KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

Indian Institute of Science campus, Bengaluru

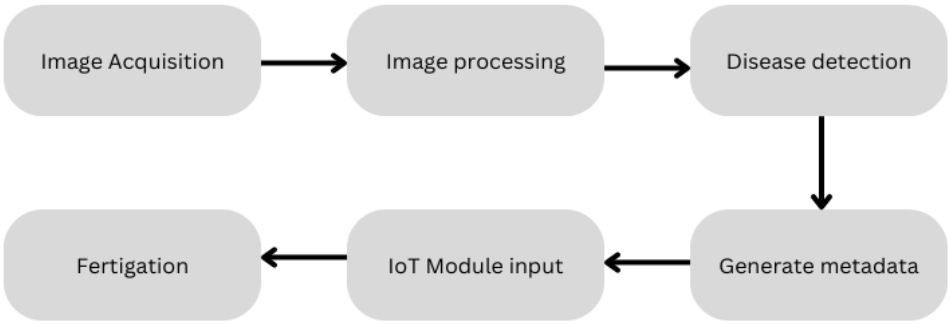
Telephone: 080 -23600978, 23341652 || Email: spp@kscst.org.in
Website: www.kscst.iisc.ernet.in/spp.html or www.kscst.org.in/spp.html

FORMAT FOR STUDENT PROJECT PROPOSAL FOR THE

46th SERIES OF STUDENT PROJECT PROGRAMME

1.	**Name of the College:** Sri Venkateshwara College of Engineering, Vidyanagar, Bengaluru – 562157
2.	**Project Title:** "Design of automatized disease detection and fertilization system for agricultural crops"
3.	**Branch:** "Computer Science and Engineering and Electronics and Communication Engineering"
4.	**Theme (as per KSCST poster):** Automation or new concepts in agriculture (cultivation, raising crops, irrigation etc.)
5.	**Name(s) of project guide(s):** 1. Name: Dr. Poornima G R Email id: poornima.gr_ece@svcengg.in Contact No.: 98867 53829 2. Name: Prof. Niranjana C Email id: niranjana.c_ece@svcengg.in Contact No.: 88706 45085
6.	**Name of Team Members (Strictly not more than four students in a batch):** Name: Harish Thanikaivelu USN No.: 1VE19CS052 Email id: jimharish@gmail.com Mobile No: 7975299713 

	Name: Neethushree K USN No.: 1VE19EC070 Email id: neethugowda1201@gmail.com Mobile No.: 9632726075  Name: Priyanka B H USN No.: 1VE19EC082 Email id: priyanka200203@gmail.com Mobile No.: 7349283003  Name: Harsha B A USN No.: 1VE19CS054 Email id: harshamonishagowda@gmail.com Mobile No.: 86604 80220 
7.	**Team Leader of the Project:** Name: Harish Thanikaivelu USN No.: 1VE19CS052 Email id: jimharish@gmail.com Mobile No: 7975299713 
8.	**Processing Fee Details (Through Online Payment only):** **(processing fee of Rs. 1000/-)** TRANSACTION NUMBER: DATE/TIME: BANK NAME:
9.	**Date of commencement of the Project:** 13/11/2022
10.	**Probable date of completion of the project:** 13/05/2023
11.	**Scope / Objectives of the project:** The Objectives of the proposed project are: • To increase the yields • To provide a precise amount of fertigation to the crops.

	• To analyze the disease-prone crops and treat them with precise fertilizers and pesticides. • To have quality products from the crops.
12.	**Methodology:** Proposed to develop two modules namely: AI module: This module is responsible for disease prediction in the crops by scanning the leaves. IoT Module: This module is responsible for the fertigation of the crops based on the data provided by the AI module. These two modules must be integrated and coordinated to be used.  The following are the processes undergoing in each stage of the system: Image Acquisition: The image of the crop leaves is acquired either by employing an automated ESP32 Cam module or also provided with a manual option to override the automation in case of the farmer's choice. Image processing: The image acquired is processed and in this stage, the image acquired is generally segmented part by part and the possible diseases are matched. Disease Detection: The most matching disease that is closest to the leaf condition or the plant condition, in general, is detected in this step. Generate Metadata: The disease detected and the approximate amount of fertilizers that are to be given to the crops to treat the crops are produced as metadata which is the input for the IoT Module. IoT Module Input: This Stage marks the start of the IoT module controls, from here the IoT Module takes the metadata input and with the soil condition being

	monitored it decides the right amount of fertigation that is to be given to the vegetation. Fertigation: The final step in the system where the fertilizer is mixed with the water and supplied to the crops employing automated workflow. This process continues each time with just a click of a button thus reducing the time spent by the farmers and increasing the precision in farming leading to better yields that are of high quality.
13.	**Expected Outcome of the project:** • Provide proper treatments for unhealthy crops and Maximise yields. • Improve the quality of production and reduce the unwanted surplus use of fertilizers and pesticides. • Reduce soil pollution. • To identify plant diseases using a machine learning algorithm. After the disease is identified, identify the suitable pest for that disease.
14.	**Is the project proposed relevant to the Industry / Society or Institution?** **Yes / No:** Yes **If Yes, please provide details of the Industry / institution and contact details:** University of Agricultural Sciences Gandhi Krishi Vignan kendra,Bellary Road, Bengaluru-560065 Ph. No.:080 23330984
15.	**Can the product or process developed in the project be taken up for filing a Patent?** **Yes / No:** Yes **Prior Art search done?** **Yes / No:** Yes
16.	**Budget details (break-up details should be given):**

Budget	Amount
a) Materials / Consumables (Please specify)	10000.00
b) Labor (Describe)	0.00

	c) Travel (Describe)	5500.00
	e) Miscellaneous (Please specify)	2000.00
	Total	17500.00

17. **Any other technical details (Please specify):**

Units in IoT module are enumerated below:

- Capturing Temperature and Humidity.(DHT22 sensors monitor the temperature and humidity of air)
- Capturing soil moisture humidity.(YL-69 sensor and LM393 Comparator captures the soil humidity).
- Solenoid Valve.
- Fertilizer tank. (tanks containing Nitrogen, phosphorus and potassium fertilizers)

The above mentioned sensors are used as part of IoT Module.

18. **SPP Coordinator (Identified by the college):**

Name: Dr. Poornima G R

Email id: poornima.gr_ece@svcengg.edu.in

Contact No.: 9886753829

Name of the Project Guide: Dr. Poornima G R
Email id: poornima.gr_ece@svcengg.edu.in
Contact No.: 9886753829

Name of the Project Guide: Prof. Niranjana C
Email id: niranjana.c_ece@svcengg.in
Contact No.: 88706 45085

Name of the HOD: Dr. Jijesh J J
Email id: jijesh.jj_ece@svcengg.edu.in
Contact No.: 99160 90956

Name of the HOD: Dr. Sanjeev C Lingareddy
Email id: hodcs@svcengg.edu.in
Contact No.: 99860 49659

DECLARATION

We, the project team hereby declare that the details enclosed in the project proposal (Title of the Project: **"Design of automatized disease detection and fertilization system for agricultural crops"**, Branch: **Computer Science and Engineering & Electronics and Communication Engineering**, College: **Sri Venkateshwara College of Engineering,** 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. **Signature with date**

1. Harish Thanikaivelu (1VE19CS052)
2. Neethushree K (1VE19EC070)
3. Priyanka B H (1VE19EC082)
4. Harsha B A (1VE19CS054)

(Name & Signature of Project Guide with Seal)

Name: Dr. Poornima G R
Email id: poornima.gr_ece@svcengg.edu.in
Contact No.: 9886753829

(Name & Signature of Project Guide with Seal)

Name: Prof. Niranjana C
Email id: niranjana.c_ece@svcengg.in
Contact No.: 88706 45085

Name of the HOD: Dr. Jijesh J J
Email id: jijesh.jj_ece@svcengg.edu.in
Contact No.: 99160 90956

Name of the HOD: Dr. Sanjeev C Lingareddy
Email id: hodcs@svcengg.edu.in
Contact No.: 99860 49659

ENDORSEMENT

This is to certify that 1) **Mr. Harish Thanikaivelu**, 2) **Ms. Neethushree K** 3) **Ms. Priyanka B H**, 4) **Mr. Harsha B A**, are bona fide student(s) of Department of Electronics and Communication Engineering & Computer Science and Engineering, in the degree program of our institution. If the project proposal submitted by these students under the 46th 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.

(Name & Signature of Project Guide with Seal)

Name: Dr. Poornima G R
Email id: poornima.gr_ece@svcengg.edu.in
Contact No.: 9886753829

(Name & Signature of Project Guide with Seal)

Name: Prof. Niranjana C
Email id: niranjana.c_ece@svcengg.in
Contact No.: 88706 45085

Name of the HOD: Dr. Jijesh J J
Email id: jijesh.jj_ece@svcengg.edu.in
Contact No.: 99160 90956

Name of the HOD: Dr. Sanjeev C Lingareddy
Email id: hodcs@svcengg.edu.in
Contact No.: 99860 49659

(Signature of Principal with Seal)

Name: Dr. Nageswara Guptha M
Email id: principal@svcengg.edu.in
Contact No.: 9843255706

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).

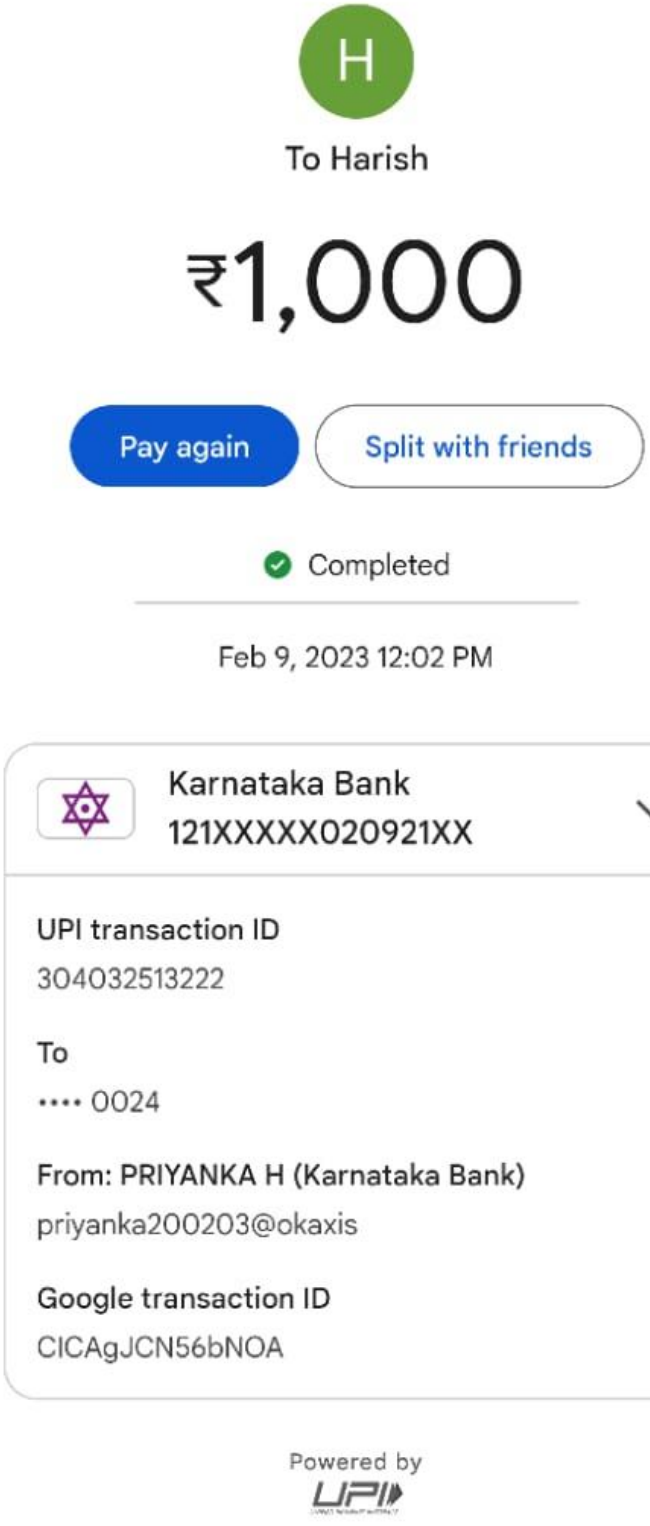
1. TITLE OF THE PROJECT	:	Design of automatized disease detection and fertilization system for agricultural crops
2. NAME OF THE TEAM LEADER	:	Harish Thanikaivelu
3. EMAIL ID	:	jimharish@gmail.com
4. CONTACT MOBILE NO.	:	7975299713

PAYMENT MADE DETAILS

5. BANK REF. NO. / UTR NO. / UPI No. (12 digits)	:	304032513222
6. TRANSACTION ID	:	304032513222
7. NAME OF THE SENDER / ACCOUNT HOLDER and CONTACT NUMBER	:	Priyanka H
8. NAME OF THE BANK	:	Karnataka Bank
9. PROCESSING FEES	:	Rs. 1000/-
10. DATE OF PAYMENT MADE	:	9/02/2023
11. TIME	:	12.02pm
12. MODE OF PAYMENT MADE (NEFT / UPI, PLEASE SPECIFY)	:	UPI

(Name & Signature of the team leader)

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


H
To Harish
₹1,000
Pay again
Split with friends
Completed
Feb 9, 2023 12:02 PM
Karnataka Bank
121XXXXX020921XX
UPI transaction ID
304032513222
To
•••• 0024
From: PRIYANKA H (Karnataka Bank)
priyanka200203@okaxis
Google transaction ID
CICAgJCN56bNOA
Powered by
UPI
G Pay

KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

Indian Institute of Science campus, Bengaluru

46th 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