



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 47th 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/mE8Q4pM2nwZQuHbi9>

1.	Name of the College: Adichunchanagiri Institute of Technology
2.	Project Title: DEVELOPMENT OF HAPTIC PROSTHETIC HAND FOR REALIZATION OF INTUITIVE OPERATION USING ESP32
3.	Branch: ELECTRONICS AND COMMUNICATION ENGG.
4.	Theme (as per KSCST poster): (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: Prof. / Dr. / Mr. / Mrs. USHA PATIL Email id: ushapatil03@gmail.com Contact No.:9448009643 2. Name: Prof. / Dr. / Mr. / Mrs. HARISH KUMAR C R Email id: kumar.cr@gmail.com Contact No.:9964072122
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: MOHAMMED MOHTASHIM USN No.:4AI20EC046 Email id: mohdmohtashim2301@gmail.com Mobile No: 9686653866



	<p>Name: LIKHITH H D USN No.:4AI20EC039 Email id: likkithhd.101@gmail.com Mobile No.: 9019684295</p>  <p>Name: MAHASOOK AHMED USN No.:4AI20EC043 Email id: mahsookckm07@gmail.com Mobile No.: 7892864574</p>  <p>Name: BHARATH A L USN No.:4AI20EC014 Email id: bharathalbharathal@gmail.com Mobile No.: 9108211474</p> 
7.	<p>Team Leader of the Project: Name: MOHAMMED MOHTASHIM USN No.: 4AI20EC046 Email id: mohdmohtashim2301@gmail.com Mobile No.: 9686653866</p>
8.	<p>Processing Fee Details (Through Online Payment only): (processing fee of Rs. 1000/-) 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: 15-12-2023</p>
10.	<p>Probable date of completion of the project: 20-03-2024</p>
11.	<p>Scope / Objectives of the project:</p> <p>Natural Control: Enable users to control the prosthetic hand with gestures and movements that closely mimic natural hand motions.</p> <p>Real-time Feedback: Provide instant haptic feedback to the user, allowing them to feel and understand the force, texture, and shape of objects they interact with.</p> <p>Adaptability: Design the prosthetic hand to adapt to various tasks and environments seamlessly, allowing users to perform activities without the need for constant adjustments.</p> <p>User Customization: Allow users to customize control interfaces and preferences, ensuring a personalized and comfortable user experience.</p>

	<p>Learning and Adaptation: Implement machine learning algorithms to enable the prosthetic hand to learn from user behaviors and adapt over time for more intuitive operation..</p>
12.	<p>Methodology:</p> <p>The controller was trained for different commands. The commands were trained from different values from accelerometer and Bluetooth to the Arduino (palm and Elbow Connected Sensor).</p> <p>According to these commands the movement of arm takes place. The commands were differentiable so that any kind of overlapping between the commands would not create the confusion to microcontroller.</p> <p>Different kind of arm movements such as Palm opening, Palm closing, Elbow up and Elbow down were demonstrated The testing was done using the different motors and the respective response time was calculated</p> <p>This response time associated with the specific motor and specific weight will help to built prosthetic hand with specific application</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> <p>Users should experience improved and intuitive control over the prosthetic hand, allowing them to perform a wide range of tasks with natural gestures and movements.</p> <p>The main advantage of this is it is a simple hardware structure and it can be carried to many places as usual.</p> <p>Gesture vocalizer is an easy-to-use hand glove device which will help the deaf and dumbcommunity to communicate with the rest of the world using Acoustic sounds.</p>
14.	<p>Is the project proposed relevant to the Industry / Society or Institution?</p> <p>Yes / No: No</p> <p>If Yes, please provide details of the Industry / institution and contact details:</p> <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.	<p>Can the product or process developed in the project be taken up for filing a Patent?</p> <p>Yes / No: No</p> <p>Prior Art search done?</p> <p>Yes/No: No</p> <p>Note: If your answer is "Yes", you may contact Patent Information Centre of KSCST. For more details, email: pic@kscst.org.in</p>												
16.	<p>Budget details (break-up details should be given):</p> <p>Note: KSCST will provide nominal grant support for carrying out the project by students if selected by the project selection committee.</p> <table border="1"> <thead> <tr> <th>Budget</th> <th>Amount</th> </tr> </thead> <tbody> <tr> <td>a) Materials / Consumables (Please specify)</td> <td>10000.00</td> </tr> <tr> <td>b) Labor (Describe)</td> <td>1000.00</td> </tr> <tr> <td>c) Travel (Describe)</td> <td>2000.00</td> </tr> <tr> <td>e) Miscellaneous (Please specify)</td> <td>1000.00</td> </tr> <tr> <td>Total</td> <td>14000.00</td> </tr> </tbody> </table>	Budget	Amount	a) Materials / Consumables (Please specify)	10000.00	b) Labor (Describe)	1000.00	c) Travel (Describe)	2000.00	e) Miscellaneous (Please specify)	1000.00	Total	14000.00
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17.	<p>Any other technical details (Please specify):</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: Prof. / Dr. / Mr. / Mrs. KIRAN KUMAR B M</p> <p>Email id: kirangowda.82@gmail.cm</p> <p>Contact No.:7829382348</p>												

Name of the Project Guide: Dr. USHA PATIL
Email id: ushapatil03@gmail.com
Contact No.:9448009643

Name of the HOD: Dr. M A GOUTHAM
Email id: magoutham@gmail.com
Contact No.:9448554971

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: **DEVELOPMENT OF HAPTIC PROSTHETIC HAND FOR REALIZATION OF INTUITIVE OPERATION**, Branch: **ELECTRONICS AND COMMUNICATION ENGG.**, College: Adichunchanagiri Institute of Technology) are true and correct to the best of our knowledge and belief and we undertake to inform KSCST of any changes therein in the project title, students name will be intimated immediately through project guide. In case any of the above information is found to be false or untrue or misleading, we are aware that we may be held liable for it. We hereby authorize sharing of the project information with this project proposal with the Karnataka State Council for Science and Technology, Bengaluru.

We are aware that the project team must exhibit / demonstrate the project in the nodal centre and interact regarding project with the experts and to exhibit the project in the State Level Seminar and Exhibition (if selected). If the student team fails to attend the evaluation in nodal centre or fails to attend the State Level Seminar and Exhibition, the supported project amount will be returned to KSCST.

We also hereby, enclose the endorsement form to KSCST, Bengaluru.

Name of the students with USN No.

1. MOHAMMED MOHTASHIM 4AI20EC046
2. LIKHITH H D 4AI20EC039
3. MAHASOOK AHMED 4AI20EC043
4. BHARATH A L 4AI20EC014

Signature with date

Mohammed Mohtashim
Likhith H D
Mahasook Ahmed
Bharath A L

Dr. Usha K. P
(Name & Signature of Project Guide with Seal)
Email id: ushapatil03@gmail.com
Contact No.: 9448009643

PRINCIPAL
Adichunchanagiri Institute of Technology
(Name & Signature of HOD with Seal)
Email id: magoutham@gmail.com
Contact No.: 9448554971



ADICHNUCHANAGIRI INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
JYOTHINAGAR, CHIKKAMAGALURU - 577 102

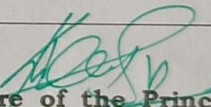
(Affiliated to V.T.U, Belgaum Recognized by A.I.C.T.E, New Delhi)

Accredited by NAAC, N.B.A., New Delhi, ISO 9001: 2008 Certified)

magoutham@gmail.com, Ph: 08262-220444. Tel Fax: 08262-220063

Date: 20/02/2024

This is to certify that 1) Mr. MOHAMMED MOHTASHIM, 2) Mr. LIKHITH H D, 3) Mr. MAHASOOK AHMED, 4) Mr. BHARATH A L, are bonafide student(s) of Department of ELECTRONICS AND COMMUNICATION ENGG., in the degree program of our institution. If the project proposal submitted by these students under the 47th 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 nodal centre and in the State Level Seminar and Exhibition (if selected). If the student team fails to send the completed project report or fails to attend the evaluation in nodal centre or fails to attend the State Level Seminar and Exhibition, the supported project amount will be returned to KSCST.

 (Signature of Project Guide with Seal) Professor & Head Dept. of Electronics & Communication Engg., Adichunchanagiri Institute of Technology, Chikkamagaluru - 577 102 Email: magoutham@gmail.com	 (Signature of HOD with Seal) Dept. of Electronics & Communication Engg., Adichunchanagiri Institute of Technology, Chikkamagaluru - 577 102 Email id: magoutham@gmail.com	 (Signature of the Principal with Seal) PRINCIPAL Adichunchanagiri Institute of Technology Chikkamagaluru-577102 Email id: principal@aitckm.in
Contact No.: 9448009643	Contact No.: 9448554971	Contact No.: 9448665711

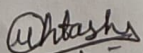
DETAILS OF PROCESSING FEES MADE THROUGH NEFT / UPI PAYMENT

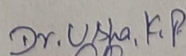
(Note: Include this page in the softcopy of the student project proposal. The student team shall furnish the details in the Google Form. It is informed to the students to 1) keep ready the softcopy of the project proposal and other documents and 2) Furnish the payment made details as processing fees 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	:	DEVELOPMENT OF HAPTIC PROSTHETIC HAND FOR REALIZATION OF INTUITIVE OPERATION
2. NAME OF THE TEAM LEADER	:	MOHAMMED MOHTASHIM
3. EMAIL ID	:	mohdmohtashim2301@gmail.com
4. CONTACT MOBILE NO.	:	9686653866

PAYMENT MADE DETAILS

5. BANK REF. NO. / UTR NO. / UPI No. (12 digits)	:	405131135006
6. TRANSACTION ID	:	T2402201137228056067725
7. NAME OF THE SENDER / ACCOUNT HOLDER and CONTACT NUMBER	:	LIKHITH H D 9448936322
8. NAME OF THE BANK	:	CANARA BANL
9. PROCESSING FEES	:	Rs. 1000/-
10. DATE OF PAYMENT MADE	:	20-02-2024
11. TIME	:	11.37AM
12. MODE OF PAYMENT MADE (NEFT / UPI, PLEASE SPECIFY)	:	UPI PHONE PAY


 (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

47th 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