

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI - 590018
2018 -2019



A
Project Report

on

“Power Theft Prevention System Using IOT”

Submitted in the partial fulfillment of the requirement
for the VIII Semester Project Work - 15EEP85 for the award of degree of

Bachelor of Engineering

In

Electrical and Electronics Engineering

Submitted by

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GRACY A	1GV15EE010
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Carried out at

Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY

Under the Guidance of

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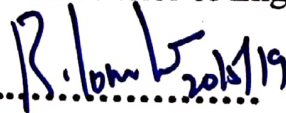
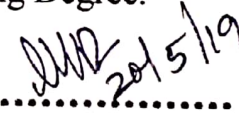
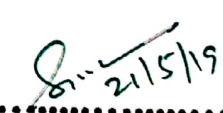


Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY
(Formerly Golden Valley Institute of Technology)
Department of Electrical and Electronics Engineering
Kolar Gold Fields – 563120.

(Formerly Golden Valley Institute of Technology)
Oorgaum Kolar Gold Fields – 563120
DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING

CERTIFICATE

Certified that the **Project Work** entitled **“POWER THEFT PREVENTION SYSTEM USING IOT”** is a bonafied work carried out by **ASHWITHA K-1GV15EE003, GRACY A-1GV15EE010, POOJA SREE M-1GV15EE014** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electrical and Electronics Engineering** of the **Visvesvaraya Technological University, Belagavi** in the year 2018-19. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The Project work has been approved as it satisfies the academic requirement in respect of **Project Work-15EEP85** prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

These days with emerging developments in all sectors and growing demands, electricity has become priority for every individual and every organization. The basic procedure for power supply includes power generation, power transmission and power distribution to the destinations. Naturally owing to few technical faults, losses may occur due to power dissipation by some devices. These losses can be minimized using the fast developing technology, but what about the other kind of losses, these are the losses caused deliberately by human beings for the sake of illegal access to the power distribution, this is power theft.

It pilots to annual losses of around 3000 cores rupees in India. It is estimated that power theft accounts to 1.5% of Gross Domestic Production (GDP) which is significant and cannot be negligible. Power theft prevention is a system used to perceive and prevent illegal load tapings on distribution lines. Many schemes are available for the same and a scheme using smart electric devices employing electronic energy meter but all in vain.

In this project a simple design for single phase power theft identification and alert system is proposed which employs real time comparison method to compare the current (I_1) at incoming side of the energy meter with that of the load side (I_2), if both the I_1 and I_2 are same it is considered that there is no power theft occurred, if I_1 is greater than I_2 then it is considered as power theft has been occurred which is immediately intimated to the Electricity Board via Internet in Real time. On getting the notification on smartphone the electricity board personal can disconnect the load remotely.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Belagavi-590018

2018-2019



A

Project Report

on

**“War Field Spying Robot With Night Vision Wireless Camera Using
Android Application”**

Submitted in the partial fulfillment of the requirement for the
VIII Semester Project work -15EEP85 for the award of degree of
Bachelor of Engineering

in

Electrical and Electronics Engineering

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ABSTRACT

The main objective for developing the robot is for the surveillance of human activities in the war field or rescue operations in order to reduce attacks from the enemy side. The robot consists of night vision wireless camera which can transmit videos of the war field in order to prevent any damage and loss to human life. Military men have a huge risk on their lives while entering an unknown territory. The robot will serve as an appropriate machine for the defence sector to reduce the loss of human life and will also prevent illegal activities. It will help all the military people and armed forces to know the condition of the territory before entering it. This can also be used in various rescue operations to save the man power and to monitor hazardous situations. The main advantage of this project is that we can easily control the robot using an android mobile by a blynk app.



A
Project Report

on

**“DESIGN AND IMPLEMENTATION OF GESTURE,
VOICE,(IOT) INTERNET OF THINGS BASED HOME
AUTOMATION FOR PHYSICALLY CHALLENGED”**

Submitted in the partial fulfillment of the requirement
for the VIII Semester Project – 15EEP85 for the award of degree of

Bachelor of Engineering

in

Electrical and Electronics Engineering

by

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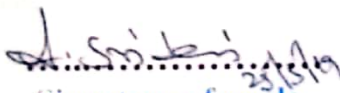


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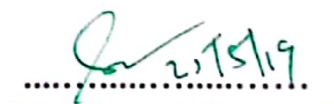
DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING.

CERTIFICATE

Certified that the Project Work entitled "DESIGN AND IMPLEMENTATION OF GESTURE,VOICE,(IOT) INTERNET OF THINGS BASED HOME AUTOMATION FOR PHYSICALLY CHALLENGED" is a bonafied work carried out by ASWATHI A-1GV14EE006, GOKULA VANISHREE E-1GV15EE009,PAVITHRA S-1GV15EE013. in the partial fulfillment for the award of degree of Bachelor of Engineering in Electrical and Electronics Engineering of the Visvesvaraya Technological University, Belagavi in the year 2018-19. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The Project work has been approved as it satisfies the academic requirement in respect of Project Work-15EEP85 prescribed for the Bachelor of Engineering Degree.


Signature of guide
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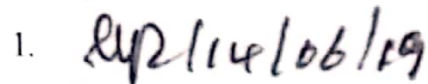
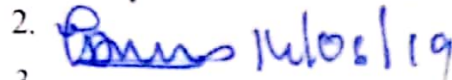

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ABSTRACT

Home automation allows us to focus on getting our work done without worrying about the safety and security of our home, while enabling us to control the appliances in our home on the go. All of our devices and appliances are networked together to provide us with a seamless control over all aspects of our home and more. Home automation has been around from many decades in terms of lighting and simple appliance control, and only recently has technology caught up for the idea of the interconnected world, allowing full control of our home from anywhere, to become a reality.

This system makes use of gesture command for controlling the home appliances; the concept of controlling home appliances using human voice is also designed such that people who are physically disabled who cannot move their limbs effectively can make use of Voice command in controlling home appliances. The system also makes use of IOT, IOT is a world, where real, virtual and digital environments combine to create a smart environment which makes life easy. It is a new era of computing technology in which machines interact and communicate with other machines, objects and environment.

This new technology has unlimited potential to improve our lives by using a “command-and-control” strategy. The ultimate goal of IOT applications is to automate systems rather than using manual systems, to improve the quality of living. With home automation, we dictate how a device should react, when it should react, and why it should react. Home automation is a necessity these days as it helps save up on power consumption, makes our homes more secure, provides a way to monitor our home when we are away, and makes our home secure in every way possible.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Belagavi-590018

2018-2019



A

Project Report

On

“Ultra-Fast Acting Electronic Circuit Breaker”

Submitted in the partial fulfillment of the requirement for the
VIII Semester Project work -10EEP85 for the award of degree of

Bachelor of Engineering

In

Electrical and Electronics Engineering

By

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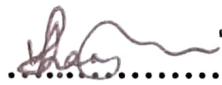
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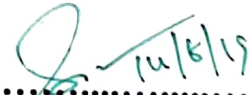
Oorgaum, Kolar Gold Fields – 563120
DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING.

CERTIFICATE

Certified that the Project Work entitled “**ULTRA FAST ACTING ELECTRONIC CIRCUIT BREAKER**” is a bonafied work carried out by **BHARATHI K M - 1GV14EE400** and **SHASHIDHAR C N - 1GV14EE027** in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electrical and Electronics Engineering** of the **Visvesvaraya Technological University, Belagavi** in the year 2018-19. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The Project report has been approved as it satisfies the academic requirement in respect of **Project 'Work-10EEP85** prescribed for the Bachelor of Engineering Degree.


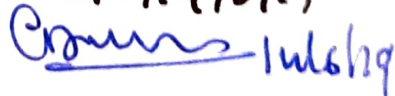
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ABSTRACT

The project is designed to shut down the power supply when it is overloaded. Conventional circuit breaker like MCB based is on thermal bimetal lever trip mechanism. It is very slow and the trip time is dependent upon the percentage of overload. This project senses the current passing through a series element and the corresponding voltage drop is compared against the preset voltage proportional to the current by a level comparator to generate an output for the load to trip.

The concept of electronic circuit breaker came into focus realizing that conventional circuit breakers such as MCBs take longer time to trip. Therefore, for sensitive loads it is very important to activate the tripping mechanism at the shortest possible time, preferably instantaneously. This project demonstrates fast tripping mechanism as against the slow one like MCB. Electronic circuit breaker is based on the voltage drop across a series element proportional to the load current, typically a low value resistor. This voltage is sensed and rectified to DC which is then compared with a preset voltage by a level comparator to generate an output that drives a relay through a MOSFET to trip the load. The unit is extremely fast and overcomes the drawback of the thermal type. It uses a microcontroller from 8051 family.

Further the project can be enhanced by using a CT for galvanic isolation between mains and control circuit. Power electronic devices such as Thyristors / IGBTs can be used for ultra-fast operation compared to all the methods.

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BELAGAVI - 590018
2018 -2019



A
Project Report

on

“SMART POWER GENERATION WITH RENEWABLE
ENERGY SOURCES”

Submitted in the partial fulfillment of the requirement
for the VIII Semester Project – 15EEP85 for the award of degree of

Bachelor of Engineering

in

Electrical and Electronics Engineering

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS
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CERTIFICATE

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Signature of guide
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ABSTRACT

Renewable energy sources (RES) used in smart city for power generation systems are energy supply toward smarter and more sustainable cities. However, their proper integration as new infrastructures of the smart city (SMCT) requires understanding the SMCT architecture and promoting changes to the existing regulation, business models, and power grid topology and operation, constituting a new challenging energy supply paradigm.

This technology addresses the use of renewable energy systems on smart city, oriented to distributed generation (DG) for households or districts, integrated in an SMCT. In this context, the main renewable energies and companion technologies are reviewed, and their profitability investigated to highlight their current economic feasibility. A simplified architecture for SMCT development is presented, consisting of three interconnected layers, the integration and impact of distributed renewable energy generation and storage technologies in this architecture is analyzed. Special attention is paid to the grid topology for their technical and efficient integration, and to the business models for facilitating their economic integration and feasibility.

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ICRTTEAS
2019



April 12 - 13

CERTIFICATE OF PARTICIPANTS

This is to certify that Dr./Prof./Mr/Ms [✓] HARIPRASAD.N from Dr. T.T.I.T has presented a paper Smart Power Generation with Renewable Energy Sources in the "International Conference on Recent Trends in Technology, Engineering and Applied Science (ICRTTEAS-2019)" held during 12th & 13th April 2019 at Dr.T. Thimmaiah Institute of Technology Kolar Gold Fields, Karnataka.

Prof. Ruckmani Divakaran
Dean

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Vice-Principal

Dr. Syed Ariff
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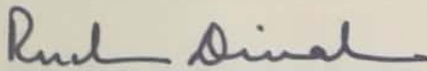
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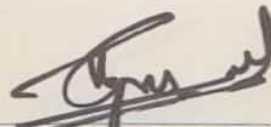
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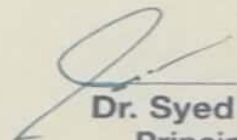


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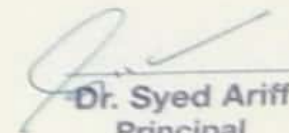
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Prof. Ruckmani Divakaran
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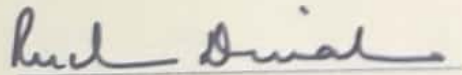
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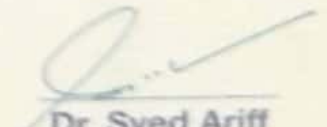


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Prof. Ruckmani Divakaran
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Dr. Syed Ariff
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EAST POINT COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

**ONE DAY NATIONAL CONFERENCE
ON
RECENT TRENDS IN ENERGY
CONSERVATION IN POWER SYSTEMS**

CERTIFICATE OF PARTICIPATION

is to certify that Prof./Mr./Ms. Hariprasad N, Lakshmi pathi S, Vishwas,

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art Power Generation with Renewable Energy Sources in

Day National Conference on Recent Trends In Energy Conservation In Power

tems conducted by the Department Of Electrical & Electronics Engineering, East Point

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Belagavi-590018

2018-2019



A

Project Report

on

“Design and Fabrication of Single Axis Solar Tracker and IOT Based Smart Monitoring System”

Submitted in the partial fulfillment of the requirement for the
VIII Semester Project work -15EEP85 for the award of degree of

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by

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Carried at

Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

Under the Guidance of

Dr. N Lakshmipathy

Prof. & HOD, Dept of EEE, Dr.TTIT, KGF



Dr.T.THIMMAIAH INSTITUTE OF TECHNOLOGY

(Formerly Golden Valley Institute of Technology)

Department of Electrical and Electronics Engineering

Kolar Gold Fields – 563120.

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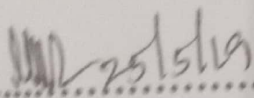


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Oorgaum, Kolar Gold Fields – 563120
DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING.

CERTIFICATE

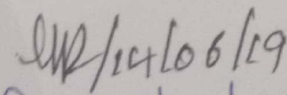
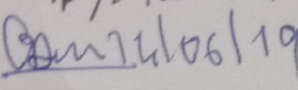
Certified that the Project Work entitled **“DESIGN AND FABRICATION OF SINGLE AXIS SOLAR TRACKER & IOT BASED MONITORING SYSTEM”** is a bonafied work carried out by

SWETHA S R -1GV15EE018, VIJAYALAKSHMI S -1GV15EE023,
KORI VEERESHA -1GV16EE400 in the partial fulfillment for the award of degree of Bachelor of Engineering in **Electrical and Electronics Engineering** of the **Visvesvaraya Technological University, Belagavi** in the year 2018-19. It is certified that all corrections/suggestions indicated for the assessment have been incorporated in the report deposited in the departmental library. The Project report has been approved as it satisfies the academic requirement in respect of **Project Work-15EEP85** prescribed for the Bachelor of Engineering Degree.


.....
Signature of HOD & Guide
Dr. N. Lakshmi Pathy
Head of the Department
Dept. of Electrical Engineering
Dr. T. Thimmaiah Institute of Technology
Name of Examiners - 563 120.

1. Dr. N. Lakshmi Pathy
2. Dr. Ganagabai D. N
- 3.


.....
Signature of Principal
Dr. T. Thimmaiah
Principal
Dr. T. Thimmaiah Institute of Technology
Oorgaum P.O., Kolar Gold Fields - 563 120
Signature with Date

1. /14/06/19
2. /14/06/19
- 3.



DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvaraya Technological University)

Oorgaum, KGF - 563120.



CERTIFICATE OF PARTICIPANTS

This is to certify that Dr./Prof./Mr/Ms [✓] *VIJAYALAKSHMI.S* from *Dr. T. T. I. T* has presented a paper *Design and Fabrication of Single Axis Solar Tracker and IOT Based Smart Monitoring System* in the "International Conference on Recent Trends in Technology, Engineering and Applied Science (ICRTTEAS-2019)" held during 12th & 13th April 2019 at Dr.T. Thimmaiah Institute of Technology

Kolar Gold Fields, Karnataka.

Prof. Ruckmani Divakaran
Dean

Dr. Shenoy H G
Vice-Principal

Dr. Syed Ariff
Principal



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COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
ONE DAY NATIONAL CONFERENCE
ON

RECENT TRENDS IN ENERGY CONSERVATION IN POWER SYSTEMS

CERTIFICATE OF PARTICIPATION

is to certify that Prof./Mr./Ms. Vijaya Lakshmi S

of Dr. TTTT has participated / presented a paper titled Design And Fabrication of Single Axis solar Tracker And IOT Based Smart Monitoring System in

Day National Conference on Recent Trends In Energy Conservation In Power

held at East Point College of Engineering & Technology, Bangalore 560 049 on 3rd April 2019.

D.M. Ganapathi

D.M. Ganapathi
HOD, EEE

Dr. Narendra Viswanath

Dr. Narendra Viswanath
Principal



EAST POINT

GROUP OF INSTITUTIONS

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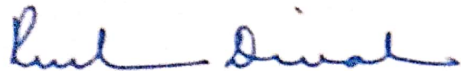
ICRTTEAS
2019

April 12-13

CERTIFICATE OF PARTICIPANTS

This is to certify that Dr./Prof./Mr/Ms [✓] KORE VEERESHA from D.T. T.T.I.T has presented a paper *Design and Fabrication of Single Axis Solar Tracker and IOT Based Smart Monitoring System* in the "International Conference on Recent Trends in Technology, Engineering and Applied Science (ICRTTEAS-2019)" held during 12th & 13th April 2019 at Dr.T. Thimmaiah Institute of Technology

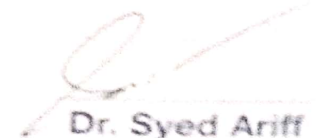
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Prof. Ruckmani Divakaran
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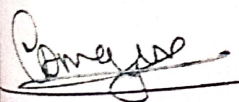
RECENT TRENDS IN ENERGY CONSERVATION IN POWER SYSTEMS

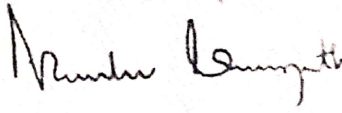
CERTIFICATE OF PARTICIPATION

is to certify that Prof./Mr./Ms. Kari Veerasha

OF Dr. T T P T has participated / presented a paper titled Design And Fabrication of Single Axis Solar Tracker And IoT Based Smart Monitoring Systems in

the Day National Conference on Recent Trends In Energy Conservation In Power Systems conducted by the Department Of Electrical & Electronics Engineering, East Point College of Engineering & Technology, Bangalore 560 049 on 3rd April 2019.


Dr. D.M. Ganapathi
HOD, EEE


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Bangalore 560 049

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

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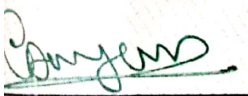
to certify that Prof./Mr./Ms. Shwetha .S.R.

of Dr. TTIT has participated / presented a paper titled Design And Fabrication Of Single Axis Solar Tracker And IOT Based Smart Monitoring System. in

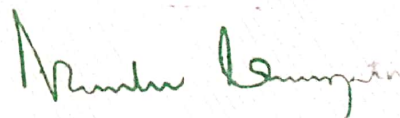
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