ALL PROBLEM STASTEMENTS OF SIH

1Problem Statement Title

Innovating for Sustainability: Driving Smart Resource Conservation (Energy & Water) in Home Appliances (Refrigerators, Air Conditioners, Washing Machines and Desert Air Coolers)

Description

Innovating for Sustainability: Driving Smart Resource Conservation (Energy & Water) in Home Appliances (Refrigerators, Air Conditioners, Washing Machines and Desert Air Coolers) 2)Problem Statement Title

Innovating for Sustainability: Driving Smart Resource Conservation (Energy & Water) in Home Appliances (Refrigerators, Air Conditioners, Washing Machines and Desert Air Coolers)

Description

Innovating for Sustainability: Driving Smart Resource Conservation (Energy & Water) in Home Appliances (Refrigerators, Air Conditioners, Washing Machines and Desert Air Coolers) 3) Problem Statement Title

Student Innovation

Description

Smart Education, a Concept that Describes learning in digital age.it enables learner to learn more effectively, efficently, flexibly and comfortably. 4)Problem Statement Title

Student Innovation

Description

Disaster Management includes ideas related to risk mitigation and Planning before, after or Duration of Disaster 5)Problem Statement Title

Student Innovation

Description

Technology ideas in tertiary sectors like Hospitality, Financial Services, Entertainment and Retail. 6)Problem Statement Title

Student Innovation

Description

Provide ideas in a decentralized and distributed ledger technology used to store digital information that powers cryptocurrencies and NFTs and can radically change multiple sectors 7)Problem Statement Title

Student Innovation

Description

Innovative ideas that help manage and generate renewable /sustainable sources more efficiently. 8)Problem Statement Title

Student Innovation

Description

A solution/idea that can boost the current situation of the tourism industries including hotels, travel and others. 9)Problem Statement Title

Student Innovation

Description

There is a need to design drones and robots that can solve some of the pressing challenges of India such as handling medical emergencies, search and rescue operations, etc.

1)Problem Statement Title

Student Innovation

Description

Submit your ideas to address the growing pressures on the city’s resources, transport networks, and logistic infrastructure 2)Problem Statement Title

Student Innovation

Description

Creating intelligent devices to improve the commutation sector 3)Problem Statement Title

Student Innovation

Description

Developing solutions, keeping in mind the need to enhance the primary sector of India - Agriculture and to manage and process our agriculture produce 4)Problem Statement Title

Student Innovation

Description

Cutting-edge technology in these sectors continues to be in demand. Recent shifts in healthcare trends, growing populations also present an array of opportunities for innovation. 5)Problem Statement Title

Student Innovation

Description

Ideas that showcase the rich cultural heritage and traditions of India 6)Problem Statement Title

Student Innovation

Description

Ideas that can boost fitness activities and assist in keeping fit. 7)Problem Statement Title

Student Innovation

Description

Challenges your creative minds to conceptualize and develop unique toys & games. 8)Problem Statement Title

Student Innovation

Description

Challenges your creative minds to conceptualize and develop unique toys & games. 9)Problem Statement Title

Student Innovation

Description

For use of travel or activities beyond earth's atmosphere, for purposes such as spaceflight or space exploration. 10)Problem Statement Title

Research and redesign a conventional aerospace component commonly found in air vehicles and utilize Fusion software to reimagine its design. Students can use Fusion Features such as Generative Design, Topology Optimization, Additive Build etc. The redesigned component should showcase innovation, enhanced functionality, and improved efficiency, all while being optimized for 3D printing.

Description

The student's focus should be on using Fusion's additive manufacturing capabilities. They should aim to learn about additive manufacturing and its applications in aerospace design. This includes studying how to design aerospace components with considerations for structural integrity, and weight reduction. They should define project objectives and design constraints, and then utilize generative design tools in Fusion to explore and generate optimized designs. The student should evaluate these designs using simulation and analysis tools within Fusion. They should refine and iterate on the designs to further enhance performance. Finally, they should prototype and test the finalized design using appropriate 3D printing technologies. Teams choosing to submit idea for Autodesk’s problem statement are required to request their faculty (SIH SPOC) to fill this mandatory form. (https://forms.gle/SwfiFUDEiK73fVrx8) Fusion combines additive manufacturing (3D printing) capabilities with generative design features. It allows users to optimize designs for 3D printing, generate support structures, and explore numerous design options using algorithms. This integration enables the creation of complex and optimize parts using 3D printing technologies. Students and educators can click here to get FREE access to Fusion. (https://www.autodesk.com/education/edu-software/overview?sorting=featured&filters=individual) For Idea Submission: Each student team should submit Fusion public link of the Design and a PowerPoint presentation (5-7 Slides). Designs should be created using only Fusion and not copied or taken from any other source. For Grand Finale: Students must use Fusion to design and 3D print final design within the given time period and present the following to the jury members: PPT explaining the final project Public link of the design Rendered images Please note that the below marking criteria is only for Autodesk's this particular problem statement only: Design complexity and workability: 20 Design Optimization for 3D Printing (DFAM): 20 Innovative Design Features: 15 Use of Advanced Features in Fusion (Generative, Topology Optimization etc.): 30 Selection of AM Process & Materials: 15 Total marks: 100

Problem Statement Title Video call intercom based on analog/IP system with vibration sensorDescription Background: Needs an internal communication including Deaf people. Maybe one wants to be able to communicate with one desk to another desk in office premises. Or in a case one upstairs in a bedroom doing some work and wants to know when dinner will be ready. Maybe the person is too weak to get up and shout down the stairs to find out if so, then this simple intercom will help him or her to get the information he or she needs. Deaf people are not able to hear and don't use oral language, they can see and communicate in Sign language and Sign language is a Visual language. So video callommunication devices will be more accessible for the Deaf. Vibration sensors also will be help out in emergency to forward the information. It works without any charges like the telephones. Description: In an office, business organization, Shops, stores and stressful in relating/delivering information to each other within a particular building. The servants find it laborious going to the boss always whenever he/she has information to deliver or wants to carry action with respect to the master’s authority. Thereforethis project work is to address this issue, looking forward to eliminating the stressful, manpower (Deaf) involved and to facilitate information delivery, making communication easier. The Intercom system formed the basis of this study and designed the HOD’s office and staff’s office formanpower (Deaf) involved and to facilitate information delivery, making communication easier. The Intercom system formed the basis of this study and designed the HOD’s office and staff’s office for internal communication keeping the view of Deaf. what about this how is it to present in smart india hackathon