KSCST

Karnataka State Council for Science and Technology
(An autonomous organisation under the Dept. of Science & Technology, Govt. of Karnataka)
Indian Institute of Science Campus, Bengaluru - 560 012
Telephone: 080-23341652, 23348848, 23348849, 23348840
Email: office.kscst@iisc.ac.in, office@kscst.org.in ♦ Website: www.kscst.iisc.ernet.in, www.kscst.org.in

Mr. H. Hemanth Kumar
Executive Secretary

19th April 2021

Ref: 7.1.01/SPP/10

The Principal,
Alva's Institute of Engineering and Technology,
Shobavana Campus,
Mijar, Moodbidri - 574 225.

Dear Sir/Madam,

Sub : Sanction of Student Project - 44th Series: Year 2020-2021
Your Project Proposal Reference No. : ***44S_BE_1158***
Ref : Your Project Proposal entitled " ***PATROL FISH TO COLLECT AND CHECK THE CONTAMINATION OF A WATER BODY***

We are pleased to inform that your student project proposal referred above, has been approved by the Council under "Student Project Programme - 44th Series" with a budgetary break-up as detailed below:

Student / s	Mr. Prajwal Kamagethi	**Budget**	
	Ms. K B Kushi	**Particulars**	**Amount (Rs.)**
	Ms. Sushmitha R Naik	Materials/Consumables	4,000.00
	Mr. Karegowda K N	Labour	-
Guide/s	Mr. Santhosh S	Travel	-
		Miscellaneous	500.00
Department	Electronics And Communication Engineering	Report	500.00
		Total	**5,000.00**
	FIVE THOUSAND RUPEES ONLY		

The following are the guidelines to carryout the project work :

a) The project should be performed based on the objectives of the proposal sent by you.

b) The project should be completed in all respects and softcopy of the full report in a CD (single file .pdf format only) should be submitted to KSCST.

c) Any change in the project title and objectives, etc., or students is liable to rejection of the project and the amount sanctioned needs to be returned to KSCST.

d) Please quote your **project reference number printed above** in all your future correspondences.

e) **Important:** After completing the project, 2 to 3 page write-up (synopsis) needs to be sent by e-mail [spp@kscst.iisc.ernet.in] and should include following :

1) Title of the project
2) Name of the College & Department
3) Name of the students & Guide(s)
4) Keywords

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Mijar, MOODBIDRI - 574 225, D.K

6) Introduction / background
(with specific reference to the project, work done earlier, etc) - about 20 lines
6) Objectives (about 10 lines)
7) Methodology (about 20 lines)
(materials, methods, details of work carried out, including drawings, diagrams etc)
8) Results and Conclusions
(about 20 lines with specific reference to work carried out)
9) Scope for future work (about 20 lines).

(Note: The write-up (Synopsis) should be sent with the approval of project guide. The softcopy of the write-up, in MS Word format, should be sent by e-mail (spp@kscst.iisc.ernet.in). In your e-mail, please also include project proposal reference number and title of the project.)

The sanctioned amount will be sent to the Principal / Head of the Institute by NEFT details provided by the college/institution.

The sponsored projects evaluation will be held in the Nodal Centre /online platform and the details of the same will be intimated shortly by e-mail / Website announcement.

Please visit our website for further announcements / information and for any clarifications please email to spp@kscst.iisc.ernet.in

Thanking you and with best regards,

Yours sincerely,

(H. Hemanth Kumar)

Copy to (by email):

1) Dr. Kiran B Malagi
SPP Coordinator
Alva'S Institute Of Engineering And Technology,
Shobavana Campus,
Mijar, Moodbidri - 574 225.

2) Mr. Santhosh S
Department of Electronics And Communication Engineering
Alva'S Institute Of Engineering And Technology,
Shobavana Campus,
Mijar, Moodbidri - 574 225.

3) The Finance Officer, KSCST, Bangalore

Encl: As Above

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590 010

PROJECT REPORT ON

"PATROL FISH TO COLLECT AND CHECK THE CONTAMINATION OF A WATER BODY"

Submitted in partial fulfillment of the requirements for the award of degree

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

Submitted By

Name	USN
PRAJWAL KAMAGETHI CHAKRAVARTI P L	4AL17EC073
K B KUSHI	4AL17EC107
KAREGOWDA K N	4AL16EC029
SUSHMITHA R NAIK	4AL17EC090

Under the Guidance of
Mr. SANTHOSH S
Assistant Professor
Department of E&C Engineering

ALVA'S
Education Foundation®

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY
MOODBIDRI – 574 225.

2020-2021

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

MOODBIDRI – 574 225

(Affiliated to VTU, **BELAGAVI**)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE

Certified that the project work entitled "**PATROL FISH TO COLLECT AND CHECK THE CONTAMINATION OF A WATER BODY**" *is a bona fide work carried out by*

PRAJWAL KAMAGETHI CHAKRAVARTI P L	**4AL17EC073**
K B KUSHI	**4AL17EC107**
KAREGOWDA K N	**4AL16EC029**
SUSHMITHA R NAIK	**4AL17EC090**

in partial fulfillment for the award of **BACHELOR OF ENGINEERING** in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2020–2021. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

Signature of the Guide	**Signature of the H.O.D**	**Signature of the Principal**
Mr. Santhosh S	**Dr. D V Manjunatha**	**Dr. Peter Fernandes**
	H. O. D. Dept. Of Electronics & Communication Alva's Institute of Engg. & Technology Mijar, MOODBIDRI - 574 225	PRINCIPAL Alva's Institute of Engg. & Technology Mijar, MOODBIDRI - 574 225, D.K.

EXTERNAL VIVA

Name of the Examiners	Signature with date
1.....	.....
2	

ABSTRACT

Robotic fish is a biomimicking of a real-world fish being developed with a view to enable surface level cleaning of water bodies. The fish monitors the pH levels of the water that it is currently in. The fish has to perform the above two tasks yet exhibit a good stabilization. To establish a stabilized structure of the fish the right buoyancy and a low center of volume and mass has to be ensured. To bring in locomotion against the currents of the water and to enable enough propulsion to push forward the garbage collected requires the fish to produce adequate thrust. To transfer commands to the fish from the operator a suitable communication mechanism, a web socket accompanied by a web application on the transmitter side and a ESP32 on the receiving side enables one to send control signals which would in turn enable locomotion and surface level cleaning. To avoid any damage to the circuitry a suitable water proofing mechanism is adopted.

This project proposes a system that will help to use the Robotic Fish which is affordable, simple to use and is not a burden in terms of aesthetics. Using simple design tweaks, the number of components used in the Robotic Fish design can be significantly reduced. This reduction in the number of components drastically brings down the price of the Robot which is very affordable to place in the water to grasp the waste from the water bodies. The reduction of components also reduces the weight and thus giving a natural feel of Real Fish while using the Robotic device. The device is also 3D printed thus increasing the adaptability and weighs less thus increasing the portability of the device. A portable power supply is also used thus increasing the portability of the Robot furthermore.