

KENNEDY ROAD, NEAR R.T.O., PUNE 411001

**Institute Code: 0141**

Academic Year: 2023-24

**Wireless Doorbell**

Program Code :CO4I

Course Name :**DCC (Data Communication and Computer Network)**

Course Code : 22414

Submitted by:

|  |  |  |  |
| --- | --- | --- | --- |
| **Roll No** | **Student Name** | **Branch** | **Enrollment Number** |
| 1525 | Shubham Dinesh Giri | SYCO | 2201410262 |
| 1526 | Rushi Raviraj Gujarathi | SYCO | 2201410263 |
| 1527 | Param Bhimrao Jadhav | SYCO | 2201410267 |

**Under Guidance of:**

Mr.S.Y.Divekar

# ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY’S POLYTECHNIC, PUNE -1

**COMPUTER ENGINEERING DEPARTMENT**

**VISION AND MISSION OF THE INSTITUTE**

* **VISION:**

“Enhance skills by providing value based technical education for fulfilling global needs in the field of computer engineering.”

* **MISSION:**
* To provide quality education in computer engineering by improving psychomotor skills.

* To develop positive attitude, communication skills, team spiritand entrepreneurship.

* To develop awareness about societal and ethical responsibility for Professionalism.

**VISION AND MISSION OF THE COMPUTER DEPARTMENT**

**VISION:**

“Enhance skills by providing value based technical education for fulfilling global needs in the field of computer engineering.”

**MISSION:**

**M1**: To provide quality education in computer engineering by improving Psychomotor skills.

**M2**: To develop positive attitude, communication skills, team spirit and entrepreneurship.

**M3**: To develop awareness about societal and ethical responsibility for Professionalism.

# ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY’S POLYTECHNIC, PUNE -1

# COMPUTER ENGINEERING DEPARTMENT

|  |  |
| --- | --- |
|  |  |
|  | **PROGRAM OUTCOMES (POs)** |
| **PO1** | **Basic and Discipline specific knowledge:** Apply knowledge of basic mathematics, science  and engineering fundamentals and engineering specialization to solve the engineering problems.. |
| **PO2** | **Problem analysis:** Identify and analyze well-defined engineering problems using codified  standard methods. |
| **PO3** | **Design/ development of solutions:** Design solutions for well-defined technical problems and  assist with the design of systems components or processes to meet specified needs. |
| **PO4** | **Engineering Tools, Experimentation and Testing:** Apply modern engineering tools  and appropriate technique to conduct standard tests and measurements. |
| **PO5** | **Engineering practices for society, sustainability and environment:** Apply appropriate technology in context of society, sustainability, environment and ethical practices. |
| **PO6** | **Project Management:** Use engineering management principles individually, as a team member  or a leader to manage projects and effectively communicate about well-defined  engineering activities. |
| **PO7** | **Life-long learning:** Ability to analyze individual needs and engage in updating in the context  of technological changes. |

**PROGRAM SPECIFIC OUTCOMES (PSO)**

The Diploma in Computer Engineering will prepare students to attain:

**PSO 1:** Apply computing knowledge with standard practices to develop software. • **PSO 2:** Maintain Computer Hardware and Software System.



**Institute Code: 0141**

**CERTIFICATE**

This is to certify that micro project entitled “Wireless Doorbell” has been completed under **Course: DCC (Data Communication and Computer Network) Course code: 22414** for the second year diploma in Computer Engineering Department Batch 2023-24. The members of the team:

|  |  |  |
| --- | --- | --- |
| 1. Shubham Dinesh Giri | 2. Rushi Raviraj Gujarathi | 3. Param Bhimrao Jadhav |

**Mrs. S. Y. Divekar**

**(Name & Signature of faculty)**

**b**

**ACKNOWLEDGEMENT**

We are deeply indebted to our project guide Mr. S. Y. Divekar for guiding us in a proper way in order to complete our micro project. We would like to express our gratitude towards our guide for her valuable guidance, suggestion, and continues support throughout in preparing the short-term training report.

We also express our thanks to our seniors for their great support and suggestions.

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**Introduction**

**Introduction of Wireless Doorbell**

In today's tech-savvy world, traditional doorbells are being replaced by something cooler: wireless doorbells. These gadgets are super easy to install because they don't need any wires. They work by sending signals through the air instead.

**Better Connection and Easy to Use**

Wireless doorbells are great because they can work even in big houses without any wiring fuss. You can put them up wherever you want without worrying about cables. They're like magic buttons that can be placed anywhere and still work perfectly.

**Extra Safety Features**

These doorbells aren't just for ringing when someone's at the door. They often come with extra cool stuff like built-in cameras and motion sensors. This means you can see who's at your door even when you're not home. Some even connect to your phone so you can answer the door from anywhere. With these gadgets, you can feel safer and more connected to your home than ever before!

**ANNEXURE - I**

**Micro-Project Proposal**

## “Wireless Doorbell”

**1.0 Aims/Benefit of the Micro Project:**

Doorbell system conventionally have wired configuration which is laid across the home / office premises. This configuration fails in case of damage to the electrical lines or the expensive Bell equipment damages. The Wireless Doorbell Calling System can help evade both of these difficulties.

**2.0 Course Outcomes Addressed:**

1. **C22414.1**: Analyse the functioning of data communication and computer network.
2. **C22414.2**: Select relevant transmission media and switching techniques as per need.
3. **C22414.3**: Analyze the transmission errors with respect to IEEE standards.
4. **C22414.4**: Configure various networking devices.
5. **C22414.5**: Configure different TCP/Ip Services.

**3.0 Proposed Methodology:**

1. Select one topic for micro project that you find very simple.
2. Consult with your teacher for finalization of topic.
3. Make draft copy of micro project proposal.
4. Take approval from teacher.
5. Make list of resources required such as raw material, instruments, software.
6. Execute Micro project.
7. Test Micro project.
8. Observe outputs/Results of Micro project.
9. Prepare Micro Project Presentation.
10. Prepare Final Micro project report for submission

**4.0 Action Plan:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr. No.** | **Details of Activity** | **Planned Start Date** | **Planned**  **Finish**  **Date** | **Name of Responsible Team Members** |
| 1 | Formation of groups | 01.02.2024 | 01.02.2024 | Shubham Giri,Param Jadhav,Rushi Gujarathi |
| 2 | Selected the topic for micro project | 02.02.2024 | 02.02.2024 | Rushi Gujarathi |
| 3 | Discussed about the project | 05.02.2024 | 05.02.2024 | Shubham Giri,Param Jadhav,Rushi Gujarathi |
| 4 | Assigned the work to each group member | 10.02.2024 | 10.02.2024 | Shubham Giri,Rushi Gujarathi |
| 5 | Detailed study of micro-project | 15.02.2024 | 15.02.2024 | Shubham Giri,Param Jadhav,Rushi Gujarathi |
| 6 | Collected information on assignment topic | 27.02.2024 | 27.02.2024 | Shubham Giri,Param Jadhav,Rushi Gujarathi |
| 7 | Started working on micro- project | 01.03.2024 | 01.03.2024 | Shubham Giri,Param Jadhav,Rushi Gujarathi |
| 8 | Assembled all the data | 01.03.2024 | 01.03.2024 | Param Jadhav |
| 9 | Evaluation of data | 03.03.2024 | 06.03.2024 | Shubham Giri,Rushi Gujarathi |
| 10 | Prepared rough copy of micro- project | 11.03.2024 | 13.03.2024 | Param Jadhav, Shubham Giri,Rushi Gujarathi |
| 11 | Project proposal presentation to guide | 18.03.2024 | 20.03.2024 | Param Jadhav, Shubham Giri,Rushi Gujarathi |
| 12 | Corrected the micro-project suggested by guide | 25.03.2024 | 25.03.2024 | Rushi Gujarathi |
| 13 | Actual implementation of micro-project | 28.03.2024 | 28.03.2024 | Param Jadhav, Shubham Giri,Rushi Gujarathi |
| 14 | Execution of overall data / prepared final draft copy | 01.04.2024 | 01.04.2024 | Param Jadhav, Shubham Giri,Rushi Gujarathi |
| 15 | Final micro-project presentation | 01.04.2024 | 01.04.2024 | Param Jadhav, Shubham Giri,Rushi Gujarathi |
| 16 | Micro-project submitted | 01.04.2024 | 01.04.2024 | Param Jadhav, Shubham Giri,Rushi Gujarathi |

**5.0 Resource Required:**

|  |  |  |  |
| --- | --- | --- | --- |
| sr. no | Name of Resource/Material | Specification | Quantity |
| 1 | Office software package | MS Office | - |
| 2 | YouTube | - | - |
| 3 | 315 MHz RF Transmitter Module | - | 1 |
| 4 | 315 MHz RF Receiver Module | - | 1 |
| 5 | Push Button | - | 1 |
| 6 | Power Supply +9V | - | 1 |
| 7 | Buzzer | - | 1 |
| 8. | Virtual Labs | IEEE Software Requirement Specification format |  |

**Name of Team Members with Roll No:**

|  |  |  |
| --- | --- | --- |
| **Sr. No** | **Name of Students** | **Roll No** |
| 1. | Shubham Giri | 1525 |
| 2. | Rushi Gujarathi | 1526 |
| 3. | Param Jadhav | 1527 |

**Mr. S. Y. Divekar**

**(Name & Signature of faculty)**

**ANNEXURE - II**

### Micro-project Report

**“WIRELESS DOORBELL”**

**1.0** **Rationale:**

Wireless Doorbell increases the safety and security of your home as well as the comfort of your home. They give you the option of being able to speak with visitors through an intercom system without revealing where you are in your home.

**2.0 Aims/Benefit of the Micro Project:**

Doorbell system conventionally have wired configuration which is laid across the home / office premises. This configuration fails in case of damage to the electrical lines or the expensive Bell equipment damages. The Wireless Doorbell Calling System can help evade both of these difficulties.

**3.0 Course Outcomes Addressed:**

1. **C22414.1**: Analyse the functioning of data communication and computer network.
2. **C22414.2**: Select relevant transmission media and switching techniques as per need.
3. **C22414.3**: Analyze the transmission errors with respect to IEEE standards.
4. **C22414.4**: Configure various networking devices.
5. **C22414.5**: Configure different TCP/Ip Services.

**4.0 Literature Review:**

|  |  |  |  |
| --- | --- | --- | --- |
| Author /Publication | Title / Topic | Methods /Techniques used | Limitations |
| A Framework forWireless DoorbellSystem with Object Detection | Door lock security systems | Door lock securitysystems are classified based on technology used asPassword based,Biometric based, GSM based, smart card based,RFID based, Door phone based, Bluetoothbased | - |
| Richie Miller | Computer networking network+ | Investigates solutions to help professional andnon-professional users in creating andmanaging firewall configuration files. | Does not contain information abouthistory of WirelessDoorBell |
| Hans weber | Computer Systems and Networking Guide | The firewalls rules and policies that need to be changed and modified because of dynamic needs of organizations. | Does not explain in detail about theimportance and futurescope in network error correction and detection |

**5.0 Actual Methodology:**

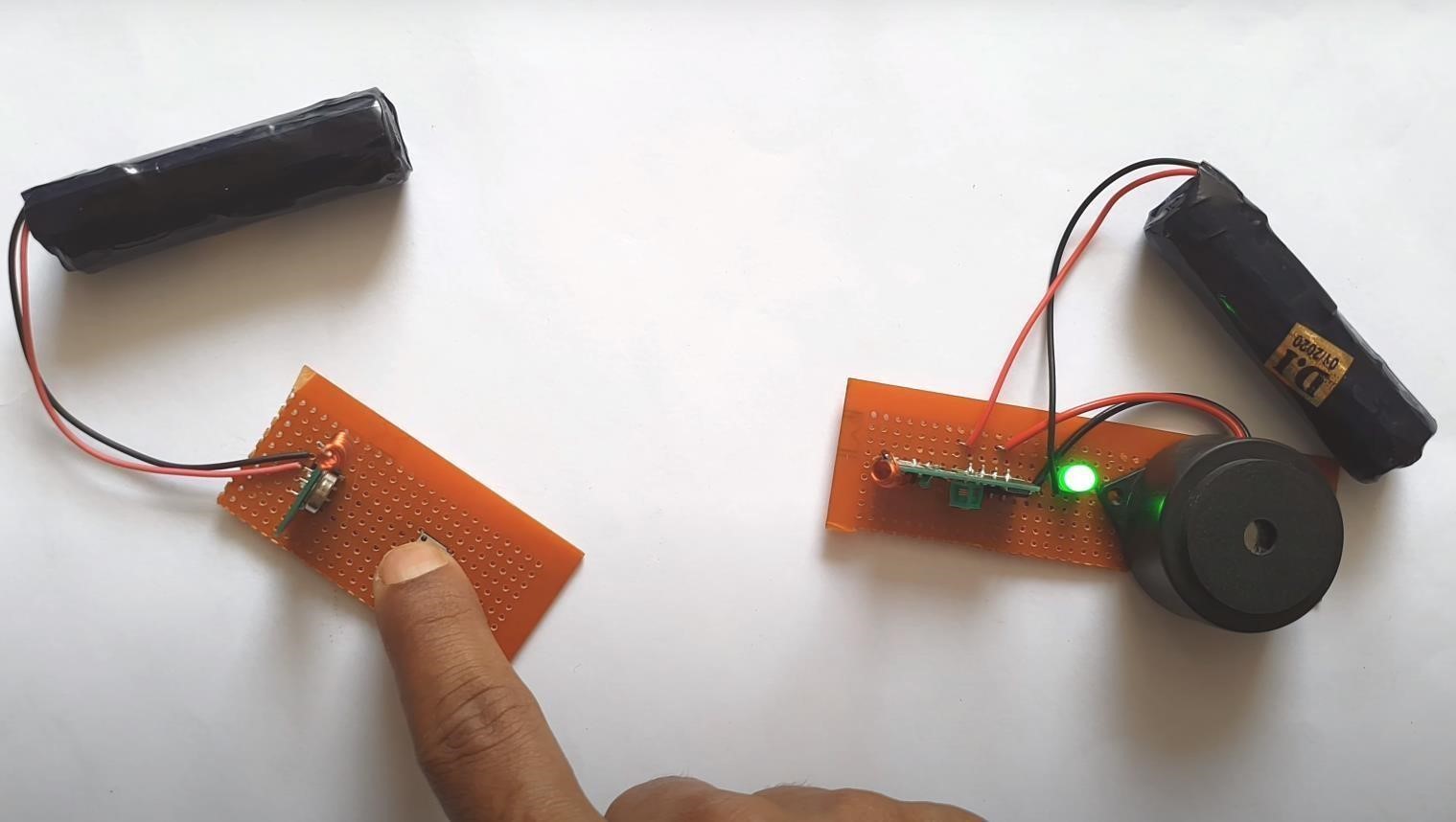
**Actual Methodology Followed**: (Write stepwise work done, data collected and its analysis (if any). The contribution of individual member may also be noted.) **:**

1. Searching information using various internet resources.
2. Verifying and proofreading the information.
3. Building the model.
4. Checking the validity of the information.
5. Preparing a word document for the information to be typed.
6. Typing the information with appropriate font and font size.
7. Snapping for suitable images for better clarification and pasting them in word document.

**6.0 Actual Resource Required:**

|  |  |  |  |
| --- | --- | --- | --- |
| sr. no | Name of Resource/Material | Specification | Quantity |
| 1 | Office software package | MS Office | - |
| 2 | YouTube | - | - |
| 3 | 315 MHz RF Transmitter Module | - | 1 |
| 4 | 315 MHz RF Receiver Module | - | 1 |
| 5 | Push Button | - | 1 |
| 6 | Power Supply +9V | - | 1 |
| 7 | Buzzer | - | 1 |
| 8. | Virtual Labs | IEEE Software Requirement Specification format |  |

**7.0 Outputs of the Micro project:**



Here in this transmitter section, 9V power supply is given to the circuit. When the person presses the push button of the transmitter circuit the signal will be sent to the encoder and then the encoder encodes the signal and then sends it to the RF Module Transmitter. The transmitter transmits the signal by using antenna. Now in the Receiver section here also 9V power supply is given to the circuit. In this circuit, the antenna receives the signal which is transmitted by the transmitter.

Then this received signal is sent to the decoder and decodes the received signal and the buzzer rungs. The working of our project can be explained as when a person presses the button from the transmitter side the encoder IC sends the signal to the transmitter module and one the transmitter module receives the signal the signal is been sent to the receiver module and over there the signal is been sent to decoder IC which leads to the ringing of the bell. If the following steps are been executed smoothly without and disturbance of faults so we can state that our project is been successfully developed and can be used as our day-to-day application

**8. .0 Skill developed / Learning outcome of the Micro-Project:**

1. Searching and collecting the information.
2. Arranging the information in proper sequence.
3. Constructing the model.
4. Working in a team and as an individual.
5. Presenting information effectively.
6. Problem Solving.
7. Communication Skills.

**9.0 Applications of the Micro-Project:**

* The Wireless doorbell model helps to avoid complex wiring in home,

* the wired configuration fails in case of damage to the electrical lines or the expensive Bell equipment damages. The Wireless Doorbell Calling System can help evade both of these difficulties.
* Wireless Doorbell will increase the security of home.

* They give you option of being able to alarm the person in home that visitor is waiting outside the door.

Also have advantage in long distance Alerting.

**Mr. S. Y. Divekar**

**(Name & Signature of faculty)**

**Annexure – III**

**Suggested Rubric for Assessment of Micro Project**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S. No** | **Characteristics to be assessed** | **Poor**  **(Marks 1-3)** | **Average**  **(Marks 4-5)** | **Good**  **(Marks 6-8)** | **Excellent**  **(Marks 9-10)** |
| **1.** | **Relevance to the Course** | Related to very few LOs | Related to some Los | Addressed at-least one CO | Addressed more than one CO |
| **2.** | **Literature Review/information collection** | Not more than two sources (Primary and Secondary), very old reference | At-least 5 relevant sources, at least 2 latest | At-least 7 relevant sources, most latest | About 10 relevant sources, most latest |
| **3.** | **Completion of Target as per Project proposal** | Completed less than 50% | Completed 50 to 60% | Completed 60 to 80% | Completed more than 80% |
| **4.** | **Analysis of Data and representation** | Sample Size all, data neither organized nor presented well | Sufficient and appropriate sample, enough data generated but not organized and not well presented well. No or poor inferences drawn | Sufficient and appropriate sample, enough data generated which is organized and presented well. But poor inferences drawn | Enough data collected by sufficient and appropriate sample size. Proper inferences drawn by organizing and presenting data through tables, charts and graphs |
| **5.** | **Quality of prototype/Model** | Incomplete fabrication/ assembly | Just assembled/ fabricated and parts are not functioning well. Not in proper shape, dimensions beyond tolerance limit. Appearance/ finish are shabby. | Well a Just assembled/ fabricated with proper functioning parts.in proper shape, within tolerance dimensions and good finish. But no creativity in design and use of material | Well a Just assembled/ fabricated with proper functioning parts. In proper shape, within tolerance dimensions and good finish/ appearance. Creativity in design and use of material. |
| **6.** | **Report Preparation** | Very short, poor quality sketches, Details about methods, materials, Precautions and Conclusions omitted, some details are wrong. | Nearly sufficient and correct details about methods, materials, precautions and conclusion. But clarity is not there in presentation. But not enough graphic description | Detailed, correct and clear description of methods, materials, precautions and conclusion. Sufficient graphic description | Very detailed, correct, clear description of methods, materials, precautions and conclusion. Enough tables, charts and sketches |
| **7.** | **Presentation of the Micro-Project** | Major information is not included; information is not well organized. | Includes major information but not well organized not presented well. | Includes major information but not well organized not presented well. | Well organized, includes major information, presented well. |
| **8.** | **Viva** | Could not reply to considerable number of question | Replied to considerable number of questions nut not very properly | Replied properly considerable number of question | Replied most of the questions properly |

## Evaluation Sheet for the Micro Project

**Academic Year:** 2023-20234 **Name of Faculty:** Mr. S. Y. Divekar

**Course-**Data Communication and Computer Networking (DCC)

**Course Code: 22414 Semester: CO**4-I-Scheme

**Title of the Project:** “Wireless Doorbell

**Comments/Suggestions about team work/leadership/inter-personal communication (if any)**.:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Roll**  **No** | **Student Name** | **Marks out of 6 for performance in group activity (D5 :Col. 8)** | **Marks out of 4 for performance in oral / presentation (D5 :Col. 9)** | **Total out of 10** |
| 1525 | Shubham Giri |  |  |  |
| 1526 | Rushi Gujarathi |  |  |  |
| 1527 | Param Jadhav |  |  |  |

**Mr. S. Y. Divekar**

**(Name & Signature of faculty)**

**Log Book of Student**

**Academic Year 2023-2024**

**Name of Student:**  Shubham Dinesh Giri,Rushi Raviraj Gujarathi, Param Bhimrao Jadhav.

**Title of the Project:** “Wireless Doorbell”

**Course:** Data Communication and Computer Networking (DCC) **Course Code: 22414 Semester: 4-I**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Date** | **Time** | **Work Done** |
| 1. | 01.02.2024 | 2:00pm-3:00pm | Group discussion on topic |
| 2. | 02.02.2024 | 4:00pm-5:00pm | Assign task to group |
| 3. | 05.02.2024 | 4:00pm-5:00pm | Giving particular information |
| 4. | 10.02.2024 | 2:00pm-3:00pm | Get some Course Outcomes and Practical Outcomes |
| 5. | 15.02.2024 | 1:30pm-2:30pm | Taking review about collected data |
| 6. | 27.02.2024 | 4:00pm-5:00pm | Verify material in sequence |
| 7. | 01.03.2024 | 2:00pm-3:00pm | Discussion on suggestions |
| 8. | 01.03.2024 | 1:30pm-2:30pm | Arrange data in sequence |
| 9. | 06.03.2024 | 4:00pm-5:00pm | Prepare Proposal of the Project |
| 10. | 13.03.2024 | 2:00pm-3:00pm | Verify the draft from teacher |
| 11. | 20.03.2024 | 1:30pm-2:30pm | Rearrange the Data |
| 12. | 25.03.2024 | 1:00pm-2:00pm | Share the data among group |
| 13. | 28.03.2024 | 4:00pm-5:00pm | Prepare the report |
| 14. | 01.04.2024 | 1:30pm-2:30pm | Work on data |
| 15. | 01.04.2024 | 2:30pm-3:00pm | Prepare soft copy |
| 16. | 01.04.2024 | 1:40pm-2:15pm | Submission |

**Mr. S.Y. Divekar**

**Name and Signature of Teacher**