

**MARK XXIV 24-HOUR  
HACKATHON**

**TEAM  
REDFOX**

**VIMUN A**

GOVERNMENT ENGINEERING COLLEGE BARTONHILL, TRIVANDRUM,  
KERALA

# INTRODUCTION

Generally mute people use sign language for communication but they find it difficult as others don't understand it. This project aims to solve the difficulty in communication faced by deaf and dumb(when communicating with who are not familiar with sign language), paralyzed patients, scuba divers. Introducing the Smart Electronic Glove which converts hand gestures into audio, and texts for communicating with outside world. And it makes communication process easy for the speech impaired community, thus addressing multiple vital areas of need.



# **SUSTAINABLE DEVELOPMENT GOALS**

- **Promotes inclusive education and reduces inequalities (SDG 4 & 10).**
- **Enhances healthcare accessibility and monitoring (SDG 3).**
- **Encourages innovation and technology advancement (SDG 9).**
- **Supports resilient communities during emergencies (SDG 11).**
- **Fosters partnerships for sustainable development (SDG 17).**

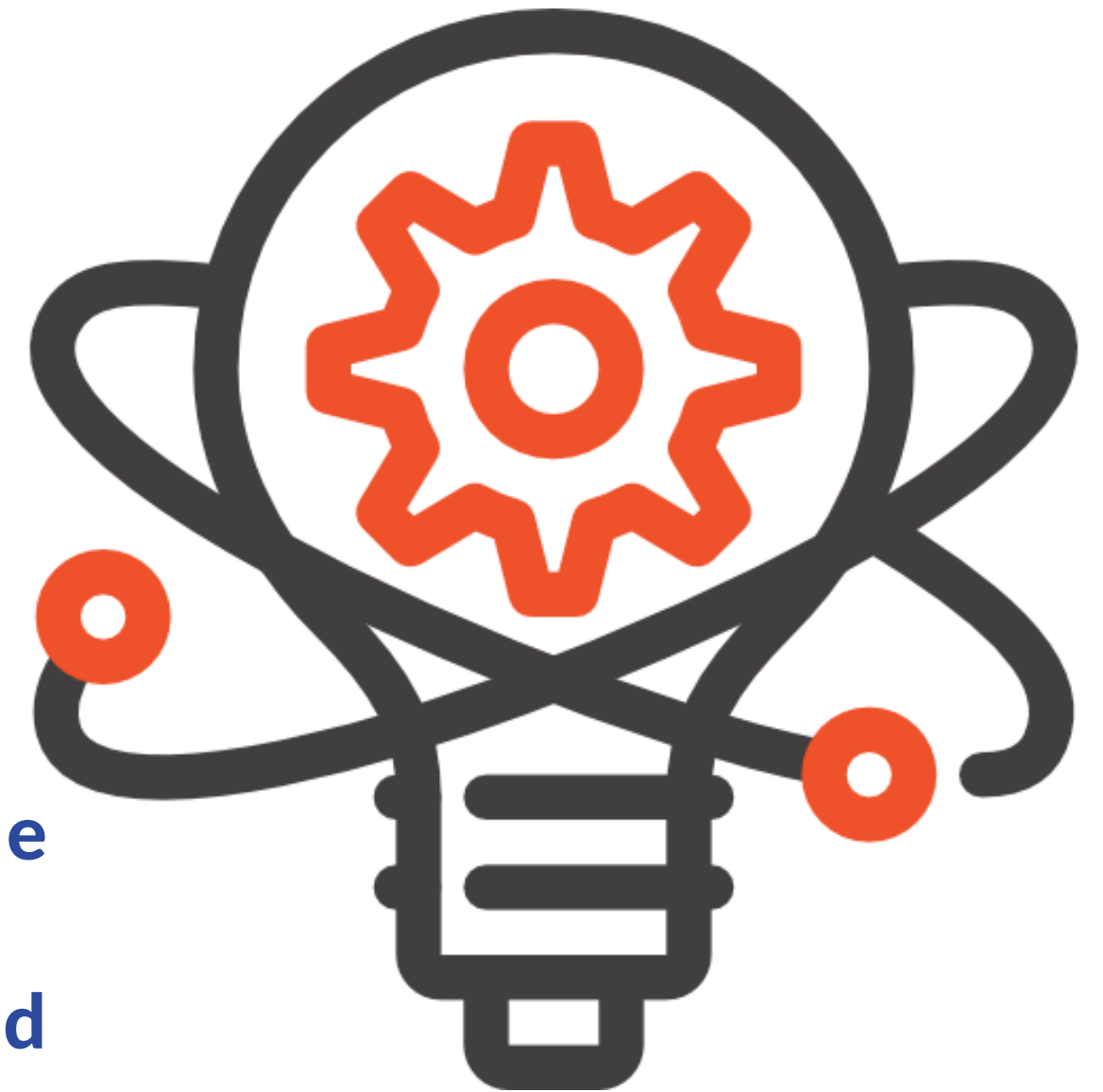
# FEATURES

- Hand Gestures to Voice and Text Conversion
- Conversion of voice and text into Various Regional Languages
- Hand gestures are Customizable
- Emergency SOS Functionality
- Finger Flexuation Monitoring



# TECHNOLOGY

- The smart glove uses a micro controller as the heart of the system. it processes the data from the sensors and produce the corresponding outputs.
- Data from various sensors comprising of both the orientation of the figures.
- The identification is done by the micro controller by comparing the values stored in the memory unit, and when they are matched with meaningful gesture data, the output is produced in the form of either voice and text.



# APPLICATIONS

## For mute peoples



## Learning aid for special schools





## Bio-medical tool for physiotherapy



## For paralyzed patients





**Gaming  
console/controller  
for VR/AR platform**



**To control  
machinery or  
equipment**



## Military applications



- **Communication**
- **Bomb Disposal**

## Applications Statistics of world market

301M

Deaf and Dumb  
peoples

20M

paralyzed  
patients

6M

Under water  
communication

6.2M

Bio medical tool for  
physiotherapy

7.2M

Special schools

## Applications Statistics of indian market

63M

Deaf and Dumb  
peoples

2.3L

paralyzed  
patients

65K

Under water  
communication

3.1L

Bio medical tool  
for physiotherapy

3K

Special schools

Thank you....