



KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

Indian Institute of Science campus, Bengaluru

Telephone: 080 -23600978, 23341652 || Email: spp@kscst.org.in
Website: www.kscst.org.in/spp.html or https://kscst.karnataka.gov.in/en

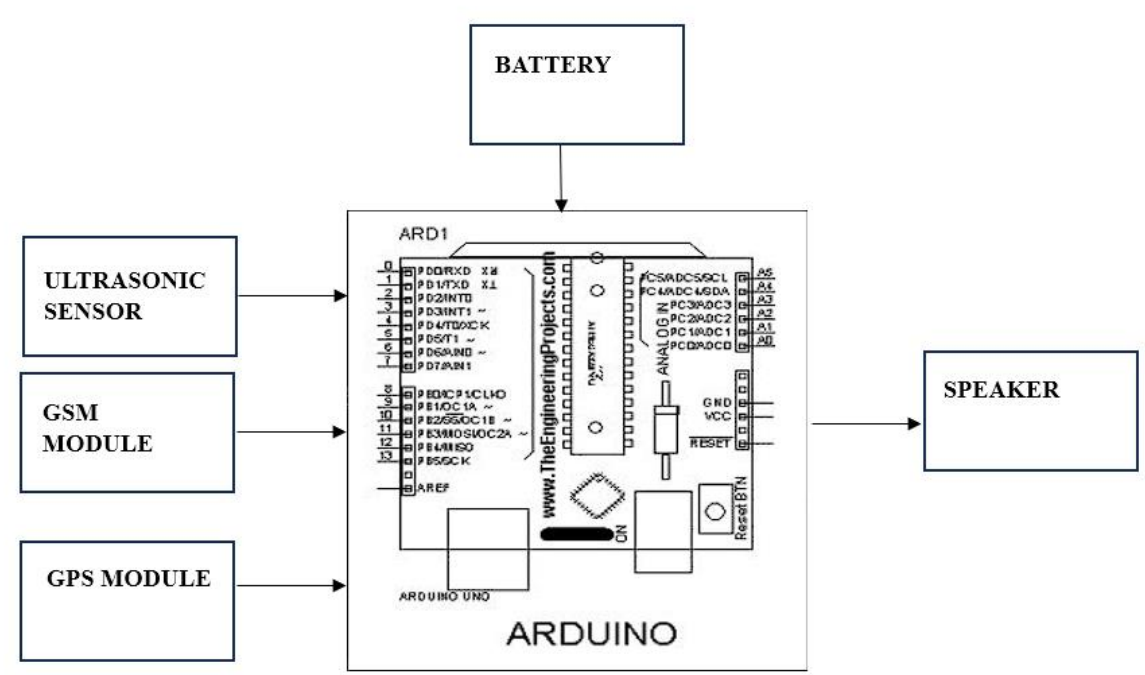
FORMAT FOR STUDENT PROJECT PROPOSAL FOR THE 48th SERIES OF STUDENT PROJECT PROGRAMME

(Handwritten proposals will not be accepted, please fill all the details in this MS word file, insert images / diagrams wherever necessary. Convert to pdf file, get it approved from the project guide / head of the department and principal of your institution. Keep ready the scanned pdf file of 1) Declaration and Endorsement 2) details of processing fees made and fill-up the Google Form.

<https://forms.gle/ks2WxWB4ei1hgv9D9>

1.	Name of the College: G M Institute of Technology,Davangere
2.	Project Title: ಮಾರ್ಗದರ್ಶಿ- "Smart Assistive Stick"
3.	Branch: Information Science & Engineering
4.	Theme (as per KSCST poster): Integrating Internet of Things (The project proposals shall mandatorily be from one of the broad themes / areas. Visit website www.kscst.org.in/spp.html)
5.	Name(s) of project guide(s): 1. Name: Mr. IMRAN KHAN Email id: imrank@gmit.ac.in Contact No: 8073109504
6.	Name of Team Members (Strictly not more than four students in a batch): (Type names in Capital Letters as provided in your college) (Please paste the latest passport size photograph adjacent to your respective names) Name: ISMAIL ZABIULLA USN No:4GM21IS019 Email id: ismailzabiulla2802@gmail.com Mobile No: 8618526574

	<p>Name: MADIHA ANJUM USN No: 4GM21IS028 Email id: madduanjum53@gmail.com Mobile No: 7338465519</p> <p>Name: SHANKRAMMA M L USN No: 4GM21IS041 Email id: shankrammingadahalli@gmail.com Mobile No: 7204121329</p> <p>Name: YERRAMSETTY NIRMAL SAI TEJA USN No: 4GM21IS063 Email id: nirmalsajteja80@gmail.com Mobile No: 8884296388</p>
7.	<p>Team Leader of the Project:</p> <p>Name: YERRAMSETTY NIRMAL SAI TEJA USN No: 4GM21IS063 Email id: nirmalsajteja80@gmail.com Mobile No: 8884296388</p>
8.	<p>Processing Fee Details (Through Online Payment only): (processing fee of Rs. 1180/-) Please furnish the payment details in the format provided in the last page of the proposal.</p>
9.	<p>Date of commencement of the Project: 26/09/2024</p>
10.	<p>Probable date of completion of the project: 26/12/2024</p>

11.	<p>Scope / Objectives of the project:</p> <ol style="list-style-type: none"> 1. Detect obstacles in all directions using an ultrasonic sensor with servo motor movement. 2. Provide voice alerts to guide visually impaired users safely. 3. Enhance user safety by sending location-based SMS alerts to guardians. 4. Improve navigation independence for visually impaired individuals. 5. Integrate assistive technology with real-time safety and monitoring features.
12.	<p>Methodology:</p> <p>This methodology diagram illustrates an ultrasonic sensor, which is used to measure the distance between the sensor and nearby objects by emitting ultrasonic waves and calculating the time for the echo to return. This is ideal for obstacle detection or proximity sensing. GPS modem continuously sends data string to the Microcontroller. This data contains various type of information. It includes Longitude Latitude of the place where project is currently situated. Thus Microcontroller gets co-ordinates of the place. Then it sends SMS after periodic interval of time, for example after every 1 minute.</p>  <p style="text-align: center;">Figure: Smart Assistive Stick</p>

	<p>It offers real-time obstacle detection and communication, remote monitoring, and customizable features to suit individual needs. The system is designed with the goal of increasing the independence and confidence of visually impaired users as they navigate their environment. The system also includes a speaker for audio output, which can be used to produce alerts, notifications, or sound-based feedback based on sensor readings.</p> <p>Note: In case of fabrication work in the project, an engineering drawing with dimensions / detailed design should be attached to the proposal.</p>
13.	<p>Expected Outcome of the project:</p> <ol style="list-style-type: none"> 1. Provides voice alerts for obstacle detection and hazard awareness, ensuring safe movement. 2. Enhances navigation capabilities for visually impaired individuals by detecting obstacles in real time using ultrasonic sensors. 3. Sends SMS alerts with the user's real-time location to guardians or caregivers during emergencies via the GSM module. 4. Uses a servo motor to adjust the angle of the ultrasonic sensor, enabling obstacle detection in all directions. 5. Includes vibration feedback and audio notifications for obstacle awareness, ensuring ease of use.

14.	<p>Is the project proposed relevant to the Industry / Society or Institution?</p> <p>Yes / No: Yes</p> <p>If yes, please provide details of the industry / institution and contact details:</p> <p>1. Industry:</p> <ul style="list-style-type: none"> Assistive technology companies developing devices for individuals with disabilities, such as mobility aids or IoT-enabled healthcare solutions. Manufacturers of electronic travel aids (ETAs), which integrate sensors, GPS, and GSM modules. <p>2. Society:</p> <ul style="list-style-type: none"> Enhances the quality of life for visually impaired individuals by improving safety and independence. Contributes to inclusivity and accessibility efforts in communities and public spaces. Helps families and caregivers monitor the safety of visually impaired users remotely. <p>3. Institutions:</p> <ul style="list-style-type: none"> Schools for the visually impaired, which can adopt such technology to aid their students. Rehabilitation centers focused on skill-building for independent navigation. Research and development centers working on assistive technologies and IoT applications. <p>(Note: Preference will be given to those projects relevant to the industry / institution. Hence be specific in giving detailed information). Is the industry extending support - technology / funds / use the final product, please specify.</p>
	15.

16.	Budget details (break-up details should be given): Note: KSCST will provide nominal grant support for carrying out the project by students if selected by the project selection committee.												
<table border="1"> <thead> <tr> <th data-bbox="296 275 1050 349">Budget</th><th data-bbox="1050 275 1394 349">Amount</th></tr> </thead> <tbody> <tr> <td data-bbox="296 349 1050 875"> a) Materials : Ultrasonic Sensor x 2, Arduino Uno, GSM Module, GPS Module, Battery, Speaker, Servo Motors, </td><td data-bbox="1050 349 1394 875">₹3600</td></tr> <tr> <td data-bbox="296 875 1050 949">b) Labor Soldering – 2000/-</td><td data-bbox="1050 875 1394 949">2000/-</td></tr> <tr> <td data-bbox="296 949 1050 1247"> c) Transportation : Travel expenses cover trips to buy essential materials from local suppliers and visits to a nearby research facility to validate and test the project. This includes approximately ₹500 for purchasing materials and ₹500 for traveling to the testing site. </td><td data-bbox="1050 949 1394 1247">1000/-</td></tr> <tr> <td data-bbox="296 1247 1050 1503"> d) Miscellaneous (Please specify) Printing and photocopying project documents </td><td data-bbox="1050 1247 1394 1503">4000/-</td></tr> <tr> <td data-bbox="296 1503 1050 1637">Total</td><td data-bbox="1050 1503 1394 1637">₹ 10600/-</td></tr> </tbody> </table>		Budget	Amount	a) Materials : Ultrasonic Sensor x 2, Arduino Uno, GSM Module, GPS Module, Battery, Speaker, Servo Motors,	₹3600	b) Labor Soldering – 2000/-	2000/-	c) Transportation : Travel expenses cover trips to buy essential materials from local suppliers and visits to a nearby research facility to validate and test the project. This includes approximately ₹500 for purchasing materials and ₹500 for traveling to the testing site.	1000/-	d) Miscellaneous (Please specify) Printing and photocopying project documents	4000/-	Total	₹ 10600/-
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17.	<p>Any other technical details (Please specify):</p> <p>The project utilizes the NodeMCU microcontroller, programmed using the Arduino IDE, to seamlessly integrate multiple components such as ultrasonic sensors, GPS, and GSM modules. The ultrasonic sensors, combined with a servo motor, enable real-time obstacle detection by scanning a wide area, while additional sensors like water and tilt sensors provide alerts for environmental hazards. For user safety, the system delivers voice alerts through audio output and sends emergency SMS notifications with the user's GPS location to guardians or caregivers.</p>
18.	<p>SPP Coordinator (Identified by the college):</p> <p>Note: To be identified by the principal of the institution. The project proposals must be submitted to KSCST through SPP coordinator designated by the principal.</p> <p>Name: Dr. Srinivas C.V Email id: srinivascv@gmit.ac.in Contact No.: 9448588792</p>

Name of the Project Guide: Mr. IMRAN KHAN
Email id: imrank@gmit.ac.in
Contact No:8073109504

Name of the HOD: Dr. NEELAMBIKE S
Email id: neelambikes@gmit.ac.in
Contact No:9620202339

DECLARATION

(From Project Students)

(To scan this page and enclose in the project proposal)

We, the project team hereby declare that the details enclosed in the project proposal (Title of the Project: **Smart Assistive Stick**, Branch: **Information Science and Engineering**, College **G M Institute of Technology**) are true and correct to the best of our knowledge and belief. We undertake to inform the Karnataka State Council for Science and Technology (KSCST) of any changes to the project title or team members' names immediately through our project guide or the SPP Coordinator of our institution.

Additionally, we declare that the project work is original and not a result of copying or purchasing. We are committed to completing the project independently, with support from our faculty and project guide, while utilizing the facilities provided by the college. We will not engage in plagiarism and pledge to be sincere and dedicated in executing and completing the project as proposed.

We understand that if any of the above information is found to be false, untrue, or misleading, we may be held liable. We authorize the sharing of the project information contained in this proposal with KSCST, Bengaluru.

We acknowledge that the project team must exhibit and demonstrate the project, participate in the mid-term evaluation of sanctioned projects, and engage with experts. Additionally, we must exhibit the project at the Annual State-Level Poster Presentation and Exhibition, if selected. Should our team fail to participate in the mid-term evaluation or the Annual Exhibition (if selected), we understand that the supported project funds will be returned to KSCST.

We also enclose the endorsement form for KSCST, Bengaluru.

Name of the students with USN No.

Signature with date

1. Ismail Zabiulla (4GM21IS019)
2. Madiha Anjum (4GM21IS028)
3. Shankamma M L (4GM21IS041)
4. Yerramsetty Nirmal Sai Teja (4GM21IS063)

(Name & Signature of Project Guide with Seal)

(Name & Signature of HOD with Seal)

Email id: imrank@gmit.ac.in

Email id: neelambikes@gmit.ac.in

Contact No: 80731 09504

Contact No: 9620202339

ENDORSEMENT

(From College, endorsement to be taken in the institution / Department Letter head)

(To scan this page and enclose in the project proposal)

This is to certify that 1) Mr. Ismail Zabiulla 2) Ms. Madiha Anjum 3) Ms. Shankamma M.L. 4) Mr. Yerramsetty Nirmal Sai Teja, are bonafide student(s) of Department of Information Science and Engineering, in the degree program of our institution. If the project proposal submitted by these students under the 48th series of Student Project Programme is selected by KSCST, we will provide the requisite laboratory / Computer / infrastructure support in our college / Institution. Further we also take necessary steps to see that the project team will exhibit / demonstrate their project in the mid-term evaluation of project and in the Annual State-Level Poster Presentation and Exhibition (if selected). If the student team fails to send the completed project report or fails to attend the evaluation in mid-term evaluation of sanctioned projects or fails to attend the Annual State-Level Poster Presentation and Exhibition (if selected), the supported project amount will be returned to KSCST.

(Name & Signature of
Project Guide with Seal)

Email id: imrank@gmit.ac.in

Contact No.: 80731 09504

(Signature of HOD with Seal)

Email id: neelambikes@gmit.ac.in

Contact No.: 9620202339

(Signature of the Principal with
Seal)

Email id: principal@gmit.ac.in

Contact No.: 9448133377

DETAILS OF PROCESSING FEES MADE THROUGH NEFT / UPI PAYMENT

(**Note:** Include this page in the softcopy of the student project proposal. The student team shall furnish the details in the Google Form. It is informed to the students to 1) keep ready the softcopy of the project proposal and other documents and 2) Furnish the payment made details as processing fees and 3) update the details in the Google Form on the same day of payment made to KSCST by NEFT / UPI payment).

1. TITLE OF THE PROJECT	:	SMART ASSISTIVE STICK
2. NAME OF THE TEAM LEADER	:	YERRAMSETTY NIRMAL SAI TEJA
3. EMAIL ID	:	nirmalsaiteja80@gmail.com
4. CONTACT MOBILE NO.	:	8884296388

PAYMENT MADE DETAILS

5. BANK REF. NO. / UTR NO. / UPI No. (12 digits)	:	+91-7204121329
6. TRANSACTION ID	:	433458546586
7. NAME OF THE SENDER / ACCOUNT HOLDER and CONTACT NUMBER	:	SHANKRAMMA M L & 7204121329
8. NAME OF THE BANK	:	STATE BANK OF INDIA
9. PROCESSING FEES	:	Rs. 1,180/- (Inclusive of 18% GST)
10. DATE OF PAYMENT MADE	:	29/11/2024
11. TIME	:	10:56 AM
12. MODE OF PAYMENT MADE (NEFT / UPI, PLEASE SPECIFY)	:	UPI: 0683201000024@cnrb

(Name & Signature of
the team leader)

(Name & Signature of
Project Guide or HOD with Seal)

KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

Indian Institute of Science campus, Bengaluru

48th SERIES OF STUDENT PROJECT PROGRAMME (SPP)

(Note: This page is for information about bank details of KSCST to the student team and college / institution and not to include this page in the project proposal softcopy)

BANK ACCOUNT DETAILS OF KSCST

Name and address of the Institution	Karnataka State Council for Science and Technology, IISc Campus, Bangalore -560012
Account holder's name / Designation	Secretary, Karnataka State Council for Science and Technology
Bank Account No. & Name of the bank	Current A/C No. 0683201000024 Canara Bank, IISc Campus Branch, Bangalore-560012
IFSC Code	CNRB0000683
MICR Code	560015023
Bank Branch Address	Canara Bank, Indian Institute of Science, Bangalore-560012

BANK DETAILS

Name of the Agency	Karnataka State Council for Science and Technology IISc Campus, Bangalore - 560012
Account holder's name / Designation	Secretary , Karnataka State Council for Science and Technology
Bank Account No. & Name of the bank	Current A/C No. 0683201000024 Canara Bank IISc Campus Branch Bangalore-560012
IFSC Code	CNRB0000683
MICR Code	560015023
Bank Branch Address	Canara Bank Indian Institute of Science Bangalore-560012



केनरा बैंक Canara Bank

भारत सरकार का उपक्रम

A Government of India Undertaking

सिंडिकेट Syndicate

KARNATAKA STATE COUNCIL FOR SCIENCE



0683201000024@cnrb

BHIM
BHARAT INTERFACE FOR MONEY

UPI
UNIFIED PAYMENTS INTERFACE



भारत 2023 INDIA

वसुधैव कुटुम्बकम्

ONE EARTH • ONE FAMILY • ONE FUTURE