Parul University | Entrepreneurship Development Centre

INSTITUTION'S INNOVATION COUNCIL (Ministry of Education Initiative)

A Report on
Vadodara Hackathon 4.0

ACTIVITY TYPE	**Vadodara Hackathon 4.0**		
DATE & TIME	**08/09/2023 to 09/09/2023**	**Duration**	**2 Days**
SEMESTER	**1,3,5,7**	**No. of participants**	**180**
EXPERT NAME WITH DESIGNATION	**Prof. Kaushal Barot, Prof. Arun Arya Prof. Rahul Sharma, Prof. Nirali Bhaliya, Prof. Ridhi Mehta**		
NAME OF EXPERT'S ORGANIZATION	**Parul Institute of Technology**		
EXPERT CONTACT DETAILS	**kaushal.barot@paruluniversity.ac.in , 9428755439 arun.arya8881@paruluniversity.ac.in 9794108388 nirali.bhaliya270184@paruluniversity.ac.in 9825107184 riddhi.gandhi23531@paruluniversity.ac.in 6355072440**		
FACULTY COORDINATOR	**Prof. Kaushal Barot, Prof. Rahul Sharma, Prof. Nirali Bhaliya, Prof. Ridhi Mehta,**		
FACULTY CONTACT DETAILS	**9428755439 9825107184**		
SPONSORING AUTHORITY	**-NA-**	**SPONSORING AMOUNT**	**-NA-**

About the Event: Vadodara Hackathon 4.0 was organized by Parul Institute of Technology in association with the Entrepreneurship development cell (EDC) of Parul University on 8th and 9th September, 2023 for the students of Parul Institute of Technology.

Objective:

1. The goal of a hackathon is to create functioning software or hardware by the end of the event.
2. Hackathons tend to have a specific focus, which can include the programming language used, the operating system, an application, an API, or the subject and the demographic group of the programmers.
3. Solve real world problems.

About the Problem Statement:

The basic Domain bucket is from Agriculture, Food tech and Rural Development, Disaster Management, Smart Vehicles and Smart Automation, Biotech and health care sector and many more category wise list attached.

1	Hardware	Agriculture, FoodTech & Rural Development	Automatic regulation of valves for release of water based upon soil moisture availability in the root zone of the crop, using artificial intelligence, in a piped and micro irrigation network of irrigation system.
2	Hardware	Disaster Management	Estimation of inflow to a reservoir from the rainfall considering soil moisture in its catchment and releases from upstream reservoirs and automatically opening of reservoir gates for moderately releasing the water to avoid the flooding in a basin.
3	Hardware	Smart Vehicles	Monitoring through Al Based Remote Access Vehicle
4	Hardware	Smart Automation	Developing an AI-powered energy management system for industrial commercial facilities to optimize energy consumption.
5	Hardware	Smart Automation	Automated Public Lighting
6	Hardware	MedTech / BioTech / HealthTech	Active Prosthetic ankle and adaptive equipment for bike riding in lower limb amputees
7	Hardware	Robotics and Drones	Drone-based surveillance system for the vessels plying in port areas and encroachments
8	Hardware	Transportation & Logistics	A system of IoT Devices to prevent under-loading / overloading of Railway wagons.
9	Hardware	Smart Vehicles	Development of a Telematic control unit for capturing vital data of a vehicle without using company fitted telemetry data port.
10	Hardware	MedTech / BioTech / HealthTech	Development of Smart Toilet
11	Hardware	Robotics and Drones	Developing a system for Patient Care in the Health Sector
12	Hardware	Renewable / Sustainable Energy	Call for cost-effective ways of making water source for piped drinking water supply sustainable in Rural areas

13	Hardware	Transportation & Logistics	Dificulty in operating Heavy earth moving machineries during rainy season (4-5 months due to extremely poor visibility conditions leading to significant loss of excavation and production
14	Hardware	Miscellaneous	Mines operation specially haulage of dumphers done through operators extended even in the absense in adequacy of operators.
15	Hardware	Miscellaneous	unpredictable wear and tear of cable belt conveyor Rope and belt leading to frequent stoppage of single line Mine production system causing significant loss of production
16	Hardware	Smart Automation	Innovative Solution for Reducing ATandC Losses due to Power Pilferage in Electrical Sector
17	Hardware	Renewable / Sustainable Energy	Development of Small Scale Wind energy device
18	Hardware	Smart Automation	Despite prohibition of hazardous cleaning of sewers and septic tanks (manual cleaningof sewers and septic tanks without safety kits, safety devices and without adherence tosafety precautions) it is still being resorted to in many parts of the country.
19	Hardware	Agriculture, FoodTech & Rural Development	One-stop solution for monitoring dairy plant energy consumption, hygiene and packaging waste collection from consumers.
20	Hardware	Agriculture, FoodTech & Rural Development	Geo tagging of plantation in the catchment area of hydro project
21	Hardware	Robotics and Drones	Robotics for inspection of abrasion / corrosion of underwater equipment / parts and further repair and maintainance
22	Hardware	Blockchain & Cybersecurity	Detection of embedded Malware/ Trojan in hardware devices used in Power Sector.
23	Hardware	MedTech / BioTech / HealthTech	Development of Technology for manufacturing of mind control BIONIC hand with a sense of touch
24	Hardware	Agriculture, FoodTech & Rural Development	Uncontrolled growth of water Hyacinth in lakes
25	Hardware	MedTech / BioTech / HealthTech	Low-cost Myoelectric Prosthetic Arm
26	Hardware	MedTech / BioTech / HealthTech	Development of Augmentative and Alternative Communication (AAC) in Indian context
27	Hardware	Miscellaneous	Drone based Intelligent Magnetic sensing system and Metallic anomaly detection system
28	Hardware	Miscellaneous	Call for low-cost desalination technology for Lakshadweep and Inland saline water sources.
29	Hardware	Miscellaneous	Technological solutions for Early decomposition of fecal matter
30	Hardware	Miscellaneous	Technological solutions for safe disposal of menstrual waste
31	Hardware	Miscellaneous	Call for Toilet technology

32	Hardware	Smart Education	Lowest Cost Smart Board - A Seamless Teaching Experience.
33	Hardware	Disaster Management	Robotics Device for Borewell Rescue Operation
34	Hardware	Smart Vehicles	Students to use Autodesk Fusion 360 to research and redesign a conventional automotive component commonly found in vehicles and utilize generative design to reimagine its design. For additional information and detailed problem statement
35	Hardware	Smart Automation	Students to use Autodesk Fusion 360 to research and to generate NC code with machine details and tool library for any industrial component. For additional information and detailed problem statement
36	Hardware	Miscellaneous	Design of RF Up/Down-converter for signals using GNU Radio and SDRs.
37	Hardware	Smart Education	Student Innovation- Smart Education, a Concept that Describes learning in digital age.it enables learner to learn more effectively,efficently,flexibly and comfortably.
38	Hardware	Disaster Management	Student Innovation- Disaster Management includes ideas related to risk mitigation and Planning before,after or Duration of Disaster.
39	Hardware	Miscellaneous	Student Innovation- Technology ideas in tertiary sectors like Hospitality, Financial Services, Entertainment and Retail.
40	Hardware	Blockchain & Cybersecurity	Student Innovation- 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
41	Hardware	Renewable / Sustainable Energy	Student Innovation- Innovative ideas that help manage and generate renewable /sustainable sources more efficiently.
42	Hardware	Transportation & Logistics	Student Innovation- A solution/idea that can boost the current situation of the tourism industries including hotels, travel and others.
43	Hardware	Clean & Green Technology	Student Innovation- Solutions could be in the form of waste segregation, disposal, and improve sanitization system.
44	Hardware	Robotics and Drones	Student Innovation- 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.
45	Hardware	Transportation & Logistics	Student Innovation- Submit your ideas to address the growing pressures on the resources, transport networks, and logistic infrastructure
46	Hardware	Smart Vehicles	Student Innovation- Creating intelligent devices to improve the commutation sector.
47	Hardware	Agriculture, FoodTech & Rural Development	Student Innovation- Developing solutions, keeping in mind the need to enhance the primary sector of India - Agriculture and to manage and process our agriculture produce
48	Hardware	MedTech / BioTech / HealthTech	Student Innovation- 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.
49	Hardware	Heritage & Culture	Student Innovation- Ideas that showcase the rich cultural heritage and traditions of India
50	Hardware	Fitness & Sports	Student Innovation- Ideas that can boost fitness activities and assist in keeping fit.

51	Hardware	Smart Automation	Student Innovation- Ideas focused on the intelligent use of resources for transforming and advancements of technology with combining the artificial intelligence to explore more various sources and get valuable insights.
52	Hardware	Toys & Games	Student Innovation- Challenges your creative minds to conceptualize and develop unique toys and games.
53	Hardware	Renewable / Sustainable Energy	Green options for milk packaging (Low cost, environment-friendly, and extended shelf life packaging for milk)
54	Hardware	MedTech / BioTech / HealthTech	Automatic Drug Dispenser
55	Hardware	Transportation & Logistics	Frequent dislodgement of belt conveyor along hilly terrain for various reasons
56	Hardware	Miscellaneous	Real time Knowledge of ore body being mined out
57	Hardware	Smart Automation	Centralized Monitoring System for Street Light Fault Detection and Location Tracking
58	Hardware	Clean & Green Technology	Effective management of construction and demolition (C&D) waste

Event Photos:

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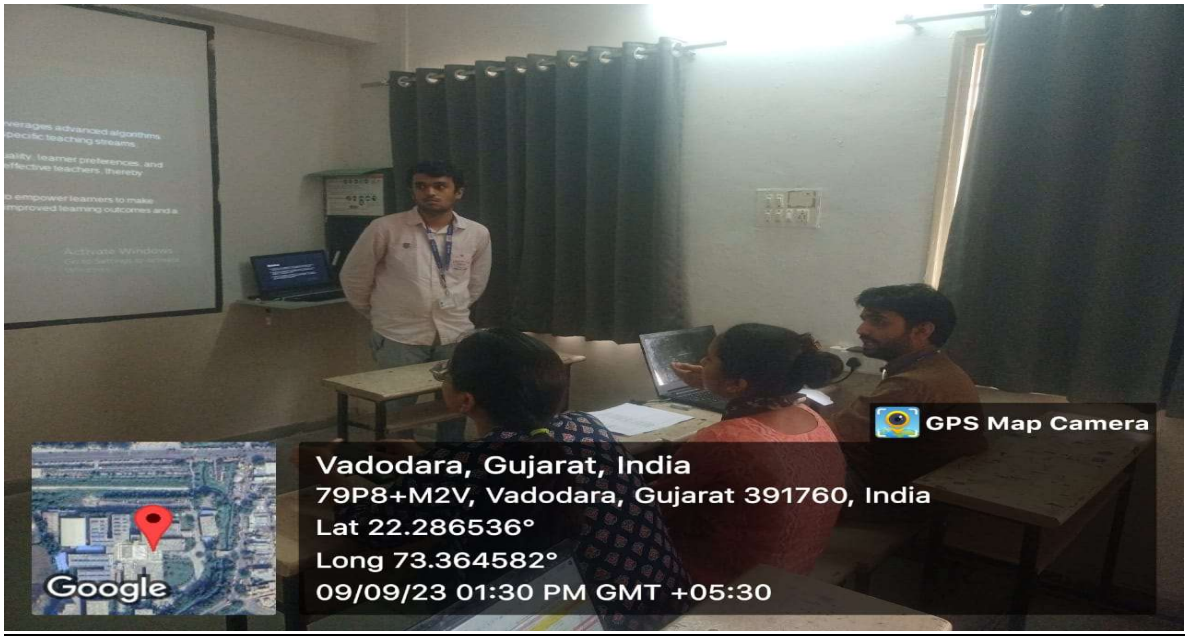
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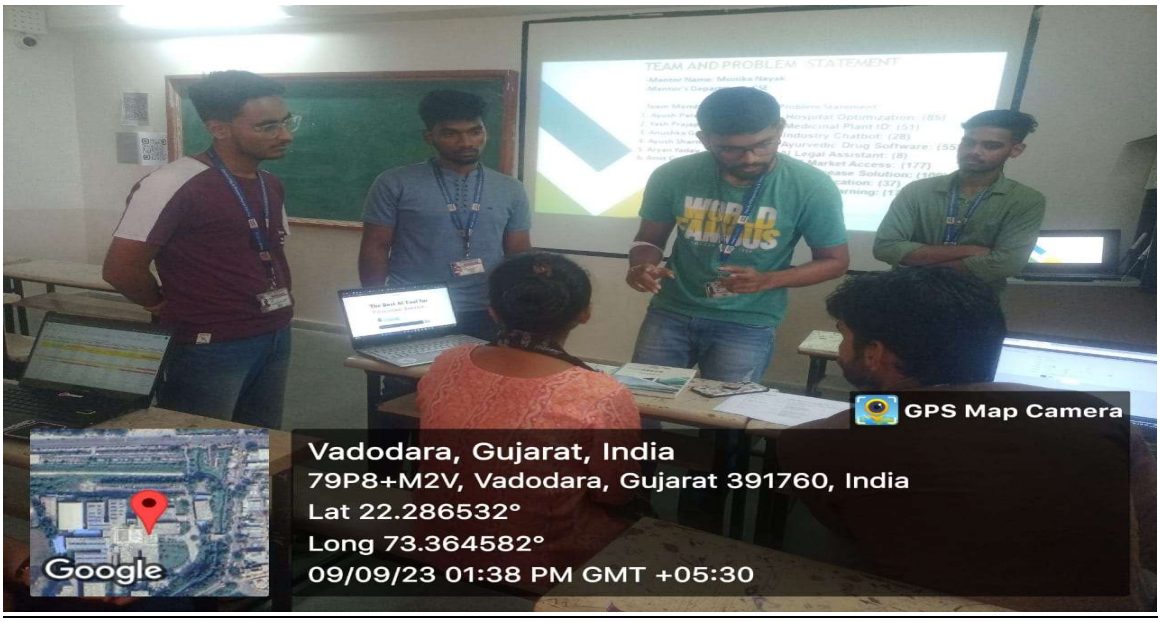
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Idea/Approach Details
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Long 73.363991°
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Participating Teams:

Judging Process:

Judging Process is based on Idea, Implementation, Design, Presentation variable where each can have 10 marks weightage.

Key Attributes		Score
Idea	Did the proposal address the problem statement and Theme?	20
Implementation	Does the Solution Work?	20
Design	Did the team put thought into the user experience?	10
Presentation	Does the Presentation clearly define and address the Problem Statement.	10
Total		60

Jury Panel:

Name of the Jury	Designation of Jury	Organization of Jury	Mobile No of Jury	Email ID of Jury
Prof.Barot Kaushal K	Asst.Professor	Parul Institute of Technology	9428755439	Kaushal.barot@paruluniversity.ac.in
Prof.Arun Arya	Asst.Professor	Parul Institute of Technology	9794108388	arun.arya8881@paruluniversity.ac.in
Prof. nirali.bhaliya	Asst.Professor	Parul Institute of Technology	9825107184	nirali.bhaliya270184@paruluniversity.ac.in
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Prof.Dixit Kumar Mistry	Asst.Professor	Parul Institute of Technology	9725248846	dixitkumar.mistry17504@paruluniversity.ac.in

Nominated Top Teams:

	Name	Gender (M/F)	Email id	Mobile no.	Stream	Year
Team Leader	Aadarsh Jha	M	210305105278@paruluniversity.ac.in	7600081901	CSE	3rd
Team Leader	Anurag Kumar Roy	M	kranuragroy@gmail.com	9113751334	Automobile	1st
Team Leader	Sohan Shil	M	200305103079@paruluniversity.ac.in	8617556484	Chemical Engineering	4th
Team Leader	Priyansh Parikh	M	priyanshparikh14@gmail.com	9662482402	Chemical Engineering	4th
Team Leader	Shubh Tanna	M	210305105044@paruluniversity.ac.in	7405950263	CSE	3rd
Team Leader	Vraj Pujara	M	210305125701@paruluniversity.ac.in	9173008833	CSE	4th

Outcomes:

1. Innovative Solutions: Hackathons often lead to the development of innovative software or hardware solutions to specific problems or challenges.

2. Prototypes: Participants may create prototypes or proof-of-concept projects that demonstrate the feasibility of an idea or concept.

2. Learning: Participants gain new skills and knowledge during the event, whether it's learning a new programming language, technology, or problem-solving techniques.

4. Networking: Attendees have the opportunity to network with peers, mentors, and potential employers or collaborators, which can be valuable for future career opportunities.

5. Team Building: Hackathons often involve teamwork, and participants may form new professional relationships or strengthen existing ones.

6. Prizes and Recognition: Some hackathons offer prizes or recognition for the best projects, which can be a significant motivator.

7. Open-Source Projects: Many hackathon projects are released as open-source software, contributing to the broader developer community.

Activity Details:

The Vadodara Hackathon, held on September 8 2023 to September 9, 2023 by Parul Institute of Technology, was a two-Day event where students of Parul institute of Technology meet to solve real-world problems using technology. The hackathon was divided into Software and Hardware modules where examples of Software track is as per Under:

Artificial Intelligence: Participants in this track developed AI-powered solutions to solve problems in areas such as healthcare, education, and transportation.

Blockchain: Participants in this track built blockchain-based applications to address challenges in areas such as supply chain management, financial services, and voting.

Data Science: Participants in this track used data science to analyze large datasets and develop insights that could be used to improve business processes and make better decisions.

Web and Mobile Development: Participants in this track developed web and mobile applications to solve real-world problems in areas such as e-commerce, social media, and education.

The hackathon was judged by a panel of experts from Parul institute of Technology. The winning teams received cash prizes and certificates.

Here are some of the specific activities that took place at the Vadodara Hackathon:

Opening Ceremony: The hackathon kicked off with an opening ceremony that featured keynote speeches from industry leaders and a panel discussion on the future of technology.

Workshops: Participants had the opportunity to attend workshops on a variety of topics related to the hackathon tracks.

Codeathon: Participants spent the majority of the hackathon working on their projects. They had access to mentors and resources to help them succeed.

Demo Day: On the final day of the hackathon, participants presented their projects to the judges and the audience.

The Vadodara Hackathon was a successful event that brought together students from across India to solve real-world problems using technology. The hackathon provided participants with the opportunity to learn from experts, network with other students, and develop their skills.

Social Media links:
https://www.facebook.com/photo?fbid=614079874134244&set=pcb.614081617467403

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