Department : Pure & Applied Physics		
***Academic Year* : 2021-2022**		
Sr. No.	**Programme Code**	**Name of the Programme**
01.	**M.Sc. (Electronics)**	**Dissertation/ Project work followed by seminar (PS/PHY/PD)**

Following students have carried out their Project work/ Internship/ Field Project/Industrial Training for the academic session 2021-22

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Guru Ghasidas Vishwavidyalaya
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Signature and Seal of the Head

DEPARTMENT OF PURE AND APPLIED PHYSICS

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR

PROJECT REPORT ON
SMART HELMET

UNDER THE GUIDENCE OF

Senior Engineer SHUDDER CHIRIVELLA
Dept. of Electronic
MSME DURG (C.G.)

SUBMITTED BY

Amitesh Singh Kaushik
Roll No: *20409002* M.Sc 4TH Semester (Electronics)
Guru Ghasidas Central University Bilaspur(C.G.)

विभागाध्यक्ष/H.O.D.
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DEPARTMENT OF PURE AND APPLIED PHYSICS

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एमएसएमई प्रौद्योगिकी केंद्र दुर्ग
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सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय, भारत सरकार की सोसायटी
Ministry of Micro Small and Medium Enterprises, Government of India Society

Date: 07-07-2022.

CERTIFICATE

This is to certify that Mr. Amitesh Singh Kaushik, M.Sc Electronics, student from Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh has done his project work titled "SMART HELMET" under the guidance of Mr. Sudheer Chirivella, HoD of Electronics at MSME Technology Centre Durg . This project is done as part of academic curriculum.

We have notice that, during the period, he has shown keen interest in his project development, the feedback of the participant is good and was also regular in attendance.

Sr. Engineer (Training),
Dept. of Electronics & Electrical

विभागाध्यक्ष/H.O.D.
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Senior Manager
Head of Training

DURG

Serial No 150043 Roll No DUST152207000043

सत्यमेव जयते

MSME TECHNOLOGY CENTRE, DURG

Ministry Of Micro Small & Medium Enterprises,

A Govt. of India Society

Plot - 2D, Sector- B, Borai Industrial Growth Centre , Rasmada,Durg (C.G)-491001

This is to certify that

Mr./Miss. AMITESH SINGH KAUSHIK

has successfully completed the course

EMBEDDED SYSTEMS

The course comprises the following subjects

1. HARDWARE CONCEPTS
2. IDE TOOLS USAGE
3. INTERFACING MODULES
4. ARDUINO C
5. ARDUINO UNO
6. PROJECT

Period of Course From : 08.06.2022 **To** : 07.07.2022

Date of Award : 07.07.2022

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MSME TECHNOLOGY CENTRE * DURG

Course co-ordinator **Training Incharge**

CIN – U40108CT2003SGC015820 GST No :- 22AADCC5773E1ZX
CHHATTISGARH STATE POWER TRANSMISSION COMPANY LIMITED
(A Govt. of Chhattisgarh Undertaking)
O/o Executive Engineer (M.R.T.) Dn.,
Tifra, Bilaspur (C.G.) PIN- 495223
E-Mail- eemrt.Bilaspur@cspc.co.in Phone- 07752- 427067 Telefax- 07752- 427067

No.EE/MRT/BSP/ VT-2022 / 165 Bilaspur, Date 06/06/22

CERTIFICATE

This is to certify that **Amitesh Singh Kaushik** the student of **4th** semester, **M.Sc.(Electronics), Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)** has successfully completed Vocational Training on **Operation & Maintenance** at 132 KV S/s Tifra under Meter Relay Testing Division CSPTCL, Bilaspur during the period from **12.04.2022 to 25.05.2022**

Executive Engineer (MRT) Dn.,
CSPTCL, Bilaspur

विभागाध्यक्ष/H.O.D.
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DEPARTMENT OF PURE & APPLIED PHYSICS
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)
(A CENTRAL UNIVERSITY ESTABLISHED BY CENTRAL UNIVERSITIES ACT 2009 No.25 OF 2009)

DECLARATION

I hereby declare that the report presented in this project on titled **SMART HELMET** submitted as partial fulfillment of M.Sc. in Electronics has been performed in the **DEPARTMENT OF ELECTRONIC, MSME DURG** under the supervision of **Sr.Engineer SHUDDER CHIRIVELLA**

The work presented in the project dissertation is original & will remain intellectual property of **DEPARTMENT OF PURE & APPLIED PHYSICS, GURU GHASIDAS VISHWA VIDYALAYA, BILASPUR (C.G.).**

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UNIVERSITY ESTABLISHED BY CENTRAL UNIVERSITIES ACT 2009 No.25 OF 2009)

CERTIFICATE

This is certifying that **Amitesh Singh Kaushik** has carried out this literature survey-based project under my supervision in the **DEPARTMENT OF ELECTRONIC, MSME DURG(C.G.)** on the topic **SMART HELMET.**

He has work diligently, methodically & also collected the literature very sincerely & carefully. During this project he has learnt about different working section and working principle of digital and electronic gadgets.

To the best of our knowledge the work presented in this project is original & has not been submitted anywhere. I recommend the project report to forward to the respective examiners for evaluation. I wish every success in his carrier & life

विभागाध्यक्ष/H.O.D.
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FORWARDING CERTIFICATE

This is to certify that **Amitesh singh kaushik** has carried out this literature survey based project in the **DEPARTMENT OF ELECTRONIC, MSME DURG (C.G.)** on the topic **SMART HELMET** . This project is submitted for the requirement for the degree of M.Sc. in ELECTRONICS & forwarded to examiner for evaluation. I wish every success in his life

विभागाध्यक्ष/H.O.D.
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Department of Pure & Applied Physics
Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India
(Central University Established by the Central Universities Act 2009 No. 25 of 2009)

A

Project Report

On

"ELECTRONIC VOTING MACHINE"

Submitted for
Partial Fulfillment of the requirement for the Degree of

Master of Science in Electronics

SESSION 2021-22

विभागाध्यक्ष/H.O.D.
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Submitted by

ANKIT SAHU

M.Sc. (Electronics) IV Semester
Roll No. – 20409003
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A

Project Report

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"ELECTRONIC VOTING MACHINE"

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(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

DECLARATION

I hereby declare that the work presented in the project entitled **"ELECTRONIC VOTING MACHINE"** submitted to the partial fulfillment of Master of Science in Electronic has beenperformed in the Department of Pure & Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495006 under the Guidance of **Mr. Saurabh Deshmukh** (Director, Digitalshakha) is truly carried out by me.

The work presented in this dissertation is original and remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495006, INDIA.

ANKIT SAHU

M.Sc. (Electronics) IV Semester
Roll No. – 20409003
Enrollment No. – GGV/17/7025

Date: .....

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(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

FORWARDING CERTIFICATE

his is to certify that ANKIT SAHU has carried out the project in Department of Pure and Applied Physics, URU GHASIDAS VISHWAVIDYALAYA BILASPUR (C.G.)

n the topic **"ELECTRONIC VOTING MACHINE".**

he project is submitted for the partial fulfillment of requirement of the Degree of M.Sc. in electronics is rwarded to examiner for evaluation. I wish him every success in life.

Dr. M.N. TRIPATHI

HEAD OF THE DEPARTMENT
Department of Pure & Applied PHYSICS
GGV, BILASPUR (C.G)

विभागाध्यक्ष/H.O.D.
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Guru Ghasidas Vishwavidyalaya;

Vocational Training

Dear **Ankit Sahu**

Date - 5.09.2022

We wish to inform you that, this is certified that Mr. **Ankit Sahu** has successfully completed,Course in **Basic Electronics & Robotics .**

Duration - From 1 July - 14 august 2022.

Project Name - Electronic Voting Machine .

Thank you for your time and consideration, we at **DIGITALSHAKHA** wish you all the best in your future endeavours.

Regards,

Digitalshakha

(HR Executive)

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ACKNOWLEDGEMENT

Completion of project started with initial planning of literature search from books and websites. Reading, understanding & compilation of this project is definitely a hard task to undertake which doesn't seem to be possible without the grace of god .It is my great pleasure to express my sincere gratitude towards my esteemed supervisor Mr. SAURABH DESHMUKH (DIRECTOR, DIGITALSHAKHA Bhilai, Durg c.g.) under whose guidance, the project work has been brought to completion my leaps up in thankfulness for the benevolent, time ,constant help & valuable suggestions throughout the project .I wish to acknowledge Prof. M.N.TRIPATHI (Head of Department of Pure And Applied Physics, GGV Bilaspur) who gave me an opportunity to undergo project work during my M.Sc. in Electronics. I would like to thanks all teachers, librarians, clerks of physics department & department itself to provide us with all kinds of facilities.

ANKIT SAHU

M.SC (ELECTRONIC) IV SEMESTER

ROLL NO. – 20409003

ENROOMENT NO. – GGV/17/7025

DATE .....

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Department of Pure & Applied Physics
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(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

A Project Report On

"SHORT RANGE RADAR SYSTEM"

Submitted for
Submitted In Partial Fulfillment of the requirement for the Degree of

Master of Science in Electronics

SESSION 2021-22

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
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SUBMITTED BY
DIPENDRA DEWANGAN
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Roll No. – 20409004
Enrollment No.- GGV/17/7051

Department of Pure & Applied Physics
Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India
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DECLARATION

I hereby declare that the work presented in the project entitled **"Short Range Radar System"** submitted to the partial fulfillment of Master of Science in Electronic has been performed in the Department of Pure & Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009 under the Guidance of **Mr. Saurabh Deshmukh** (Director, Digitalshakha).

The work presented in this dissertation is original and remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009, INDIA.

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DIPENDRA DEWANGAN
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Dear **Dipendra Dewangan**

Date - 5.09.2022

We wish to inform you that, this is certified that Mr. **Dipendra Dewangan** has successfully completed,Course in **Basic Electronics & Robotics .**

Duration - From 1 July - 14 august 2022.

Project Name - Short Range Radar System .

Thank you for your time and consideration, we at **DIGITALSHAKHA** wish you all the best in your future endeavours.

Regards,

Digitalshakha

(HR Executive)

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ACKNOWLEDGEMENT

Completion of project started with initial planning of literature search from books and websites. Reading, understanding & compilation of this project is definitely a hard task to undertake which doesn't seem to be possible without the grace of god .It is my great pleasure to express my sincere gratitude towards my esteemed supervisor Mr. SAURABH DESHMUKH (DIRECTOR, DIGITALSHAKHA Bhilai, Durg c.g.) under whose guidance, the project work has been brought to completion my leaps up in thankfulness for the benevolent, time ,constant help & valuable suggestions throughout the project .I wish to acknowledge Prof. M.N.TRIPATHI (Head of Department of Pure And Applied Physics, GGV Bilaspur) who gave me an opportunity to undergo project work during my M.Sc. in Electronics. I would like to thanks all teachers, librarians, clerks of physics department & department itself to provide us with all kinds of facilities.

Date: .....

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M.Sc. (Electronics) II Semester
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ABSTRACT

Radar is an object detection system which uses radio waves to determine the range, altitude, direction, or speed of objects. It can be used to detect aircraft, ships, spacecraft, guided missiles, motor vehicles, weather formations, and terrain. The radar dish or antenna transmits pulses of radio waves or micro waves which bounce off any object in their path. The object returns a tiny part of the wave's energy to a dish or antenna which is usually located at the same site as the transmitter. The modern uses of radar are highly diverse, including air traffic control, radar astronomy, air-defense systems, antimissile systems :marine radar start locate landmarks and other ships; aircraft anti-collision systems; ocean surveillance systems, outer space surveillance and rendezvous systems; meteorological precipitation monitoring; altimetry and flight control systems; guided missile target locating systems; and ground-penetrating radar for geological observations. High tech radar systems are associated with digital signal processing and are capable of extracting useful information from very high noise levels. The Arduino based project requires a ultrasonic sensor, the sensor released the waves which we want to measure the distance of a object. The microcontrollers of the Arduino board can be programmed using C and C++ languages. When a code is written in Arduino UNO IDE software and connected to the board through a USB cable, Arduino boards have lot of applications in the present day scenario, so we have decided to do a small poject on them.

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(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

A PROJECT REPORT ON

SMART IRRIGATION SYSTEM USING ARDUINO

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE

OF

MASTER OF SCIENCE IN ELECTRONICS

SESSION 2021-22

विभागाध्यक्ष/H.O.D.
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बिलासपुर (छ.ग.)/Bilaspur (C.G.)

SUBMITTED BY

KANTA

M.sc (Electronics) IV semester

Roll No. – 20409006

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(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

DECLARATION

I hereby declare that the work present in the project entitled **"SMART IRRIGATION SYSTEM USING ARDUINO"** submitted as partial fulfillment of M.Sc. in Electronics have been performed in the Department of Pure And Applied Physics, GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR under the supervision of **Mr. SAURABH DESHMUKH (DIRECTOR OF DIGITAL SHAKHA)**

The work present in the project dissertation is original and will remain intellectual property of Department.

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Roll number-20409006

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FORWARDING CERTIFICATE

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On the topic **"SMART IRRIGATION SYSTEM USING ARDUINO".**

The project is submitted for the partial fulfillment of requirement of the Degree of M.Sc. in electronics is forwarded to examiner for evaluation. I wish him every success in life.

PROF. M.N.TRIPATHI
HEAD OF THE DEPARTMENT
Department of Pure & Applied Physics
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Duration - From 1 July - 14 august 2022.

Project Name - smart irrigation system .

Thank you for your time and consideration, we at **DIGITALSHAKHA** wish you all thc best in your future endeavours.

Regards,

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CONTENTS

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IoT BASED VEHICLE ACCIDENT DETECTION AND RESCUE SYSTEM

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT

IN THE DEGREE OF

MASTER OF SCIENCE

IN

ELECTRONICS

SESSION 2020-2022

Under the supervision of:

Mr. Sudheer Chirivella

HOD of Electronics Department ,

MSME , Rasmada , Durg

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Submitted by:

Kavita Singh Banafer

M.Sc. Electronics 4th Semester

Roll No. 20409007

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CERTIFICATE

This is to certify that the thesis titled, **"IoT BASED VEHICLE ACCIDENT DETECTION AND RESCUE SYSTEM"** submitted by **KAVITA SINGH BANAFER** in the partial fulfilment of the award of Master of Science Degree in Electronics at the Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur (C.G.), 495009, India is an authentic work carried out by her under my supervision and guidance.

To the best of my knowledge, the matter embodied in this thesis has not been submitted to any other University or Institute for the award or Degree.

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This is to certify that Ms. Kavita Singh Banafer , M.Sc Electronics, student from Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh has done his project work titled "IOT BASED VEHICLE ACCIDENT DETECTION AND RESCUE SYSTEM" under the guidance of Mr. Sudheer Chirivella, HoD of Electronics at MSME Technology Centre Durg . This project is done as part of academic curriculum.

We have notice that, during the period, she has shown keen interest in his project development, the feedback of the participant is good and was also regular in attendance.

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The course comprises the following subjects

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2. IDE TOOLS USAGE
3. INTERFACING MODULES
4. ARDUINO C
5. ARDUINO UNO
6. PROJECT

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DECLARATION

I hereby declare that the work presented in this report submitted as the partial fulfillment of Master of Science (Hon's) in Electronics has been performed in the Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur is truly carried out by me.

The project is original and will remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G), 495009, INDIA

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ACKNOWLEDGEMENT

I wish to express my deep sense of gratitude and indepthness to all Professors and Assistant Professors of department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya Bilaspur (C.G.) for support and for their guidance, constructive criticism and valuable suggestion throughout this project work.

I would like to express my gratitude to Dr. M. N. Tripathi (Head Of Department) for his constant support and encouragement. I am also thankful to all the staff members of the Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur. I would like to thank my friends who directly or indirectly helped me in completion of my project work. Finally, my deep appreciation goes to my parents and family members for their encouragement and support throughout, which always inspired me.

KAVITA SINGH BANAFER

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ABSTRACT

Road Accidents which are very common nowadays, even if you are taking precautions you can't say about the others which are driving in the same road as you. So, we cannot say that we are never going to be involved in any kind of road accident, but we can take the precautions for after the accidents. We all know that for every kind of treatment there is a golden time period in which the patient can get the best treatment, just like that for giving the best treatment at the best time to the victim of the car accident is the top priority of this project.

The concept of detecting a car accident is not a fresh idea in automobile sector and it also made incredible advancement in enhancing the technology. This project is a try to make an involvement in the location of generation, in which we are seeking to stumble on accident through accelerometer and gyroscope as it facilitates in the identifying the vicinity and if the value of x, y and z parameters are extra than the defined values the it's going set situation to proper and the code written for initiating the intimation and e-mail alert gets executed. With this method the accident location can be send via GPS to the emergency offering for assistance or we can set the e-mail ID of the person close to the victim so they can take the action as soon as possible.

With the help of IoT we aimed to develop a technology that everyone can use for the improvement of society who owns a car. In case any accident occurs, the number fed into the application, gets an e-mail. As the number of vehicles is increasing, we can see a lot of accidents due to rash driving, drunk driving, etc. So, by using this technology we can help the user and the family of the user to track the person in case any accident occurs. This would save more lives as it would be easier to find the accident location and provide the basic care required. Also, in-built emergency would be fed according to the car and the closest concerned could be provided even if no number is fed. In the present scenario, there are several sensors and technology embedded in high end cars. One of such a new feature is closest object detectors that can be found in the newly launched cars. This feature allows the driver to know how far the other car/object is from self-car and starts beeping alarming the driver about the closeness. Also, there are some apps which help us to press the button of mobile and send message to the contacts stored. But as the traffic is increasing and hence the number of accidents as well, there is an alarming need to automate the process. There is presently no way in which the people can detect where accidents occur. Though CCTVs are installed on road but till the time emergency is reached, the driver is dead. There is no way in the present system to make ambulances locate the accident immediately after it occurs until someone manually calls the ambulance.

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3.5 DRAWBACKS

- CONCLUSION
- REFERENCE

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A

Project Report On

"HIGHWAY SPEED CHECKER"

Submitted for

Partial Fulfillment of the requirement for the Degree of

Master of Science in Electronics

Guided By
Saurabh Deshmukh
DIRECTOR
DIGITAL SHAKHA

Submitted by
Mohammad Haider Ali
M.Sc. (Electronics)[IV] Semester
Roll No. – 20409008
Enrollment No.– GGV/16/7100

Session: 2021-22

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Dear Mohammad Haider Ali

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We wish to inform you that, this is certified that Mr. **Mohammad Haider Ali** has successfully completed,Course in **Basic Electronics & Robotics .**

Duration - From 1 July - 14 august 2022.

Project Name - HIGHWAY SPEED CHECKER .

Thank you for your time and consideration, we at **DIGITALSHAKHA** wish you all the best in your future endeavours.

Regards,

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(HR Executive)

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DECLARATION

I hereby declare that the work present in the project entitled "HIGHWAY SPEED CHECKER" submitted as partial fulfillment
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APPROVAL CERTIFICATE

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Date: -09-09-2022

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ACKNOWLEDGEMENT

I wish to express my deep sense of gratitude and indebtedness to the all professors department of Pure & Applied Physics, Guru Ghasidas Vishwavidyalaya Bilaspur (C.G.) for support and for their guidance, constructive criticism and valuable suggestion throughout this project work.

I would like to express my gratitude to **Dr. M.N.Tripathi** (Head of Department) for his constant support and encouragement. I am also thankful to all staff members of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur.

I big thank to my dear friends who are directly and indirectly helped me in completion of my project works. Finally, my deep appreciation goes to my parents and family members for their encouragement and support throughout, which always inspired me.

Mohammad Haider Ali

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ABSTRACT

Now-a-days we hear news about accidents on Highways very frequently. And in most of the cases main reason of accident is over speed. Although all highways do have signboards indicating maximum speed limit for the sake of driver's safety, but still people does not obey highway speed limit. The project mentioned here is "Speed checker and over speed detector for Highways". This project is designed and developed by taking into consideration the problem mentioned above. We have used two sensors in this project. These sensors detect the vehicle speed. Condition is that, the two sensors should be installed at a distance of 100 meters apart from one another. Liquid Crystal Display (LCD display) is connected to this project. This display will show the vehicle speed. It will also intimate user if vehicle speed crossed the maximum speed limit or not. The project also has a Buzzer. Over speed condition is indicated by turning on the Buzzer. Many analysts and policy makers have argued that building more highways is an Ineffective response to congestion: specifically, that it is infeasible to add enough highways. Capacity in large urban areas to provide much relief. But this making of highways is just showing the path for accidents because of no speed limits in these highways. In order to overcome this problem we have designed equipment called as Speed checker for highways .

The proposed system will check on rash driving by calculating the speed of a vehicle using the time taken to travel between the two set points at a fixed distance. A set point consists of a pair of sensors comprising of an IR transmitter and an IR receiver, each of which are installed on either sides of the road. The speed limit is set by the police who use the system depending upon the traffic at the very location. The time taken by the vehicle to travel from one set point to the other is calculated by control circuit. Based on that time it then calculates the speed and displays that on seven segment displays. Moreover if the vehicle crosses the speed limit, a buzzer sounds alerting the police. This concept can be extended in future by integrating a camera with the system which could capture the image of the number plate of the vehicle to sends that to the traffic authorities.

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KEY WORDS:- Consideration, sensors, congestion,IR

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5.1 Advantages

5.2 Disadvantages

5.3 Application

Conclusion

References

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TOPIC - "SMART PARKING"

A PROJECT REPORT

Submitted for Partial fulfillment of the requirement for the award of the degree of

Master of Science

In

Electronics

By

PRAVEEN KUMAR

ROLL NO. - 20409010

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Under

Guidance of

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APPROVAL CERTIFICATE

This is to certify that the report submitted by Mr. Praveen Kumar is approved for the award of Master of science in Electronics.

I wish him every success in life.

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सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय, भारत सरकार की सोसायटी
Ministry of Micro Small and Medium Enterprises, Government of India Society

Date: 07-07-2022.

CERTIFICATE

This is to certify that Mr.Praveen Kumar , M.Sc Electronics, student from Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh has done his project work titled "SMART PARKING SYSTEM" under the guidance of Mr. Sudheer Chirivella, HoD of Electronics at MSME Technology Centre Durg .This project is done as part of academic curriculum.

We have notice that, during the period, he has shown keen interest in his project development, the feedback of the participant is good and was also regular in attendance.

Sr. Engineer (Training),
Dept. of Electronics & Electrical

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
Dept. of Pure & Applied Physics
गुरु घासीदास विश्वविद्यालय
Guru Ghasidas Vishwavidyalaya
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Senior Manager
Head of Training

Serial No 150045 Roll No DUST152207000045

सत्यमेव जयते

MSME TECHNOLOGY CENTRE, DURG

Ministry Of Micro Small & Medium Enterprises,

A Govt. of India Society

Plot - 2D, Sector- B, Borai Industrial Growth Centre , Rasmada,Durg (C.G)-491001

This is to certify that

Mr./Miss. PRAVEEN KUMAR

has successfully completed the course

EMBEDDED SYSTEMS

The course comprises the following subjects

1. HARDWARE CONCEPTS
2. IDE TOOLS USAGE
3. INTERFACING MODULES
4. ARDUINO C
5. ARDUINO UNO
6. PROJECT

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
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Guru Ghasidas Vishwavidyalaya
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Period of Course From : 08.06.2022 To : 07.07.2022

Date of Award : 07.07.2022

Course co-ordinator

MSME TECHNOLOGY CENTRE DURG

Training Incharge

DEPARTMENT OF PURE AND APPLIED PHYSICS
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G)
INDIA

(A central university established by the central university Act 2009 No. 25 of 2009)

DECLARATION

I hereby declare that the work presented in this report submitted as the partial fulfillment of Master of Science (Hon's) in Electronics has been performed in the Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur is truly carried out by me.

The project is original and remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G), 495009, INDIA

Date - ___/___/___

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
Dept. of Pure & Applied Physics
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Guru Ghasidas Vishwavidyalaya
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

PRAVEEN KUMAR
Roll No. – 20409010
Enroll. No. – GGV/17/7100
M.Sc 4th semester Electronics

ACKNOWLEDGEMENT

I wish to express my deep sense of gratitude to Mr. Sudheer chirrivella, HoD of Electronics at MSME Technology center Durg, and other faculties for support, guidance, constructive criticism and valuable suggestion throughout this project work.

I would like to express my gratitude to Dr. M. N Tripathi (Head of Department) for his constant support and encouragement. I am also thankful to all staff members of the Department of Pure and Applied Physics, Guru GhasidasVishwavidyalaya, Bilaspur.

I would like to thank my friends who directly or indirectly helped me in completion of my project work. Finally, my deep appreciation goes to my parents and family members for their encouragement and support throughout, which always inspired me.

- Praveen Kumar

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
Dept. of Pure & Applied Physics
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Guru Ghasidas Vishwavidyalaya
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

ABSTRACT

In India there were 295 million registered vehicles in fiscal year 2019. With such a huge number of vehicles, parking spaces are less, and management of the parking space is not efficient. For such a simple task as parking is sometimes a tedious and time-consuming process due to mismanagement of the parking system. Current parking systems are totally dependent on manpower, for management and to search the parking lot. This project aims to eliminate all the manpower dependence of the parking system with a well automatic machine system. This system will let the user know which slot is empty or there is no slot empty. In this way it will save time for the user. This project is based on wireless systems, mainly through infrared waves. This system will be very helpful in malls, hospitals, multi-story structures, etc.

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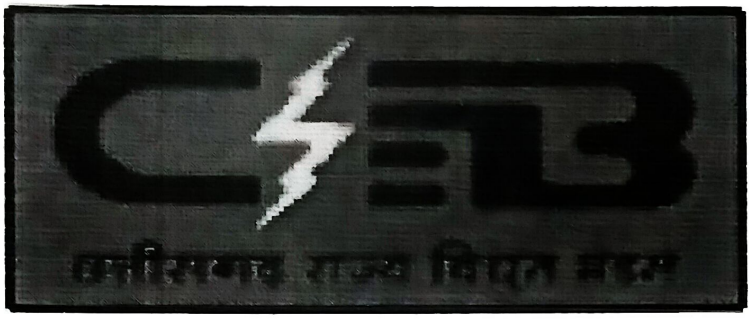
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

CONTENT

A VOCATIONAL TRAINING MADE ON A STUDY OF POWER LINE CARRIER COMMUNICATION SYSTEM (BILASPUR)



(CHHATTISGARH STATE ELECTRICITY BOARD)

IN PARTIAL FULFILMENT OF REQUIREMENT OF DEGREE OF MASTER OF SCIENCE (ELECTRONICS) GURU GHASIDAS VISHWAVIDYALAYA BILASPUR (C.G.) TRAINING DURATION 12/04/2022 TO 25/05/202

SUBMITTED TO

Mr. A. K. SAINI

ASSISTANT ENGINEER

CSPTCL, TIFFRA

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
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बिलासपुर (छ.ग.)/Bilaspur (C.G.)

SUBMITTED BY

Pritish Kumar Sahu

ROLL – 20409011

ENROLL – GGV/20/07503

M.SC ELECTRONIC 4TH SEMESTER

GURU GHASIDAS UNIVERSITY

CIN- U40108CT2003SGC015820

GSTIN- 22AADCC5773E1ZX

CHHATTISGARH STATE POWER TRANSMISSION COMPANY LIMITED

(A Govt. of Chhattisgarh Undertaking)

O/o E.E. (Communication&Telemetry) Dn. CSPTCL, Bilaspur

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Website: - www.cseb.gov.in , E-Mail- eecomm.bilaspur@cseb.co.in, Phone/Fax-07752-427069

No./EE/(C&TM)/VT/ 126 Bilaspur, Date-31-05-2022

CERTIFICATE

This is to certified that **Pritish Kumar Sahu** thestudent of 4th semester M.Sc (Electronics) of **Guru Ghasidas Vishwavidyalaya, Bilaspur** has been successfully completed theVocationalTraining on PLCC System at **Executive Engineer (Commun.&Tele.)Dn. CSPTCL, Bilaspur** during the period from **12/04/2022 to 25/05/2022.**

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
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Guru Ghasidas Vishwavidyalaya
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Executive Engineer
(Commun.&Tele.) Dn .
CSPTCL, Bilaspur

ACKNOWLEGMENT

I Navneet Kumar Patel has undergone through training from 12TH April 2022 to 25TH May 2022 under the guidance of Mr A. K. Saini Assistant Engineer Communication CSPDCL Tifra Bilaspur. My sincere gratitude to Mr A. K. Saini for his guidance and cooperation so that I was able to go through the all sections of communication and also able to understand the working of the individual section. I appreciate the guidance of all supporting staff of communication for their kindness, and I am very much thankful to my teacher parents and friends for their help and cooperation in completing this work.

विभागाध्यक्ष/H.O.D.
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DEPARTMENT OF PURE & APPLIED PHYSICS

Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India

(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

A Project Report
On

"Audio Transmission Using LIFI"

Submitted for

Partial Fulfillment of the requirement for the Degree of

Master of Science in Electronics

Session: 2021-22

SUBMITTED BY

Seema Naik

M.Sc. Electronics IV Semester

Roll No. 20409012

Enroll. No. GGV/17/7116

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
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DEPARTMENT OF PURE & APPLIED PHYSICS

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A Project Report
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SUBMITTED BY

Seema Naik

M.Sc. Electronics IV Semester

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Enroll. No. GGV/17/7116

DEPARTMENT OF PURE & APPLIED PHYSICS

Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India

(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

DECLARATION OF THE CANDIDATE

I hereby declare that the work presented in the project entitled **"Audio Transmission Using LIFI"** submitted to the partial fulfillment of Master of Science in Electronic has been performed in the Department of Pure & Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009 under the Guidance of **Mr. SAURABH DESHMUKH (Director, Digitalshakha)** is truly carried out by me.

The work presented in this dissertation is original and remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009, INDIA.

Seema Naik

M.Sc. (Electronics) IV Semester

Roll No. – 20409012

Enrollment No. – GGV/17/7116

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
Dept. of Pure & Applied Physics
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बिलासपुर (छ.ग.)/Bilaspur (C.G.)

DEPARTMENT OF PURE & APPLIED PHYSICS

Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India

(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

FORWARDING CERTIFICATE

This is to certify that **SEEMA NAIK** has carried out the project in Department of Pure and Applied Physics, GURU GHASIDAS VISHWAVIDYALAYA BILASPUR (C.G.) On the topic **"Audio Transmission Using LIFI"**.

The project is submitted for the partial fulfillment of requirement of the Degree of M.Sc. in electronics is forwarded to examiner for evaluation. I wish him every success in life.

Dr. M.N. Tripathi

(H.O.D of Department of Pure & Applied Physics

GGV, BILASPUR (C.G)

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
Dept. of Pure & Applied Physics
गुरू घासीदास विश्वविद्यालय,
Guru Ghasidas Vishwavidyalaya,
[illegible] (छ.ग.)/Bilaspur (C.G.)

Vocational Training

Dear **Seema**

Date - 5.09.2022

We wish to inform you that, this is certified that Miss.**Seema** has successfully completed,Course in **Basic Electronics & Robotics .**

Duration - From 1 July - 14 august 2022.

Project Name - audio transfer using LIFI technology .

Thank you for your time and consideration, we at **DIGITALSHAKHA** wish you all the best in your future endeavours.

Regards,

Digitalshakha

(HR Executive)

विभागाध्यक्ष/H.O.D.
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(Seal)

ACKNOWLEDGEMENT

Take this opportunity to express my sincere thanks **Prof. M.N. TRIPATHI** Head of Department, Department of Department of Pure and Applied Physics, GURU GHASIDAS CENTRAL UNIVERSITY, BILASPUR (C.G.), for providing me the golden opportunity to works on this project & for his able guidance, co-operation & inspiration.

I would like to thank **Mr. SAURABH DESHMUKH** project guide, for being very kind to us throughout the work. I experienced a wonderful time with him in completing this project on time, and made this a better one. I big thank to my dear friends who are directly and indirectly helped me in completion of my project works. Finally, my deep appreciation goes to my parents and family members for their encouragement and support throughout, which always inspired me.

Seema Naik

M.Sc. Electronics IV Semester

Roll no. 20409012

Enroll no. GGV/17/7116

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
Dept. of Pure & Applied Physics
गुरु घासीदास विश्वविद्यालय
Guru Ghasidas Vishwavidyalaya
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

ABSTRACT

The most adaptable and powerful technology for wireless communication that uses radio frequencies for data transmission is Wi-Fi.But due to the numerous access points, Wi-Fi is struggling with issues including capacity, availability, efficiency, and security.Wi-Fi generates radio waves that are extremely damaging to patients and that medical equipment interprets.

The development of a light fidelity (Li-Fi)-based system and performance analysis are the main topics of this research. Where radio waves are prohibited, such as on aeroplanes, in hospitals, and in some research facilities, this protocol can be modified. Li-Fi is a cutting-edge technology for high-density wireless data transfer that causes no radio interferences in small spaces and can be utilised in biosensors to assess various health metrics. With the use of this technology, data for computers, smartphones, and tablets could one day be transmitted around a room using light, which is both cost-effective and environmentally beneficial.

A technology based on using light as a channel for communication is called Light Fidelity, or LiFi. The intricacy of cable transmission is eliminated by this technique, known as Visible Light Communication (VLC). As LiFi has developed over the past few years, it has shown to be secure, effective, and capable of sending data at very fast rates. The proposed article examines the fundamentals of LiFi as a whole and investigates the viability of integrating LiFi into a communication system by outlining the architecture, modulation methods, and benefits and drawbacks of LiFi. A communication system that uses light as a medium to send data from a transmitter to a receiver and regulate the speed of two motors is also demonstrated in this dissertation.

विभागाध्यक्ष/H.O.D.
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शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
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Guru Ghasidas Vishwavidyalaya
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

TOPIC – "Bidirectional Railway Gate Control System"

A PROJECT REPORT

Submitted for Partial fulfillment of the requirement for the award of the degree of

Master of Science

In

Electronics

By

SMRITI

ROLL NO. – [illegible]

ENROLL NO. [illegible]

Under

Guidance of

[illegible]

[illegible]

[illegible] Durg

DEPARTMENT OF PURE AND APPLIED PHYSICS

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.) INDIA

[illegible]

Session – [illegible]

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Guru Ghasidas Vishwavidyalaya
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

TOPIC -"Bidirectional Railway Gate Control System"

A PROJECT REPORT

bmitted for Partial fulfillment of the requirement for the award of the degree of

Master of Science

In

Electronics

By

SMRITI

ROLL NO. - 20409014

ENROLL NO. GGV/17/7124

Under

Guidance of

Mr. SUDHEER CHIRIVELLA

HoD of Electronics

MSME Technology Centre Durg

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
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INDIA

(A central university established by the central university Act 2009 No. 25 of 2009)

APPROVAL CERTIFICATE

This is to certify that report submitted by Miss. Smriti is approved for the award of Master of science in Electronics.

I wish her every success in life.

Dr. M. N. Tripathi
Head of Department
Pure and Applied Physics
Guru Ghasidas Vishwavidyalaya, Bilaspur
(C.G), 495009, INDIA

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Guru Ghasidas Vishwavidyalaya,
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES
GOVERNMENT OF INDIA

एमएसएमई प्रौद्योगिकी केंद्र दुर्ग
MSME TECHNOLOGY CENTRE, DURG

सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय, भारत सरकार की सोसायटी
Ministry of Micro Small and Medium Enterprises, Government of India Society

Date: 07-07-2022.

CERTIFICATE

This is to certify that Ms. Smriti , M.Sc Electronics, student from Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh has done his project work titled "BIDIRECTIONAL RAILWAY GATE CONTROL SYSTEM" under the guidance of Mr. Sudheer Chirivella, HoD of Electronics at MSME Technology Centre Durg . This project is done as part of academic curriculum.

We have notice that, during the period, she has shown keen interest in his project development, the feedback of the participant is good and was also regular in attendance.

Sr. Engineer (Training),
Dept. of Electronics & Electrical

Senior Manager
Head of Training

विभागाध्यक्ष/H.O.D.
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DURG

Serial No 150042 Roll No DUST152207000042

सत्यमेव जयते

MSME TECHNOLOGY CENTRE, DURG

Ministry Of Micro Small & Medium Enterprises,

A Govt. of India Society

Plot - 2D, Sector- B, Borai Industrial Growth Centre , Rasmada,Durg (C.G)-491001

This is to certify that

Mr./Miss. SMRITI

has successfully completed the course

EMBEDDED SYSTEMS

The course comprises the following subjects

1. HARDWARE CONCEPTS
2. IDE TOOLS USAGE
3. INTERFACING MODULES
4. ARDUINO C
5. ARDUINO UNO
6. PROJECT

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Guru Ghasidas Vishwavidyalaya
बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Period of Course From : 08.06.2022 To : 07.07.2022

Date of Award : 07.07.2022

MSME TECHNOLOGY CENTRE DURG

Course co-ordinator

Training Incharge

DEPARTMENT OF PURE AND APPLIED PHYSICS
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G)
INDIA

(A central university established by the central university Act 2009 No. 25 of 2009)

DECLARATION

I hereby declare that the work presented in this report submitted as the partial fulfillment of Master of Science (Hon's) in Electronics has been performed in the Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur is truly carried out by me.

The project is original and will remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G), 495009, INDIA

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Date - ___/___/___

SMRITI
Roll No. – 20409014
Enroll. No. – GGV/17/7124
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ACKNOWLEDGEMENT

I wish to express my deep sense of gratitude to Mr. Sudheer chirrivella, HoD of Electronics at MSME Technology center Durg, and other faculties for support, guidance, constructive criticism and valuable suggestion throughout this project work.

I would like to express my gratitude to Dr. M. N Tripathi (Head of Department) for his constant support and encouragement. I am also thankful to all staff members of the Department of Pure and Applied Physics, Guru Ghasidas Vishwavidhyalaya, Bilaspur.

I would like to thank my friends who directly or indirectly helped me in completion of my project work. Finally, my deep appreciation goes to my parents and family members for their encouragement and support throughout, which always inspired me.

- Smriti

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
Dept. of Pure & Applied Physics
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ABSTRACT

India with a massive population of 1.3 billion people in 2021, depends on transportation heavily. The most economical transportation facility is railways, as per the data there were 1048 railway crossing accidents in 2018 and 1788 level crossing accidents in 2019. These accidents are due to negligence of the gate operator or the person crossing the gate. India is a developing country the railway infrastructure or railway level crossing gate are not there in rural areas; it may be due to lack of manpower. Hence in order to avoid these kinds of railway level crossing accidents this project has been developed with a fully automatic railway gate, with traffic signal and alarm systems to avoid peoples from crossing the gate from below while it is closed.

This project aims to provide a fully automatic railway gate at the level crossing, and to stop the peoples from crossing the closed gates from below. This project consists of 4 sections the train detection section consists of 2 IR sensor, gate controlling section consist of 2 servo motor each for the either side of the crossing, signal light section to control the traffic signal light at crossing this consist of 2 green led and 2 red led, safety and alarm and surveillance section which consist of 2 IR sensors which triggers the alarm when someone tries to cross the gate while it is close, and a ESP32 CAM module for live surveillance of the gate. This whole is controlled by Atmega328P based development board namely Arduino UNO. Both the train detection and safety and alarm systems generate infrared waves. Then the controller decides what to do on different possible situations

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DEPARTMENT OF PURE & APPLIED PHYSICS

Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India

(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

A

Project Report

On

"BIDIRECTIONAL VISITOR COUNTER"

Submitted for

Partial Fulfillment of the requirement for the Degree of

Master of Science in Electronics

Session: 2021-22

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
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SUBMITTED BY

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M.Sc. Elelctronics IV Semester

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DEPARTMENT OF PURE & APPLIED PHYSICS

Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India

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DECLARATION OF THE CANDIDATE

I hereby declare that the work presented in the project entitled **"BIDIRECTIONAL VISITOR COUNTERT"** submitted to the partial fulfillment of Master of Science in Electronic has been performed in the Department of Pure & Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009 under the Guidance of **Mr. SAURABH DESHMUKH (Director, Digitalshakha)** is truly carried out by me.

The work presented in this dissertation is original and remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009, INDIA.

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SURAJ SAHU

M.Sc. (Electronics) IV Semester

ROLL NO. 20409015

Enrollment No. – GGV/17/7128

Vocational Training

Dear **Suraj sahu**

Date - 5.09.2022

We wish to inform you that, this is certified that Mr.**Suraj sahu** has successfully completed,Course in **Basic Electronics & Robotics .**

Duration - From 1 July - 14 august 2022.

Project Name - Bidirectional visitor counter .

Thank you for your time and consideration, we at **DIGITALSHAKHA** wish you all the best in your future endeavours.

Regards,

Digitalshakha

(HR Executive)

विभागाध्यक्ष/H.O.D.
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Abstract

In today's world, there is a continuous need for automatic appliances. With the increase in standard of living, there is a sense of urgency for developing circuits that would ease the complexity of life. Many times, we need to monitor the people visiting some place like shopping mall. To provide solution for this we are going to implement a project called "Bi Directional Digital Visitor Counter" with automatic room light control. This project has a "Visitor counter". Basic concept behind this project is to measure and display the number of persons entering in any room like seminar hall, conference room etc. LCD displays number of persons inside the room. We can use this project to count and display the number of visitors entering inside any conference room or seminar hall. This works in a two way. That means counter will be incremented if person enters the room and will be decremented if a person leaves the room. In addition, it will automatically control room lights. when the room is empty the lights will be automatically turn off. Digital Visitor Counter bidirectional visitor counter in today's world, there is continuous need automatic appliance will be increase in standard of living, there is a sense of urgency for developing circuit that would ease the complexity of life. Also, if someone wants to know the number of persons present in a room so as not to have congestion, the circuit prove to be helpful. The theme of this project when merged with certain established technologies can be quite effective in number of countries.

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A

Project Report

On

"Bluetooth Based Home Automation Using Arduino"

Submitted for
Partial Fulfillment of the requirement for the Degree of

Master of Science in Electronics

Session - 2021-22

विभागाध्यक्ष/H.O.D.
शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग
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Submitted by

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A

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On

"Bluetooth Based Home Automation Using Arduino"

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Submitted by

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Roll No. – 20409016
Enrollment No.– GGV/17/7140

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(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

DECLARATION

I hereby declare that the work presented in the project entitled **"Bluetooth Based Home Automation Using Arduino"** submitted to the partial fulfillment of Master of Science in Electronic has been performed in the Department of Pure & Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009 under the Guidance of **SAURABH DESHMUKH** truly carried out by me.

The work presented in this dissertation is original and remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009, INDIA.

Vansh Makhija

M.Sc. (Electronics) II Semester
Roll No. – 20409016
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Date: .....

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FORWARDING CERTIFICATE

This is the certify that the project entitled **"Bleutoouth Based Home Automation Using Arduino "** submitted by

Vansh MAkhija is approved for the award of Master of Science in Electronic.

Dr. M.N. TRIPATHI
Head of the Department
Department of Pure & Applied Physics
Guru Ghasidas Vishwavidyalaya,
Bilaspur (C.G.), 495009, INDIA

Date: .....

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Vocational Training

Dear **Vansh Makhija**

Date - 5.09.2022

We wish to inform you that, this is certified that Mr. **Vansh Makhija** has successfully completed,Course in **Basic Electronics & Robotics .**

Duration - From 1 July - 14 august 2022.

Project Name - Bluetooth Based Home Automation System .

Thank you for your time and consideration, we at **DIGITALSHAKHA** wish you all the best in your future endeavours.

Regards,

Digitalshakha

(HR Executive)

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CHAPTER -1

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DEPARTMENT OF PURE & APPLIED PHYSICS

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A
Project Report On

"ACCIDENT PREVENTION SYSTEM USING EYE BLINK DETECTOR"

Submitted for

Partial Fulfillment of the requirement for the Degree of

Master of Science
in Electronics

Guided by
Sourabh deshmukh
Director
DIGITAL SHAKHA

Submitted by
Navneet Kumar Patel
M.Sc. (Electronics)IV Semester
Roll No. – 20409018
Enrollment No.– GGV/17/7090

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Session: 2021-22

Department of Pure & Applied Physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India

(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

APPROVAL CERTIFICATE

This is to certify that Navneet Kumar Patel has carried the project in Department of Pure and applied physics GURU GHASIDAS VISHWAVIDYALAYA BILASPUR CHHATTISGARH (C.G.)
On the topic "Accident prevention sytestem using eye blink detector"
The project is submitted for the partial fulfillment of requirement of the Degree of M.Sc. in electronics is forwarded to examiner for evaluation. I wish him every success in life.

Dr. M.N.Tripathi
Head of the Department
Department of Pure & Applied Physics
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(C.G.), 495009, INDIA

Date: -09-09-2022

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Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India

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DECLARATION

I hereby declare that Project work presented in this report submitted to the partial fulfillment of Master of Science (Hon's) in Electronic has been performed in Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur is truly carried out by me.

The project is original and remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009, INDIA.

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Date: 09-09-2022

Navneet Kumar Patel

M.Sc. (Electronics) IV Semester

Roll No. – 20409018

Enrollment No. – GGV/17/7090

EYE BLINK SENSOR & ACCIDENT PREVENTION

ABSTRACT:

"*Driving to save live time , and money in spite of the conditions around you and the actions of others.* "- This is the slogan for Defensive Driving.

The Objective of this project is to develop a system to keep the vehicle secure and protect it by the occupation of the intruders. Vehicle accidents are most common if the driving is inadequate. These happen on most factors if the driver is drowsy or if he is alcoholic. Driver drowsiness is recognized as an important factor in the vehicle accidents. It was demonstrated that driving performance deteriorates with increased drowsiness with resulting crashes constituting more than 20% of all vehicle accidents. But the life lost once cannot be re-winded. Advanced technology offers some hope avoid these up to some extent.

This project involves measure and controls the eye blink using IR sensor. The IR transmitter is used to transmit the infrared rays in our eye. The IR receiver is used to receive the reflected infrared rays of eye. If the eye is closed means the output of IR receiver is high otherwise the IR receiver output is low. This to know the eye is closing or opening position. This output is give to logic circuit to indicate the alarm.

This project involves controlling accident due to unconscious through Eye blink. Here one eye blink sensor is fixed in vehicle where if anybody looses conscious and indicate through alarm.

A car simulator study was designed to collect physiological data for validation of this technology. Methodology for analysis of physiological data, independent assessment of driver drowsiness and development of drowsiness detection algorithm by means of sequential fitting and selection of regression models is presented.

COMPONENTS:

The block diagram mainly consists of 4 parts. They include

- LM358 Comparator.
- Eye Blink Sensor.
- □ LCD.
- 8051 Microcontroller.
- Buzzer.

DEPARTMENT OF PURE AND APPLIED PHYSICS

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G) INDIA

(A central university established by the central university Act 2009 No. 25 of 2009)

Project Dissertation

On

"FIRE FIGHTING ROBOT"

Submitted for

Partial fulfillment of the requirement for the Degree of

Master of Science

In

Electronics

Session 2021-2022

SUBMITTED BY

Shivani Vishwakarma

Enrollment No. GGV/17/7119

Roll No. 20409019

M.sc Electronics IV semester

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DEPARTMENT OF PURE AND APPLIED PHYSICS

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G) INDIA

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Project Dissertation

On

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Submitted for

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SUBMITTED BY

Shivani Vishwakarma

Enrollment No. GGV/17/7119

Roll No. 20409019

M.sc Electronics IV semester

DEPARTMENT OF PURE AND APPLIED PHYSICS

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(A central university established by the central university Act 2009 No. 25 of 2009)

DECLARATION

I hereby declare that the work present in the project entitled **"FIRE FIGHTING ROBOT"** submitted as partial fulfillment of M.Sc. in Electronics have been performed in the Department of Pure And Applied Physics, GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR under the supervision of **Mr. SAURABH DESHMUKH (DIRECTOR OF DIGITAL SHAKHA)**

The work present in the project dissertation is original and will remain intellectual property of Department.

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SHIVANI VISHWAKARMA

M.sc ELECTRONICS IV semester

Roll No. 20409019

DEPARTMENT OF PURE AND APPLIED PHYSICS

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FORWARDING CERTIFICATE

This is to certify that **SHIVANI VISHWAKARMA** has carried out the project in Department of Pure and Applied Physics, GURU GHASIDAS VISHWAVIDYALAYA BILASPUR (C.G.)

On the topic **"FIRE FIGHTING ROBOT".**

The project is submitted for the partial fulfillment of requirement of the Degree of M.Sc. in electronics is forwarded to examiner for evaluation. I wish her every success in life.

PROF. M.N.TRIPATHI

HEAD OF THE DEPARTMENT

Department of Pure & Applied Physics

GGV, BILASPUR (C.G)

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Vocational Training

Dear **Shivani Vishwakarma**

Date - 5.09.2022

We wish to inform you that, this is certified that Miss.**Shivani Vishwakarma** has successfully completed,Course in **Basic Electronics & Robotics .**

Duration - From 1 July - 14 august 2022.

Project Name - Fire Fighting Robot .

Thank you for your time and consideration, we at **DIGITALSHAKHA** wish you all the best in your future endeavours.

Regards,

Digitalshakha

(HR Executive)

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ABSTRACT

Detecting fire and extinguishing is a hazardous job for a fire extinguisher, it often risks the life of that person. This project aims in giving a technical solution to the mentioned problem. A robot is a mechanical design that is capable of carrying out a complex series of actions automatically, especially one programmable by a computer.

Fire fighting robot is a newly developed design where its function is to reduce the fire fighter risk in the dangerous situations. This project is propose the fire-fighting robot using multiple sensor to detect the fire and extinguish the flame. The microcontroller Arduino UNO (ATmega328P) use to operation of the robot. The flame sensor detects the fire and gives the further signal to the extinguisher units to trigger the pump and spray the water. The whole system is programmed using an Arduino UNO board (ATmega328P microcontroller) which forms the brain of the system.

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A

Project Report

On

"IoT Based Object Identification"

Submitted for

Partial Fulfillment of the requirement for the Degree of

Master of Science in Electronics

Session: 2021-22

Under the Guidance of

SAURABH DESHMUKH
DIRECTOR, DIGITAL SHAKHA
BHALAI-490020 (C.G.)

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बिलासपुर (छ.ग.)/Bilaspur (C.G.)

SUBMITTED BY

ABHISHEK
M.Sc Electronics IV Semester
Roll no.: 20409001
Enroll no.: GGV/17/7008

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Dear **Abhishek**

Date - 5.09.2022

We wish to inform you that, this is certified that Mr. **Abhishek** has successfully completed,Course in **Basic Electronics & Robotics .**

Duration - From 1 July - 14 august 2022.

Project Name - IoT Based Object Identification .

Thank you for your time and consideration, we at **DIGITALSHAKHA** wish you all the best in your future endeavours.

Regards,

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A Project Report On

"IOT BASED FACE MASK & TEMPERATURE DETECTORS"

Submitted for
Submitted In Partial Fulfillment of the requirement for the Degree of

Master of Science in Electronics

SESSION 2021-22

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SUBMITTED BY

GURUDAYAL PATEL

M.Sc. (Electronics) IV Semester
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Department of Pure & Applied Physics

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(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

DECLARATION

I hereby declare that the work presented in the project entitled **"IOT BASED FACE MASK & TEMPERATURE DETECTORS"** submitted to the partial fulfillment of Master of Science in Electronic has been performed in the Department of Pure & Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009 under the Guidance of **Saurabh Deshmukh** (Director, Digitalshakha)**.**

The work presented in this dissertation is original and remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009, INDIA.

Date: …….

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GURUDAYAL PATEL
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Roll No. – 20409005
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Department of Pure & Applied Physics

Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India

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FORWARDING CERTIFICATE

This is to certify that **GURUDAYAL PATEL** has carried out the project in Department of Pure and Applied Physics, GURU GHASIDAS VISHWAVIDYALAYA BILASPUR (C.G.) On the topic "**IOT BASED FACE MASK & TEMPERATURE DETECTOR**".

The project is submitted for the partial fulfillment of requirement of the Degree of M.Sc. in electronics is forwarded to examiner for evaluation. I wish him every success in life.

Date:…………

Dr. M. N. Tripathi

Associate Professor

Department of Pure & Applied physics

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ACKNOWLEDGEMENT

Completion of project started with initial planning of literature search from books and websites. Reading, understanding & compilation of this project is definitely a hard task to undertake which doesn't seem to be possible without the grace of god .It is my great pleasure to express my sincere gratitude towards my esteemed supervisor Mr. SAURABH DESHMUKH (DIRECTOR, DIGITALSHAKHA bhilai, durg c.g.) under whose guidance, the project work has been brought to completion my leaps up in thankfulness for the benevolent, time ,constant help & valuable suggestions throughout the project .I wish to acknowledge Prof. M.N.TRIPATHI (Head of Department of Pure And Applied Physics, GGV Bilaspur) who gave me an opportunity to undergo project work during my M.Sc. in Electronics. I would like to thanks all teachers, librarians, clerks of physics department & department itself to provide us with all kinds of facilities. I would like to thanks all friends for their constant support during project work. Finally I would like to express my deep gratitude to my parents & family members for their encouragement & support throughout, who always inspired.

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ABSTRACT

Corona virus is the most recently discovered causing deadly disease COVID-19. Situations in present world is getting worst because of new variants evolving day by day. It affects economically as well as socially causing great threat to human lives to peril. COVID-19 pandemic caused the entire globe to force for lockdowns in sequence to forestall proliferation of corona virus. A proper face mask and monitoring body temperature can help the authorities to notice people who are at the high risk of infection and prevents security guards getting infected. Omicron virus contamination gives rise to a great threat in the society regardless of age. According to the survey conducted, wearing mask can avert the proliferation of covid-19. Wearing mask is made mandatory everywhere especially in public places.

WHO declared that high temperature is one of the symptom of variant. Here we can avoid the person without mask and having high temperature. Face mask detection is achieved using CNN technology specifically MobilenetV2 and temperature of a person is detected using MLX90614 IR temperature sensor and by making use of servo motor barrier movement can take place. Generally, gate remains open, only when having high risk of temperature and not having mask it closes and buzzer. The main goal is to prevent the society from deadly virus infection and making life easier

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A Project Report On

"SPEED LIMITER"

Submitted for

Partial Fulfillment of the requirement for the Degree of

Master of Science in Electronics

SESSION 2021-22

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SUBMITTED BY

NILAMBER YADAV

M.Sc. (Electronics) IV Semester

Roll No. – 20409009

Enrollment No.– GGV/20/07502

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Dear **Nilamber Yadav**

Date - 5.09.2022

We wish to inform you that, this is certified that Mr. **Nilamber Yadav** has successfully completed,Course in **Basic Electronics & Robotics .**

Duration - From 1 July - 14 august 2022.

Project Name - Speed Limiter .

Thank you for your time and consideration, we at **DIGITALSHAKHA** wish you all the best in your future endeavours.

Regards,

Digitalshakha

(HR Executive)

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A PROJECT REPORT

ON

RFID BASED APPOINTMENT SYSTEM with IOT Notification

Submitted by

SHARADA KATAILIHA

M.Sc. (4th Sem) ELECTRONICS

ENROLLMENT NO. GGV/17/7117

ROLL NO. 20409013

Under the Guidance of

SAURABH DESHMUKH

DIRECTOR, DIGITAL SHAKHA

BHALAI-490020 (C.G.)

In fulfilment for the award of the degree of

MASTER OF SCIENCE

IN

ELECTRONICS

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September, 2022

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Dear **Sharada Katailiha** Date - 5.09.2022

We wish to inform you that, this is certified that Miss.**Sharada Katailiha** has successfully completed,Course in **Basic Electronics & Robotics .**

Duration - From 1 July - 14 august 2022.

Project Name - RFID Token Based Appointment Calling System .

Thank you for your time and consideration, we at **DIGITALSHAKHA** wish you all the best in your future endeavours.

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Regards,
Digitalshakha

(HR Executive)

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Ministry Of Micro Small & Medium Enterprises,
A Govt. of India Society

Plot - 2D, Sector- B, Borai Industrial Growth Centre , Rasmada,Durg (C.G)-491001

This is to certify that

Mr./Miss. VIJENDRA KUMAR KATHLE

has successfully completed the course

EMBEDDED SYSTEMS

The course comprises the following subjects

1. HARDWARE CONCEPTS
2. IDE TOOLS USAGE
3. INTERFACING MODULES
4. ARDUINO C
5. ARDUINO UNO
6. PROJECT

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Period of Course From : 08.06.2022 To : 07.07.2022

Date of Award : 07.07.2022

Course co-ordinator

MSME TECHNOLOGY CENTRE DURG

Training Incharge

MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES
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Ministry of Micro Small and Medium Enterprises, Government of India Society

Date: 07-07-2022.

CERTIFICATE

This is to certify that Mr.Vijendra Kumar Kathle , M.Sc Electronics, student from Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh has done his project work titled "SMART AGRICULTURE" under the guidance of Mr. Sudheer Chirivella, HoD of Electronics at MSME Technology Centre Durg . This project is done as part of academic curriculum.

We have notice that, during the period, he has shown keen interest in his project development, the feedback of the participant is good and was also regular in attendance.

Sr. Engineer (Training),
Dept. of Electronics & Electrical

Senior Manager
Head of Training

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