गुरू घासीदास विश्वविद्यालय (केन्रीय विस्वविद्यालय अधिनयम 2009 क्र. 25 के अंतर्गत स्वापित केन्रीय विस्वविद्यालय) कोनी, बिलासपुर - 495009 (छ.ग.)



Guru Ghasidas Vishwavidyalaya (A Central University Established by the Central Universities Act 2009 No. 25 of 2009) Koni, Bilaspur – 495009 (C.G.)

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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गुरू घासीदास विश्वविद्यालय (केन्रीय विस्वविद्यालय अधिनयम 2009 क्र. 25 के अंतर्गत स्वापित केन्रीय विस्वविद्यालय) कोनी, बिलासपुर - 495009 (छ.ग.)



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विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरू घासीदास विश्वविद्यालय 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.)



DEPARTMENT OF PURE AND APPLIED PHYSICS

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR



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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

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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

4. ARDUINO C

2. IDE TOOLS USAGE

5. ARDUINO UNO

3. INTERFACING MODULES

6. PROJECT

Period of Course From : 08.06.2022 To: 07.07.20

Date of Award

: 07.07.2022



IN - U40108CT2003SGC015820

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CHHATTISGARH STATE POWER TRANSMISSION COMPANY LIMITED

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o.EE/MRT/BSP/ VT-2022 / 165

Bilaspur, Date 06 06 22

CERTIFICATE

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

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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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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

विभागाध्यक्षं/H.O.D. शुद्ध एवं अनुम्युक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरू पातीदात विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (च.ग.)/Bilaspur (C.G.)

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

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stral 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. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घातीदात विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Submitted by

ANKIT SAHU

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



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

A

Project Report

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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 been performed 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.

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FORWARDING CERTIFICATE

is 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".

project is submitted for the partial fulfillment of requirement of the Degree of M.Sc. in electronics is a representation of the partial fulfillment of requirement of the Degree of M.Sc. in electronics is a representation.

Dr. M.N. TRIPATHI

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

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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. leading, understanding & compilation of this project is definitely a hard task to undertake which loesn't seem to be possible without the grace of god. It is my great pleasure to express my sincere ratitude towards my esteemed supervisor Mr. SAURABH DESHMUKH (DIRECTOR, DIGITALSHAKHA Shilai, Durg c.g.) under whose guidance, the project work has been brought to completion my eaps 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 teelf to provide us with all kinds of facilities.

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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 Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) SUBMITTED BY

DIPENDRA DEWANGAN

M.Sc. (Electronics) IV Semester Roll No. – 20409004 Enrollment No.- GGV/17/7051



(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 "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.

Date:

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M.Sc. (Electronics) II Semester Roll No. – 20409004 Enrollment No. – GGV/17/7051



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Vocational Training

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.

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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 groundpenetrating 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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गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

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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 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.

शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya

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SUBMITTED BY

KANTA

M.sc (Electronics) IV semester

Roll No. - 20409006

Enrollment no.- GGV/17/7070

Guru Ghasidas Vishwavidyalaya

Bilaspur, (CG)



(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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FORWARDING CERTIFICATE

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

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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Dear Kanta

Date - 5.09.2022

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

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 the best in your future endeavours.

Regards,

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Department of Pure & Applied Physics

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

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

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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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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has successfully completed the course

EMBEDDED SYSTEMS

The course comprises the following subjects

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4. ARDUINO C

2. IDE TOOLS USAGE

5. ARDUINO UNO

3. INTERFACING MODULES

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

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

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

The concept of detecting a car accident is not a fresh idea in automobile sector and it so 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 ccident through accelerometer and gyroscope as it facilitates in the identifying the vicinity nd if the value of x, y and z parameters are extra than the defined values the it's going set ruation to proper and the code written for initiating the intimation and e-mail alert gets vecuted. With this method the accident location can be send via GPS to the emergency ffering for assistance or we can set the e-mail ID of the person close to the victim so they an take the action as soon as possible.

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

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

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A Project Report On

"HUGHWAY 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

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Session: 2021-22

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Date - 5.09.2022

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 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

Date-09-09-2022

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APPROVAL CERTIFICATE

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On the topic "HIGHWAY SPEED CHECKER"

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

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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

विभागाध्यक्षं/H.O.D.
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Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

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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8

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

ENROLL NO. GGV/17/7100

Under

Guidance of

Mr. SUDHEER CHIRIVELLA

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

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Session - 2021-2022



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

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.

Dr. M. N. Tripathi

Head of Department

Pure and Applied Physics

Guru Ghasidas Vishwavidyalaya, Bilaspur

(C.G), 495009, INDIA

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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),

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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



MSME TECHNOLOGY CENTRE, DURG

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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

शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग

Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय

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

Period of Course From : 08.06.2022 To: 07.07.2022

: 07.07.2022 Date of Award



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

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Date - __/__/___

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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 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 गुरु घासीदास विश्वविद्यालय

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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.

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

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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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SUBMITTED BY

Pritish Kumar Sahu

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M.SC ELECTRONIC 4TH SEMESTER

GURU GHASIDAS UNIVERSITY



CIN- U40108CT2003SGC015820

GSTIN- 22AADCC5773EIZX

CHHATTISGARH STATE POWER TRANSMISSION COMPANY LIMITED

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No./EE/(C&TM)/VT/

126

Bilaspur, Date-31-65-2022

CERTIFICATE

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

शुद्ध एवं अनुप्रयुक्तं भौतिकी विभाग

Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय

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



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

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

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A Project Report On

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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

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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, uru Ghasidas Vishwavidyalaya,



ISO 9001:2015 CERTIFIED COMPAN

Vocational Training

Dear Seema

Date - 5.09.2022

MAR

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. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) ISO 9001:2015 CERTIFIED COMPANY

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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

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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.

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विभागाध्यक्षं/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.)		

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TOPIC - "Bidirectional Railway Gate Control System"

A PROJECT REPORT

abmitted 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

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

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Session – 2021-2022



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

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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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. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics

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This is to certify that

Mr./Miss. SMRITI

has successfully completed the course

EMBEDDED SYSTEMS

The course comprises the following subjects

1. HARDWARE CONCEPTS

4. ARDUINO C

भिगाएयशं/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु चासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya

2. IDE TOOLS USAGE

5. ARDUINO UNO

3. INTERFACING MODULES

6. PROJECT

Period of Course From : 08.06.2022 To: 07.07.2022

: 07.07.2022

Date of Award

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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

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Enroll. No. - GGV/17/7124

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 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

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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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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 Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya

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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

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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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_{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)

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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

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A

Project Report

"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

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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

"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
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Submitted by

Navneet Kumar Patel

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APPROVAL CERTIFICATE

Date: -09-09-2022

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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

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Navneet Kumar Patel

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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.



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(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

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GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G) INDIA

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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

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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 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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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

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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,

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(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.

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

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

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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.)

SUBMITTED BY

ABHISHEK

M.Sc Electronics IV Semester Roll no.: 20409001

Enroll no.: GGV/17/7008

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बिलासपुर (छ.ग.)/Bilaspur (C.G.)

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Date - 5.09.2022

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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

विभागाध्यक्ष /H.O.D.

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SUBMITTED BY

GURUDAYAL PATEL

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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).

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Date: विभागाध्यक्ष/H.O.D

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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 विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Depr. of the & Apphed Physics गुरु घासीदास विश्वविद्यालय

निम्हानिक्षाति व्यवस्थाति व्यवस्थाति । विनारम्भारति विनारम्भारति विनारम्भारति । विनारम्भः (छ.ग.)/Bilaspur (C.G.) physics



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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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NILAMBER YADAV

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Vocational Training

Dear Nilamber Yadav

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

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

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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

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We wish to inform you that, this is certified that Miss.Sharada Katailiha 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.

शुद्ध एवं अनुप्रयुक्तं भौतिकी विभाग Dept. of Pure & Applied Physics

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This is to certify that

Mr./Miss. VIJENDRA KUMAR KATHLE

has successfully completed the course

EMBEDDED SYSTEMS

The course comprises the following subjects

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4. ARDUINO C

Mupopathi

2. IDE TOOLS USAGE

5. ARDUINO UN खुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics

3. INTERFACING MODULES

6. PROJECT

गुरु घासीदास विश्वविद्यालय 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



Training Incharge



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 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

विभागाध्यक्ष/H.O.D.

शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय

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Senior Manager Head of Training