bonafide work of "AKHIL M (RCE16EE005), SAKEENA BISMI (RCE16EE019), SACHIN JOSE T (LRCE16EE029)" of Department of Electrical & Electronics Engineering in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology (B Tech) in Electrical & Electronics Engineering under APJ Abdul Kalam Technological University (KTU) during the academic year 2018-19.

  
Project Guide

  
Project Co-ordinator

  
Head of the Department

Place: Akkikavu

Date: 30/11/18



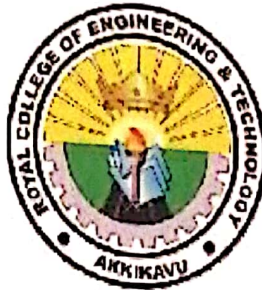
## **ABSTRACT**

In emergency conditions each and every minute is valuable. The traffic congestion is a main problem which causes delay for the ambulance. So by our project we aim to have a safe journey for ambulance in emergency conditions. Here, we are providing an extra light indication (say in blue color) on the signal board in order to indicate the emergency alert. We are doing this in two modes in the basis of the junction –one on the normal junctions at local areas, where there is small blocks are created and the other is main junctions at city highways, where there is more blocks are formed. We refer the first one as small and the other as main junctions. We are introducing the blue signal with timer at small junctions and a GPS module at main junctions, so that we can reduce the cost of using GPS module at all the junctions. Emergency signals are provided from the ambulance with help of radio frequency waves. . The project is done with the help of timer at small junctions and by using GPS module at main junctions. As the emergency signal shows blue, all the vehicles should keep the left side and the right side must free to pass the ambulance.

When the ambulance arrives from a direction, all the direction will show the signal light as blue at the same time. It is necessary to all vehicles to be at the left side of the road and make the right side free to pass the ambulance. For this, the system needs an arduino, RF transmitter-receiver, timer, light and GPS module. The major role of this project to control the traffic light for the ambulance and make clearance for the path without any disturbance of other vehicles.



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This is Certified that this design project report "WIRELESS POWER TRANSMISSION IN ELECTRIC VEHICLES USING SOLAR ENERGY" is the bonafide work of " AISWARYA N (RCE16EE003),MURSHID P(RCE16EE012),SAFA N.M (RCE16EE016),SAJIN V.M (RCE16EE018)"of Department of Electrical & Electronics Engineering in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology (B.Tech) in Electrical & Electronics Engineering under APJ Abdul Kalam Technological University (KTU) during the academic year 2018-19.

Project Guide

NEETHU K S

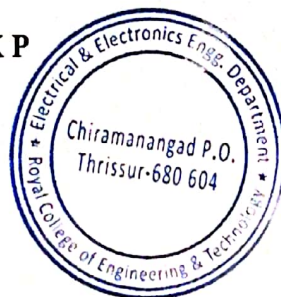
Project Co-ordinator

KIRAN P

PRAVEEN K P

Head of the Department

AMRUTHA M CHEMMANUR



Place: Akkikavu

Date: 30/11/18.

## **ABSTRACT**

Under current scenario the fuel demand for automobile is growing rapidly and its source such as petrol, diesel and all are also getting depleted. Moreover automobile is a polluting factor, as it has various harmful impact and other environmental issues. As remedial measure Electrical Vehicle has come forward. But still electrical energy demand is also getting increased. Hence considering all these factors, this work introduces solar energy which is renewable energy, as its source for charging Electrical vehicle through wireless power transmission system.

Solar cells or solar panels are used in the initialization process and it is the power supply. And the solar radiation gets converted into electrical energy. The DC output from solar panel is stored in the battery. PWM controller is used for charging and discharging of battery. Then it's inverted to AC by use of PWM inverter. Then without interconnection of wires, that is, by using wireless power transfer system the EV gets charged. Then it's converted into AC by means of rectifier circuit and energy gets stored in the battery of EV. Before it's fed to Electric motor, energy is boosted with help of boost converter. Then by BLDC motor, EV gets driven.

As this works give an alternative method for charging Electrical vehicle by using renewable energy such as solar energy. Moreover, this work also puts forward wireless power transmission system while charging EV, hence at anytime and anywhere EV can be charge through WPT. Hence, it promotes EV and it will create a pollution free environment.

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**CERTIFICATE**

Certified that this design project report "VEHICLE SMOKE DETECTION SYSTEM" is the bonafide work of "RAHUL A (RCE16EE015), ABDUL SAMEEH C (RCE15EE001), AJIL MOIDEEN P K (RCE16EE004) & SUHANA O P (RCE16EE022)" of Department of Electrical & Electronics Engineering in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology (B.Tech) in Electrical & Electronics Engineering under APJ Abdul Kalam Technological University (KTU) during the academic year 2018-19.

  
Sreethi S B  
Project Guide

  
KIRAN.P  
Project Co-ordinator

  
Head of the Department

Place: Akkikavu

Date: 30/11/18





## ABSTRACT

Automatic monitoring of vehicle has become a very essential scenario in the recent years and it can become possible by implementing the following technology. The beginning of the 21st century was the time when importance for Environmental awareness was instigated. One of the major concerns regarding the environment is air pollution. The main pollutants from the vehicles are the oxides of carbon and nitrogen, which can be easily detected these days with the help of semiconductor gas sensors. The system consists of a global positioning system, fuel controller and a GSM board. The gas sensor detects the gas produced due to over, pollution and the arduino board determines the proportion and if it is higher than the stated limit as per the Bharat Stage 6 norms, the GPS system sends the co-ordinates to the nearby RTO. The warnings received will be saved and if the warnings exceed more than three times or if the pollution level raises drastically the vehicle automatically provides navigation to a nearby safe zone. The safe zones are detected automatically with the help of GPS technologies.



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Certified that this design project report "POWER GENERATION FROM VEHICLES" is the bonafide work of "AKHILA M THAMBI (LRCE16EE027), ARDRA A P (RCE16EE007), ANUDEV RAJ M P (RCE16EE006), NOUFAL DHIRAR C K(RCE16EE014)" of Department of Electrical & Electronics Engineering in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology (B.Tech) in Electrical & Electronics Engineering under APJ Abdul Kalam Technological University (KTU) during the academic year 2018-19.

**Project Guide**

**Project Co-ordinator**

**Head of the Department**



Place: Akkikavu

Date: 30/11/18

## **ABSTRACT**

In this project we are introducing a new technology that generates power from vehicles and it transmits to substations or loads. This is the basic method using in vehicles for the power generation. Here we are using generators for producing power. This power will stores in separate battery placed inside the vehicles and this power will connects to a power transmitting unit. The generated power is transmitted to transmitting unit and power will receive by receiving unit and it wills stores in a battery. There will be many of such receivers near to the parking area. Then all it will connects to a single station called main station. Generated energy is in dc it will convert into ac by using invertors. This energy can be used for domestic purpose. By this way the owner of the vehicle can also earn money. That means it is an also an economical method. We strongly believe these ways of power generation will definitely help us in future.

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Certified that this design project report "REGENERATIVE BRAKING SYSTEM WITH SUPERCAPACITOR" is the bonafide work of "AADHIL M (RCE16EE001), NAVYA P S (RCE16EE013), VRINDA VIJAY (RCE16EE024), DELWIN JOSEPH (LRCE16EE028)," of Department of Electrical & Electronics Engineering in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology (B.Tech) in Electrical & Electronics Engineering under APJ Abdul Kalam Technological University (KTU) during the academic year 2018-19.

**Project Guide**

**Project Co-ordinator**

**Head of the Department**

Place: Akkikavu

Date: 30/11/18





## ABSTRACT

Regenerative braking system is used to capture half of the wasted energy and put it back to work. The principle of regenerative braking system is law of conservation of energy. And it States that the total energy of an isolated system cannot change it is said to be conserved over time. Energy can be neither created nor destroyed, but can change form, for instance chemical energy can be converted in the explosion of a stick of dynamite. Proposed system is based on Regenerative Braking System (RBS) of hybrid vehicles with HESS and driven by Brush less DC (BLDC) motor. During regenerative braking, the brush less DC motor (BLDC) acts as a generator. Using appropriate switching algorithm, the DC-link voltage is boosted and the energy is transferred to the super capacitor through the inverter. The harvested energy can be utilized to improve the vehicle acceleration and or keep the battery pack from deep discharging during driving uphill. The main objective of proposed system are Fuel conservation, Improve the vehicle efficiency ,energy conservation and also regenerative braking can reduce the brake wear, reduce the air pollution and Extends driving range.