
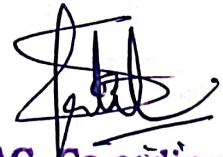



**BIDEA'S**  
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**BCA PROGRAMME**

BCA PROGRAMME				
BCA FINAL YEAR STUDENTS ACADEMIC PROJECT LIST FOR THE YEAR 2023-24				
SL.NO	UUCMS NO	NAME OF THE STUDENT	PROJECT TITLE	GUIDE NAME
1	U15KM21S0549	VEENA BIRADAR	FTK Imager and Autopsy Forensic Report	Prof.S.D.PATIL
2	U15KM21S0547	PREMA ANANTREDDY	IOT Smart Swatch Bharat Abhiyan	
	U15KM21S0535	BIHAGYASHREE NAIKODI		
3	U15KM21S0530	DARSHAN HOSAMANI	File Sharing Platform Built with Django	
	U15KM21S0341	VISHWANATH SASATTI		
4	U15KM21S0483	VAISHALI BISANAL	Recommendation system for Books using Data Science	
	U15KM21S0543	ROOPA MARNUR		
5	U15KM21S0519	SHRUSTI BADAGANDI	Spam SMS Detection AI	Prof.S.G.BHAIRODAGI
	U15KM21S0541	SHAKSHI AMBALI		
6	U15KM21S0406	MANOJ	Voice Recognition System using AI	
	U15KM21S0550	PRAJAKTA SABOJI		
7	U15KM21S0531	PRAJWAL BIRADAR	AI in Skin Cancer Detection	
	U15KM21S0527	ZAID BEPARI		
8	U15KM21S0475	SNEHA HATTI	Zoo Management System	
	U15KM21S0494	PRATHIBA MASALI		
9	U15KM21S0391	NIKIL KUMAR	Gesture Recognition System Using AI	
	U15KM21S0356	MAYUR SURYAVANSHI		
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10	U15KM21S0368	HABIB DESAI	Online Banquet Management System	Prof.M.S.JEVOOR
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	U15KM21S0371	NAVEEN SURYA		
	U15KM21S0372	ROHIT GOTRALE		
12	U15KM21S0374	SIDDARAM ALOOR	Survey App. Development using Django	
	U15KM21S0375	OM		
13	U15KM21S05426	SANGEETA SAJJNASHETTY	Smart Cradle for Child Monitoring	
	U15KM21S0546	DEEPA SAJJAN		
14	U15KM21S0520	SUDHA MALEPPAGOL	Automated summarization of text using AI and ML	
	U15KM21S0318	SUNITA		
15	U15KM21S0383	RAKSHITA TORAVI	Digital Meeting	
	U15KM21S0384	ROHINI JAMAGOND		
16	U15KM21S0577	TEJASHWINI KORE	Image Digit from MNSIT using AI	
	U15KM21S0539	POOJA KASHATRI		
17	U15KM21S0389	SACHIN MAJJAGI	Clinic Management System	

18	U15KM21S0477	SACHIN CHAVAN	GPT Trainer	Prof. S. V. VAMBASE
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	U15KM21S0576	PRATHAM PATIL		
20	U15KM21S0467	ANKUSH DARSHANKAR	Creating E Commerce Website	
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21	U15KM21S0545	NITISH PATTAR	Sentimental Analysis on Product Reviews	
	U15KM21S0478	MUSTAFA CHOUDRI		
22	U15KM21S0484	ASHIRWAD OBLEKAR	The Hangman Game	
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	U15KM21S0525	ANKITA GIDDASHENNAVARA		
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**Co-ordinator**  
 BCA Programme  
 S.B.Arts & K.C.P.Science College,  
 Vijayapur.

  
**IQAC, Co-ordinator**  
 S.B.Arts & K.C.P.Science College,  
 Vijayapur.

  
**Principal**  
 S.B.Arts & K.C.P.Science College,  
 Vijayapur.

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**BACHELOR OF COMPUTER APPLICATIONS**

**(Affiliated to Rani Channamma University, Belagavi )**

**A PROJECT ON**

**"HAND GESTURE SYSTEM USING AI"**

**Submitted in partial fulfilment of requirement for  
The award of the degree**

**Internal Guide**

**PROF. S G BHAIRODAGI**

**Submitted by**

**SOMESH HIEMATH (U15KM21S0371)**

**NAVEEN SURYA (U15KM21S0462)**

**RANI CHANNAMMA UNIVERSITY, BELAGAVI**



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SOMESH HIREMATH (U15KM21S0371)  
NAVEEN SURYA (U15KM21S0462)**

**2023-2024**

**RANI CHANNAMMA UNIVERSITY, BELAGAVI**



**B.L.D.E ASSOCIATION'S  
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586103**



**CERTIFICATE**

This is to certify that the project work entitled "Hand Gesture System Using AI" is a bonafide work carried out by Somesh Hiremath (U15KM21S0371) and Naveen Surya (U15KM21S0462) submitted in the fulfillment for the award of the degree of Bachelor of Computer Application, prescribed by the Rani Channamma University, Belagavi during the academic year 2023-2024.

Guide

Prof. S. G. Bhairodagi

Co-Ordinator

Prof. S. D. Patil

INTERNAL EXAMINER

Principal

Dr. R. M. Mirdhe

EXTERNAL EXAMINATION

## **ACKNOWLEDGEMENT**

The successful presentation of this project is an acknowledgment of the immense support expended by S.B ARTS AND K.C.P SCIENCE COLLEGE VIJAYAPURA with has provided an opportunity to fulfill the most cherished desire to reach my goal.

We are extremely grateful to the Principal Dr. R.M. MIRDHE and Head of dept. Prof. S.D.PATIL, of Bachelor of computer application, for providing all the required resources for the successful completion of my Project.

Our heartfelt gratitude to our project guide Prof. S.G.BHAIRODAGI, of Department Bachelor of computer application, for their valuable suggestions and guidance in the preparation and completion of the project report.

We thank our project co-ordinators for their constant encouragement and support rendered to us throughout the course of work and for all the help and co-ordination extended in bringing out this project successfully in time. We will be failing in duty if we do not acknowledge with grateful thanks to the authors of the references and other literatures referred to in this project.

Thanking You,

**SOMESH HIEMATH**

**NAVEEN SURYA**

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## CHAPTER-1

### INTRODUCTION

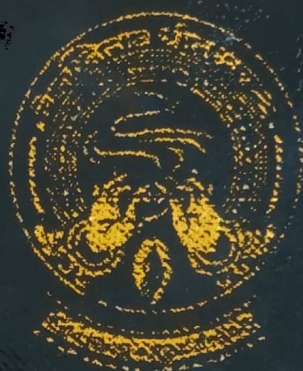
Sign language is a medium that is used in communication in the deaf and hearing impaired communities, which involves expressions and hand gestures. As reported in 2017, there were about 70 million deaf people that used sign language as their first language (Haj et al., 2017). According to a 2017 article on the United Nations website, sign language is very diverse, with more than 300 different sign languages available worldwide based on the geographical location and culture (United Nations, 2022). Commonly used sign languages include American Sign Language (ASL), Chinese Sign Language (CSL) and many more (Farooq et al., 2019). Despite the variety of sign languages out there, they share some common features such as hand movements, therefore the likeability of understanding between deaf/hard of hearing people of different countries still is high.

However, there is still a social barrier between the hearing people and the deaf/ or hard of hearing people. As most people are not familiar with sign language, therefore this makes real-time communication challenging. In such cases, the signers would need the external assistance of a translator to facilitate the conversation with the hearing, which might cost them some money. A Real Time Hand Gesture Recognition System To Interpret Sign Language would be a cheaper, long-term solution. To achieve this, it requires the knowledge of machine learning, sensing technologies as well as AI concepts (such as Deep Learning) and algorithms to build the system.

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S.B ARTS & K.C.P SCIENCE COLLEGE VIDYAPURA, 586103**



**BACHELOR OF COMPUTER APPLICATIONS**

**(Affiliated to Rani Channamma University, Belagavi )**

**A PROJECT ON**

**"SWACHCHA BHARAT ABIYAN USING IOT SMART DUSTBIN"**

**Submitted in partial fulfilment of requirement for  
The award of the degree**

**Internal Guide**

**Prof. S. D. PATIL**

**Submitted by**

**PREMA ANANTAREDDI (U15KM21S0547)**

**BHAGYASHREE NAIKODI (U15KM21S0535)**

**RANI CHANNAMMA UNIVERSITY, BELAGAVI**



**B.L.D.E. ASSOCIATION's**

**S.B Arts & K.C.P Science College**

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BHAGYASHREE NAIKODI(U15KM21S0535)**

# RANI CHANNAMMA UNIVERSITY, BELAGAVI



**B.L.D.E. ASSOCIATION's**

**S.B Arts & K.C.P Science College Vijayapura**

**586103**



**A PROJECT ON**

**"SWACHCHA BHARAT ABHIYAN USING IOT SMART DUSTBIN"**

## CERTIFICATE

This is to certify that the project work entitled "**SWACHCHA BHARAT ABHIYAN USING IOT SMART DUSTBIN**" is a bonafide work carried out by **PREMA ANANTAREDDI (U15KM21S0547)** and **BHAGYASHREE NAIKODI (U15KM21S0535)** submitted in the fulfilment for the award of the degree of Bachelor of Computer Application, prescribed by the Rani Channamma University, Belagavi during the academic year 2023-2024.

  
GUIDE


Prof. S.D.PATIL

  
CO-ORDINATOR

Prof. S.D. PATIL

  
PRINCIPAL

Dr. R.M. MIRDHE

  
19/8/24

  
19/8/24

## ACKNOWLEDGEMENT

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Thanking You,

PREMA ANANTAREDDI

BHAGYASHREE NAIKODI

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## **1.ABSTRACT**

Nowadays numbers of actions are taken to improve the level of healthiness and cleanliness in the country. People are getting more and more active in doing all the things possible to clean and healthy their surroundings. Various actions are also taken by the government to increase cleanliness like “Swachch Bharat Abhiyan”. By this project, we tried to build an IOT system which will notify the corporations continuously by sending data to server and to empty the bin/dustbin on time by SMS. In this IOT based system, we will put an Ultrasonic sensor with PIC18F4550 microcontroller, on top of the garbage bin which will detect the different levels of garbage inside it according to the total size of the dustbin. When the garbage will reach the maximum level, a notification will be sent to the corporation's office by Text Message, and then the employees can take further actions to empty the dustbin. This IOT based system will help in cleaning the India in a better way.

**Key Words: PIC Microcontroller; PIC18F4550; Dustbin; Ultrasonic Sensor; LCD Display; GSM; TCP; Thingspeak; ThingView.**

## **2. INTRODUCTION**

The idea of this project came from the current scenario of dustbin in our areas. Due to overflow of dustbin by garbage, the environment and our society will be unhealthy. To overcome from this, this project can be helpful. As a developing nation and as one of the most populous country in the world we in India face unique problems that require a unique solution such problem is that of waste management. As of there is no proper monitoring system on the working of labors whoever working in the corporations, if they are failed to clean the garbage bins within the stipulated time then there must be overflow and so as diseases and hazardous gases spreads easily which makes city or town unhygienic.

IoT or Internet Things refers to the network of connected physical objects that can communicate and exchange data among themselves without any human intervention. Any object in the physical world which can be provided with an IP address to enable data transmission over a network can be made part of IoT system by embedding them with electronic hardware such as sensors, software and networking gear.

This project **IOT based Garbage Management** System is a very innovative system which will help to keep the cities clean. This system monitors the garbage bins and informs about the level of garbage collected in the garbage bins via a web page.

For this the system uses ultrasonic sensors placed over the bins to detect the garbage level and compare it with the garbage bins depth. The system makes use of Arduino uno board, LCD screen, Wi-Fi modem for sending data. The system is powered by a 9V battery. The LCD screen is used to display the status of the level of garbage collected in the bins.

PIC is a microcontroller family developed by Microchip Technology and has wide range of uses in embedded systems. The “PIC” originally was referred to Peripheral Interface Controller [2, 3]. It is widely used in many applications like home automation, electric motor controlling, health monitoring, etc. Sensors are Electronic devices that detect and respond to some type of input from the physical environment. Sensor modules have extra electronic circuitry along with a sensor that helps interface them with microcontroller.

Where as a web page (thingspeak IOT platform) is integrated to show the status to the user monitoring it. The web page gives a graphical view of the garbage bins and highlights the garbage collected in color in order to show the level of garbage collected. The LCD screen shows the status of the garbage level. Thus this system helps to keep the city clean by informing about the garbage levels of the bins by providing graphical image of the bins via a web page.