Amrutvahini Sheti & Shikshan Vikas Sanstha's

AMRUTVAHINI COLLEGE OF ENGINEERING

SANGAMNER-422608

MINI PROJECT LOG BOOK

Academic Year: 2022- 2023

Name of the Program Mini Project

Title of Project Ultrasonic Glasses For the Blind

Name of Students (Roll Number) Varade Suethak Devidas (Roll no-68)

Waman Onkar Uttam (Roll no-73)

Yelmame Omkar Sunil (Roll no-74)

Name of Project Guide: Prof. R. K. Khaeat

Class T.E. **Div** —

Name of Course: Mini Project

Institute Vision

To create opportunities for rural students to become able engineers and technocrats through continual excellence in engineering education.

Institute Mission

Our mission is to create self-disciplined, physically fit, mentally robust and morally strong engineers and technocrats with high degree of integrity and sense of purpose who are capable to meet challenges of ever advancing technology for the benefit of mankind and nature.

We, the management, the faculty and staff, therefore promise to strive hard and commit ourselves to achieve this objective through a continuous process of learning and appreciation of needs of time.

Institute Quality Policy

The College of Engineering is committed to develop in young minds the state-of-the art technology and high academic ambiance by synergistic spiritual values and technological competence continually, in a learning environment.

Institute Quality Objectives

- To strive hard for academic excellence & synergizing spiritual & moral values.
- To improve overall development of student.
- To enhance industry-institute interaction.
- To provide assistance for placement & entrepreneurship development.
- To promote and encourage R&D activities.

Program Vision

To excel in modern trends of Electronics and Telecommunication Engineering through continuous teaching and learning process for nurturing promising engineers.

Program Mission

- To excel as state of art technological hub in the field of Electronics and Telecommunication Engineering.
- To enrich the students by adopting professional skill sets according to modern technological development.
- To develop society oriented value based learning.

List of Program Outcomes (PO's)

PO1 **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2 **Problem analysis**: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3 **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4 **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5 **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6 **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7 **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8 **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9 **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10 **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11 **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12 **Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

List of Program Educational Objectives (PEO's)

PEO1 To develop technically competent graduates with strong background in basic sciences and mathematics with complex problem solving ability in their selected field.

PEO2 To prepare graduates having professional skills viz. ability to communicate, to work individually as well as in multidisciplinary team, to manage the projects with lifelong learning.

PEO3 To develop graduates with high degree of integrity and commitment to society ensuring ethical, moral behaviour and environmental consciousness

List of Program Specific Outcomes (PSO's)

E&TC Engineering Graduates should be able to,

PSO1 Demonstrate and apply the concepts of semiconductor, power electronics, control system, Signal processing, Communication, VLSI and embedded systems.

PSO2 Adopt state of art hardware and software tools to design and analyse electronics and telecommunications systems.

PSO3 Develop problem solving and computing skills for strengthening professional competency to address needs of the Industry and Society.

Course Outcomes

CO 1	To identify and formulate the problem statement based on interested domain, recent trends and real life problems
CO 2	To apply engineering knowledge for comparison and selection of appropriate software and hardware resources to solve the identified engineering problem.
CO 3	To schedule, distribute and carry out the project work as an individual and in a team.
CO 4	To demonstrate compliance to the prescribed standards/safety norms and environmental factors through implementation of the identified engineering problem
CO 5	To effectively demonstrate the ability to present the project works in oral and written communication through the project report.

RUBRICS for Mini Project Evaluation

Parameter	5 Marks	3 Marks	2 Marks
Problem Statement	Provided three valid problem statements.	Provided only two valid problem statements.	Provided only one valid problem statement.
Selection of Hardware Components and Software Tools	Provided Exhaustive list of possible hardware and software Tools along with a brief comparative study	Provided only an Exhaustive list of possible hardware and software Tools	Provided only a list of possible hardware and software Tools
Contribution as a Team Member	Contributed to the significantly, cooperates in the team, and Shown enough leadership qualities	cooperated the team in the project work, but does NOT contribute to the team efficiently	Very less cooperation and the contribution to the team for the project work
Project Implementation	Strictly implemented the project idea as per previously defined aim and objectives	Implementation of the project idea as per previously defined aim and objectives is fair enough	Implementation of the project idea as per previously defined aim and objectives is not fair enough
Preparation of Project Report	Project Report is well organised and includes aim, objectives, design steps, and the analysis of results and conclusion of the carried out project work in detail	Project Report is well organised and includes aim, objectives, design steps. However provided only fewer details of analysis of results and conclusion of the carried out project work	The Project Report is not well organized, and the analysis of results and conclusion of the carried out project work are not provided
Oral Presentation and demonstration of project work	Demonstrated a detailed presentation of most of the project related concepts. Slides are well organised and answered all the questions fairly	Demonstrated a fewer details of the project related concepts. Slides are well organised but not answered all the questions fairly	Poor organization of slides, and not aware about project idea properly
Standards/Safety Norms and Project Log-book	Followed all the important professional standards, safety norms. Project log-book and project progress are shown in a timely manner	Followed all the important professional standards, safety norms. But Project log-book and project progress are not shown in a timely manner	Followed only few professional standards, safety norms. Project log-book and project progress are also not shown in a timely manner

Weekly Monitoring of Project Progress

Week No.	Dates	Task Planned	Task Completed	Guide Remark
1.	31/1/23	Introduction of syllabus lesson and Examination on pattern	Understood syllabus and Examination pattern	Discussion done
2.	08/02/23	Formation of Groups finalization of M.P. and Distribution of work	Formed a group	As per Interest
3.	10/02/23	From Three topic, one topic was Final	We discuss three topics, one topic is selected among them	Discussion done on topics.
4.	14/02/23	Started to work on synopsis.	Learned about the Format of the synopsis.	topic Finalized & synopsis writing in process.

Remark of Guide:

Done all work in time.

(Sign)
Mini Project Guide

(Sign)
Head of Department

Weekly Monitoring of Project Progress

Week No.	Dates	Task Planned	Task Completed	Guide Remark
5.	17/02/23	Work on synopsis	Making of synopsis	In process
6.	21/02/23	Synopsis completed	Synopsis completed is given foemat.	Done.
7.	28/02/23	Study the specifications of equired components	Study the specification of components	In process
8.	3/03/23	Distribution of work & collection of information with the help	Topics related information is needed	-11-

Remark of Guide: Literature Survey in process

(Sign)
Mini Project Guide

(Sign)
Head of Department

Review I of Mini Project

	Parameter	CO Mapped	Max Marks	Marks to be given by Guide and MPEC
Evaluation Common to all members	Identification of Three Problem Statements	CO 1	05	4
	Formulation of Aim and Objectives	CO 1	05	4
	Contribution to society & environment	CO 4	05	5
Evaluation of Individual Member	Presentation on Topics	CO 5	05	Roll No: 68 Marks: 4
				Roll No: 74 Marks: 3
				Roll No: 73 Marks: 4
				Roll No: Marks:
	Contribution as a Team Member	CO 3	05	Roll No: 68 Marks: 5
				Roll No: 74 Marks: 5
				Roll No: 73 Marks: 5
				Roll No: Marks:

Total Marks Obtained:

Sr. No.	Name of Student	Roll No.	CO1 Marks	CO3 Marks	CO4 Marks	CO5 Marks	Total Marks
1	Sarthak Varade	68	8	5	5	4	22
2	Omkar Yelmame	74	8	5	5	3	21
3	Onkar Waman	73	8	5	5	4	22
4							

Remark of Guide and MPEC:

Presentation skills to be improve

(Sign)
Mini Project Guide

(Sign)
Head of Department

Weekly Monitoring of Project Progress

Week No.	Dates	Task Planned	Task Completed	Guide Remark
9.	10/03/23	Design circuit for project simulation of circuit using simulation software.	simulation of circuit is completed	Detailed study should be required.
10.	14/3/23	Seminar presentation for project simulation	Making of PPT presentation & presenting seminar to project guide	In process
11.	21/3/23 28/3/23	Design of flowchart & algorithm Hardware designing	Design of flowchart & algorithm and hardware designing process completed	
12.	28/3/23 31/3/23	Verified circuit should be assembled Verified circuit to be tested	Verification of circuit complete with simulation software.	Done

Remark of Guide: Simulation done.

(Sign)
Mini Project Coordinator

(Sign)
Head of Department

Weekly Monitoring of Project Progress

Week No.	Dates	Task Planned	Task Completed	Guide Remark
	11/4/23	Layout of circuit using Standard tools Assembling & testing of circuit on final PCB	Layout design is completed Assembling & testing of circuit is completed	Done.
	18/4/23	Presenting the hardware model to the Project Guide	presentation of hardware model completed	Some changes required.
	21/4/23	Preparation of the report	Report is completed	
	28/4/23	Checking and correction of report	Checking & correction of report is completed	Done.

Remark of Guide: Report writing done.

(Sign)
Mini Project Guide

(Sign)
Head of Department

Review II of Mini Project

	Parameter	CO Mapped	Max Marks	Marks to be given by Guide and MPEC
Evaluation Common to all	Selection of Appropriate H/W and S/W Resource	CO 2	05	4
	Implementation/Design of System or Subsystem	CO 4	05	4
	Preparation of Project Seminar Report	CO 5	05	4
Evaluation of Individual Member	Oral Presentation and Demonstration of Project Work	CO 5	05	Roll No: 68 Marks: 3
				Roll No: ~~74~~ Marks: 4
				Roll No: 73 Marks: 4
				Roll No: Marks:
	Contribution as a Team Member	CO 3	05	Roll No: 68 Marks: 5
				Roll No: 74 Marks: 5
				Roll No: 73 Marks: 5
				Roll No: Marks:

Total Marks Obtained:

Sr. No.	Name of Student	Roll No.	CO2 Marks	CO3 Marks	CO4 Marks	CO5 Marks	Total Marks
1		68	4	5	4	7	20
2		74	4	5	4	8	21
3		73	4	5	4	8	21
4							

Remark of Guide and MPEC:

Presentation should be improved.

(Sign)
Mini Project Guide

(Sign)
Head of Department

Evaluation of Mini Project

Marks Obtained after Project Review I and Project Review II

Project Title: Ultrasonic Glasses for Blind

Group No.: _____

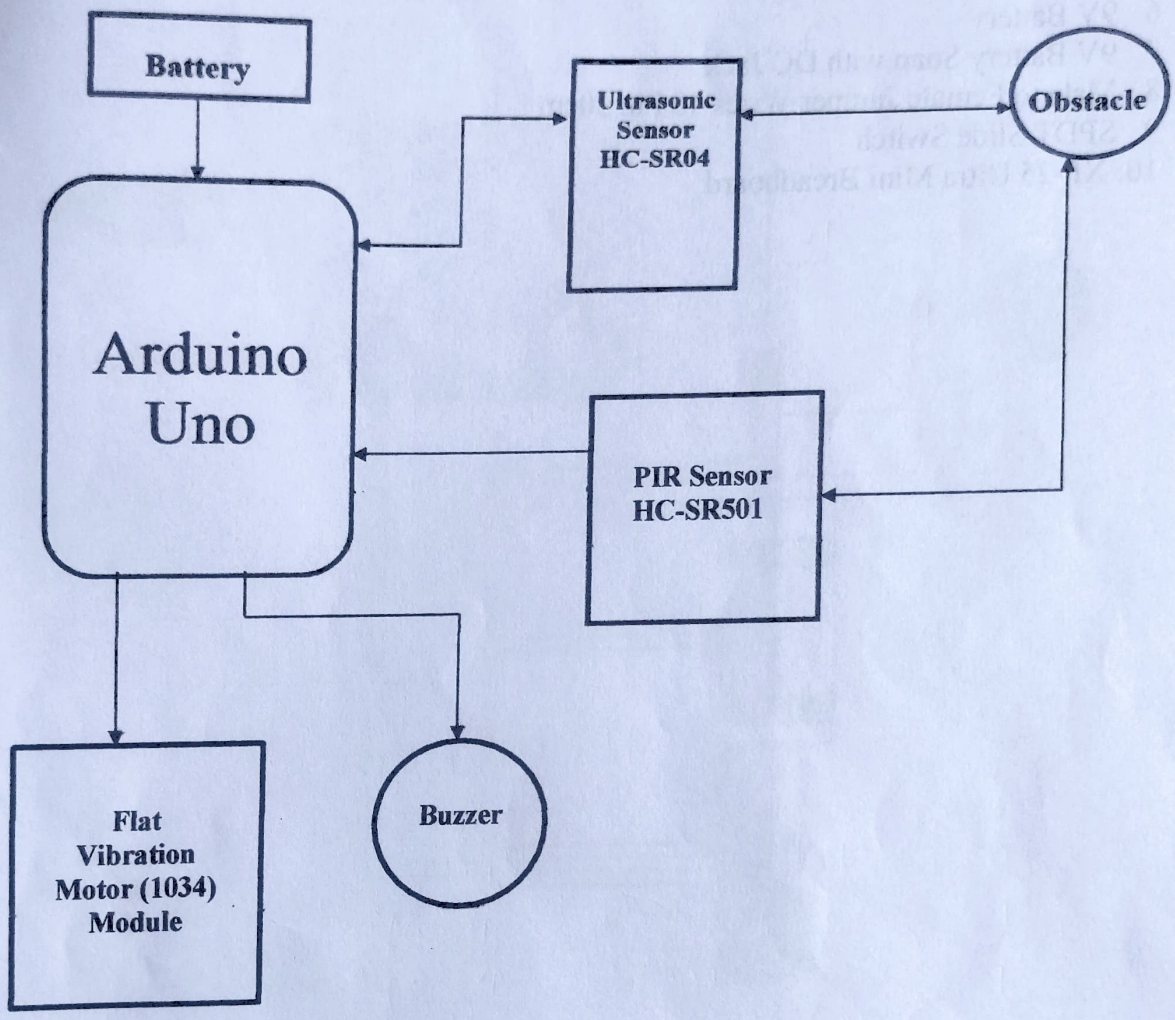
Sr. No.	Name of Student	Roll No.	Project Review I (25)	Project Review II (25)	Total Marks Obtained (50)
1.	Vasade Saethak	68	22	20	42
2.	Omkar Yelmame	74	21	21	42
3.	Waman Onkar	93	22	21	43

(Sign)
Mini Project Guide

(Sign)
Mini Project Coordinator

(Sign)
Head of Department

Block Diagram:



Components List:

1. Arduino Uno R3
2. Ultrasonic Sensor Module (HC-SR04)
3. PIR Motion Detector Sensor Module (HC-SR501)
4. Vibration Motor Module (1034)
5. Active Buzzer Module (5V)
6. 9V Battery
7. 9V Battery Snap with DC Jack
8. Male to Female Jumper Wires 40 Pin 30cm
9. SPDT Slide Switch
10. XF-25 Ultra Mini Breadboard

Simulation/Layout: