M.KUMARASAMY
COLLEGE OF ENGINEERING
NAAC Accredited Autonomous Institution
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Thalavapalayam, Karur-639 113, Tamilnadu.

A Minor Project Report on

ULTRASONIC GLASSES FOR BLIND PEOPLE USING ARDUINO

Submitted by

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THALAVAPALAYAM, KARUR-639113.
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M.KUMARASAMY COLLEGE Of ENGINEERING

(Autonomous Institution, Affiliated to Anna University, Chennai)

BONAFIDE CERTIFICATE

Certified that this Report titled **"ULTRASONIC GLASSES FOR BLIND PEOPLE USING ARDUINO"** is the bonafide work of **BARATHKUMAR R (927621BEE013), JANANI S (927621BEE051), NAVEENA A (927621BEE306)** who carried out the work during the academic year (2022-2023) under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other project report.

14/12/22.

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DECLARATION

We affirm that the Minor Project report titled "**ULTRASONIC GLASSES FOR BLIND PEOPLE USING ARDUINO**" being submitted in partial fulfillment for the award of **Bachelor of Engineering in Electrical and Electronics Engineering** is the original work carried out by us.

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VISION AND MISSION OF THE INSTITUTION

VISION

- ✓ To emerge as a leader among the top institutions in the field of technical education

MISSION

- ✓ Produce smart technocrats with empirical knowledge who can surmount the global Challenges.
- ✓ Create a diverse, fully-engaged, learner - centric campus environment to provide Quality education to the students.
- ✓ Maintain mutually beneficial partnerships with our alumni, industry and Professional associations.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

VISION

To produce smart and dynamic professionals with profound theoretical and practical knowledge comparable with the best in the field.

MISSION

- ✓ Produce hi-tech professionals in the field of Electrical and Electronics Engineering by inculcating core knowledge.
- ✓ Produce highly competent professionals with thrust on research.
- ✓ Provide personalized training to the students for enriching their skills.

PROGRAMME EDUCATIONAL OBJECTIVES(PEOs)

- ✓ **PEO1:** Graduates will have flourishing career in the core areas of Electrical Engineering and also allied disciplines.
- ✓ **PEO2:** Graduates will pursue higher studies and succeed in academic/research careers
- ✓ **PEO3:** Graduates will be a successful entrepreneur in creating jobs related to Electrical and Electronics Engineering /allied disciplines.
- ✓ **PEO4:** Graduates will practice ethics and have habit of continuous learning for their success in the chosen career.

PROGRAMME OUTCOMES(POs)

After the successful completion of the B.E. Electrical and Electronics Engineering degree program, the students will be able to:

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 analyze 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 modeling to complex engineering activities with an understanding of the limitations.

PO6: The Engineer and Society: Apply reasoning in formed 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 multi-disciplinary 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 multi-disciplinary 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.

PROGRAM SPECIFIC OUTCOMES(PSOs)

The following are the Program Specific Outcomes of Engineering Students:

- **PSO1:** Apply the basic concepts of mathematics and science to analyze and design circuits, controls, Electrical machines and drives to solve complex problems.
- **PSO2:** Apply relevant models, resources and emerging tools and techniques to provide solutions to power and energy related issues & challenges.
- **PSO3:** Design, Develop and implement methods and concepts to facilitate solutions for electrical and electronics engineering related real world problems.

Abstract (Key Words)	Mapping of POs and PSOs
Arduino Board, Ultrasonic Sensors, Laser Module, Speaker, Connecting Wires.	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8 PO9, PO10, PO11, PO12, PSO1,PSO2,PSO3.

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ABSTRACT

These "Smart Glasses" are designed to help the blind people. It is used to walk for helping them navigate the ground. To make a prototype of glasses which can be able to detect the objects in front of them, and tell the user by speaking. This smart glasses can make a huge impact in the lives of blind people. These Ultrasonic Smart Glasses for Blind people is a portable device, easy to use, light weight, user friendly and cheap in price. These glasses could easily guide the blind people and help them avoid obstacles.

CHAPTER 5
CONCLUSION AND FUTURE SCOPE

5.1 CONCLUSION

This smart glass implemented for blind person who are unable to see any object so this person can aware about accident. In future it can be implemented as a image recognization where sensor give information user about the object.

5.2 APPLICATION

Their small size makes it easy to integrate into projects. Ultrasonics can easily integrate with any type of controller. Their high frequency, sensitivity, and power make it easy to detect objects. They have greater accuracy than many other methods at measuring thickness and depth of a parallel surface. Ultrasonics are easy to use and not dangerous during operation