KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

Indian Institute of Science campus, Bengaluru

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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

(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. Send the softcopy of the project proposal including the three scanned pages and send the proposal (All information in one pdf file) by email to spp@kscst.org.in

https://forms.gle/pMfzw4iKL7LNAojd8

1.	**Name of the College:** Dayananda Sagar College of Engineering
2.	**Project Title:** Detection of fire and harmful gases using drone technology
3.	**Branch:** Information Science
4.	**Theme (as per KSCST poster):**Newer techniques in Air Pollution control **(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.** Latha A P **Email id:** aplatha-ise@dayanandasagar.edu **Contact No.:** 9620964791
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:** ABHINAV MISHRA **USN No.:** 1DS19IS003 **Email id:** abhinavmishraise@gmail.com **Mobile No:** 7044025570  **Name:** AKRITI KUMARI **USN No.:** 1DS19IS013 **Email id:** akriti08r@gmail.com **Mobile No.:** 9955085291 

	Name: AYUSH SHARMA **USN No.:** 1DS19IS028 **Email id:** dsiayush30@gmail.com **Mobile No.:** 7734876014  **Name:** MAYANK KUMAR **USN No.:** 1DS19IS056 **Email id:** mayankdsce@gmail.com **Mobile No.:** 9893127527 
7.	**Team Leader of the Project:** **Name:** Ayush Sharma **USN No.:** 1DS19IS028 **Email id:**dsiayush30@gmail.com **Mobile No.:**7734876014
8.	**Processing Fee Details (Through Online Payment only):** **(processing fee of Rs. 1000/-)** **Please furnish the payment made details provided in the last page of this proposal.** **Note:** (The student team shall furnish the details in the Google Form. It is informed to the students to 1) keep ready the project proposal and 2) make the payment made details for processing fees and 3) Enter the details in the Google Form on the same day of payment made to KSCST by NEFT / UPI payment).
9.	**Date of commencement of the Project:** 01/11/2022
10.	**Probable date of completion of the project:** 21/04/2023
11.	**Scope / Objectives of the project:** We propose the use of drones equipped with sensors to detect and measure air pollution. The sensors can be used to collect data on a variety of air pollutants, including particulate matter, ozone, carbon monoxide, and sulfur dioxide. The data collected by the drones can be transmitted in real-time to a central location, where it can be analyzed and used to inform air pollution management and control efforts.
12.	**Methodology:** 1. Identify the area where air pollution data will be collected. This could be a specific neighborhood, city, or region. 2. Select the appropriate sensors and equipment for the drone. This will depend on the specific pollutants that need to be measured and the conditions of the area where the data will be collected. 3. Calibrate the sensors and equipment to ensure that they are working correctly and producing accurate readings.

4. Develop a flight plan for the drone that will allow it to collect data from the targeted area. This could include multiple flights at different altitudes, at different times of day, or in different weather conditions.
5. Conduct the drone flights according to the flight plan, and collect the air pollution data from the sensors.
6. Download and analyze the data to identify patterns and trends in air pollution levels. This could include comparing the data to historical records, to data from other sources, or to air quality standards.
7. Use the data to inform research, policy development, or other initiatives aimed at improving air quality.

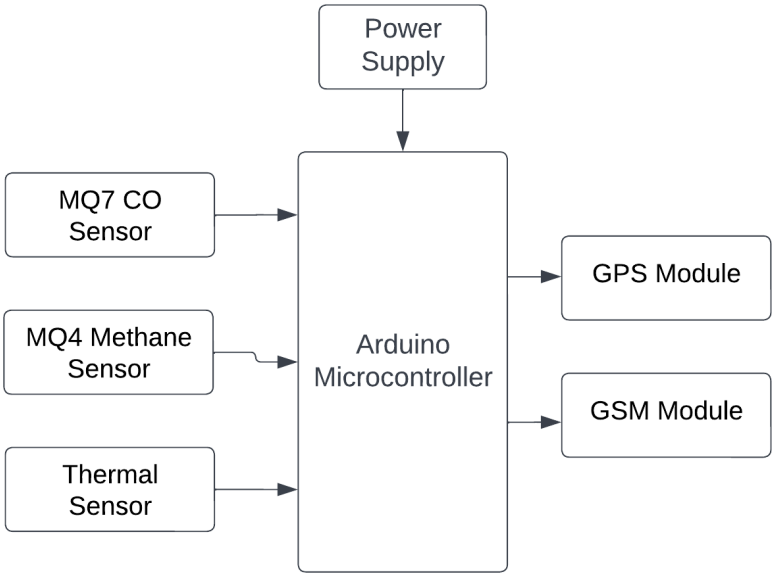

Image : Transmitter Design Diagram

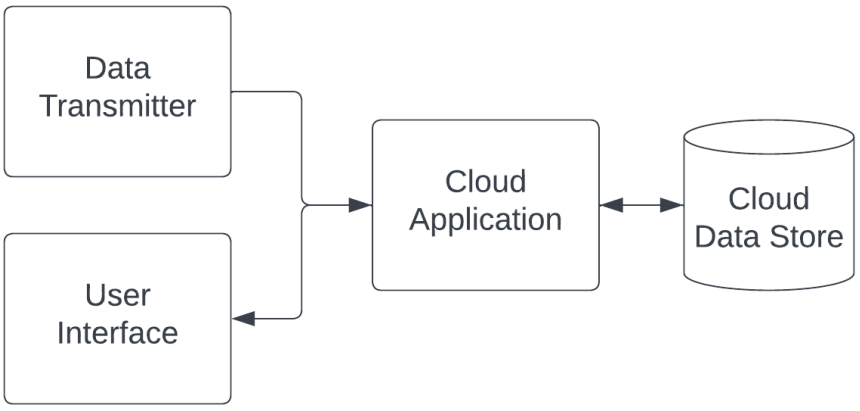

Image : System Design

13.	**Expected Outcome of the project:**

	1. Detailed, high-resolution data on air pollution levels in a specific area. Drones can collect data on a wide range of pollutants, including particulate matter, ozone, and nitrogen dioxide. This data can be used to identify hotspots of air pollution and to track changes in pollution levels over time. 2. Improved understanding of air pollution in hard-to-reach or dangerous areas. Drones can be used to collect data in areas that are difficult for human monitors to access, such as industrial areas or areas near active wildfires. This can provide valuable information about air quality in these areas, which can be used to protect public health. 3. Support for research and policy development. Air pollution data collected by drones can be used to support research on the causes and effects of air pollution, and to inform the development of policies and regulations aimed at improving air quality.
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:** 1. Environmental protection agencies 2. Mining companies 3. Universities and research institutions conducting environmental studies
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):** Note: KSCST will provide nominal grant support for carrying out the project by students if selected by the project selection committee.

Budget	Amount
a) Materials / Consumables (Please specify)	22000.00
b) Labor (Describe)	100.00
c) Travel (Describe)	100.00
e) Miscellaneous (Please specify)	5000.00

	Total	27200.00
17.	**Any other technical details (Please specify):** N.A	
18.	**SPP Coordinator (Identified by the college):** **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. **Name: Prof. / Dr. / Mr. / Mrs.** Dr. C.M. Joseph **Email id**: hod-physics@dayanandasagar.edu **Contact No**.: 9741913671	

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