ISHRAE HVACR HACKATHON

SOLAR ENERGY IN HVAC&R

Hackathon will help to establish networks among students, experts, and professionals. This event can be used for job/recruitment fairs and allow the students to assess their abilities and find ways to accomplish the tasks and how they work in a team. A novel method to enhance the image of ISHRAE and get into the innovative, tech-savvy, technology-minded people in this area.

KEY FEATURES -

Theme/Subject Area of Competition:
Solar Energy in HVAC&R-

- Solar based portable refrigeration units
- Solar Air-conditioning units
- Sustainable approach in cold storage Design
- An IoT-Based Smart Controlling System of Air Conditioner for High Energy Efficiency
- Smart home Automation and Building management system

EVENT GUIDELINES -

- Only for ISHRAE Student Members
- No registration fee for ISHRAE members and Team
  (Max Team size will be 3 to 4 Members permitted)

PROCESS OF SCREENING/ SELECTION

- Online submission of ideas
- **First level screening:** 3 teams / chapter
- **Second level Screening:** Regional / Zonal Level Round
- **Zone wise:** 3 Winners from each Zone (21 Nos)
  Zonal Winners: ₹5,000/team and Certificate) (Cash Price + Publications)
- **Final:** National Event – During Last week of Feb 2023
- Top 21 teams has to present the work in front of juries (Academic + Industries) in final event

For further queries regarding the event, kindly e-mail us at **shuklahardik2@gmail.com**

TENTATIVE SCHEDULE FOR HACKATHON

Activity	Deadline for Submission
Primary Concept & Abstract Submission/Presentation at Chapter level	Up to 15th September 2022
Scrutiny & Short listing of Maximum Three entries at Chapter level	Up to 30th September 2022
Detail Project Document and Actual Work Report Submission/Presentation at Zonal level	Up to 31st October 2022
Scrutiny & Short listing of Maximum Three entries at Zonal level	Up to 25th November 2022 (Could be done during REFCOLD - 2022)
Final Submission Of Work & Presentation	[illegible] February 2023 last week or (Could be done during ACREX 2023)

Prize Money for Final Event:

Winner : ₹1 Lakh
(Cash Price + Publications)

1st Runner up : ₹75000
(Cash Price + Publications)

2nd Runner up: ₹50000
(Cash Price + Publications)

Submit your entries on v.thakur@ishraehq.in

ISHRAE

Indian Society of Heating Refrigerating & Air Conditioning Engineers (ISHRAE)
1103-04, 11th Floor, Chiranjiv Tower,
43, Nehru Place, New Delhi-110 019
Tel: 011 41635655

I. GENERAL INFORMATION

Sr. No	Ite M	Details
	Student/s Name, Mobile number, E-mail, ISHRAE membership number **(Maximum four student members and Team leader shall be given as first name)**	1) Student name- Mr. Bhushan Satish Kumbhar Mobile number-9370359590 e-mail- bhushankumbhar2903@gmail.com ISHRAE Membership Number- S00103044 2) Student name -Mr. Prajwal Santosh Chavan Mobile number-7057845314 E-mail- chavanprajwal2000@gmail.com ISHRAE Membership Number-S00103079 3) Student name -Mr. Dipam Sachin Kakade Mobile number-9373112679 E-mail- dipam7202@gmail.com ISHRAE Membership Number-S00103012 4) Student name -Mr. Piyush Vijay Kore Mobile number-8975013759 E-mail- impiyush.kore@gmail.com ISHRAE Membership Number- S00103094
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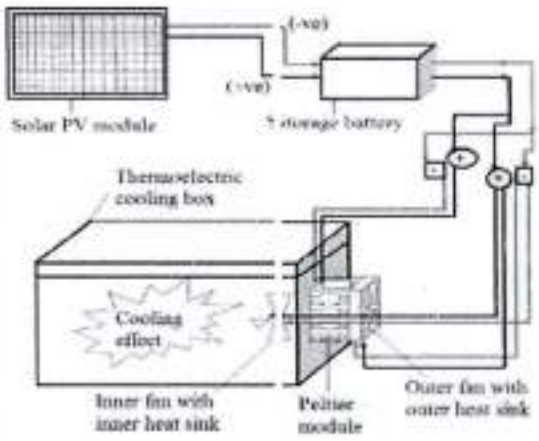
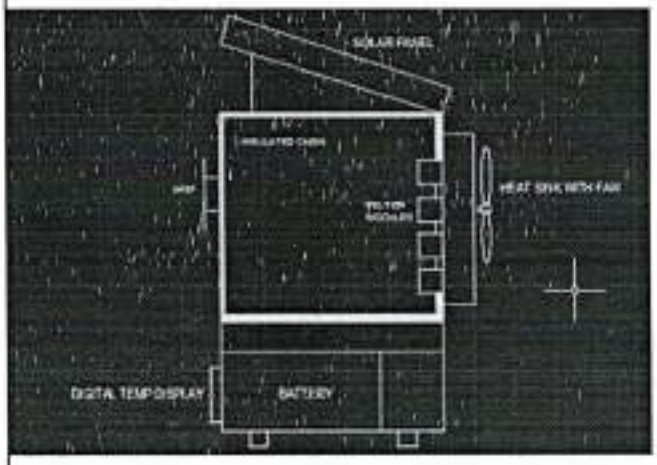
	Student 1	Student name- Mr. Bhushan Satish Kumbhar Mobile number-9370359590 e-mail- bhushankumbhar2903@gmail.com ISHRAE Membership Number- S00103044
	Student 2	Student name -Mr. Prajwal Santosh Chavan Mobile number-7057845314 E-mail- chavanprajwal2000@gmail.com ISHRAE Membership Number-S00103079
	Student 3	Student name -Mr. Dipam Sachin Kakade Mobile number-9373112679 E-mail- dipam7202@gmail.com ISHRAE Membership Number-S00103012
	Student 4	Student name -Mr. Piyush Vijay Kore Mobile number-8975013759 E-mail- impiyush.kore@gmail.com ISHRAE Membership Number- S00103094
2	College Name and address	Sharad Institute of Technology College of Engineering, Yadrav, Gat No. 525, 473/A Yadrav, Kolhapur District, behind Omkareshwar Temple, Ichalkaranji, Maharashtra Pin code- 416115

3	Faculty Adviser /Guide Name (Name, Address, Mobile number and email)	Prof. Avesahemad Sayyadnaimutulla Husainy Gat No. 525, 473/A Behind Omkareshwar Temple, Yadrav, Kolhapur District, Ichalkaranji, Maharashtra Pin code- 416115 Mail- avesahemad@gmail.com Contact- 9960097294
4	Is Faculty Adviser /Guide ISHRAE member? If yes, ISHRAE Membership Number	Yes Membership Number - 22616
5	Is there Industry Involved for this Hackathon Competition in your work?	No
6	Industry Adviser /Guide Name (Name, Address, Mobile number and email)	No
7	Is Industry Adviser /Guide ISHRAE member? If yes, ISHRAE Membership Number	No
8	Principal of the College (Name, Address and email)	Dr. S. A. Khot Gat No. 525, 473/A Behind Omkareshwar Temple, Yadrav, Kolhapur District, Ichalkaranji, Maharashtra Pin code- 416115 Mail- principal@sitcoe.org.in Contact- 7350542020
9	Local ISHRAE Chapter Name and Address (Name, Address and email)	**Kolhapur Sangli Sub Chapter** 204, Kh, E ward, Near Hotel Tourist, Opp. Kiran Doshi Hospitals, New Shahupuri, Kolhapur- 416012 Mail- kolhapursangli@ishraehq.in Contact- 9766802802
10	ISHRAE Student Chair at the local chapter (Name, Address with Mobile number and Email)	Dr. Pravin.L. Jadhav A.P Satara, Maharashtra Mail- pravin.jadhav@kbpcoes.edu.in Contact- 8275383267
11	Name of the project Mentor from ISHRAE Society	Prof. Avesahemad Sayyadnaimutulla Husainy (Secretary and Mentor of ISHRAE Kolhapur Sangli sub chapter)
12	HVAC&R Hackathon area selected for work	Solar based portable refrigeration unit **Thermoelectric cooling system using solar power**

13	Problem Statement of HVAC&R Hackathon	Most of the work is done on refrigeration using thermoelectric technique but this system only suitable for light heat load application, havinglow COP and unable to handle fluctuations in load. So, we using multiple peltiermodules in parallel way it will generate less waste heat and optimizes COP. The global increasing demand for refrigeration led to produce more electricity and consequently, more use of CFC's which acts as main contributing factor in the ozone layer depletion. Thermoelectric refrigeration is new alternative because it converts electricity into cooling effect. Therefore, thermoelectric refrigeration is greatly needed particularly in military during transportation, migration/ battle portable refrigerator is suitable, where long life, less bulky and negligible maintenance is needed. Military can use this portable refrigeration system as mini refrigerator for beverage cooler, foods, medicines, also use this as warmer. As the conventional refrigeration VCR and VAR etc. are more power consuming, noisy, polluting processes on the other hand clean, less power requirement, portable,vibration free are the advantages of thermoelectric refrigeration. Our main aim is to save energy and environment so we are using solar energy as power source.

14	Brief abstract (Maximum 500 words)	In the modern era of the technology the importance of the energy conservation is rising day by day. On the other hand most of the electricity production is based on non-renewable sources like coal, oil etc. and by using this fossil fuels we are leading towards global warming conditions. So renewable energy sources are the way to decrease the use of fossil fuels. Solar powered peltier modules can change the scenario of the refrigeration industry. There are many ways by which we can conserve electricity. This project work relates to produce the refrigeration effect with the use of solar energy and peltier module. We use solar panel to save energy and peltier module to eliminate most of the moving parts in common refrigeration system. So, we use peltier module to reduce such type of problems. Due to their distinct advantages as noiseless and wearless due to no moving parts, reliable, portable and compatible with solar panel making them environment friendly. Thermoelectric cooling works on the principle of the peltier effect, when a direct current is passed between two electrically dissimilar materials heat is absorbed or liberated at the junction. The direction of the heat flow depends upon direction of applied electric current and the relative seebeck coefficient of the two materials. Thermoelectric cooling works on the principle of the peltier effect, when a direct current is passed between two electrically dissimilar materials heat is absorbed or liberated at the junction. The direction of the heat flow depends upon direction of applied electric current and the relative seebeck coefficient of the two materials. The thermoelectric refrigeration system is less efficient than some of other conventional system. The COP of the thermoelectric module is strongly depending upon the temperature difference (dT) between hot, and cold side of it. So, to optimize COP there three most common ways in case of cooling are 1. Reducing dT – Optimize heatsink and fan 2. Minimize power loss-isolate the cooled area and most important selecting peltier element of adequet power. As to improve all the parameters mentioned above the project tends to be a costlier but in practical use with zero running cost, negligible maintenance cost and harmless operation it is best alternative to the conventional refrigeration systems. With the use of peltier modules in efficient way we can achieve upto -5°c we assumed to work with total 5 peltier modules. The main advantage is also it has a refrigerator cum heater with change in polarity of current we can change the cooling or heating effect of module. It has a 2-battery included to power the module in nights or in power cutout. Also, TER system is not sensitive to influence of gravity.

15	Project Outline	
16.	Model	

ISHRAE

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ISHRAE

ISHRAE Kolhapur-Sangli Sub Chapter

INDIAN SOCIETY OF HEATING REFRIGERATING AND AIR-CONDITIONING ENGINEERS (REGD.)

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Ref. No: ISHRAEKSSC/HACK/2022-23/03 Date: 30/09/2022

The HVAC&R Hackathon entitled by our ISHRAE student members

1. Mr. Bhushan Satish Kumbhar. (ISHRAE student membership ID :S00103044)
2. Mr Prajwal Santosh Chavan. (ISHRAB student membership ID: S00103079)
3. Mr. Dipam Sachin Kakade. (ISHRAE student membership ID: S00103012)
4. Mr. Piyush Vijay Kore. (ISHRAE student membership ID: S00103094)

of (Sharad Institute of Technology College of Engineering Yadrav, Ichalkaranji, Maharashtra India), is submitted here with to the HVAC&R Hackathon committee – ISHRAE HQ, New Delhi.

We hereby certify that the above said HVAC&R Hackathon entry is checked at chapter level in HVAC & R field and may be considered for further scrutiny.

Date:30/09/2022
Place: Yadrav Ichalkarnji

Dr. Pravin Jadhav	Mr. Amrit Satavekar	Mr.A.S.N. Husainy
Student Chair	Chapter President	Faculty
Advisor/Guide		
(Seal of the student chair)	(Seal of the Chapter President)	(Seal)

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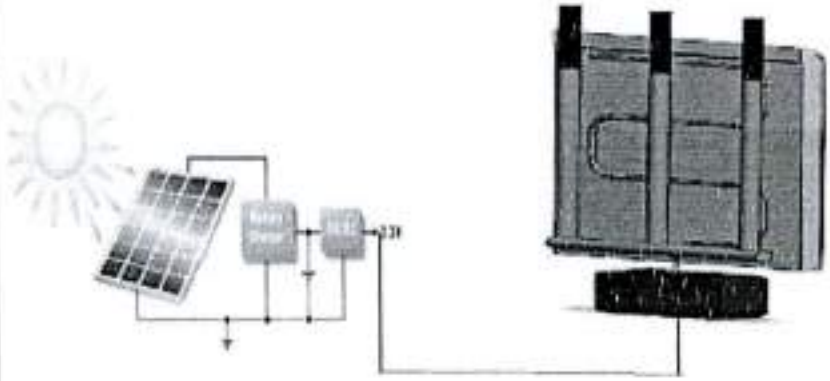
I. GENERAL INFORMATION

Sr. No	Item	Details
1	Student/s Name, Mobile number, E-mail, ISHRAE membership number **(Maximum four student members and Team leader shall be given as first name)**	1. Mr. Suraj Jaysing Lal Mobile number- 9404211827 Email ID- surajlal20189@gmail.com ISHRAE Membership number- S00103086 2. Mr. Shubham Suresh Powar Mobile number- 9420642190 Email ID- shubhampowar002@gmail.com ISHRAE Membership number- S00103055 3.Mr. Aditya Hemant Amane Mobile number- 9404211827 Email ID- adityaamane2003@gmail.com ISHRAE Membership number- S00103048 4. Ms. Diya Zakirhusen Sanadi Mobile number- 9359685895 Email ID- sanadidiya@gmail.com ISHRAE Membership number- S00103024
	Team Leader Name	**Mr. Suraj Jaysing Lal**
	Student 1	Mr. Suraj Jaysing Lal
	Student 2	Mr. Shubham Suresh Powar
	Student 3	Mr. Aditya Hemant Amane
	Student 4	Ms. Diya Zakirhusen Sanadi
2	College Name and address	**Sharad Institute of Technology, College of Engineering, Yadrav, Ichalkaranji, Maharashtra, India**
3	Faculty Adviser /Guide Name (Name, Address, Mobile number and email)	**Mr. Avesahemad Sayyadnaimutulla Husainy** Kumbhar Lane, Near Khandoba Temple, Miraj, Maharashtra-India Contact number- 8007005860 Email ID- avesahemad@gmail.com
4	Is Faculty Adviser /Guide ISHRAE member? If yes, ISHRAE Membership Number	Yes ISHRAE Membership number- 22616
5	Is there Industry Involved for this Hackathon Competition in your work?	Yes **S4 INDUSTRIES, Kolhapur**

6	Industry Adviser /Guide Name (Name, Address, Mobile number and email)	**Mr. Sanjay Malekar** Mobile number-9764987779 Email ID- sanjaymaekar@gmail.com
7	Is Industry Adviser /Guide ISHRAE member? If yes, ISHRAE Membership Number	**Yes**
8	Principal of the College (Name, Address and email)	**Dr. Sanjay A. Khot** Address- A/P Ichalkaranji. Email ID- sakhot.2000@gmail.com
9	Local ISHRAE Chapter Name and Address (Name, Address and email)	**ISHRAE Kolhapur-Sangli Sub chapter** Address- 204, Kh, E ward, Near hotel tourist, Near Shahupuri, Kolhapur Email- ishrae.sec.kssc@gmail.com
10	ISHRAE Student Chair at the local chapter (Name, Address with Mobile number and Email)	**Dr. Pravin. L. Jadhav** Address -A/p, Satara, Maharashtra Email ID -pravin.jadhav@kbpcoes.edu.in Mobile number-8275383267
11	Name of the project Mentor from ISHRAE Society	**Mr. Avesahemad Sayyadnaimutulla Husainy** Kumbhar Lane, Near Khandoba Temple, Miraj, Maharashtra-India Contact number- 8007005860 Email ID-avesahemad@gmail.com
12	HVAC&R Hackathon area selected for work	**Sustainable approach and retrofit of sports wheelchair for comfort**
13	Problem Statement of HVAC&R Hackathon	The Paralympics sports person who are restricted to the wheelchair for the longer periods, will have the problem of pressure ulcers and developing bed scores. Heat generated due to prolong sitting over wheelchair leads to various health issues like pressure ulcer.

14	Brief abstract (Maximum 500 words)	Wheelchair is the device which is used for transportation for the people who have difficulties in walking due to disability or illness. The people, who are restricted to the wheelchair for the longer periods, will have the problem of pressure ulcers and developing bed scores. The pressure ulcers result in high death ratio every year. It is very important to know how the human body will behave under different environmental conditions of air temperature, humidity and wind velocity. The pressure ulcer is correlated with the stagnant activity, elevated body temperatures and humidity. Wheelchair bound people frequently show signs of these conditions. Along with the pressure applied to the skin due to prolonged self-possession, heat and moisture extensively speed up tissue weakening by increasing the effects of friction. To reduce the thermal related problems involved with pressure ulcers, we designed and manufactured the wheelchair using heat pipe for the human comfort which cools the wheelchair restricted patients. Heat pipe is a heat transfer device that combines the principle of both thermal conductivity and phase transition to effectively transfer the heat between two mediums. At the hot interface of a heat pipe a liquid in contact with a thermally conductive solid surface turns into a vapor by absorbing heat from the surface. The vapor then travels along the heat pipe to the cold interface and condenses back into a liquid releasing the latent heat. Our design uses a pipe filled with distilled water, which will change phase from liquid to vapor. The energy required to vaporize the water comes from the seated person. The vapor rises naturally to the back of the wheelchair where it releases its energy to the ambient temperature environment, circa 22°C (71°F) sand then condenses back to the pipe. Our cooling device requires no external energy and can potentially reduce the frequency of pressure ulcers by reducing
15.	Project Outline	 **CAD MODEL**

16. Model Description	**Passive cooling Using Heat Pipe:** A heat pipe is a heat-transfer device that combines the principles of both thermal conductivity and phase transition to efficiently manage the transfer of heat between two solid interfaces. There are main three parts of the heat pipe as below, 1) Condenser section 2) Evaporator section 3) Adiabatic section  **Active Cooling Using Solar**: Active cooling, on the other hand, refers to cooling technologies that rely on an external device to enhance heat transfer. Through active cooling technologies, the rate of fluid flow increases during convection, which dramatically increases the rate of heat removal. Active cooling solutions include forced air through a fan or blower, forced liquid, and thermoelectric coolers (TECs), which can be used to optimize thermal management on all levels. Fans are used when natural convection is insufficient to remove heat. The main disadvantage of active thermal management is that it requires the use of electricity and therefore results in higher costs, compared to passive cooling  fig active cooling using solar panel

17. Impact of proposed solution:	➢ As the system was heated, heat was transferred to the pipes and dissipated to the surroundings as demonstrated by the increasing temperature at the top of the pipe. ➢ When the increase in pressure resulted in an increased in the boiling point of the working fluid, the phase change from gas to liquid was verified by the decrease in pressure to explore the limitations of this prototype. ➢ It is important to explore other working fluids with low boiling points. Reasons to do so is because although the system passed all the tests to ensure that it was leak proof, it is very hard for a system to be completely sealed for long. ➢ A working fluid that is compatible with metals with high thermal conductivity such as copper or aluminum is preferred. Objectives of project: 1. Easy in construction. 2. Affordable 3. Work without using electricity (Only for passive cooling Technique). 4. Reduce Anxiety and Feel Comfortable. 5. Flexible working principle. 6. Also Works on conditions which has higher surrounding temperature (By switching Active Cooling Technique).

ISHRAE **ISHRAE** Kolhapur-Sangli Sub Chapter

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Ref. No: ISHRAE/KSSC/Hack/22-23/1 Date: 30/09/2022

CERTIFICATE FROM THE LOCAL ISHRAE CHAPTER

The HVAC&R Hackathon entitled by our ISHRAE student members

1. Mr. Suraj Jaysing Lal (ISHRAE student membership ID: S00103086)
2. Mr. Shubham Suresh Powar (ISHRAE student membership ID: S00103055)
3. Mr. Aditya Hemant Amane (ISHRAE student membership ID: S00103048)
4. Mr. Diya Zakirhusen Sanadi (ISHRAE student membership ID: S00103024)

of (Sharad Institute Of Technology College Of Engineering Yadrav, Ichalkaranji, Maharashtra India), is submitted here with to the HVAC&R Hackathon committee – ISHRAE HQ, New Delhi.

We hereby certify that the above said HVAC&R Hackathon entry is checked at chapter level in HVAC & R field and may be considered for further scrutiny

Date: 30/09/2022

Place: Yadrav, Ichalkaranji

Dr. Pravin Jadhav	Mr. Amrit Satavekar	Mr.A.S.N. Husainy
Student Chair	Chapter President	Faculty Adviser/Guide

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CHAPTERS:	AHMEDABAD	PUNE	NAGPUR	SURAT
	VADODARA	AURANGABAD	MUMBAI	INDORE
	THANE	NASHIK	GOA	VAPI

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	Team Leader Name	Samir Nurmahamad Momin
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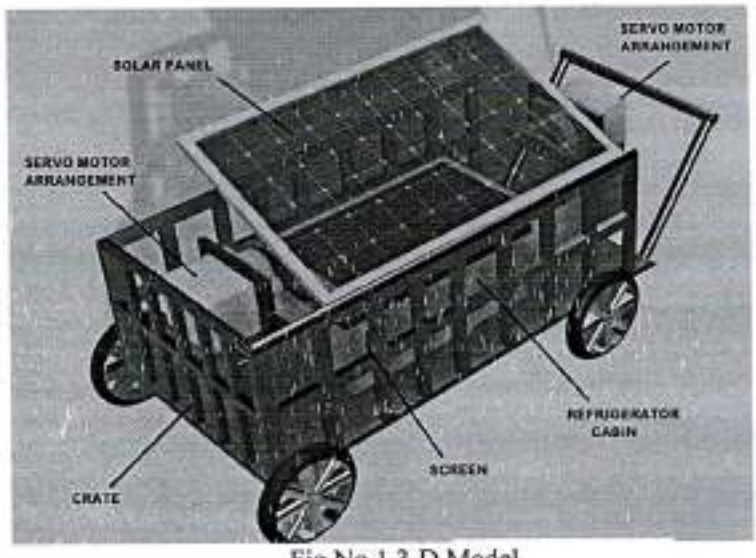
	Student 2	Omkar Suresh Chougule
	Student 3	Prathamesh Uttam Jadhav
	Student 4	Samir Nurmahamad Momin
2	College Name and address	**Sharad Institute of Technology, College of Engineering, Yadrav, Ichalkaranji, Maharashtra, India**
3	Faculty Adviser /Guide Name (Name, Address, Mobile number and email)	**Mr. Avesahemad Sayyadnaimutulla Husainy** Kumbhar Lane, Near Khandoba Temple, Miraj, Maharashtra-India Contact number- 8007005860 Email ID- avesahemad@gmail.com
4	Is Faculty Adviser /Guide ISHRAE member? If yes, ISHRAE Membership Number	Yes ISHRAE Membership number- 22616

5	Is there Industry Involved for this Hackathon Competition in your work?	Yes **S4 INDUSTRIES, Kolhapur**
6	Industry Adviser /Guide Name (Name, Address, Mobile number and email)	**Mr. Sanjay Malekar** Mobile number-9764987779 Email ID- sanjaymaekar@gmail.com
7	Is Industry Adviser /Guide ISHRAE member? If yes, ISHRAE Membership Number	**Yes**
8	Principal of the College (Name, Address and email)	**Dr. Sanjay A. Khot** Address- A/P Ichalkaranji. Email ID- sakhot.2000@gmail.com
9	Local ISHRAE Chapter Name and Address (Name, Address and email)	**ISHRAE Kolhapur-Sangli Sub chapter** Address- 204, Kh, E ward, Near hotel tourist, Near Shahupuri, Kolhapur Email- ishrae.sec.kssc@gmail.com
10	ISHRAE Student Chair at the local chapter (Name, Address with Mobile number and Email)	**Dr. Pravin. L. Jadhav** Address -A/p, Satara, Maharashtra Email ID -pravin.jadhav@kbpcoes.edu.in Mobile number-8275383267
11	Name of the project Mentor from ISHRAE Society	**Mr. Avesahemad Sayyadnaimutulla Husainy** Kumbhar Lane, Near Khandoba Temple, Miraj, Maharashtra-India Contact number- 8007005860 Email ID-avesahemad@gmail.com
12	HVAC&R Hackathon area selected for work	**Solar based portable refrigeration units.**
13	Problem Statement of HVAC&R Hackathon	Medicines are very sensitive in nature and requires some extra care while manufacturing, transportation, stocking, prescribing, etc. In order to provide the means to preserve the medicines in remote areas, a portable refrigeration system working on photovoltaic effect has been designed and developed.

14	Brief abstract (Maximum 500 words)	In order to provide the means to preserve the medicines in remote areas, a portable refrigeration system working on photovoltaic effect has been designed and developed. Hence we are developing a tracked solar PV operated refrigeration system which will operate on solar energy. The solar PV module will convert sunlight into DC electricity. The current produced by PV module is regulated by solar charge control and given to battery through inventor this electrical energy is stored in battery and given to electrical motor according to requirement. Output of motor is connected to compressor of vapor compression system. The medicine refrigerator will work on the Vapor Compression Refrigeration Cycle. We will use a DC compressor of 0.3-ton capacity for the system so as to acquire low electricity consumption purpose. For the monitoring of the temperature and intensity of the solar radiation, a CDR sensor and temperature sensor is attached to the solar panel that will sense it and convey it to the cloud for storage purpose via ESP8286 module in the node MCU which acts as a Wi-Fi module. We can access these values of current, voltage, intensity and temperature from there through mobile phone. Also we have made the solar panels movable as per the direction of sunrays i.e. it will move from east to westfrom sunrise to sunset in a day so that it will be perpendicular to the incident rays and maximum radiation will be incident on it. This can be achieved by two servo motors that are attached on either side of the solar panel. This arrangement will allow maximum amount of power to be generated via solar radiation energy. The inner temperature of the refrigerator is allowed to vary so as to achieve versatility in area of application. This system is allowed to be mobile.
15.	Project Outline	 Fig No.1.3-D Model

16. Model Design

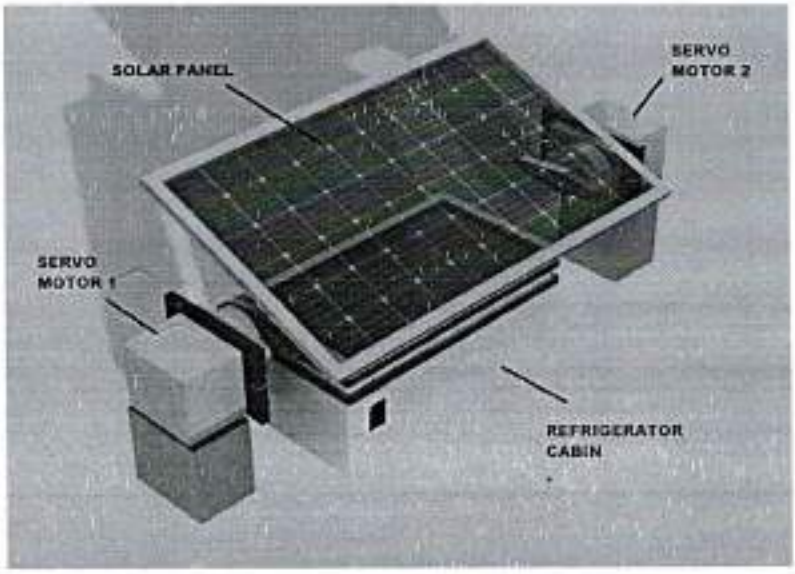


Fig No 2. Servo Motor Arrangement for Tracking Purpose

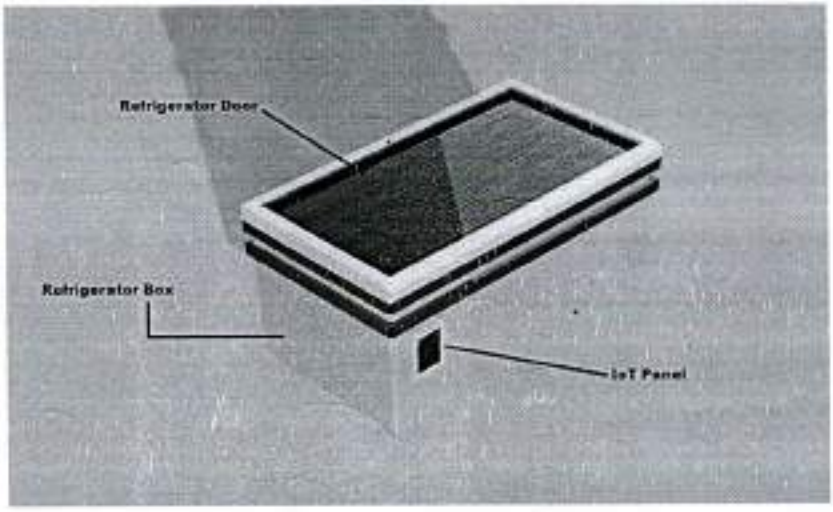


Fig No 3. Refrigerated Medicine storage box

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43, Nehru Place, New Delhi-110 019
Tel: 011 41635655

17.Potential Users:	• The primary potential users for this system will be the Healthcare systems in India such as hospitals, medical stores etc. • The secondary users for the same are nothing but the patients including children who lose their lives by consuming deteriorated medicines. The healthcare employees will be able to store the medicines in a better way for a longer time.

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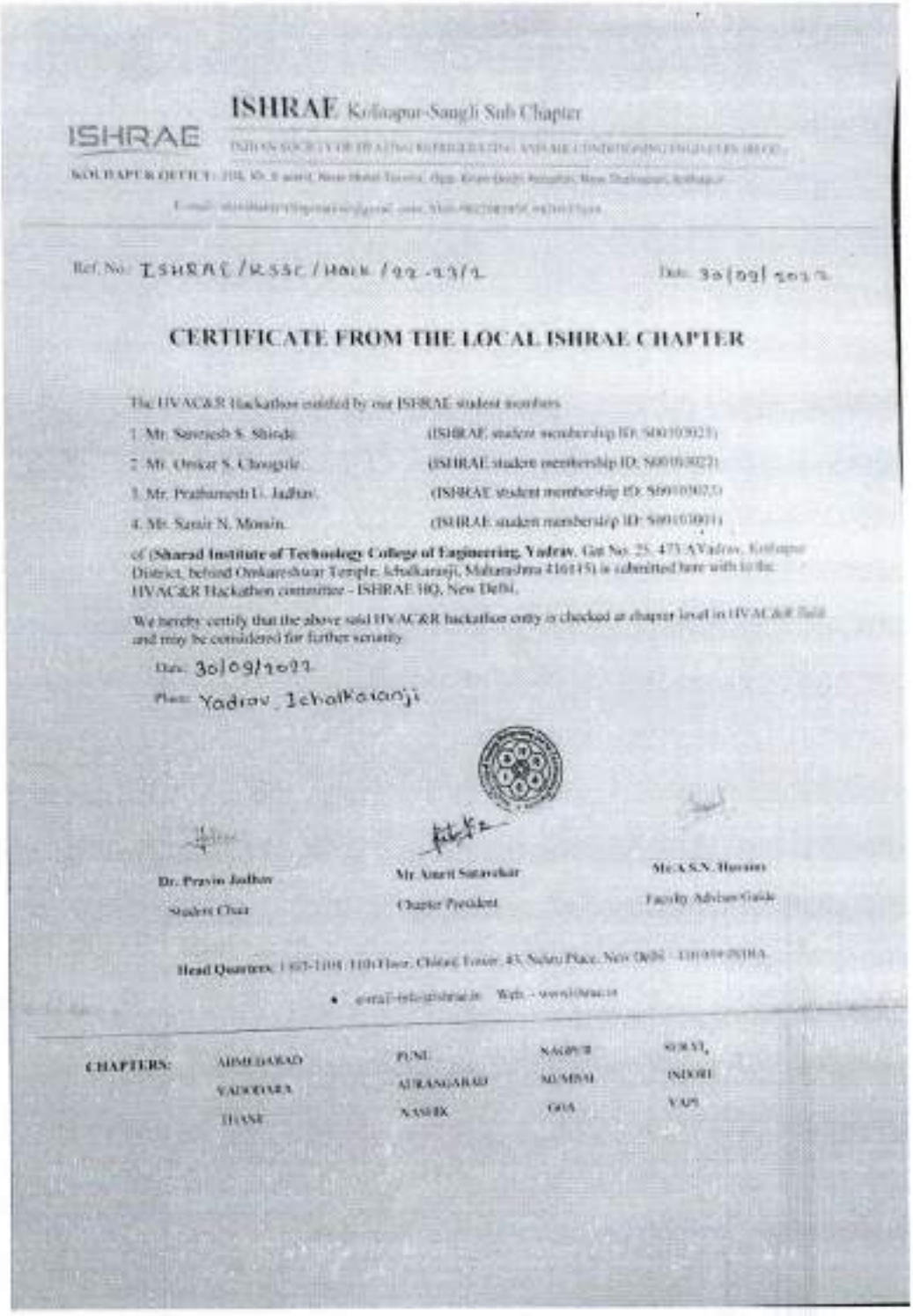

ISHRAE Kolhapur-Sangli Sub Chapter

ISHRAE

INDIAN SOCIETY OF HEATING REFRIGERATING AND AIR CONDITIONING ENGINEERS (REGD.)

KOLHAPUR OFFICE : [illegible]

E-mail: [illegible]

Ref. No: ISHRAE/KSSC/HACK/22-23/1 Date: 30/09/2022

CERTIFICATE FROM THE LOCAL ISHRAE CHAPTER

The HVAC&R Hackathon entitled by our ISHRAE student members

1. Mr. Santosh S. Shinde (ISHRAE student membership ID: S0010923)
2. Mr. Omkar S. Chougule (ISHRAE student membership ID: S0010822)
3. Mr. Prathamesh U. Jadhav. (ISHRAE student membership ID: S0010927)
4. Mr. Samir N. Momin. (ISHRAE student membership ID: S0010801)

of (**Sharad Institute of Technology College of Engineering, Yadrav**, Gat No. 25, 473 A Yadrav, Kolhapur District, behind Omkareshwar Temple, Ichalkaranji, Maharashtra 416145) is submitted here with to the HVAC&R Hackathon committee - ISHRAE HQ, New Delhi.

We hereby certify that the above said HVAC&R hackathon entry is checked at chapter level in HVAC&R field and may be considered for further seriality.

Date: 30/09/2022

Place: Yadrav Ichalkaranji

Dr. Pravin Jadhav	Mr. Amrit Satavekar	Mr.A.S.N. Hussain
Student Chair	Charter President	Faculty Advisor/Guide

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CHAPTERS:	AHMEDABAD	PUNE	NAGPUR	SURAT,
	VADODARA	AURANGABAD	MUMBAI	INDORE
	THANE	NASHIK	GOA	VAPI