भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

किर IITH

the crowning glory

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Design and Innovation

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Dear Readers,

Warm greetings to all of you!

As we bring you this latest edition of किरIITH, we want to take a moment to extend our heartfelt thanks. Your continued encouragement and involvement mean the world to us, and we're truly grateful for your presence in our journey.

Your enthusiasm, thoughtful responses, and ongoing curiosity about the happenings at IIT Hyderabad inspire us to keep evolving and delivering meaningful content. It's your connection with our stories that makes this endeavour so fulfilling.

As always, this edition is dedicated to one of IITH's key thrust research areas, *"DesignInnovation@IITHyderabad"* - Vol - 6, Issue-3, Jul-Sep 2024 (Issue - 20). In an era defined by rapid technological change and global challenges, Design Innovation has emerged as a critical pillar for progress across industries and disciplines.

It is no longer confined to aesthetics or product packaging—instead, design thinking and innovation now shape how we solve problems, create user-centered solutions, and envision the future.

Design innovation emphasizes empathy, usability, and sustainability, ensuring that technological solutions are intuitive, inclusive, and impactful.

Incorporating design innovation into the fabric of a technical educational institute enriches the learning experience, aligns education with evolving industry demands, and empowers students to shape a more intelligent and sustainable future.

At IIT Hyderabad, this philosophy is deeply embedded in our academic ecosystem—where engineering meets creativity, and problem-solving is driven by empathy and experimentation. As the world continues to evolve, IITH remains committed to redefining education through design-driven innovation and interdisciplinary collaboration.

This edition offers a curated glimpse into the strides being made in the realm of Design Innovation at IITH, showcasing pioneering research, creative exploration, and the interdisciplinary spirit that defines our academic and research pursuits. Your support encourages us to return with an enhanced and enriching experience with exciting editions of "किरIITH".

Happy Reading & Stay connected...

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"Education is the most powerful weapon which you can use to change the world."

—Nelson Mandela

Greetings Everyone,

Wishing you wellness and positivity as we move forward together.

With a new chapter unfolding, I'm delighted to reach out and share a few thoughts on the evolving journey of IIT Hyderabad—a path marked by innovation, collaboration, and continuous growth.

As you explore this issue of our newsletter, "किरIITH" (KirIITH) – The Crowning Glory, I'm thrilled to highlight some of the recent breakthroughs and developments in the realm of Design Innovation at IITH. Our dedication to pushing creative and technological boundaries remains unwavering, and it's truly inspiring to witness the impactful strides our community is making in this transformative field.

On this elated occasion of disseminating KirIITH, I am thrilled to announce that IIT Hyderabad has secured 3rd rank in the Innovation category, 8th rank in Engineering, 15th rank in Research institutes and 12th rank in the Overall category in the NIRF Rankings 2024. These accomplishments are a testament to the collective efforts of our students, faculty, researchers, and collaborators who relentlessly strive to push boundaries and reimagine the future.

IIT Hyderabad fosters a vibrant research ecosystem by encouraging interdisciplinary collaboration, supporting cutting-edge projects, and providing world-class infrastructure to address real-world challenges. A pioneering feat was achieved in research through Project PRABAL, where IIT Hyderabad and Simpliforge Creations, in collaboration with the Indian Army, successfully delivered India's first on-site 3D printed protective structure in Leh using local materials.

IIT Hyderabad continues to witness vibrant developments with the inauguration of the cutting-edge AR/VR labs by InfoVision and the launch of the CCE Recording Studio, marking our commitment to embracing digital and immersive learning, and We were honored to have Prof. Abhay Karandikar, Secretary, DST, inaugurate the SATHI Centre, Hall of Fame, and the Digital Heritage Lab, further reinforcing our role in preserving culture through technology.

IIT Hyderabad proudly hosted Innovation Day 2024, with over 2,000 attendees, culminating in the MeitY Grand Challenge Finale. Innovation Day is a yearly celebration of entrepreneurship and innovation at the Indian Institute of Technology Hyderabad (IITH). It showcases startups supported by IITH ecosystem, and tech transfer-ready innovations by faculties and students. IITH has been certified with multiple ISO standards—ranging from Business Continuity and Security to Environmental and Energy management—recognizing our commitment to sustainability and operational excellence.

IIT Hyderabad hosted the Future Inventors Fair 2024, engaging young minds from across Telangana, and inspiring the next generation of innovators, Aiming to cultivate a spirit of innovation and creativity, the event will provide a platform for these young innovators to showcase their projects and ideas on a prestigious stage.

IIT Hyderabad also celebrated its 13th Convocation, graced by Shri BVR Subrahmanyam, IAS, CEO of NITI Aayog, where over 1,000 students graduated—a record-breaking milestone for IITH and a moment of great pride.

Our commitment to global collaborations and cutting-edge research is exemplified by our interdisciplinary and international initiatives, such as the International Symposium on Additive Manufacturing in partnership with Deakin University, Australia, and a strategic MoU with AIIMS Bibinagar to advance interdisciplinary research in healthcare."

Further, it's a matter of great pride that 23 of our faculty members have been featured in Stanford University's list of the Top 2% Scientists Worldwide—a clear indicator of the academic and research excellence nurtured at IITH.

As you explore this issue of "किरIITH – The Crowning Glory", I invite you to reflect on the dynamism and resilience that define our institute.

Together, we will continue to build a future rooted in knowledge, innovation, and societal impact.

~ Prof B S Murty
Director
IIT Hyderabad

Towards a Global and Inclusive IIT Hyderabad: Nurturing Communities, Partnerships and Innovation

KID: 20240301

It is always a privilege to share thoughts and updates with the wider IIT Hyderabad community through किरIITH. As we continue to grow as a premier institute of national importance, the role of meaningful relationships with our alumni, corporate partners and well-wishers—has never been more vital. These connections form the foundation upon which our vision for the future is built. The Office of Alumni and Corporate Relations (ACR) is dedicated to nurturing these bonds, creating platforms where experience meets ambition and where collaboration fuels innovation through equitable participation and shared opportunity. Our aim is to ensure that every interaction be it an alumni reunion, an industry engagement or a new initiative—adds lasting value to both the institute and its diverse and inclusive community. These efforts collectively contribute to a culture that values diversity, encourages participation from all backgrounds and reinforces the sense of belonging that defines IIT Hyderabad.

IIT Hyderabad continues to strengthen its alumni and industry engagement in line with its global and inclusive vision. With a growing alumni base of over 8,000+ the institute is preparing to launch new regional chapters in Japan, the Bay Area (USA), Europe and Singapore.

Glimpse of Annual Alumni Day 2024

More than 10 alumni-student connect events have been organized recently, fostering mentorship, career development and meaningful networking that ensures students from all backgrounds can benefit equitably. As a gesture of appreciation for continued support, IITH has instituted 10 Donor Awards to recognize the generosity of individuals and organizations, with 2 new awards planned and several more in discussion – acknowledging contributions that support inclusive excellence across the institute.

On the corporate front, IITH has established over 100 industrial collaborations across various sectors, ranging from deep-tech startups to large multinational corporations. These partnerships span joint research initiatives, sponsored projects, internships and knowledge exchange programs. The institute is actively working with industry partners to set up Centers of Excellence (COEs) focused on innovation, advanced technologies and skill development —strengthening the bridge between academia and industry with a focus on inclusive growth and access to opportunities. Further encouraging corporate and philanthropic participation, IIT Hyderabad received approval for 100% tax exemption under Section 80G of the Income Tax Act in March 2025. This allows donors and CSR partners to claim full tax benefits on eligible contributions, making it financially advantageous to support initiatives in research, infrastructure, student development and innovation-led growth at the institute.

The ACR Office remains committed to fostering meaningful and long-term partnerships with alumni and corporate stakeholders, guided by the values of integrity, inclusivity, excellence and mutual growth. As IITH prepares for upcoming institutional events and strategic milestones, we invite all stakeholders to remain actively engaged in the life and progress of the institute.

Prof Mahendra Kumar Madhavan
Dean – Alumni and Corporate Relations
Indian Institute of Technology Hyderabad

Designing Futures: Igniting Innovation through Creativity and Compassion

KID: 20240302

At the Department of Design, IIT Hyderabad, we believe that design is not just a discipline—it is a mindset, a force for change, and a tool for building a better world. As the Department prepares for the next phase of its exciting journey, I take this opportunity to reflect on our collective achievements and share a glimpse into the creative energy that defines our vision.

In just a few years, the Department of Design has evolved into a nursery of creative thinkers, critical problem solvers, and socially conscious innovators. With our applied, hands-on approach, we focus not only on aesthetics and usability but also on impact—be it for sustainability, technology integration, or inclusive development.

We offer a vibrant suite of programs:

- Bachelor of Design (B.Des), nurturing fresh minds into design thinkers and makers
- Master of Design (M.Des), fostering specialization in three emerging areas of
  - Product Design – Focusing on tangible innovations, manufacturing, ergonomics, and sustainability.
  - Visual Communication – Bridging storytelling, identity, and critical social narratives through diverse media.
  - Interaction Design – Shaping experiences in digital and physical interfaces using UX, HCI, and emerging tech.
- PhD in Design, advancing research in AI + design, healthcare, heritage, sustainability, and more

What sets us apart is our interdisciplinary ecosystem. Our students and faculty collaborate with peers from Computer Science, Materials Science, BioTech, and Liberal Arts.

We encourage design rooted in empathy, blending human-centred approaches with new-age technologies like AI, XR, AR/VR/MR, 3D printing, and sustainable material practices.

Our students have won national and international awards, filed design registrations, and secured industry-supported capstone projects. Faculty members lead cutting-edge research in climate-conscious design, digital heritage, and smart product development. Our labs buzz with collaborative innovation, where design meets real-world challenges.

At DoD, creativity is not limited to studios—it spills into our design fests, workshops, community outreach programs, and designathons, where students push boundaries and imagine future possibilities. Whether it's a wearable health monitor for rural clinics, a climate-resilient shelter prototype, or a story-driven animation—our students' work echoes design with purpose.

Design thinking, to us, is more than a tool—it's a way to engage with life. It teaches us to observe deeply, question critically, ideate freely, and act responsibly. And in an era of rapid change, these are the traits that will define the innovators of tomorrow.

We are equipped with state-of-the-art teaching and research laboratories, design studios, maker spaces, 3D printing and prototyping workshops, photography and media labs, and user experience testing facilities. These resources provide comprehensive support for students and researchers to translate ideas into impactful solutions—right from sketch to screen to society.

Our crew with BDes final year students, 2021-2025

The DoD hosts several interdisciplinary research labs that foster innovation, technology integration, and social impact. The Digital Heritage Lab pioneers AR/VR-based cultural preservation, while the Design for Sustainability Lab advances eco-innovation and circular economy practices. The Graphic Design and Film Labs focus on visual experiences, the Human-Centered Interaction Design & Health Lab focuses on design solutions for well-being, particularly indoor air quality. The INDREA XR and Interaction Design Lab explores cutting-edge interfaces and immersive technologies, and the Design Innovation Center and CoDE for MSMEs Lab supports industry-centric, sustainable product development. These labs enable hands-on research, industry collaboration, and real-world problem solving, aligning with the department's applied and future-focused vision.

Our commitment to excellence is evident in the achievements of our students, many of whom have won national and international design awards, registered designs and IP, and secured competitive internships and placements with leading firms. Our placement record remains consistently strong, with top companies from across the design, tech, and creative sectors hiring from our programs.

Industry engagement is a cornerstone of our pedagogy. We run regular industry lecture series, design clinics, and collaborative workshops led by a vibrant pool of visiting faculty and seasoned professionals from companies and institutions around the globe. This interface ensures that our students are exposed to cutting-edge practices and real-world challenges early in their academic journey.

In recent years, the department has also hosted marquee events like ICoRD 2025, marking a significant milestone as we welcomed global participants into our new, purpose-built design building. Such platforms reinforce our position as a hub for design-led innovation and research in India.
At DoD, we believe that the future belongs to those who can imagine it—and build it. Our mission is to nurture that mindset in every student who walks through our doors. We welcome aspiring designers, researchers, and industry collaborators to engage with us and co-create a more thoughtful, sustainable, and inspiring world.

To all young readers of KirIITH—if you've ever looked at the world and wished to make it better, more beautiful, or more just—design is your language. And at IIT Hyderabad's Department of Design, you'll find the platform, mentors, and peers to help you shape your dreams into tangible realities. We look forward to continuing this journey—of learning, unlearning, creating, and reimagining—with you.

Dr Shiva Ji
Associate Professor
HoD, Department of Design

भविष्य की रूपरेखा बनाना: रचनात्मकता और करुणा के माध्यम से नवाचार को बढ़ावा देना

KID: 20240303

आईआईटी हैदराबाद के डिजाइन विभाग में, हम मानते हैं कि डिजाइन केवल एक अनुशासन नहीं है - यह एक मानसिकता है, बदलाव हेतु एक शक्ति है, और एक बेहतर दुनिया के निर्माण के लिए एक उपकरण है। जैसा कि विभाग अपनी रोमांचक यात्रा के अगले चरण की तैयारी कर रहा है, मैं इस अवसर पर हमारी सामूहिक उपलब्धियों पर विचार करने और हमारी दृष्टि को परिभाषित करने वाली रचनात्मक ऊर्जा की एक झलक साझा करने का अवसर गँवाना नहीं चाहता हूँ।

कुछ ही वर्षों में, डिजाइन विभाग रचनात्मक विचारकों, महत्वपूर्ण समस्या समाधानकर्ताओं और सामाजिक रूप से जागरूक नवप्रवर्तकों की नर्सरी के रूप में विकसित हो गया है। हमारे लागू, व्यावहारिक दृष्टिकोण के साथ , हम न केवल सौंदर्यशास्त्र और प्रयोज्यता पर बल्कि प्रभाव पर भी ध्यान केंद्रित करते हैं - चाहे वह स्थिरता, प्रौद्योगिकी एकीकरण या समावेशी विकास के लिए हो।

हम पाठ्यक्रमों का एक जीवंत समूह प्रदान करते हैं:

- डिजाइन में स्नातक (बी.डीईएस) , नए विद्यार्थियों को डिजाइन विचारकों और निर्माताओं के रूप में विकसित करना
- मास्टर ऑफ डिज़ाइन (एम. डीईएस) , तीन उभरते क्षेत्रों में विशेषज्ञता को बढ़ावा देना
    - उत्पाद डिजाइन - मूर्त नवाचारों, विनिर्माण, एर्गोनॉमिक्स और स्थिरता पर ध्यान केंद्रित करना।
    - दृश्य संचार - विविध मीडिया के माध्यम से कहानी कहने, पहचान और महत्वपूर्ण सामाजिक आख्यानों को जोड़ना।
    - इंटरेक्शन डिज़ाइन - UX, HCI और उभरती हुई तकनीक का उपयोग करके डिजिटल और भौतिक इंटरफेस में अनुभवों को आकार देना।
- डिजाइन में पीएचडी , एआई + डिजाइन, स्वास्थ्य सेवा, विरासत, स्थिरता इत्यादि में अनुसंधान को आगे बढ़ाना

जो चीज हमें अलग बनाती है, वह है हमारा अंत:विषय पारिस्थितिकी तंत्र । हमारे छात्र और संकाय कंप्यूटर विज्ञान, सामग्री विज्ञान, बायोटेक और लिबरल आर्ट्स के साथियों के साथ सहयोग करते हैं।

हम सहानुभूति पर आधारित डिजाइन को प्रोत्साहित करते हैं, तथा मानव-केंद्रित दृष्टिकोणों को नए युग की प्रौद्योगिकियों जैसे कि एआई, एक्सआर, एआर/वीआर/एमआर, 3डी प्रिंटिंग और टिकाऊ सामग्री प्रथाओं के साथ सम्मिश्रित करते हैं।

हमारे छात्रों ने राष्ट्रीय और अंतर्राष्ट्रीय पुरस्कार जीते हैं, डिज़ाइन पंजीकरण दाखिल किए हैं, और उद्योग-समर्थित कैपस्टोन प्रोजेक्ट हासिल किए हैं। संकाय सदस्य जलवायु-सचेत डिज़ाइन, डिजिटल विरासत और स्मार्ट उत्पाद विकास में अत्याधुनिक शोध का नेतृत्व करते हैं। हमारी प्रयोगशालाएँ सहयोगी नवाचार से गुलज़ार हैं, जहाँ डिज़ाइन वास्तविक दुनिया की चुनौतियों का सामना करता है।

डिज़ाइन विभाग में, रचनात्मकता केवल स्टूडियो तक सीमित नहीं है - यह हमारे डिज़ाइन फ़ेस्ट, कार्यशालाओं, सामुदायिक आउटरीच कार्यक्रमों और डिज़ाइनथॉन में भी झलकती है , जहाँ छात्र सीमाओं को आगे बढ़ाते हैं और भविष्य की संभावनाओं की कल्पना करते हैं।

चाहे वह ग्रामीण क्लीनिकों के लिए पहनने योग्य स्वास्थ्य मॉनिटर हो, जलवायु-लचीला आश्रय प्रोटोटाइप हो, या कहानी-चालित एनीमेशन हो - हमारे छात्रों का काम उद्देश्यपूर्ण डिज़ाइन को प्रतिध्वनित करता है।

डिज़ाइन थिंकिंग एक उपकरण से कहीं ज़्यादा है - यह जीवन से जुड़ने का एक तरीका है। यह हमें गहराई से निरीक्षण करना, आलोचनात्मक रूप से सवाल करना, स्वतंत्र रूप से विचार करना और जिम्मेदारी से काम करना सिखाता है। और तेज़ी से बदलते दौर में, ये ऐसे गुण हैं जो कल के इनोवेटर्स को परिभाषित करेंगे।

हम अत्याधुनिक शिक्षण और अनुसंधान प्रयोगशालाओं , डिज़ाइन स्टूडियो , मेकर स्पेस , 3D प्रिंटिंग और प्रोटोटाइपिंग कार्यशालाओं , फ़ोटोग्राफ़ी और मीडिया लैब और उपयोगकर्ता अनुभव परीक्षण सुविधाओं से सुसज्जित हैं । ये संसाधन छात्रों और शोधकर्ताओं को विचारों को प्रभावशाली समाधानों में बदलने के लिए व्यापक सहायता प्रदान करते हैं - स्केच से लेकर स्क्रीन तक और समाज तक।

बी.डी.ई.एस. अंतिम वर्ष के छात्रों के साथ हमारा दल, *2021-2025*

डिजाइन विभाग कई अंत:विषय अनुसंधान प्रयोगशालाओं की मेजबानी करता है जो नवाचार, प्रौद्योगिकी एकीकरण और सामाजिक प्रभाव को बढ़ावा देते हैं। डिजिटल हेरिटेज लैब AR/VR-आधारित सांस्कृतिक संरक्षण में अग्रणी है, जबकि डिजाइन फॉर सस्टेनेबिलिटी लैब इको-इनोवेशन और सर्कुलर इकोनॉमी प्रथाओं को आगे बढ़ाती है। ग्राफिक डिजाइन और फिल्म लैब दृश्य अनुभवों पर ध्यान केंद्रित करते हैं, मानव-केंद्रित इंटरेक्शन डिजाइन और स्वास्थ्य लैब कल्याण, विशेष रूप से इनडोर वायु गुणवत्ता के लिए डिजाइन समाधानों पर ध्यान केंद्रित करते हैं। INDREA XR और इंटरेक्शन डिज़ाइन लैब अत्याधुनिक इंटरफेस और इमर्सिव तकनीकों की खोज करती है, और डिज़ाइन इनोवेशन सेंटर और एमएसएमई लैब के लिए CoDE उद्योग-केंद्रित, टिकाऊ उत्पाद विकास में सहायता करती है। ये प्रयोगशालाएँ विभाग के लागू और भविष्य-केंद्रित दृष्टिकोण के साथ संरेखित करते हुए व्यावहारिक अनुसंधान, उद्योग सहयोग और वास्तविक दुनिया की समस्या समाधान को सक्षम बनाती हैं।

उत्कृष्टता के प्रति हमारी प्रतिबद्धता हमारे छात्रों की उपलब्धियों में स्पष्ट है, जिनमें से कई ने राष्ट्रीय और अंतर्राष्ट्रीय डिज़ाइन पुरस्कार जीते हैं , डिज़ाइन और आईपी पंजीकृत किए हैं , और अग्रणी फर्मों के साथ प्रतिस्पर्धी इंटर्नशिप और प्लेसमेंट हासिल किए हैं । हमारा प्लेसमेंट रिकॉर्ड लगातार मजबूत बना हुआ है , डिज़ाइन, तकनीक और रचनात्मक क्षेत्रों की शीर्ष कंपनियाँ हमारे कार्यक्रमों से भर्ती करती हैं।

उद्योग से जुड़ाव हमारी शिक्षा पद्धति का आधार है। हम नियमित रूप से उद्योग व्याख्यान श्रृंखला , डिज़ाइन क्लीनिक और सहयोगी कार्यशालाएँ चलाते हैं, जिनका नेतृत्व दुनिया भर की कंपनियों और संस्थानों के विज़िटिंग फैकल्टी और अनुभवी पेशेवरों के एक जीवंत समूह द्वारा किया जाता है। यह इंटरफ़ेस सुनिश्चित करता है कि हमारे छात्र अपनी शैक्षणिक यात्रा के आरंभ में ही अत्याधुनिक प्रथाओं और वास्तविक दुनिया की चुनौतियों से अवगत हों।

हाल के वर्षों में, विभाग ने ICoRD 2025 जैसे प्रमुख कार्यक्रमों की भी मेज़बानी की है , जो एक महत्वपूर्ण मील का पत्थर साबित हुआ क्योंकि हमने अपने नए, उद्देश्य-निर्मित डिज़ाइन भवन में वैश्विक प्रतिभागियों का स्वागत किया। ऐसे मंच भारत में डिज़ाइन-आधारित नवाचार और अनुसंधान के केंद्र के रूप में हमारी स्थिति को मज़बूत करते हैं।

डिजाईन विभाग में, हम मानते हैं कि भविष्य उन लोगों का है जो इसकी कल्पना कर सकते हैं - और इसे बना सकते हैं। हमारा मिशन हमारे दरवाज़े से आने वाले हर छात्र में उस मानसिकता को विकसित करना है। हम महत्वाकांक्षी डिज़ाइनरों, शोधकर्ताओं और उद्योग सहयोगियों का हमारे साथ जुड़ने और एक अधिक विचारशील, टिकाऊ और प्रेरक दुनिया बनाने के लिए स्वागत करते हैं।

किरीथ के सभी युवा पाठकों के लिए —यदि आपने कभी दुनिया को देखा है और इसे बेहतर, अधिक सुंदर या अधिक न्यायपूर्ण बनाने की इच्छा की है— डिजाइन आपकी भाषा है । और आईआईटी हैदराबाद के डिजाइन विभाग में, आपको अपने सपनों को मूर्त वास्तविकताओं में आकार देने में मदद करने के लिए मंच, सलाहकार और साथी मिलेंगे। हम आपके साथ सीखने, भूलने, बनाने और फिर से कल्पना करने की इस यात्रा को जारी रखने के लिए तत्पर हैं।

डॉ शिवा जी
एसोसिएट प्रोफेसर
डिजाइन विभाग के प्रमुख

Urban Air Mobility (UAM) Design for Indian Passengers using Virtual Reality (VR) Validation


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Electric vertical take-off and landing (eVTOL) is one of the different modes of public transportation explored worldwide, with its future prospects, also known as “Urban Air Mobility” or "Air Taxis", to carry passengers inside or across cities. To meet the growing commuting needs of public transportation in India, UAM is an opportunity that can be explored. Although several nations, including India, are developing Urban Air Mobility (UAM) aircraft designs, little research has been done on human interaction with them.

The aim of our study was to design Urban Air Mobility (UAM) aircraft based on preference validation from Indian passengers, focusing on the perception of safety and user experience. The study included a literature review of existing studies on UAM technology, passenger perceptions, user experience, visual safety, VR validation, and survey research.

The first phase of the study included a literature study concentrated on the existing development of UAM aircraft and a survey on the designs of five different UAM aircraft shared with the participants. Qualitative data was collected through interviews and surveys from Indian passengers, highlighting their prior aviation safety experiences and their acceptance of utilising UAM aircraft.

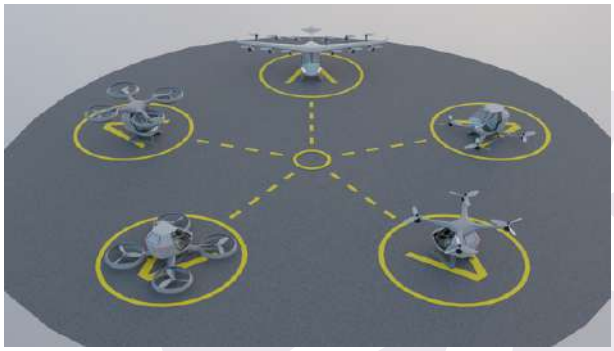

Figure 1: Design options of UAM placed in a vertiport environment.

> “To meet the growing commuting needs of public transportation in India, UAM is an opportunity that can be explored.

The second phase validated the design options (Figure 1) through VR simulations and survey research, with quantitative data analysed using statistical methods. By providing participants with an immersive experience of UAM design options (figure 2), VR validation research was conducted. A poll was then conducted to gauge participants' opinions of the UAM design preference based on acceptability and safety.

Figure 2: Immersive experience of UAM using VR.

From the visual safety standpoint, these two studies' findings were used to recommend and develop a digital UAM design for Indian passengers. Thus, a computer-generated 3d model of a potential Urban Air Mobility (UAM) aircraft (Figure 3) was created. This digital design helps incorporate preferred features and other specifications informed by the research.

Acknowledgements
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We thank all the participants for their valuable time and insights, which were essential to the success of this research.

Figure 3: The design of the UAM aircraft, based on Indian passenger preferences

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Visual documentation and design intervention for safeguarding the living heritageof the Gond community of Telangana


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The “Design Innovation Centre” at the Department of Design, IITH, aims to design and develop a virtual cultural heritage repository of the traditional craft and art practices of the tribal communities of Telangana. Our current work is focused on documenting the tangible and intangible living heritage of the various tribes inhabiting the state. Documenting the built architecture of Telangana is another key focus of our research. In India, scientific tools for scanning and quantitative assessment of culture and heritage are still limited to documentation for archival purposes. An attempt at digital preservation and virtual recreation is a step towards future-proofing our roots. We aim to develop a digital repository of the state's cultural heritage by embedding advanced technologies such as augmented reality (AR) and virtual reality (VR) in heritage preservation. Briefs on the ongoing project to safeguard cultural heritage are given below.

Safeguarding the Tangible and Intangible Heritage of Telangana

Regarding historical importance and the current population, the Gond tribe, a noted tribe of Telangana, has become a state heritage. The ongoing project seeks to research and document the cultural heritage of the tribe, their current practices, crafts and rituals and the oral repertoire. It also aims to use design intervention techniques and processes to preserve the heritage and provide suitable platforms for recognising and uplifting the rich culture of the tribe.

With every passing decade, their landscapes are altered, and despite our best efforts, heritage deteriorates. With the passing of every generation, the links to their sociocultural memories diminish. Skilled artisans who lack patronage encourage their children to take up modern-day professions, leading to venerable art and craft forms’ death. Perhaps the only way to ensure that all knowledge is not lost to time is by documenting them.

The major tasks were completed under the project.

- An inventory of all the artefacts found through documentation
- Recording oral histories to understand the intangible cultural heritage
- Identify methods to safeguard the cultural heritage
- Involving the traditional bearers and practitioners by participatory action research
- Interpretation of the customs and characteristics in the virtual museum

This project enabled users to access information on all aspects of their heritage by making it possible to discover, study, and understand the cultural treasures of Telangana and essential historical documents in a variety of ways, such as museum spaces, kiosks, digital portals (webpage) and educational content disseminated through partnerships with academic institutions.


Figure 1: Rituals at Nagoba Jatra


Figure 2: Community membersattending persa pen worship at Indravelly


Figure 3: Pradhans performing musical instruments at Nagoba Jatra


Figure 4: Communitymembers performing a ritual at Duradi

Figure 5: Screenshot showingdetails of the Dhokra artefacts in the Virtual Gond Museum


Figure 6: Screenshot showing the Culturalartefact in the Virtual Gond Museum

Design Intervention Workshop with Ojha craftsmen

The Design Intervention workshop aimed at safeguarding the Dhokra crafts of the Ojha Gonds Community was held at Kala Ashram, Adilabad. The workshop was conducted as a part of the Ongoing Project "Tangible and Intangible Cultural Heritage of Telangana under the Supervision of the Project instructor, Prof Deepak John Mathew.

Ten Ojha artisan families of Chitalbori and Rampur Belsari villages from the Adilabad region participated in the workshop. The traditional artefacts, along with new forms and designs, were created by the artisans using the traditional metal casting methods used by the Ojha community. The workshop also had an objective of community building, peer learning, skill development and training. Thus, the Master craftsman was chosen from the Ojha Community itself. Master craftsman shared his craft expertise with the community's peer artisans. The workshop was intended to revive the traditional "Wojari Kala" (literally translates art of the Ojha Community) and encourage younger generations of the ojha families to adapt to the traditional occupation by providing design intervention through the workshop; the artisans could create products which can fulfil the market's needs; thus, their traditional crafts can provide sustainable livelihood to the Community.

Through the workshop, we tried to bridge the gap between traditional artisans and current market practices. The workshop aimed to achieve holistic development of the artisans and to provide sustainable livelihood opportunities to the tribal artisans. Tangible and Intangible Heritage of Telangana is a project with immense possibilities and a vast area to cover regarding documentation. The project is opening more prospects for tangible and intangible cultural heritage and ways to safeguard the rich cultural heritage of Gonds. This study will provide a path to protecting the cultural heritage and traditions of other tribal cultures. The framework established and implemented in this project can be adapted to document and safeguard cultural heritage in different regions of India.

Moreover, the workshops conducted for skill development and upliftment of traditional tribal crafts practice provide a sustainable likelihood system for the artisans of tribal communities. It is a need of an hour to safeguard the living practices of the artisans; through this project, we tried to establish a bridge between the current markets and local artisanal methods, which can be a significant step in safeguarding living traditions and indigenous knowledge.

Figure 7: Diagram showing the key aspects of the Dhokra crafts and its significance in the Gond Society

Figure 8: Ojha artisansand Design team from IITH at workshop site in Adilabad

Figure 9: Ojha artisanscreating products with the wax coils for Dhokra castingduring the workshop

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Brick by Brick- A Photobook


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The clay brick-making Industry is one of the largest rural industries in India at present. Brick- making workers in India form a significant part of the country's unorganised labour sector, often enduring harsh working conditions with minimal legal protection. Thousands of families are working in this sector. The industry relies heavily on migrant labourers from economically disadvantaged backgrounds, primarily from states like Uttar Pradesh, Bihar, Jharkhand, Odisha, and Andhra Pradesh. These workers and their families migrate seasonally to brick kilns, where they live and work under strenuous conditions, shaping, drying, and firing bricks for long hours in extreme temperatures. The nature of employment is largely informal, with many workers trapped in cycles of debt bondage due to advance payments taken from kiln owners.

Wages are often low and irregular, and child labouris prevalent, with entire families—including children—contributing to production. The work is physically demanding, involving lifting and carrying heavy loads, exposure to hazardous dust and fumes, and long hours under the scorching sun.

Despite being crucial to India's construction industry, brick kiln workers remain one of the most exploited and invisible labour groups, with limited access to healthcare, education, or basic amenities. During non-agricultural seasons, the families migrate across the country to the Brick kiln areas for around six to seven months a year.

Wheels of Inequality

Brickmaking is one of the eminent traditional practices used for construction dating from early civilizations. The Book Project "Brick By Brick" is an outcomepart of the PhDcourse work "DigitalImaging and Photography". The Documentary Photography approach for the project is inspired by Eminent Photographer "Sebastiao Salgado" – His work is known for its deeply humanistic portrayal of labour, migration, and resilience.

Salgado's ability to capture raw emotions, intricate details, and the socio-economic conditions of marginalised communities is a guiding influence in this visual ethnographic project. His black-and-white compositions, rich in contrast and storytelling depth, emphasise the dignity and perseverance of workers in challenging environments.

Still- life

A visual ethnographic approach has been used for the documentation, including informal interviews and conversations. The project reflects a personal take based on the conversation and interactions with the participants at the brick kiln. The Photobook Project attempts to look closely at Brick workers' lives at the Brick Kiln and tries to capture the Mundane activities at the site, the hardship and struggle of families, moments of shared joy, togetherness and living experiences of the brick workers.

Morning Steps of Hope

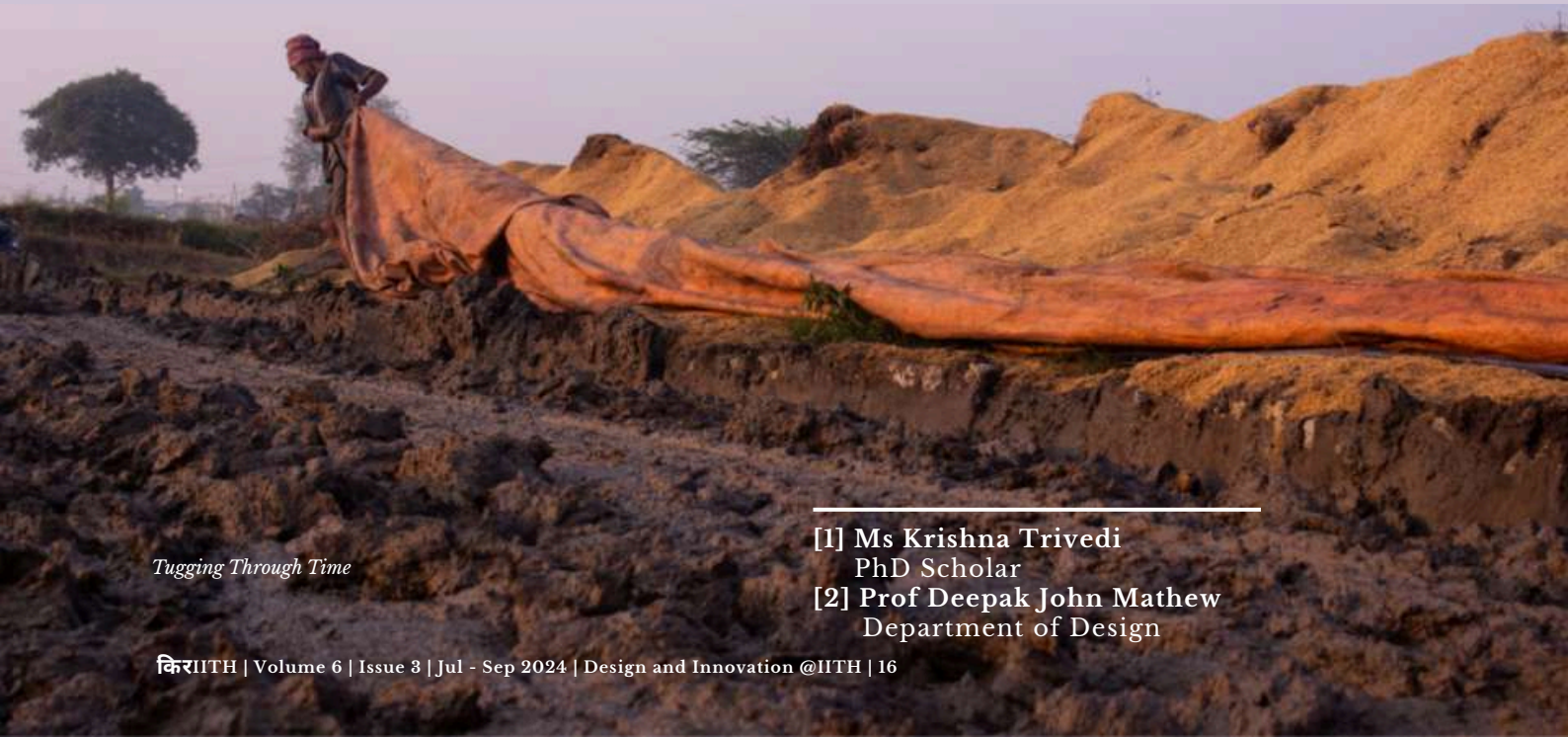
> **"Despite being crucial to India's construction industry, brick kiln workers remain one of the most exploited and invisible labour groups, with limited access to healthcare, education, or basic amenities."**

Nearly thirty workers from the Krishna District of Andra Pradesh and their families live and work at one of the Brickkiln near Mamidipalli Tanda, Sangareddy, Hyderabad. The place is filled with chaos, multiple living experiences and fleeting moments. The only struggle is to look at what lies beneath! Where multiple stories unfold simultaneously. The challenge is not just to document what meets the eye but to look beyond—to explore the underlying emotions, aspirations, and silent narratives that define their lived experiences.

Her labor, Our Shelter

Fathered Friendship

Keywords: Documentary Photography, Visual Ethnography, Life at Brick Klin, Photobook



Tugging Through Time

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A novel methodology for practise based design?


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Integration of design and research calls for new approaches that combine active, creative engagement with systematic academic discipline. Integrating reflective practice, agile project management, innovative research, and speculative design encompasses a variety of robust frameworks to inject new knowledge through the process of making. This conceptual article demonstrates how such frameworks converge to produce significant research processes.

Emergence of Practice-Based Design Research

Every approach to research and design starts at some fundamental and axiomatic ground or belief. While most approaches will gravitate toward enumeration and quantification, some have an inherent focus on information and systems at and/ or around the intersection of learning and design. This design-centric focus will necessitate emergence as a primary quality. [1] The most desirable outcome depends on what is done and said after the event. In contrast to Bring Design Out, which has observable goals, this does not have mainstream as the goal. Discreet sensors have been deployed purposely. The unit of success is transformation by new insights and practices that feed into theory and practice.

Creative research makes the case for considering practice as a method of investigation. Artifacts created during this process are not just outputs but deeper forms of understanding.

Prototypes made within iterative cycles are meant to trigger deep thoughts and assist in tackling intricate design problems[1] . (Kara, 2020)

Reflective practice

The most important element of this framework is relative to Donald Schön (Schön, 1983), whose focus on reflective practitioners is paramount. Reflection happens in different ways:

Reflection before action

This involves identifying the planning goals, which the challenges of the last iteration might inspire. It will identify the scope and ideate actionable concepts. Reflection before action is added as a response to the criticism of Greenwood.

Reflection in action

Real-time alterations of methodologies within the crafting moment reflecting on processes in order to improve them over time through continuous repeat. It involves making parts, such as drafting prototypes and adjustments.

Reflecting on the action

Test parts according to the set parameters and analyse how the project moves. How did the process go? Moreover, do we have any critical incidents? In this case, cycles of reflection ensure that knowledge is created and utilised during and after the research activity.

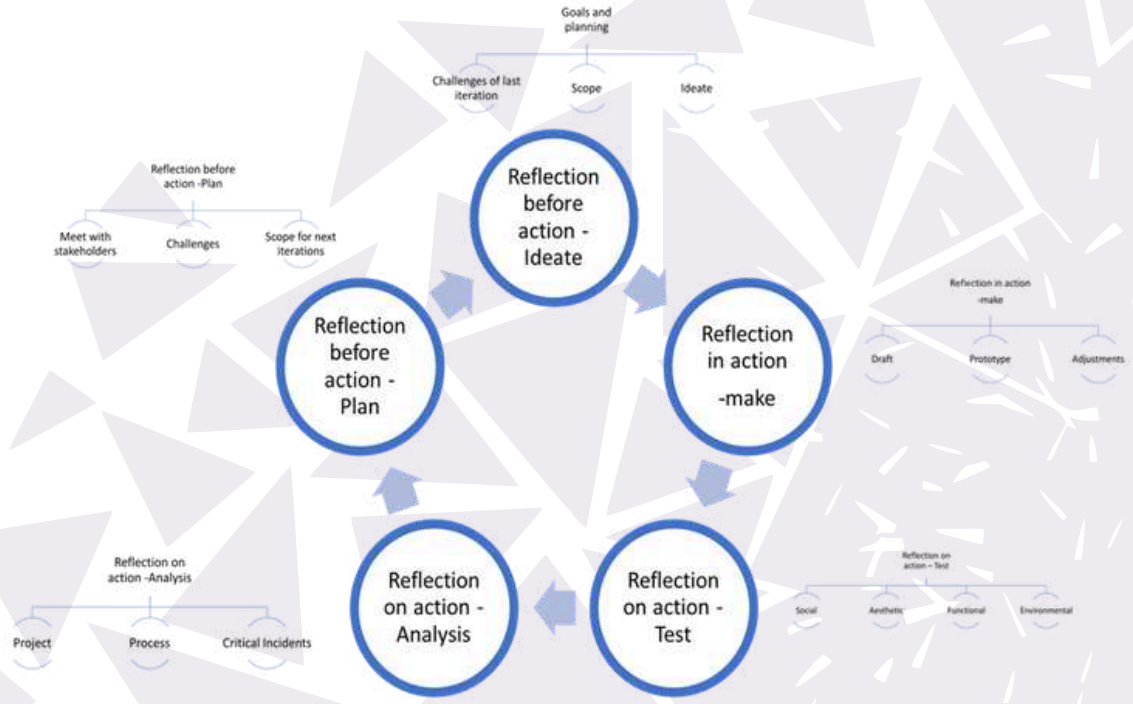

Figure 1: Reflective practice

Agile Methodology

Agile methods make practice-based design research intended relatively free-flowing. It permits rapid testing of concepts while adapting, receiving feedback, and moving towards achievable goals. Regular reflection meetings serve as milestones to check the progress made[1]. (Clesham, 2024)

Speculative design

A process becomes more comprehensive when it is integrated with futurism. Researchers can venture into other possible futures by reframing ideation phases with "What if?" questions. During the "make" phase of design, speculative prototypes act as tools that provoke discussions for a particular issue. These tools can be imagined in several ways. (Neeley, 2024)

Conclusion:

Outputs

From this procedure, the outputs produced are the following:

1. Possible self-reported barriers have been gathered during the two or more cycles of self-reflection.
2. User needs are gained from the reported interviews and the witnessed analysis.
3. User-centered design expectations as gathered from out-there prototypes and speculative designs.

All these stated above ensure that the outcome of the practice-based research has both theoretical and practical relevance.

Concluding remarks:

Practice-based design research shows how unclear situations can be used as opportunities rather than obstacles to developing new ideas actively. It is an iterative approach that enables practitioners and scholars to reflect on and integrate agile practices, creative research, design, and speculation all at one go. It also provides the possibility to shift in an agile manner while contributing significantly.

In Figure 2, as you can see, this synthesised methodology is not one that follows a straight path; it is a cycle that expands through reflection and iteration. It illustrates a refined answer and device for a challenge of multifaceted or complex nature in not only architecture, landscape drafting, graphic arts, and the like but also other fields.

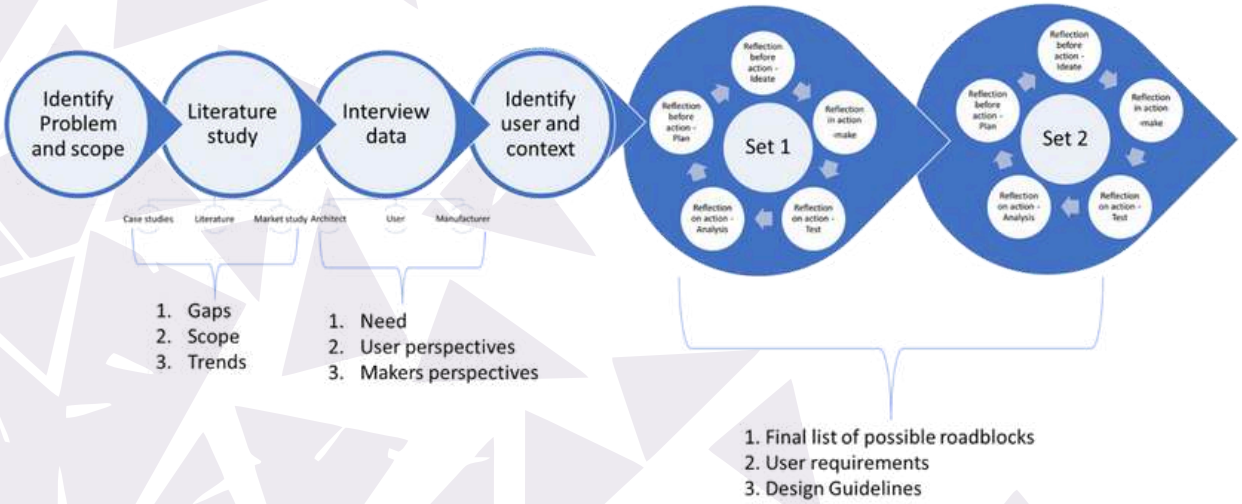

Figure 2: Diagram of synthesised methodology

> Practice-based design research shows how unclear situations can be used as opportunities rather than obstacles to developing new ideas actively

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Jaalis are latticed or perforated screens that have been part of Indian and Islamic architecture for centuries. These design aspects serve an aesthetic purpose while providing privacy and filtering the light and air. Four primary features characterise jaali design: repetition, porosity, opacity, and form/modularity.

Repetition:
Repetition forms a visual rhythm and continuity. Most geometric jaali patterns come into existence from the repetition of basic modules placed on a matrix. The repeating components lead the viewer's eye within the boundary of a geometric composition and give an imaging experience that is fluid
and engaging.

In Islamic architecture, it is called intentional repetition because it represents God and God's infinite qualities. The continuous patterns go outside the frame's limits, making it challenging to perceptually decipher where the designs on the frame end and start.

" Let your gaze through Jaali flow
where modules in rhythm glow
A crafted realm of glowing flight
In modular dreams of pure delight
One after one, modules add at a pace
Mirrored indefinitely forming a surface
shapes that shift & shadows cast
Transforming space from first to Last "

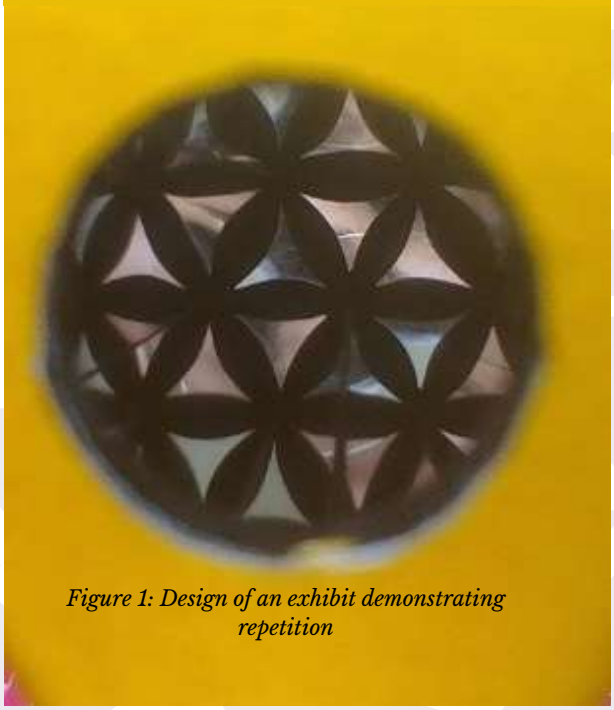

Figure 1: Design of an exhibit demonstrating repetition

Modularity:
Modules are tiny pieces that form a whole to form rigid geometrical rules that result in highly sophisticated patterns.

Traditionally constructed jaalis had apertures where each void (hole) was constricted and equalled nearly to the thickness of the material in a ratio of approximately 0.8 to 1.2.

The size of the void within the material and the constituent's thickness were notable concerning Jaali's efficiency for shading and supporting strength.

" Interactive Shapes invite the eye
To trace the light as it dances by
In a puzzle's tender grace
Each piece finds its own place
synergizing into a pattern that unites
Each piece, Each Rotation is a unique delight
The Triangles twist & spin- The Jaalis dance begins within "

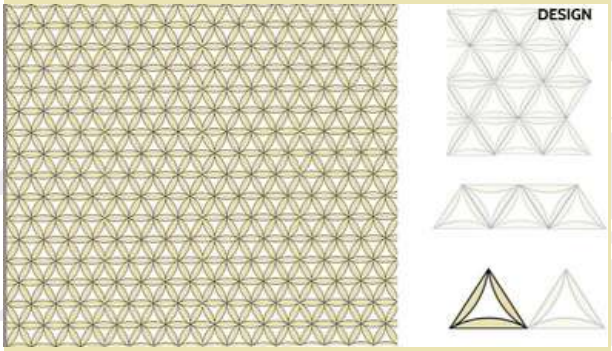

Figure 2: Image depicting modularity of the flavour of life pattern.

Porosity:
Porosity describes the proportion of space, deemed void or 'empty', within a jaali in relation to its
solid component.

Porosity is defined as the ratio between the void volume and the material's overall volume. Regarding jaalis, their porosity has direct consequences on how well they work.

The voids are designed to be just right so that air can flow in and out, which architect Yatin Pandya calls 'passive ventilation'.

These openings also enable the Venturi effect, where air flowing through small openings accelerates and causes even gentle winds to be utilized, allowing air into the interiors of buildings.

" In colours that overlap & blend
Red bleeds into blue, & their boundaries mend
Purple emerges in the twilight hue
A Bridge between the old & new

Jaalis essence in perforated art
where every void groups its part
Red's warmth & blue's cool kiss
Merge to create an alchemical bliss "

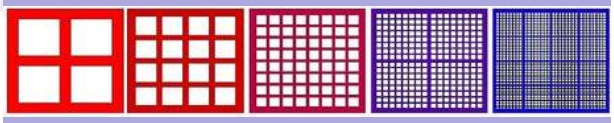

Figure 3: Chromatic representation and exhibit for how people associate porosity with Jaali

Opacity:
Opacity blocks a certain amount of light that passes through the jaali patterns.

A jaali's opacity is based on the size, number, and arrangement of its perforations to solid areas. Remarkably, traditional jaali patterns differ by climate region - humid places like Kerala have lower overall opacity with larger holes, while drier regions like Gujarat and Rajasthan have higher opacity patterns. This change shows a responsive design to climate, as jaalis in hotter regions had to block more direct sunlight while still needing ventilation.

Jaali patterns provide a one-way visibility effect that keeps the interior private and visible at different light levels. The inside of a building with jaali windows can be seen through the jaali holes, but the outside remains unseen due to the light coming from outside. In Rajput and Islamic culture, this architecture beautifully solved the privacy issue.

> "The brilliance of the jaali design is located at the nexus of the intricacies of its repetition, porosity, opacity, and form/modularity, as they bring forth glorious functional architectural elements of profound beauty and meaning"

" Opaque layers, translucent & bright
Or mirrors reflecting glowing light
Acrylics shimmering with a gentle grace
Translucence dancing in delicate space
Fiberglass & Cement so strong
Each material tells a different song
Wander through this crafted space
Where opacity & light Embrace "

Figure 4: Change in opacity with the same pattern and different materials

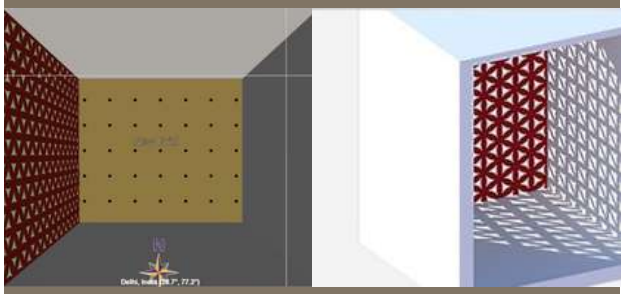

Figure 5: Change in the opacity from different viewing angles

Conclusion:
The brilliance of the jaali design is located at the nexus of the intricacies of its repetition, porosity, opacity, and form/modularity, as they bring forth glorious functional architectural elements of profound beauty and meaning.

Jaali's energy-saving properties have recently caught the attention of modern architects who are concerned with their power in passive climate control, privacy control, and space beautification.

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ROOTS and ROOMS: Migration and Memory


[1]


[2]

KID: 20240309

Abstract

The Roots and Rooms is an exploratory project to document the many myriad shades of migration and memory. It tries to map the emotional journey of displacement, at times forced due to multiple reasons, whether voluntary or involuntary.

The emotional and psychological attachment to a space and how it tries to rebuild a similar habitable atmosphere in another space by an individual. This research extends the ethnographic observations and investigates how home, belonging, and memory evolve.

The project takes its shape in the form of a pop-up book design and paper engineering telling the stories of a woman's migration experience through the lens of the objects she carries with her.

Introduction

Roots and Rooms is a pop-up book that explores the complex journey of migration and the emotional aspects attached to displacement. Centering around the journey of three women who have all migrated—whether voluntary, involuntary, or mixed—the book is rooted in understanding home, memory, and belonging. It explores this through the objects that they carry with them. These objects hold immense emotional value, acting as symbols of continuity of their culture, self, and identity amidst the migration.

The book features the stories of three women and their houses before migration and their new homes after. The objects of familiarity and connection were different for different women—some found comfort from their bedsheets, while some had a deep connection to their plants.

> Migrants carry pieces of their home with them, and there is a constant reinterpretation of their new surroundings to make them feel similar to their previous home

Design Concept Development

The research for the book began with a deep understanding of migration and displacement studies. Migration and its psychological and sociological impacts led to the concept of home within a home that migrants sculpt. Home slowly became the central focus of the research.

Migrants carry pieces of their home with them, and there is a constant reinterpretation of their new surroundings to make them feel similar to their previous home. This assimilation and assigning of familiarity to their new homes is done through objects and the nostalgia and memory that they assign to them.

These objects function as anchors, grounding the migrants with their roots and into the new rooms they create. The objects they carry, the ones they leave behind, are all reminders of resilience and loss. With this ground primary ethnographic research, interviews were conducted with women who had migrated for varied reasons. Their generous contribution to sharing their personal experiences helped immensely in giving shape to this project.

Every woman contributed extensively by simply letting us listen to their stories, memories, and traditions that they felt connected to.

> “Migration is a complex experience, riddled with challenges and a constant reconstruction of one’s identity and emotional landscape. The shared strength, resilience, and adaptability of migrants remain undeniable, and all across the world, millions face similar challenges.”

Their willingness to share and support was invaluable to this project. Migration is a complex experience, riddled with challenges and a constant reconstruction of one’s identity and emotional landscape.

The shared strength, resilience, and adaptability of migrants remain undeniable, and all across the world, millions face similar challenges. Roots and Rooms is an attempt to understand what home, belonging, and identity mean to migrants, acknowledging deeply their personal stories, yet a universally resonant experience of finding and creating home in new surroundings.

To see more paper engineering work, please scan this code

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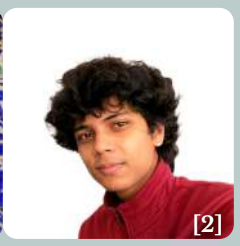
Department of Design

Quest for the Chest: A Pop-Up Storybook


[1]


[2]

KID: 20240310

Abstract:
Storytelling and book design go hand in hand, which engages the audience with multiple sensory elements, allowing visualisation, character formations, and building imaginative mindsets. "Quest for the Chest" is an interactive pop-up storybook created as part of an illustration design course project keeping the principles of traditional bookmaking formats and adding the paper engineering methods. The book talks about a young boy, the main protagonist, 'Aarav,' who embarks on an adventurous journey through caves, magical islands, villages, portals, and snowy mountains. In his path, he discovers numerous engaging instances, like mysterious treasure maps, treasure hunting objects, and supernatural powers. Blending techniques of narrative design, colour theory, colour interaction, art & illustration, and paper engineering methods to create engaging reading experiences were some of the main objectives of this project. This illustrated project explores narrative design and technical processes involved in bringing the storybook to life, from ideation to final production and assembly.

Introduction:
Pop-up books are a unique fusion of storytelling and engineering, engaging readers through tactile and visual interactivity. It explores how paper has many possibilities in building a narrative and engaging the reader's curiosity and mind. "Quest for the Chest," a storybook made for the little kids as the main target audience, was conceived to explore how tangible interactive elements in traditional book formats can enhance narrative immersion.

This book design development process involves step-by-step methods of creating a story structure by utilizing storytelling techniques, illustration methods, and the hand-drawn artworks that can be converted into paper engineering marvels.

Design Concept Development
The illustration project began with first forming story ideations; multiple sets were designed and later finalized based on the engagement levels. Storytelling techniques with treasure hunt formats were utilized, such as hidden messages, portals filled with superpowers, and adding an element of mystery, paper wearables, making the audience an active participant and making the self-discoverable journey more personalized.

From the initial thumbnail sketches, illustrations were then imagined in terms of three-dimensional structures that can be remodelled with different types of paper. Further, paper prototypes were designed to test the feasibility of the mechanisms. The final steps involved testing the mechanisms functionality and workability.

Prototype and Assembly

Pop-up techniques involved layered sensory-tactile engagements of flipping, pulling, and movable openings to make the journey unforgettable for the little audiences. Multiple mock-ups and prototypes were designed to test out the workability of the mechanisms created. This involved numerous experiments with folds, flaps, rotations, twists, turns, and layered structures to determine the movable features. Testing different techniques helped refine the transitions between pages and ensured that the pop-ups functioned smoothly and seamlessly. The visual imagery was developed through quick sketches to finalized hand-drawn sketches, which were later digitalized, allowing for refined details and precision in alignment with the pop-up structures that were in place.

The visual imagery was developed through quick sketches to finalized hand-drawn sketches, which were later digitalized, allowing for refined details and precision in alignment with the pop-up structures that were in place. Each page was carefully designed and crafted to balance the paper engineering features and allow the fitment within a book spread. In the story, a red filter was introduced to trace out the hidden messages by applying the principals of color theory and color interaction. Moreover, wearable gear was designed to make it more personalized and further more engaging.

After finalizing the digital artwork, the book was printed and assembled by hand; every spread is uniquely designed and placed with immense precision. This phase required meticulous cutting, folding, and layering to ensure the smooth functionality of the pop-ups. Mass-production techniques were explored to give it an industry edge and an innovation exploration with the constraint of the classrooms. Attention was given to the durability of moving parts and the integration of hidden clues within the illustrations, along with pop-up mechanisms that go well inside the page formats. Every interactive element was tested multiple times to guarantee seamless functionality and an engaging reader experience. This also included numerous explorations of understanding paper formats, their weight and thickness, and the printing technologies. This project demonstrated the possibilities of how storytelling, illustration, and interactive design can merge to create an engaging and immersive reading experience. To see more paper engineering work, please scan this code

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Addressing Period Poverty in India: Onpery's 'Ladeej Problem?'

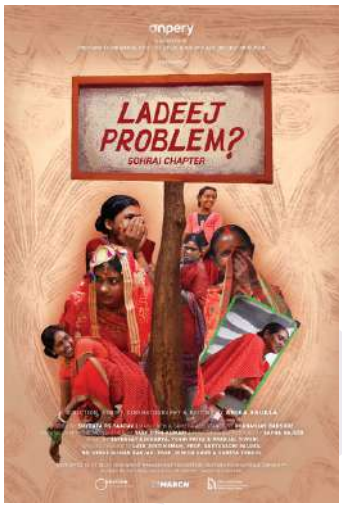
KID: 20240311

Background

Period poverty—the lack of access to menstrual products, education, and sanitation facilities—remains a significant challenge in many parts of India.

Pramod Priya Ranjan, at his co-founded venture Care Form Labs Pvt Ltd with trademark Onpery, produced 'Ladeej Problem? Sohrai Chapter' is a documentary film about reducing period poverty through a community adoption model, with interventions around products, awareness and accessibility. It features a period poverty program. The highlight of the film is showcasing the journey of a community adapting sustainable menstrual practices in India, for the first time primarily through reusable period underwear. The documentary film, offers a compelling narrative on reducing period poverty through community adoption models, emphasizing sustainable menstrual practices.

The project started in 2023, and the final draft is expected to conclude in 2025 and be released in late 2025.



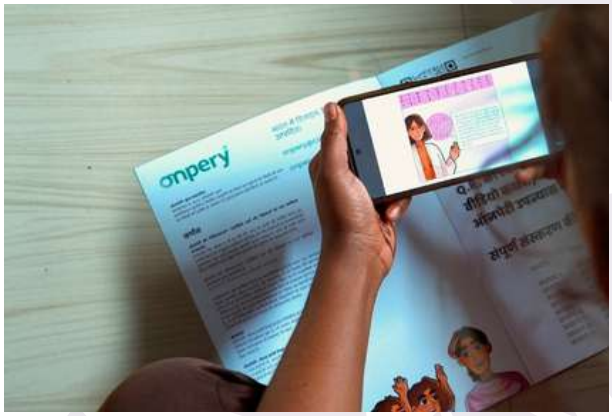
Poster of 'Ladeej Problem? Sohrai Chapter' documentary film.

Overview

The 40-minute documentary, directed by Arika Shukla as part of her Bachelor of Design program at the National Institute of Design, Madhya Pradesh, and produced by Pramod Priya Ranjan, chronicles the journey of a community in Oriya village, near Hazaribagh, Jharkhand. This village, known for its indigenous Sohrai and Khovar art, becomes the backdrop for a transformative narrative where women adopt sustainable menstrual practices, primarily through the use of reusable period underwear. The film highlights interventions centred around products, awareness, and accessibility, showcasing a community's shift towards eco-friendly menstrual solutions.

Community Adoption Model

Onpery's approach emphasizes a community adoption model to tackle period poverty. This strategy involves raising awareness about menstrual health management through graphical literature and expert sessions. Furthermore, the desired menstrual products are made accessible regularly at affordable prices through local centres within the community. This model ensures that interventions are not only sustainable but also culturally sensitive and community-driven.



Visual Story Telling and Cultural Integration

A distinctive feature of the documentary is the integration of traditional Sohrai art to communicate the community's journey towards sustainable menstrual practices. Beneficiaries are depicted creating murals that incorporate reusable period underwear as a central theme. This artistic expression serves as both a testament to the community's acceptance of new practices and a medium to educate others, blending cultural heritage with modern health interventions.

> "Period poverty—the lack of access to menstrual products, education, and sanitation facilities—remains a significant challenge in many parts of India."

Impact and Reception

The documentary has garnered attention for its authentic portrayal of rural India's menstrual health challenges and the viable solutions implemented. Private screenings, such as the one held at the Union Club and Library in Ranchi, have facilitated discussions among art, cultural, and social communities. Notably, activist and national award-winning filmmaker Meghnath praised the film for its creative approach to highlighting menstruation-related issues in rural areas.

Conclusion

'Ladeej Problem? Sohrai Chapter' stands as a significant contribution to the discourse on menstrual health in India. By documenting the successful adoption of sustainable menstrual practices within a rural community, the film not only educates but also inspires action towards addressing period poverty. Onpery's initiatives, under Pramod Priya Ranjan, exemplify how design, education, and community engagement can converge to create impactful social change.

Design Team
Creative team
Producer: PRAMOD PRIYA RANJAN
Direction, Script, Cinematography & Editing: ARIKA SHUKLA
Guide: SUVRATA RS YAADAV
Main Crew & Camera Assistance: DHANANJAY BANSODE
Ground Support & Translation: SATY RUPA KUMARI
Music: TATHAGAT AACHARYA, TOSHI PRIYA & PRANJAL TIWARI
Title Design & Posters: SAPNA NAJEEB

Online Links:

Webpage:https://www.onpery.com/pages/ladeej-problem
Trailer:https://www.youtube.com/watch?v=tUo2X9RI1-Y

Mr Pramod Priya Ranjan
PhD Scholar
Department of Design

Research and Development of Onpery's Graphic Novels: *PeriodRoom* and *SafeRoom*

KID: 20240312

Introduction

Graphic novels have emerged as powerful tools for awareness and education, particularly in areas often considered taboo. PeriodRoom and SafeRoom graphic novels, co-developed by Pramod Priya Ranjan, at his co-founded venture Care Form Labs Pvt Ltd with trademark Onpery, serve as innovative visual narratives aimed at educating people about menstruation, menstrual health, and safety. These graphic novels, available in multiple languages with free audio-video narrations, break social barriers and encourage informed discussions.

The project started in 2023, and the final draft is expected to conclude in 2025.

Images of PeriodRoom & Saferoom Graphic Novels

Background and Need for Innovation:

In India, menstrual health and hygiene are often shrouded in stigma and misinformation. Many individuals, especially in rural and semi-urban areas, lack access to accurate knowledge about menstruation. The silence around these topics contributes to period poverty, school dropouts, and poor menstrual hygiene management. Similarly, safety and awareness regarding personal hygiene and well-being are equally important.

By introducing PeriodRoom and SafeRoom, Onpery aims to provide an engaging and accessible way to educate young menstruators, caregivers, and communities about menstrual health and safety. These graphic novels are designed to be interactive, relatable, and culturally sensitive, ensuring that essential knowledge reaches a wider audience.

> "By introducing PeriodRoom and SafeRoom, Onpery aims to provide an engaging and accessible way to educate young menstruators, caregivers, and communities about menstrual health and safety."

Garphic Novels

PeriodRoom is a graphic novel on menstruation, discharges and reproduction. The novel is for children aged 11 to 16 (or children in classes 5 to 10).

All the chapters of PeriodRoom:

- Chapter 1: Introduction to puberty
- Chapter 2: Understanding body changes
- Chapter 3: Menstruation
- Chapter 4: Menstrual products
- Chapter 5: Managing pre-menstrual days
- Chapter 6: Myths and taboos
- Chapter 7: Bodily discharges
- Chapter 8: Health and nutrition
- Chapter 9: Hygiene

SafeRoom is a graphic novel on managing physical safety, emotional safety and gender sensitivity. The novel is for children aged 7 to 16 (or children in classes 1 to 10), and their guardians.

All the chapters of SafeRoom:

- Chapter 1: Safety from bad touch and bad see
- Chapter 2: Handling bullies
- Chapter 3: Romantic attractions
- Chapter 4: Gender-based empathy sensitivity (Note for guardian)

Design and Development:

The creation of PeriodRoom and SafeRoom involved a human-centred design approach. The process included:

Research and User Insights: Interviews with menstruators, caregivers, educators, and healthcare professionals.

Content Development: A storyline based on real-life experiences, ensuring cultural and social relevance.

Illustration and Visualisation: Using simple, expressive visuals to convey complex topics effectively.

Multi-Language Adaptation: Ensuring inclusivity by making content available in regional languages.

Integration of Audio-Video Narrations: Enhancing accessibility for users with varying literacy levels.

Impact and Findings:

Increased Awareness: Readers reported a better understanding of menstrual health and hygiene practices.

Reduction in Stigma: Open discussions were initiated in communities where menstruation was previously a taboo topic.

Enhanced Engagement: The visual format encouraged participation among young learners.

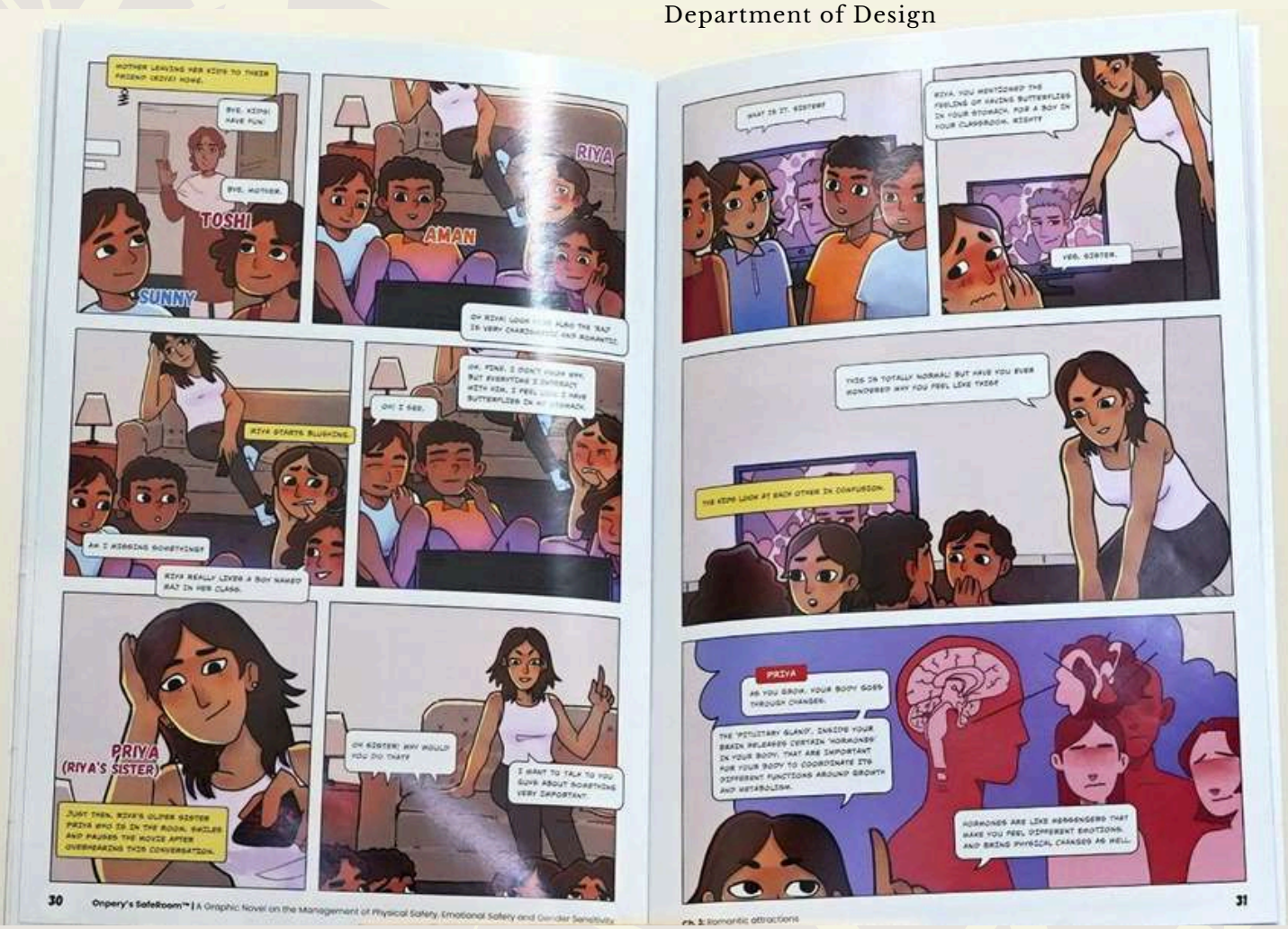
Sustainability in Learning: Teachers and caregivers found the novels to be valuable resources for ongoing education.

Conclusion:

The research highlights the effectiveness of PeriodRoom and SafeRoom in menstrual and personal hygiene education. By leveraging storytelling and design, Onpery has created an impactful medium that fosters awareness, reduces stigma, and promotes safe menstrual practices. These graphic novels are not just educational tools but catalysts for societal change in menstrual health conversations.

Design Team:
Authors: Niti Desai, Pramod Priya Ranjan and Shreya Yengul
Illustrators: Lehar Bhatt, Mansi Swarup and Shaswat Kakkar
Reviewer (for PeriodRoom graphic novel): Dr. Prateek Makwana, Consultant Embryologist
Reviewers (for SafeRoom graphic novel): Dipika Daga, Clinical Counsellor and Saloni Bhutra, Counselling Psychologist

Mr Pramod Priya Ranjan
PhD Scholar
Department of Design



Research and Development of Onpery's Absorbent Menstrual Innerwear

KID: 20240313

Overview Writeup

Pramod Priya Ranjan, at his co-founded venture Care Form Labs Pvt Ltd with trademark Onpery, co-designed and co-developed a utility patent filed for External Menstrual Wear, that has better usability, ergonomics and economics.

The project started in 2021 and the final design version is expected to be implemented in social spaces in 2025.

Background and Need for Innovation:

Menstrual hygiene products such as disposable sanitary napkins and tampons contribute to environmental waste and pose health risks due to chemical exposure. Traditional external products also often cause leakage, discomfort, odor, rashes, and chafing. Additionally, biodegradable options remain costly and less accessible for many users.

Reusable menstrual products, such as period underwear and reusable napkins, attempt to address these challenges but face issues related to cleaning, drying, fit (shifting and crumbling), leakages, and absorption variability. Recognizing these gaps, Pramod and his team designed the Absorbent Innerwear, which offers a modular, ergonomic, and economical alternative.

Design and Development:

The Absorbent Innerwear is an external menstrual wear designed for different levels of vaginal discharge, including menstrual flow, spotting, and daily discharge.

There are two variants of the design:

- Variant 1 is made of flaps, to attach the absorbent part to the underwear.
- Variant 2 is made of buttons, to attach the absorbent part to the underwear.

Image of Onpery Absorbent Menstrual Innerwear Article (Variant 1 – Flaps) & (Variant 2 – Buttons)

It consists of the following components:

Modular Design:

- Offers customizable absorbency levels based on the user's needs.
- Allows for interchangeable inserts with different absorption capacities.
- Proprietary Locking Mechanism: Ensures the insert remains securely in place, preventing shifting and crumbling during use. Uses slits and button fasteners or flaps with additional locking mechanisms to prevent shifting or crumbling of the absorbent part.

Eco-Friendly and Cost-Effective:

- Can be reused for multiple cycles, reducing menstrual product expenses.
- Lowers environmental impact by eliminating single-use waste.

Absorbent Layers:

- Top Layer: Moisture-wicking fabric to keep the user dry.
- Middle Layer: Highly absorbent material that prevents leakage.
- Bottom Layer: Liquid-proof layer to ensure protection.

Patent and Recognition:

The utility patent has been filed in India, with application number 202231019865.

Collaboration and Institutional Support:

The Absorbent Innerwear is supported through incubation by FITT, IIT Delhi, and through a grant by IIT Delhi Endowment Management Foundation.

IMPACT

a. Comfort and Ergonomics

- The product eliminates the discomfort of bulky disposable napkins and offers a snug fit without crumbling or shifting.
- Unlike conventional period underwear, the modular insert system allows for easy replacement of the absorbent part without changing the entire garment.

b. Hygiene and Sustainability

- Unlike tampons and menstrual cups, which require internal insertion, the Absorbent Innerwear is worn externally, making it accessible to those who prefer non-invasive menstrual solutions.
- The design reduces risk of infections, as it does not disrupt the vaginal pH like tampons.
- By eliminating plastic and chemical-based absorption materials, it minimizes landfill waste and supports sustainable menstruation practices.

c. Economic and Social Impact

- The reusable nature of the product makes it a financially viable option for menstruators in lower-income communities.
- The innovation aligns with period poverty reduction efforts, ensuring accessibility and dignity in menstrual care.

Conclusion:

This innovative Absorbent Innerwear represents a breakthrough in external menstrual wear by combining comfort, sustainability, and affordability. With its customizable absorption, secure fit, and easy maintenance, it stands out as a game-changer in the menstrual health space. By addressing leakage, fit, and environmental concerns, this innovation paves the way for a more sustainable and inclusive approach to menstrual hygiene.

Design Team: Pramod Priya Ranjan (PI), Sabyasachi Paldas, Shreya Yengul

Mr Pramod Priya Ranjan
PhD Scholar
Department of Design

Research and Development of Onpery's Menstrual Cup

KID: 20240314

Overview Writeup

Pramod Priya Ranjan, at his co-founded venture Care Form Labs Pvt Ltd with trademark Onpery, co-designed and co-developed a utility patent filed for Menstrual Cup, which has better usability and ergonomics. This menstrual cup addresses key challenges faced by menstruators, such as comfort, usability, and environmental sustainability. By integrating user-centric design, the Onpery Menstrual Cup stands out as a pioneering design in India's menstrual health landscape.

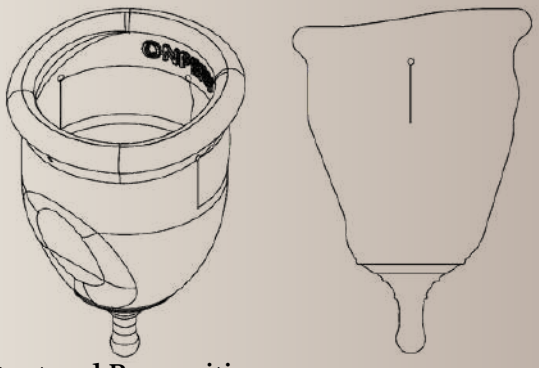
The project started in July 2019, and the final design version (Version 2.0) was concluded in January 2025.

Background and Need for Innovation:

Menstrual health remains a critical issue worldwide, with millions of menstruators lacking access to safe and affordable products. Traditional menstrual products, such as disposable pads and tampons, generate immense waste and can contain harmful chemicals. Menstrual cups offer a sustainable alternative, but many existing designs present difficulties in insertion, removal, and cleaning, leading to hesitancy in adoption. Recognizing these gaps, Pramod Priya Ranjan and his team embarked on developing a more user-friendly, sustainable, and accessible menstrual cup.

Design and Development:

- The Onpery Menstrual Cup was designed through extensive research, user testing, and iterative prototyping. The cup's shape and flexibility were optimized for comfort, ease of insertion, and removal, catering to a wide range of anatomies.
- **Curved Top Rim:** Reduces insertion difficulty and ensures a gradual, comfortable fit.
- **Cervix-Friendly Shape:** Designed to avoid cervix contact, preventing discomfort and leakage.
- **Flat Surfaces for Grip:** Enhances grip, making removal easier and breaking suction instantly.
- **Spill-Resistant Back Ribs:** Prevents leakage while removing the cup.
- **Concave Grooves:** Ensures proper unfolding and an airtight seal for leakage prevention.
- **Asymmetric Design:** Makes handling intuitive, particularly for first-time users.



Patent and Recognition:

The Onpery Menstrual Cup 's unique design led to its patent application (US20220409423A1), which highlights its innovations in structure and usability. The product has also gained recognition for its contribution to menstrual health and sustainability, setting it apart from conventional menstrual cups.

Collaboration and Institutional Support:

The development of Onpery Menstrual Cup was supported by multiple institutions and funding bodies, including:

- **Biotechnology Industry Research Assistance Council (BIRAC):** Provided primary sponsorship under the Biotechnology Ignition Grant Scheme (BIG 16-cycle Grant).
- **AIC-MIT ADT Incubator Forum:** Offered mentorship and research facilities to refine the design and production processes.
- **United Nations Development Programme (UNDP) Accelerator Lab India and Youth Co:Lab India**: Acknowledged the product's potential in addressing period poverty and promoting sustainable menstrual practices.

Verification:

The Onpery Menstrual Cup was initially soft-launched in 2021 for the verification of the design interventions, with the final version aimed to be released in 2025. Its reception has been positive, particularly among users seeking eco-friendly and comfortable menstrual products.

Findings from the verification study conducted in 2021-22 on the initial version of Onpery Menstrual Cup, which was led by Pramod Priya Ranjan and conducted by the AIC-MIT ADT Incubator Forum:

Ease of Use & Adoption: 93.33% of users found the Onpery cup easier to insert and place, with 83.33% adapting within the first two menstrual cycles.

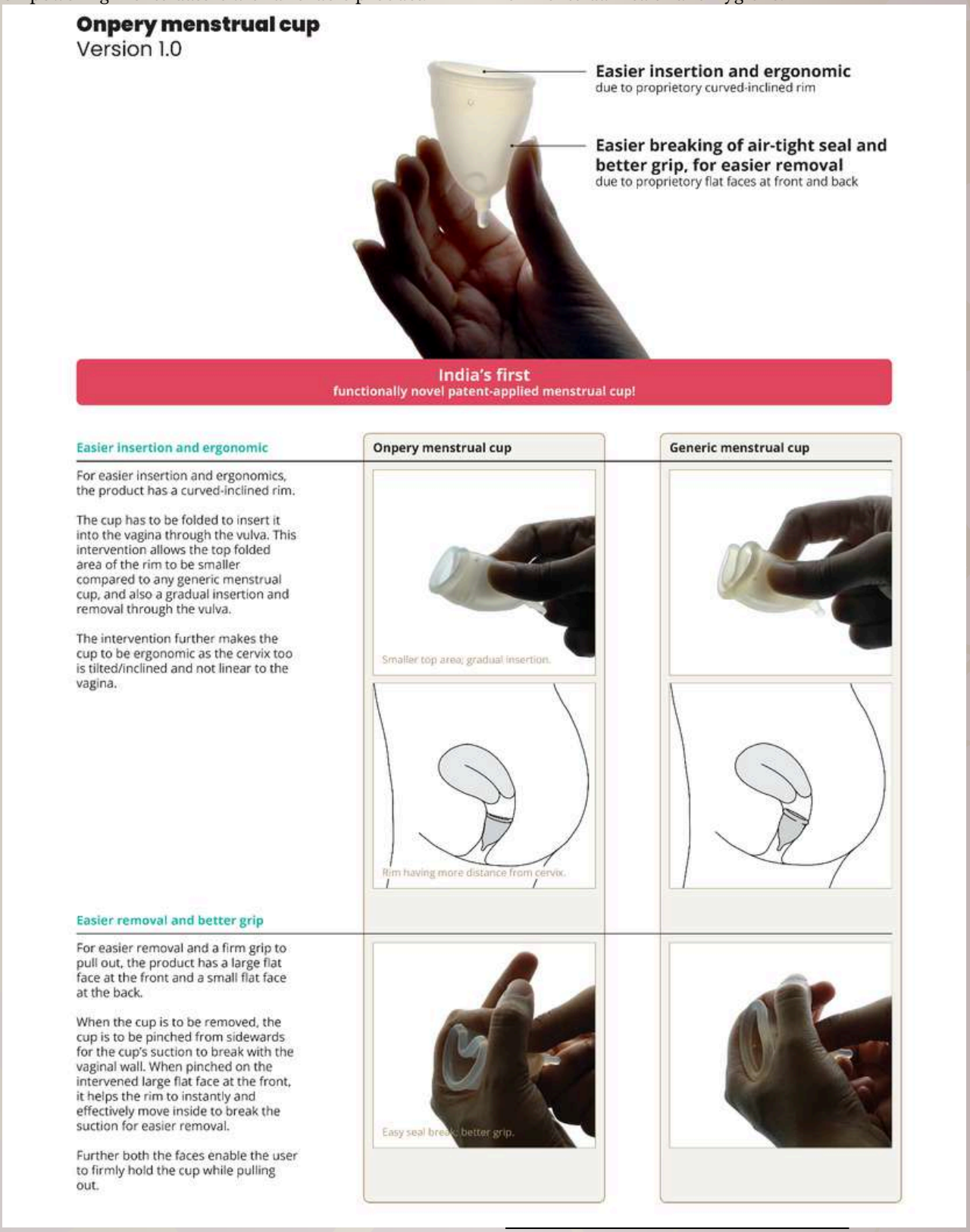
Ergonomics & Comfort: 93.33% found it ergonomic, particularly due to its cervix-friendly design.

Removal & Spill Resistance: 83.33% found removal easy, while 93.33% rated it as spill-resistant.

Sustainability & Preference: Many participants chose Onpery for its Indian design, sustainability benefits, and user-friendly features.

Impact:
Beyond providing a comfortable menstrual solution, the Onpery Menstrual Cup addresses environmental concerns by offering a reusable alternative to disposable products. This shift promotes sustainability and aligns with global efforts to reduce plastic waste. Additionally, the affordability and durability of the cup make it accessible to a broader demographic, potentially alleviating period poverty and empowering menstruators with a reliable product.

Conclusion:
This innovative Menstrual Cup is a testament to the power of design thinking in solving real-world challenges. By prioritizing user comfort, sustainability, and accessibility, Pramod Priya Ranjan and his team have contributed a game-changing product to menstrual health. Their work not only addresses individual needs but also paves the way for broader social and environmental impact in the field of menstrual health and hygiene.



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Imagining pedagogical opportunities A playful experimentation

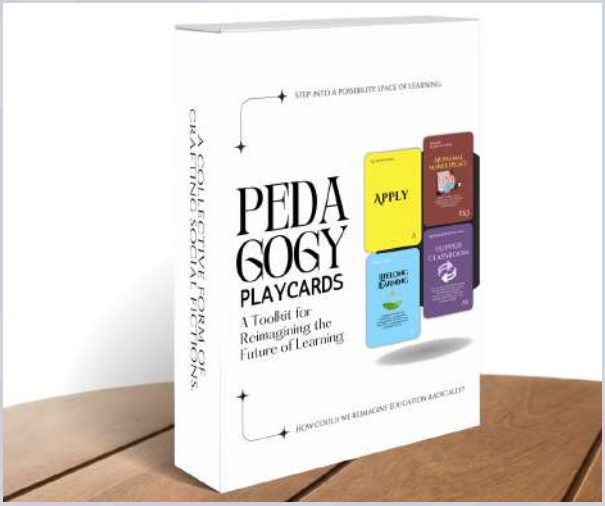

[1]


[2]

KID: 20240315

This ongoing work introduces a card-based speculative tool designed to explore alternative futures in higher education. In the context of accelerating global challenges, there is a critical need to re/imagine new learning frameworks that move beyond incremental reforms in education. The tool operates as a mechanism to generate futures, meaning that futures require what yet to exist.

By assembling combinations of places, values, actions, and modes, supported by prompts, participants construct possibility spaces where the educational status quo can be questioned and reconfigured. These speculative scenarios surface tensions, aspirations, and uncertainties of multiple pedagogical possibilities.



Design as Inquiry

This approach situates design as inquiry, where imagining alternative futures is not a thought exercise but a method for critical reflection and narrative construction. The tool aims to provoke discourse on what education could become, challenging the assumptions embedded in existing structures. Through the continuous interplay of speculation and iteration, it invites participants to engage with the complex politics of learning, agency, and equity.

Objective of this interactive card-based tool is to provoke imagination and dialogue on future models of higher education and encourage participants to craft social fictions. The attempt is to combine research insights with extrapolative scenarios to spark playful and critical exchanges. It is expected that the outcome will act as a precursor to scenario building. Games function as social systems, simultaneously representing reality and constructing social structures. This concept draws on Johan Huizinga's Homo Ludens (1938), which frames humans as inherently playful beings.

Elements of the Tool

The tool comprises five key elements, each contributing to the construction of speculative educational scenarios.

By combining these elements on a drafting template, participants generate draft narratives that explore alternative futures.

Action Words: A set of action verbs serves as prompts, encouraging users to define dynamic interactions within their scenarios.

Value Cards: Each of the 24 value cards represents a distinct educational values and of orientations. Users can also create custom cards to reflect emerging values.

Modes and Method Cards: This deck illustrates diverse approaches and techniques for delivering learning experiences.

Place and Space Card: The deck of physical and imagined spaces where learning might occur, including public venues and speculative environments. Users can extend the list by inventing new, context-specific spaces.

Prompts: Participants are invited to create concise, vivid descriptions of future learning environments, translating speculative ideas into actionable visions.

Draft Scenario: By combining tool elements, participants construct speculative futures

The Thing of the Future is an optional element that accommodates technological futuring in learning. Users can create imaginary artifacts or propose new uses for existing objects, expanding the material possibilities.

Execution and initial reflections

Card play operates at the intersection of freedom and order, where moments of spontaneity coexist with underlying structure. Nineteen students and three teachers played the first rough draft of the game in Delhi. Later, multiple situations, contexts and age-groups were used. The card numbers have changed several times. Despite its unstructured appearance, the game follows an internal logic, with implicit rules guiding play and sparking imaginative ideas.

The exercise has given rise to themes of anti-disciplinary knowledge clusters, quantum pedagogy, and Failure-Based Learning Models (FBL), among others. These concepts reveal new design-based directions in education. They remain inaccessible when educational research stays rooted in the present. Initial drafts were often humorous, but repeated iterations revealed increasingly imaginative and meaningful outcomes.

The future exists first in imagination, then in will, then in reality, says Barbara M Hubbard, Futurist and author. It is learnt that a suspension of disbelief is essential for participants to engage fully with speculative combinations and push the boundaries of what learning could become.

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Temporal, multimodal, and open: Research assessment in the Age of AI


[1]


[2]

KID: 20240316

AI writing tools are now active participants and agents in knowledge 'production'. A hardbound thesis could offer one perspective, but the idea of originality and intellectual engagement might also be evaluated through more diverse or new lenses.

Beyond text

The dominance of text as the primary medium for theses is a legacy framework ill-suited to the complexity of current-day knowledge production. Videos, visualisations, simulations, and audios may also offer rich representations of critical thinking. Already in disciplines like design and art the text of the thesis is supported by such methods. Such forms may track the research journey not limited to the final hardbound thesis.

Multimodal and longitudinal theses

Final submissions often speak less about the journey of the research candidate. Longitudinal theses, developed over multiple semesters in transparent ways can document a more realistic journey of the scholar.

The bias, contradictions, adjustments, and compromises on the methodological front will be more visible for the academic community in such attempts. It shifts the locus of value of thesis from polished outcomes to the iterative development.

Wiki-Theses

Collaboration is not ancillary to research; it is imperative. The idea of Wiki-theses utilises public platforms where students build, revise, and present research collectively.

Just as in real-world problem-solving, this model brings together expertise to address complex challenges. Wiki-theses function as evolving portfolios, capturing individual contributions, peer feedback, and the development of ideas openly over time; though every discipline cannot do that.

Failure-first research models

Focusing on failures rather than or along with polished outcomes better captures the non-linear nature of research. A failure-first thesis documents dead-ends and unviable hypotheses. It can show the resilience and the iterative process instead of optimised results of final outcomes.

In a world where AI can generate flawless text, valuing failure becomes a powerful pedagogical tool for research.

Embodied research outputs

In disciplines intersecting with human behavior, performative theses can replace textual outputs. Live enactments, immersive experiences, or sensory installations engage evaluators beyond intellectual cognition, broadening the scope of research evaluation. This approach challenges the hegemony of text and aligns assessment with experiential understanding.

Algorithmically co-authored theses

In fields where machine-generated insights drive research, formalising the role of AI can redefine authorship norms more ethically. Crediting AI as a co-author pushes the boundaries of accountability and intellectual labour.

In Wicked Problems: What Can We Do in This Time of Collapse? (March 2025), Christian Sarkar and Philip Kotler credit ClimateGPT not just as an acknowledgment but as a co-author on the book cover. Each chapter has this collaboration, with the authors acknowledging the role of AI in research and ideas.

Challenges in Implementation

Expanded thesis formats offer broader avenues for authentic knowledge production but demand vigilant oversight to prevent aesthetics from outweighing substance. As research grows more complex, the thesis must shift from a static endpoint to an open reflective process. Such shifts need to face institutional resistance due to concerns over standardisation, comparability, faculty readiness, resource allocation, and challenges in assessing non-textual outputs. Intellectual rigor and critical thinking will continue to be essential to research scholarship, but adaptability to unconventional thesis approaches is equally important for academic progress.

> "AI writing tools are now active participants and agents in knowledge 'production'. A hardbound thesis could offer one perspective, but the idea of originality and intellectual engagement might also be evaluated through more diverse or new lenses."

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Scenarios across three disciplines: Design, Futures, & Strategy


[1]


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KID: 20240317

Scenarios

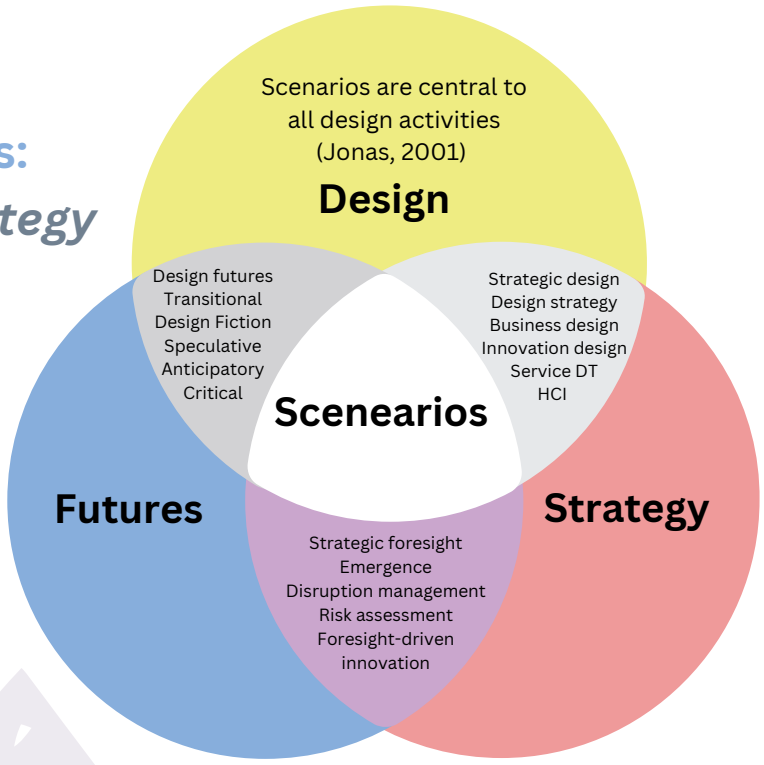
across three disciplines:

Design, Futures, & Strategy

To cope with uncertainties and plan for alternate futures by expanding the focus of attention.

Scenarios should not be regarded as forecasts; instead, they should be seen as coherent depictions of the various potential future conditions (Porter 1985)

Tools for comprehending complex future landscapes (Barron et al., 2023)



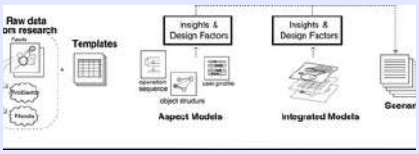
MOST USED SCENARIO STRUCTURES / FRAMEWORKS

SRI Matrix

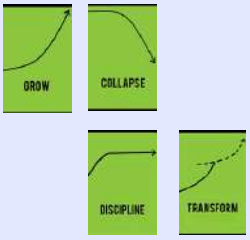
- Stanford Research Institute Matrix *Hawken et al (1982)*
- Scenarios based on past projects and fragmented information

Design Innovation Framework

Lim & Sato (2006)



Dator's Four Images of the Future (1979, 2014)



Causal Layered Analysis Inayatullah (1998)

Shared Socioeconomic Pathways

Richter et al. (2023)

Combinational Approaches

- Cooperative scenarios
- Manoa Technique
- Probability based approaches Divergence
- mapping Morphological
- analysis

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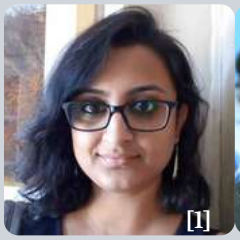
Situating Women Filmmakers in Indian Film Festival Networks: Digital Access and the Politics of Emerging Alternative Narratives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[2]

KID: 20240318

Women have been a significant part of the Cinematic Institution from its inception. In India, like in the other parts of the world, women had made their presence felt in the pro-filmic regime from the beginning of the 20th century. However, the category of Women Filmmakers in this country has been subject to historical, structural and systematic repression over the years. From within the handful of Women Filmmakers who can be found in the subcontinent's history, a miniscule section of their works has survived to this date.

Therefore, the emerging Women Filmmakers of the day have, next to no filmic material to look back on, for them to create a sense of historicity for their gender, specific to the advent and evolution of cinematic technology.

Film Festivals, on the other hand, have been - and continue to be - spaces that help women put forward their voices and give them a sense of security, value and historicity.

This research tries to delve deeper into this strikingly masculine endeavor of Filmmaking and situate Women Filmmakers within the enormous network of Film Festivals of various stature in the country. It would try to understand the phenomena of "gendering" the process of filmmaking and precisely the idea of women's access to digital technology, to unravel the kind of narratives that emerge in the works of women coming from various caste and class positions to these sites every year (Valck, 2007).

The work implements an "anthropological methodology (Valck, 2007)" to document the individual experiences of the filmmakers, audience, organizers, journalists, distributors and sales agents in festival sites from across the country and tries to analyze how women filmmakers navigate this complex network of actors who "meet and compete" (Valck, 2007). Bruno Latour's Actor-Network Theory (Latour, 2005) will be particularly useful in this case as "it assumes relational interdependence and includes both human and non-human actors as objects of study"(Valck, 2007).

Henceforth, the idea that technology must be studied in conjunction with the category of the 'social' resonates with Latour's framework. This project, then, would like to understand how access to Digital Filmmaking Technology by women is a privileged position to take in this country. In order to study the physical manifestations of these technologies as well as its interface, the project heavily draws from the works of the French Philosopher Gilbert Simondon, who deals with the relationship between 'technical objects' and humans. His idea about Individuation as a process by which the subject (a human subject) continually comes into being in relation to other individuals or technical things is a concept that shall be used to think about/with, in the context of the project (Simondon, 1958, 2017).

For primary research, IAWRT Asian Women's Film Festival 2025 was chosen as a site for conducting interviews of a set of filmmakers who are going to be present there and produce observations on the space of the festival.

On interviewing a few, the researchers identified that most of the filmmakers have either taken the route of documenting their experiences as a woman in their films, or they have documented other people, cultures and practices from their own position (their gender position and sexual identity) in the form of documentaries.

With these preliminary observations, few pertinent questions arise. Why do women tend to make documentary films? Why don't they make fiction as often as men?

Do they really differentiate between documentary and fiction films owing to the trends of the market? The larger project would try to probe into these issues and more.

The outcome of this project will be a film that is premised upon the idea of what it means for a woman in this country to make a film.

It aims to delve into the personal experiences of women and queer filmmakers, for whom, film festivals play a crucial role for granting them the access to tell the stories that they want to.

The film documents these experiences within the film festival spaces to understand how these festivals act as networks of digital access and nodes for alternative narratives to emerge.

References:

- Valck, M. D. (2007) Film festivals: from European geopolitics to global cinephilia. [Amsterdam: Amsterdam University Press, ©] [Pdf] Retrieved from the Library of Congress, https://www.loc.gov/item/2022667474/.
- Latour, B. (2005). Reassembling the social : an introduction to actor-network-theory. Oxford University Press.
- Simondon, G. (2017). On the mode of existence of technical objects (C. Malaspina & J. Rogove, Trans.). University of Minnesota Press.

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Visual Voices of Kerala's Politics: A Study of Hand-Painted Letterforms and Typeface Development

KID: 20240319

Malayalam hand-painted political graffiti is a vast yet understudied aspect of Kerala's visual culture. This project undertook an extensive field study to document and analyze the letterforms used in political graffiti across urban centers in eight districts of Kerala. The research focused on the typographic diversity, stylistic evolution, and socio-political significance of these graffiti, revealing unique patterns that reflect Kerala's political history and artistic traditions, in addition to categorizing the letterforms and generating six type families.

Research and Documentation

The study involved an extensive photographic survey of political graffiti (Figure. 1) and it was observed that graffiti primarily serves as a tool for political communication, used for electoral campaigns, trade union announcements, and ideological slogans. These days, they tend more towards showcasing the names of political candidates and announcing and drawing attention to political gatherings/meetings. Through typographic analysis, the graffiti was categorized into three primary styles (with further subcategories):

- Monolinear – Simple, uniform stroke widths or have equal weight across their anatomy.
- Modulated – Formulaically varying stroke widths often achieved using a tool, in some cases, simulates the usage of a tool.
- Ornamental – Highly stylized forms, incorporating bold flourishes and artistic elements

Further, Kerala's graffiti exhibits a regional hierarchy in letterform preferences, with certain districts favoring decorative approaches while others heralding functional and practical methods. With the rise of digital political campaigns, hand-painted graffiti has been experiencing a steady decline, with some districts witnessing drastic reductions in its presence.

Figure1: Some letterforms documented during the study

Interviews with Artisans

To understand the artistic process and evolution of this craft, interviews were conducted with graffiti artists across generations.

Veteran artisans corroborate the decline in hand-painted political graffiti, largely due to the rise of digital flex printing and the disappearance of the apprenticeship system. Despite these challenges, artisans continue to create hand-painted works, balancing political messaging, personal artistic expression, and commercial viability. The research highlighted their role as cultural historians, preserving Kerala's evolving visual language through their work.

Figure.2: Explorations using the type families.

Typeface Development

A significant outcome of this research was the development of six type families, directly inspired by the documented graffiti. These typefaces were designed by extracting core stylistic elements from different graffiti samples and adapting them for digital use. The outputs incorporate mono-weight and modulated forms, hand-drafting (scanned, digitally hand-drawn) and digital techniques (boolean operations), creative usage of typographic features such as counters, inlines/outlines, loops, serifs and shadows. (Figure. 2,3)

The typefaces serve both as a tribute to Kerala's political graffiti culture and the project as a whole, serves as a step toward preserving this fading art form in the digital age. They hold potential applications in graphic design and academic research on Malayalam typography and visual culture.

This project, through its documentation, analysis, and typeface creation, ensures that the legacy of Malayalam political graffiti is preserved while opening new pathways for future design explorations.

Figure3: Explorations using the type families

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"SWARAM" - An Experimental Documentary Film Exploring the Characteristics and Significance of Ritualistic Soundscapes Associated with Spiritual Transformation and Trance states

KID: 20240320


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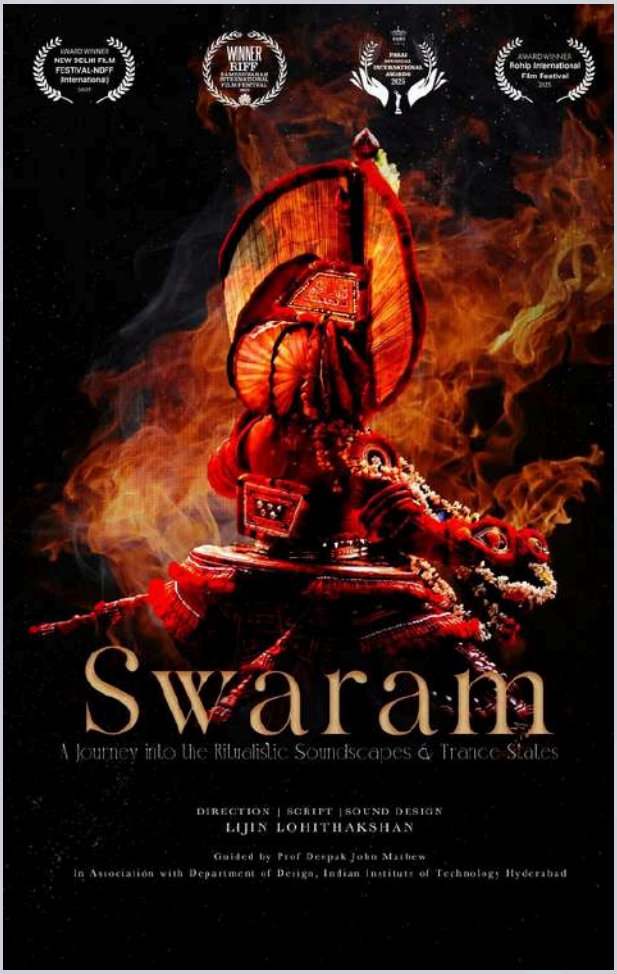
Abstract

SWARAM is an experimental documentary film that examines the ritualistic soundscapes of Kerala and their role in inducing trance-like experiences. This study integrates ethnographic fieldwork, high-fidelity field recordings, and immersive filmmaking techniques to analyse how sonic elements contribute to cultural expressions of spirituality.

SWARAM explores how sound is not merely an artistic medium but a transformative force that shapes human consciousness, evokes trance states, and serves as a spiritual bridge between the earthly and the divine. This work aims to contribute to the discourse on sound studies, ethnomusicology, and documentary film as a research method. By bridging academic research with an artistic cinematic experience, the film adopts the format of a visual academic paper, with distinct sections such as Backdrop, Abstract, Introduction, Case Studies, Conclusion, and expert references. This unique approach seamlessly blends research with cinematic storytelling, offering viewers both an academic exploration and an immersive cinematic experience.



Inspiration:

My fascination with sound began in childhood, surrounded by the hum of the radio, the echoes of temple prayers, and the rhythmic beats of local festivals. As I explored deeper into sound structures, I noticed some striking similarities between the trance-inducing nature of Kerala's ritualistic music and modern psychedelic trance music. This connection sparked the idea for SWARAM. The documentary is both a personal and professional journey and an exploration of how auditory experiences influence human perception across cultures and eras.

This understanding inspired me to document Kerala's ritualistic soundscapes, drawn by their deep, trance-like qualities, which subtly resonate with specific modern musical experiences. Through this exploration, I seek to understand how sound shapes human perception and emotions, making this project both a personal and professional journey into the power of sound in storytelling.

Understanding Rituals and Soundscapes

Kerala is home to many ritualistic traditions which use sound as a medium for spiritual transformation. In SWARAM, I focus on three primary rituals:

Pulluvan Pattu: A serpent-worship ritual where rhythmic chanting and the resonant sounds of the *Pulluvan Veena* induce trance-like states among participants.

Kalamezhuthu Pattu:

A visual and auditory performance where intricate floor art meets hypnotic music, leading to possession states.

Kalamezhuthu Pattu ritual

Thottam Pattu of Theyyam ritual: A powerful ritual in which the performer embodies a deity, guided by intense drumming and melodic recitations.

These rituals, deeply embedded in Kerala's cultural and spiritual landscape, showcase the transformative role of sound.

By meticulously recording and analysing their sonic structures, I attempted to investigate any connections between traditional and contemporary trance music.

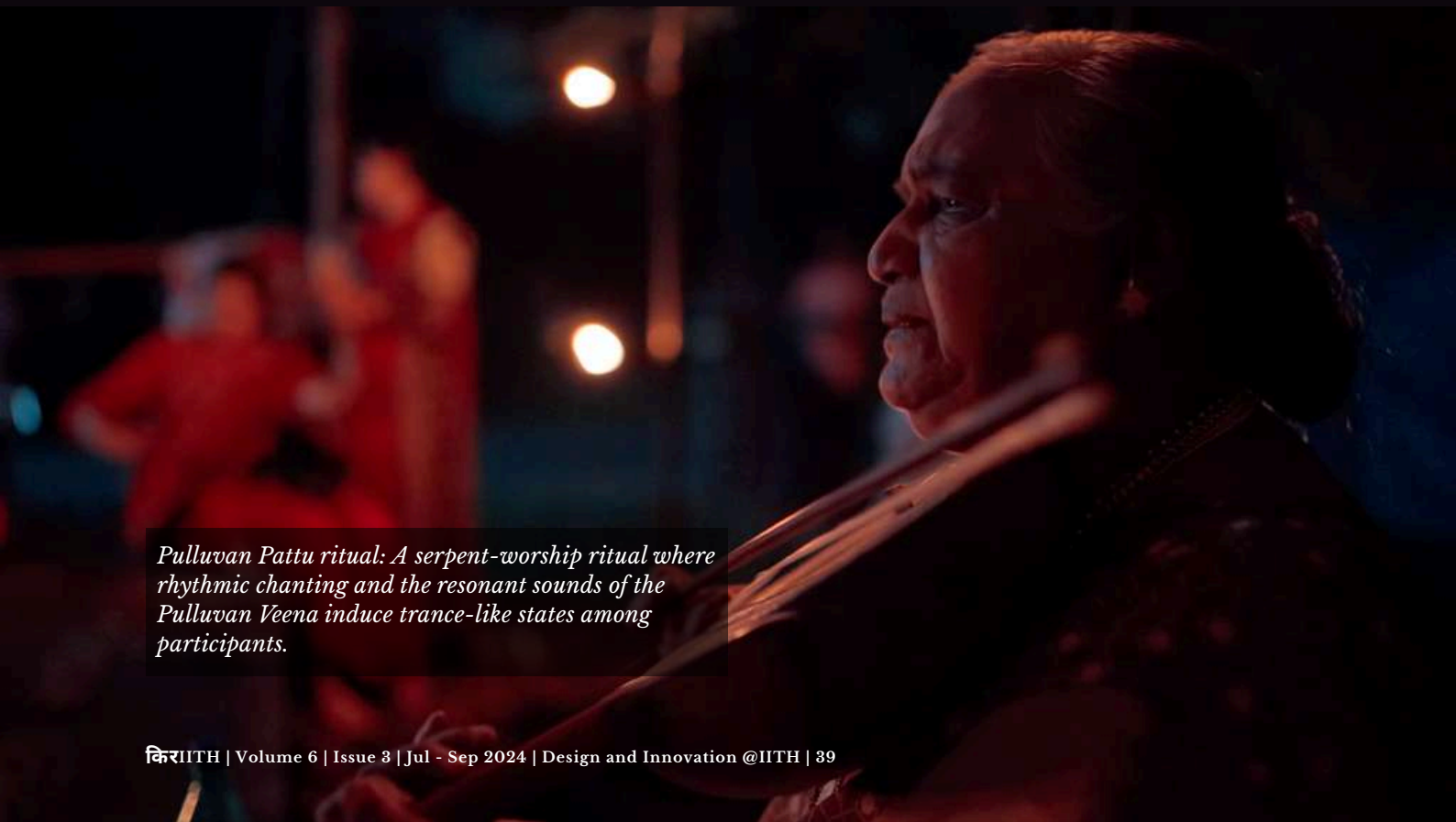
Filmmaking as a Research Tool: Ethnography, Field Recording, and Cinematography

Unlike conventional documentaries that rely heavily on narration and structured storytelling, SWARAM embraces an observational and immersive approach.

This project integrates research through documentary filmmaking, employing the following approaches for data collection, analysis, and a deeper understanding of rituals and soundscapes:

Field recording:
Capturing high-fidelity, on-location audio to ensure authenticity.

Experimental sound design:
Layering ritualistic sounds with contemporary synth sound techniques to create an evocative auditory experience.



Pulluvan Pattu ritual: A serpent-worship ritual where rhythmic chanting and the resonant sounds of the Pulluvan Veena induce trance-like states among participants.

Visual Ethnography:
Handheld, unfiltered cinematography to immerse viewers in the raw energy of these rituals.

Narrative fluidity:
Allowing the story to evolve organically rather than forcing a linear structure.

A research paper structure: Structuring the documentary as an academic research paper, including sections such as Abstract, Introduction, Case Studies, and Conclusion, ensures scholarly rigour and narrative depth.

Conclusion
SWARAM is more of an experiential and experimental film. It highlights the universality of sound as a tool for transformation, bridging ancient rituals with contemporary music culture. Through this film, I hope to inspire further research on how sound can alter consciousness, influence emotions, and connect humanity across time and tradition. The film also contributes to ongoing academic discussions on sound and spirituality, demonstrating how film can serve as both a research method and an artistic expression.

As I continue to expand this work, future research will explore how immersive media technologies can further enhance the study of ritualistic soundscapes and altered states of consciousness.

This documentary serves as a starting point for a broader conversation that connects past and present traditions, experimental filmmaking, research methodologies, and artistic exploration.

The film has received four awards in the first quarter of this year and has been in the official selection for several upcoming national and international film festivals in 2025.Awards - New Delhi Film Festival – 4th Best Documentary Film, Parai Musical International Awards – Best Documentary Music Video, Rameshwaram International Film Festival – Best Documentary Film, Rohip International Film Festival – Best Documentary Film

> **SWARAM explores how sound is not merely an artistic medium but a transformative force that shapes human consciousness, evokes trance states, and serves as a spiritual bridge between the earthly and the divine**

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A Journey of Design Innovations at DSSI Labs

KID: 20240321

DSSI Labs (Design for Social and Spatial Impact), established in 2021, is led by Prof Srikar at the Department of Design, IIT Hyderabad. The lab has begun numerous design-led innovations to foster social and spatial dimensions in the built environment. In this issue, we will uncover the following initiatives from his labs:

Indian temple architecture influence in the lower Mekong region:

As most of the Indian architecture students and enthusiasts learn about the history of Indian architecture, due to current national boundaries confining them to limit their knowledge of its significance and influence at large., Prof Srikar argues in his research that the Indosphere (James Motisoff,1990) gives a broader framework to understand Indian architecture and its influence. Whereby the pedagogy and teaching material taught by the instructors is not just limited, but having to include examples from the Indosphere the whole journey of learning.

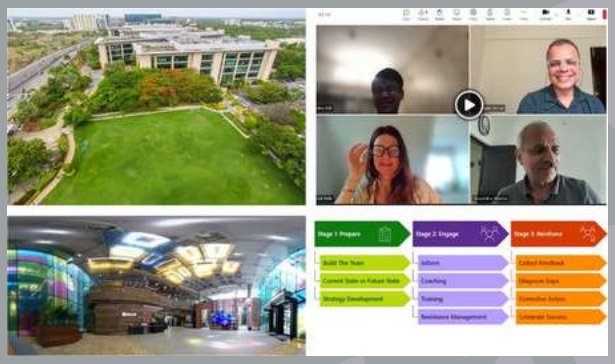
The current phase of the research involved unique design documentation of the numerous sites in South India and the lower Mekong region (covering Thailand, Laos, Cambodia, Vietnam) and leading to the design and development of a phygital exhibition at the National Museum at UbonRatchathani, Thailand (March2025).

Earlier, Prof Srikar also conducted an Indian architecture and Design workshop in UBU Thailand(2024). The outcome of the workshop is bi-cultural design and demonstrating digital and physical manifestations of the semantics of temple building.

Details of the museum launch can be viewed through this link: https://www.facebook.com/story.php?story_fbid=104544S550S577S0&id=1000C4782C34072&mibextid=wwXIfr&rdid=zSOrQwp7laWq4Th3

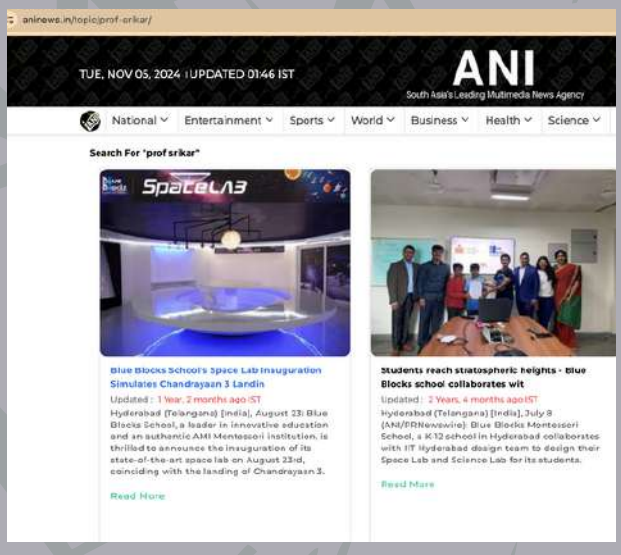
Microsoft -Change Management Services:

As the Fortune500 company transitions with a consolidated workplace strategy, Prof Srikar, alongside with AWA, London, collaborates to develop a service design to deliver change management for their site in Hyderabad (Microsoft India HQ). The design innovation includes service design mapping and deployment to ease the employees from multiple sites to make the transition to their headquarters in Hyderabad with ease.

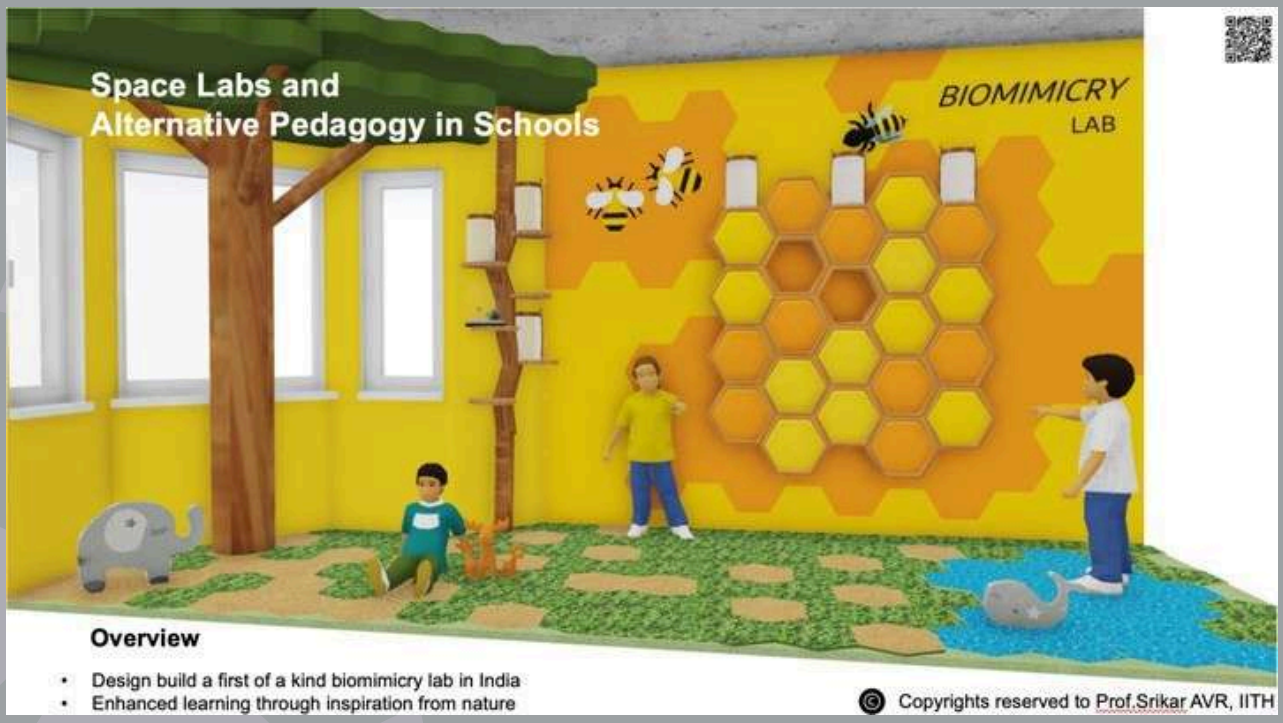


Blueblocks- Research Labs for Children:

With the onset of ABL (Activity-Based Learning), pedagogical tools have been put to the test to make the engagement attractive and effective for students in many learning spaces. With the onset of space technologies attracting young minds, many institutions have approached Prof Srikar, DSSI Labs, to intervene and develop novel spaces and tools to engage students. Here are some case studies from Blueblocks school where Prof Srikar and his team have developed India's first Space Labs, Biomimicry Lab, and Drone Labs for children in the Montessori system.



Newspapers covering Blueblocks' space lab launch coinciding with Chandrayan-3 Landing on 23rd Aug,2023.



For more information on the space labs, browse through the following links:

https://www.business-standard.com/content/press-releases-ani/blue-blocks-school- s-space-lab-inauguration-simulates-chandrayaan-3-landing-designed-by-iit- hyderabad-a-leap-in-education-and-exploration-123082300363_1.html

https://www.aninews.in/news/business/business/blue-blocks-school-launches-first- of-its-kind-biomimicry-lab-for-its-students20220408160518/

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Newspapers covering Blueblocks' space lab launch coinciding with Chandrayan-3 Landing on 23rd Aug,2023.

Digitally Preserving the Legacy of Kakatiya Architecture: AR/VR, Virtual Exploration of Kakatiya Kala Thoranam and Ramappa Temple

KID: 20240322

Monuments are more than just stone and structure—they are enduring symbols of identity, culture, and history. In Telangana, built heritage plays a crucial role in shaping the region's cultural narrative, especially through the architectural marvels left behind by the Kakatiya Dynasty (12th–14th century CE). These monuments not only reflect the engineering brilliance of their time but also embody the legacy and power of the rulers who commissioned them.

One such iconic structure is the Kakatiya Kala Thoranam, or the Warangal Gate, a majestic stone arch that once formed the gateway to the Warangal Fort. Its intricate carvings, symmetrical design, and historical importance have made it a cultural emblem—it even features in the official logo of the Telangana Government. Yet, like many heritage sites, it faces threats from environmental decay, urbanization, and neglect. Recognizing this, my thesis project focuses on the digital preservation of the Kakatiya Kala Thoranam through immersive technologies like Virtual Reality (VR) and Augmented Reality (AR).

Using photogrammetry, a method that stitches hundreds of photographs to reconstruct 3D models, I digitally recreated the Kala Thoranam in high detail. These models were then imported into Unreal Engine to create a VR experience, allowing users to virtually explore the monument as if they were standing before it in Warangal. Historical narratives, ambient sounds, and interactive navigation were incorporated to enhance immersion and understanding. An AR prototype was also developed for mobile devices, enabling users to visualize the monument in their surroundings, making cultural education both accessible and engaging.

Expanding the scope of digital preservation, the project also included the Ramappa Temple, a UNESCO World Heritage Site located in Palampet. Known for its earthquake-resistant sandbox foundation, floating bricks, and detailed carvings depicting mythological and cultural stories, the temple is a masterpiece of Kakatiya architecture.

A full-scale VR walkthrough of the Ramappa Temple was developed, where users can view sculptures up close, explore the mandapa, and learn about the stories etched into stone. This immersive experience bridges the gap between past and present, making cultural heritage tangible for future generations.

These digital reconstructions are not just about preserving architecture—they are about creating educational tools that bring history to life. Through this project, I aim to promote public awareness and appreciation of Telangana's rich cultural history, especially among youth who might otherwise be disconnected from it.

As the next step, I plan to integrate these virtual experiences into QR codes placed at educational institutions and tourist sites. By scanning these codes, students and visitors will be able to access the 3D models and VR/AR tours on their smartphones, offering an interactive way to learn about the monuments' significance and craftsmanship.

This project is a step toward building a bridge between cultural heritage and modern technology—ensuring that the stories of the Kakatiyas live on, not just in textbooks, but through meaningful, immersive experiences.

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|| परंपरा प्रौद्योगिकीयोगेन समन्वयः ||
DIGITAL HERITAGE LAB

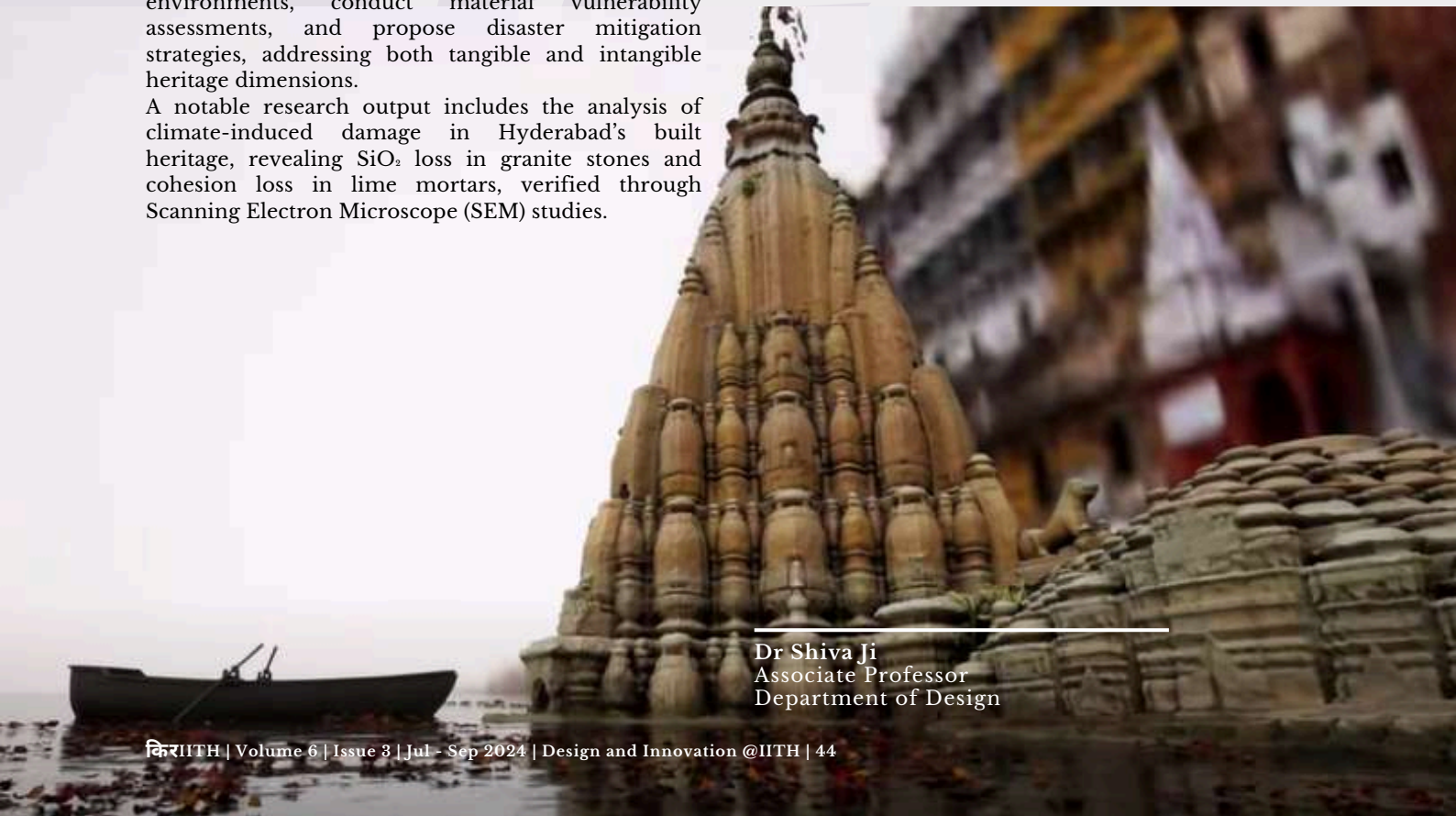
KID: 20240323

The Digital Heritage Lab at IIT Hyderabad, led by Principal Investigator Dr. Shiva Ji, is at the forefront of digitally preserving India's architectural and cultural heritage through advanced technologies. Aligned with the institute's motto, "Inventing & Innovating in Technology for Humanity," the lab focuses on integrating digital tools with traditional knowledge to make heritage conservation sustainable and accessible.

The lab has developed a robust digital ecosystem using LiDAR, drones, high-end computing, 3D printers, and media capture technologies, creating detailed 3D reconstructions, architectural drawings, and immersive AR/VR experiences. A key innovation is using Digital Twins and Artificial Intelligence to simulate environmental impacts and deterioration in heritage structures. AI is also employed in automating workflows, such as generating illustrated renderings from photogrammetric models using Blender and stable diffusion pipelines.

The lab has completed a major DST-IHDS-funded project on the indigenous architecture of Northeast India, digitally documenting significant structures from all seven states and showcasing climate-responsive and culturally rooted design features. Currently, it is undertaking another flagship initiative, the DST-SHRI project in Kashi (Varanasi), titled "Creating Digital Immersive Heritage Experience, Risk Assessment and Vernacular Architecture Analysis of Five Historically Significant Temple Marvels of Kashi". The project aims to build virtual reality environments, conduct material vulnerability assessments, and propose disaster mitigation strategies, addressing both tangible and intangible heritage dimensions.
A notable research output includes the analysis of climate-induced damage in Hyderabad's built heritage, revealing SiO_2 loss in granite stones and cohesion loss in lime mortars, verified through Scanning Electron Microscope (SEM) studies.

These findings support the lab's broader aim of integrating heritage science with climate adaptation. The Digital Heritage Lab is also a vibrant capacity-building centre, offering hands-on training and coursework in Heritage Building Information Modelling (HBIM), Extended Reality (XR), AI for Cultural Heritage, Visual Ethnography, and intangible heritage documentation. These efforts are embedded in teaching and research programmes across departments, benefiting students, researchers, and professionals.



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Courtyards in Indian Context: Divided and United


[1]


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KID: 20240324

Courtyards, defined as open-to-sky spaces enclosed within buildings, are a defining element of Indian vernacular architecture. While they are often studied for their architectural and climatic benefits—such as facilitating ventilation, cooling, and natural lighting—their significance extends far beyond environmental functionality. Across India, courtyards also serve as crucial cultural, social, and symbolic spaces, reflecting regional diversity and local ways of life.

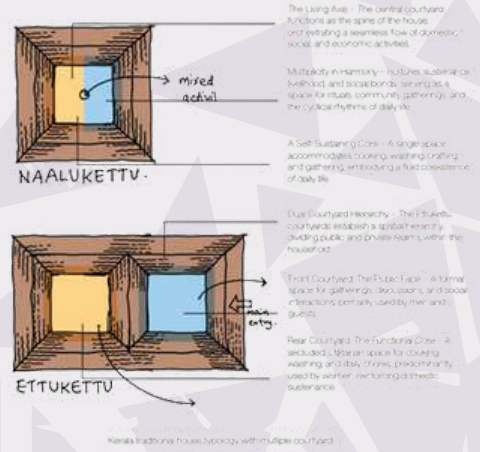
Architecturally, the courtyard acts as an organizing core, linking different parts of the house. It enhances the spatial hierarchy of traditional homes and helps distinguish between public, semi-private, and private zones. In regions with larger homes—such as Kerala's nalukettu, Gujarat's havelis, or Maharashtra's wadas—multiple courtyards may be used to define family, gendered, or functional divisions. Even in modest dwellings, a single courtyard often accommodates various domestic needs. Its centrality allows the house to breathe, while its flexibility allows it to adapt to different seasons, times of day, and household routines. Climatically, courtyards are effective tools for passive cooling. In hot-dry regions, they create shaded interiors and enable air circulation. In humid areas, they help reduce indoor moisture. The thick surrounding walls and shaded edges mitigate solar gain, while the open sky facilitates natural light. This makes the courtyard a low-energy solution in traditional architecture.

Yet the courtyard's importance cannot be explained through environmental efficiency alone. These spaces are deeply embedded in everyday social practices. They serve as sites for cooking, cleaning, resting, playing, and gathering. In joint families, the courtyard becomes a shared space for interaction across generations. It is often the location of informal conversations, domestic chores, and family bonding.

For many women, especially in traditional households, it offers a relatively private outdoor environment for daily activities. Culturally, the courtyard carries strong symbolic meanings. In Hindu households, the presence of a Tulsi plant or small shrine in the courtyard often marks it as a sacred space. It is the site for daily rituals, religious festivals, and lifecycle ceremonies.

This symbolic use of space transforms the courtyard into more than a functional void—it becomes a site of continuity, tradition, and identity.Economically, courtyards are sometimes used for artisanal work, small-scale food processing, or animal care, depending on the household's occupation. In rural settings, they may double as spaces for drying crops, storing firewood, or managing livestock. Thus, courtyards also support livelihood practices.

The design and use of courtyards reflect the social and spatial values of their communities. They often reinforce roles based on age, gender, or status through their accessibility and layout. At the same time, they foster community cohesion by enabling shared routines and rituals.In contemporary urban settings, traditional courtyard houses are declining due to space constraints and modern lifestyles. However, the principles they embody—climatic sensitivity, spatial flexibility, and socio-cultural integration—remain relevant and are often reinterpreted in new architectural forms.



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Phyllotaxis Bloom: A Kinetic Sculpture Inspired by Nature


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KID: 20240325

Nature reveals its most fascinating patterns through phyllotaxis, the precise spiral arrangement of leaves, scales, and florets. Inspired by these intricate natural forms, our project, "Phyllotaxis Bloom," transforms mathematical beauty into a captivating kinetic sculpture. Using the Fibonacci sequence and the golden ratio—137.5° between successive florets—we digitally modelled and fabricated a rotating bloom

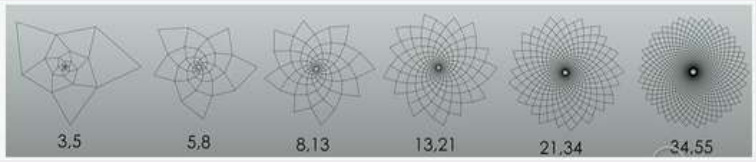
The kinetic effect is enhanced by integrating electronic components controlled via an Arduino Uno microcontroller. A 12V DC motor spins the bloom, with rotation speed finely tuned using a potentiometer. Ultrasonic sensors initiate the rotation based on proximity, activating LED strobe lights synchronized precisely to the bloom's rotation speed. This synchronization creates the illusion of motion or static blooming depending on the strobe frequency.

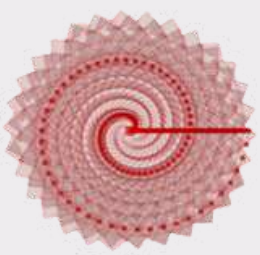
A WS2812B RGB LED matrix and a white LED panel alternate to produce stunning visual effects, changing colors and frequencies, further enriching the sculpture's dynamic appeal. Key electronic components include ultrasonic sensors, a 16x2 LCD for displaying rotation speed and strobe frequency, and the L298N dual H-Bridge motor driver for precise motor control.

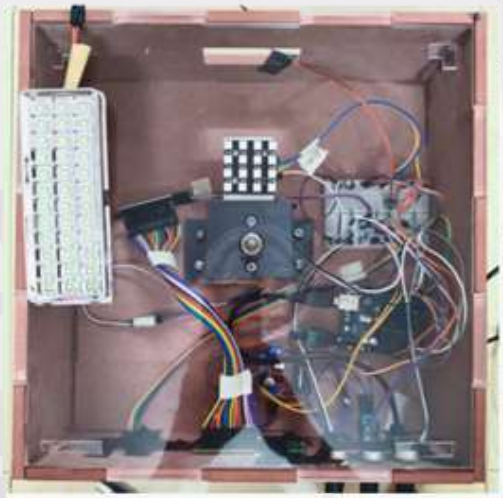
Laser-cut acrylic and CNC-machined MDF form the robust housing, ensuring both durability and aesthetic appeal. The entire system emphasizes digital craftsmanship, combining subtractive and additive manufacturing techniques seamlessly.

Through experimentation, we discovered a mathematical relationship between the bloom's spiral pattern, rotation speed (RPM), and strobe frequency (Hz). Specific RPM and strobe frequency settings produced clear, compelling blooming illusions, while deviations caused blur or static patterns. This interaction was defined by the formula:
Strobe Frequency (Hz) = k × (n/number of petals) × (RPM/60)
Our findings offer valuable insights for creating controlled visual experiences and potential applications in architectural facades and renewable energy harvesting devices, as demonstrated by innovative concepts like the Airiva wind turbine wall.

This sculpture comprises petals arranged in intersecting spiral patterns, creating mesmerizing optical illusions when viewed under strobe lights. The bloom's petals were generated using Rhino software and subsequently 3D printed on a Creality Ender 3 Neo printer. This popular Fused Deposition Modelling (FDM) printer offers precision, ease of use, and material versatility, making it ideal for intricate designs.







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Splatscapes: Reimagining Space Through 360° Imagery and Gaussian Rendering


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KID: 20240326

In the evolving landscape of immersive media and digital documentation, Gaussian. Splatting has emerged as a powerful method for visualizing realistic 3D environments. Unlike mesh-based modeling, Gaussian Splats use ellipsoidal point representations with color, opacity, and spatial data-creating rich, real-time renderings of spaces.

This article outlines a streamlined workflow that transforms 360° video footage into a Gaussian Splat-rendered 3D scene using Reality Capture and Post Shot. The approach is ideal for spatial documentation in architecture, interior design, and heritage conservation
.

Workflow Overview

1. 360° Video Capture and Frame Extraction

The process begins with capturing a 360° video using a panoramic camera (e.g., Insta360 One X3). The walkthrough is recorded slowly to minimize motion blur and ensure spatial consistency. The recorded video is then divided into individual frames, usually extracting one frame per second for a balance between detail and manageability.


Figure 1: 360° panoramic image from the video (Source: Author)

2. Conversion to Cubemap Format

Each 360° frame is converted into a cubemap projection, resulting in six flat images:front, back, left, right, top, and bottom. This step transitions spherical imagery into a perspective-based format more compatible with photogrammetric software.


Figure 2: Illustration of the cube map projection (six faces layout) (Source: Author)

3.Photogrammetric Processing in Reality Capture

The cube map images are imported into Reality Capture, where they are aligned to generate a colored point cloud of the scene. The emphasis is on accurate alignment rather than mesh generation.
This point cloud serves as the spatial backbone for the Gaussian Splat rendering.


Figure 3: Screenshot of point cloud in RealityCapture (Source: Author)

4. Gaussian Splat Rendering in PostShot

The point cloud is then imported into PostShot, where it is processed into Gaussian Splats. PostShot renders the environment using small 3D splats that preserve depth, parallax, and visual detail. The final scene can be navigated interactively and exported for real-time applications like VR walkthroughs or digital storytelling.

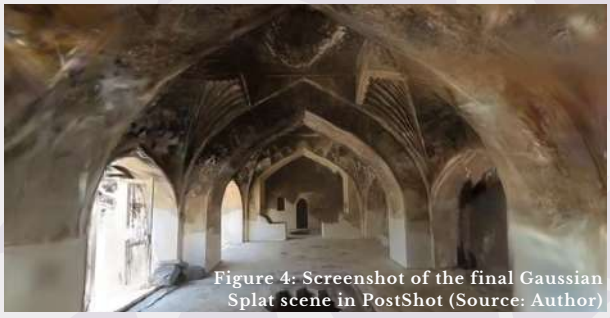
Figure 4: Screenshot of the final Gaussian Splat scene in PostShot (Source: Author)

Advantages

- Realism with Speed: No need for time-consuming mesh cleanup or texture baking.
- Ideal for Interiors: Works well in tight or ornate environments like heritage buildings.
- Low Hardware Requirement: Only a 360° camera and basic processing tools are needed.

Applications

- This workflow is especially useful for:
- Design education – helping students visualize and interact with spatial environments.
- Heritage documentation – offering non-invasive digital preservation.
- Client presentations – enabling realistic previews of interior spaces.

Conclusion

Combining 360° capture with photogrammetry and Gaussian Splat rendering offers a fast, efficient, and visually compelling method to document and present spatial environments. This hybrid workflow opens new opportunities for immersive storytelling and digital spatial experiences.

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Reconstructing Bhumija Temple Architecture: A Computational Revival


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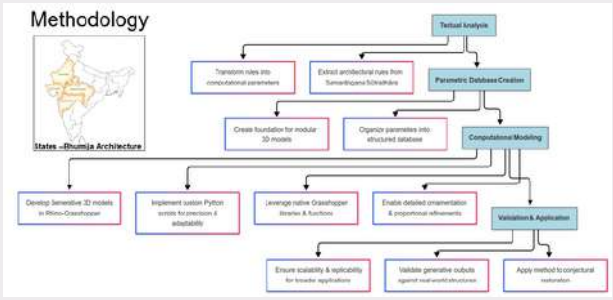
KID: 20240327

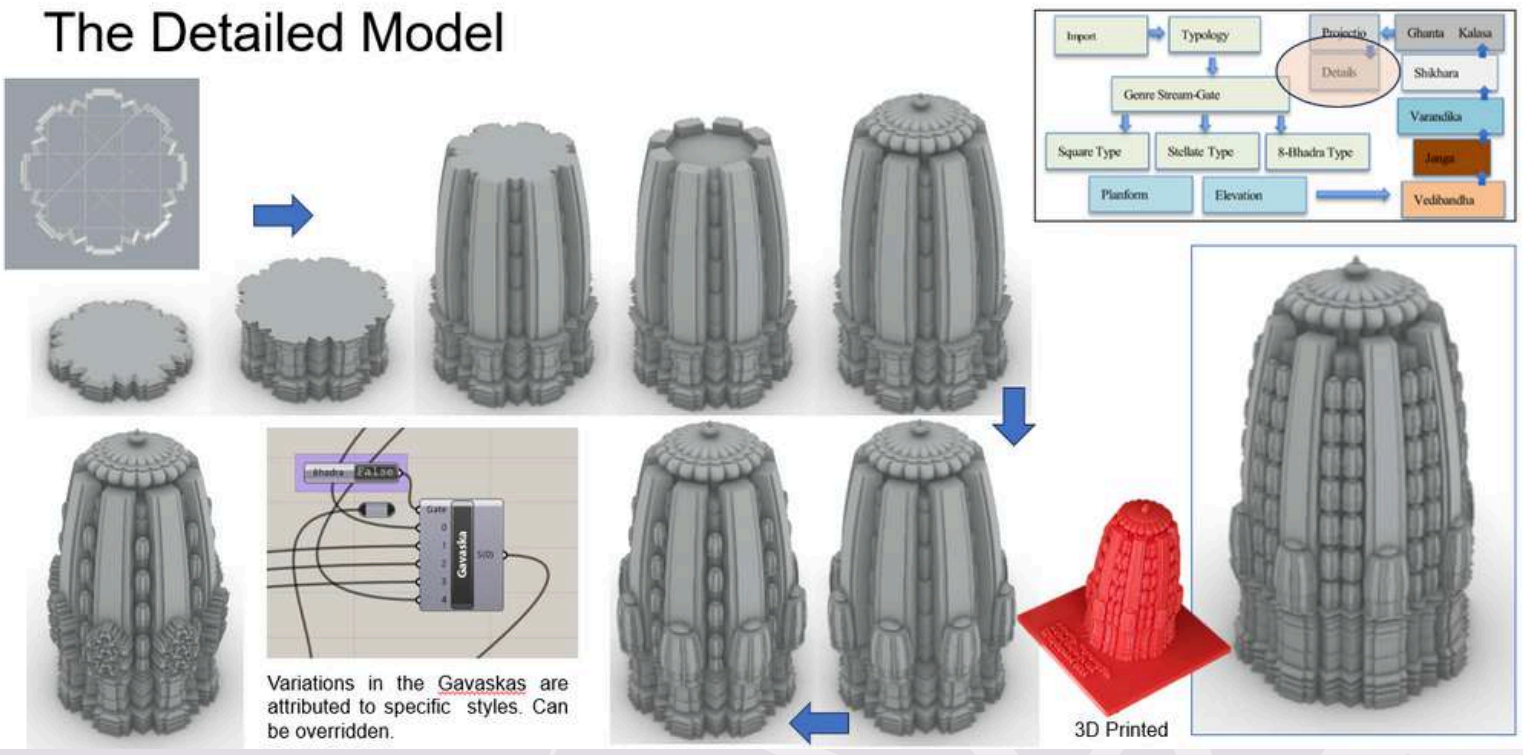
The splendour of Indian temple architecture, known for its symbolic intricacies and geometrical precision, is vividly captured in the Bhumija style. A subgenre of the larger Nagara architecture, Bhumija temples are marked by their multi-tiered structures (bhūmis) and star-shaped planforms, as elaborated in the 11th-century treatise, Samarāṅgaṇa Sūtradhāra. Despite its architectural brilliance, Bhumija remains largely underutilized in modern restoration practices, prompting a need for innovative computational approaches to preserve and reinterpret its forms.

The methodology begins with the extraction of geometrical and proportional principles from the Samarāṅgaṇa Sūtradhāra. Key verses were interpreted into computational parameters, defining star patterns, bhāga divisions, and elevation profiles. These parameters are imported into Grasshopper to create base geometries that reflect traditional construction methods. The Parivartana—a transformational rotation technique—is employed to form multi-point stars and complex planforms that characterize Bhumija temples.

Our research presented at CAADRIA 2025 in Tokyo introduces a novel, generative computational model aimed at reconstructing Bhumija temples by translating the treatise's textual guidelines into parametric design workflows. Using Rhino-Grasshopper, we developed a parametric database with 57 fields encapsulating essential parameters such as plan proportions, tier distributions (bhūmis), and ornamental elements. This structured data forms the backbone for generating precise 3D models of 16 Bhumija typologies, categorized into square, stellate, and 8-bhadra genres.



The computational models were further validated through a photogrammetry survey of the Ramalingeshwara Temple in Nandikandi, Telangana. A dense point cloud was generated from 11,000 images, allowing for a precise digital reconstruction. Comparative analysis with our generative models revealed alignment with the Kumuda typology, highlighting both congruences and regional adaptations. These findings not only confirm the model's accuracy but also its potential for conjectural restoration of damaged or incomplete structures.



The generative approach unlocks possibilities for digital preservation, exploration of design variations, and scalable restoration techniques, marking a significant step in the conservation of Indian temple architecture. Future research aims to expand this computational framework to other temple styles, reinforcing the importance of integrating traditional knowledge with modern technology.

This article is based on the paper 'Reconstructing Bhumija Temple Architecture: Computational Model Based on the Samarāṅgaṇa Sūtradhāra,' presented at CAADRIA 2025, Tokyo, Japan.

The generative approach unlocks possibilities for digital preservation, exploration of design variations, and scalable restoration techniques, marking a significant step in the conservation of Indian temple architecture. Future research aims to expand this computational framework to other temple styles, reinforcing the importance of integrating traditional knowledge with modern technology.

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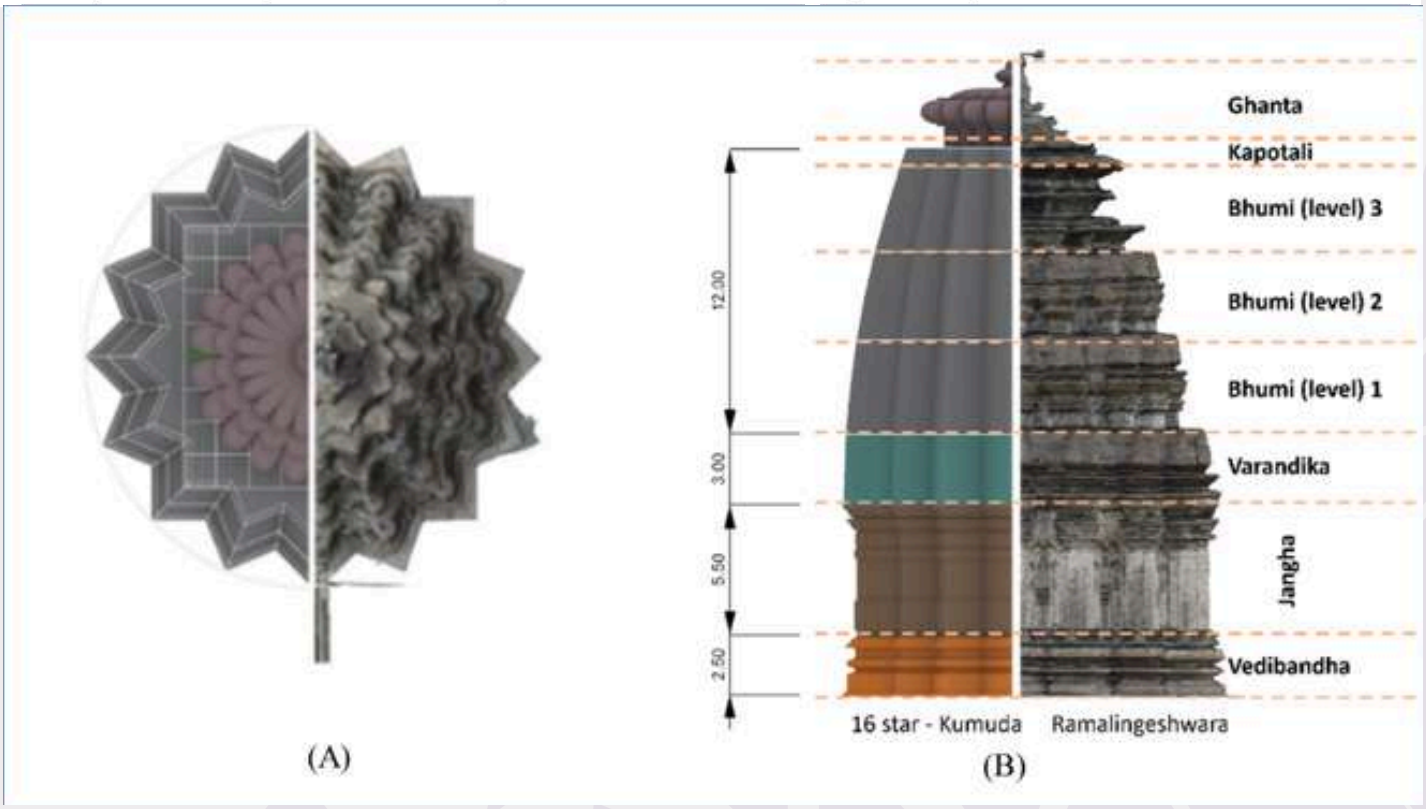
Comparative Analysis

Comparative Analysis between Computational Model and Photogrammetry Model



Objective: Compare Grasshopper-generated models (Kumuda & Kamala typologies) with the **photogrammetric model** of the **Ramalingeshwara Temple** to assess morphological alignment.

1. Planform Analysis

- **Kumuda Typology → 8-star planform** (as per *Samarāṅgaṇa Sūtradhāra*).
- **Kamala Typology → 16-star planform** with **bhadras (projections) at cardinal directions**.

Observation:

- **Ramalingeshwara Temple follows a 16-star planform** but lacks **bhadras**, deviating from the Kamala typology.
- **It aligns more closely with the Kumuda typology** when transformed into a **16-point star**

2. Elevational Profile

- **Ramalingeshwara Temple is a Tri-bhūmi structure** (three-tiered).
- **Observed Deviations:**
  - Elevation begins from the **janga (walls)** instead of the **varandika (balcony)** as per traditional rules.
  - **Topmost bhūmi (level 3) does not follow traditional scaled-down tiering**.
  - Instead, it **merges with the ghanta (bell/crown)**, forming a **complex multi-layered crown**

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Brewing Change: Circular Solutions Using Tea and Coffee Waste in Local Communities


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KID: 20240328

Urban India presents an increasing problem in successfully managing garbage, particularly in densely populated regions where biodegradable and non-biodegradable waste gather in enormous quantities. The numerous small-scale tea and coffee sellers operating throughout cities are among the underappreciated contributors to this issue. Every day, they create significant volumes of leftover tea leaves and ground coffee, which are often thrown without being reused.

This study presents a circular paradigm for transforming beverage trash into eco-friendly materials, proposing a decentralized and inclusive strategy that empowers local communities while furthering environmental goals. This program is built on a commitment to design thinking, sustainable experimentation, and grassroots entrepreneurship.

Unlocking Potential: Tea and Coffee Waste as a Resource

Tea and coffee are more than simply everyday beverages; they are economic lifelines and cultural icons. Despite the fact that their byproducts are biodegradable, fibrous, and reusable, they are commonly regarded as garbage.

Our research shows that tea and coffee waste, when combined with natural, plant-based binding agents, is a potent material combination for environmentally aware innovation. This organic combination paves the way for locally generated biodegradable alternatives that lessen reliance on plastics and industrially processed materials.

Material Innovation Through Experimentation

The research began with extensive testing to guarantee that tea and coffee waste could be reused in a range of practical uses. The focus was on exploring the combination of organic waste and natural adhesives.

- Testing for durability, texture, biodegradability, and safety.
- Assessing material suitability for artisanal-scale manufacture.

These studies paved the way for a reproducible, safe, and economical formulation with a minimal environmental effect and great social benefit.

The Role of Design Intervention

Design intervention is critical in transforming this sustainable paradigm into a tangible impact. Beyond the material's scientific feasibility, design ensures:

- Creating user-friendly forms and procedures with little training.
- Improving visual appeal to improve product demand in local markets.
- Designing tools and workflows for different users, such as informal labourers, women, and craftspeople.
- Ensuring goods fulfil real-life demands while maintaining environmental ideals.

Design-led thinking also allows for modular toolkits, DIY manuals, ergonomic Molds, and context-sensitive modifications, which make sustainable production more accessible and intuitive for local people. This intervention fills the gap between sustainable research and grassroots application.

Decentralized Upcycling for Community Empowerment

The concept prioritizes enabling tea traders and craftsmen to lead the upcycling process. Key equipment and tactics include DIY mold-casting kits for small-scale production with local materials and solar-powered heating units for binder preparation to reduce energy reliance.

- Mobile workshops provide practical knowledge transfer.

These solutions are designed to be low-cost, reproducible, and open source, allowing anybody to start making sustainable goods without relying on industrial supply networks.

Building Local Ecosystems of Sustainability

The report recommends creating community-based trash hubs that can collect and sort beverage waste from numerous suppliers, serve as mini-laboratories or production spaces, and promote equality and skill-sharing through collaborative ownership models.

These hubs' design and layout are intended to be modular, space-efficient, and easy to deploy in urban and peri-urban areas.

Contributing to UNSDG 12: Responsible Consumption and Production

This effort corresponds with United Nations Sustainable Development Goal 12, specifically objective 12.5: reducing trash creation through upcycling and reuse.

- 12.8: Increasing knowledge and ability for sustainable living.
- 12.2: Promoting effective use of natural materials and local resources.

The initiative exemplifies ethical consumption and production by converting informal trash to formal value. It promotes sustainability in both process and outcome by using natural materials, decentralized tools, and instructional design.

Shifting Mindsets Through Design and Awareness

Sustainable living is a cultural as well as technological concern. The initiative includes outreach activities to promote upcycling as an act of creativity and compassion. Our initiatives include storytelling campaigns to spotlight local entrepreneurs, public installations, and collaborations with schools, NGOs, and artists to promote reuse and mindful consumerism. Design serves as both a tool and a statement, integrating sustainability with identity and pride.

Conclusion: Design, Waste, and the Power of the Local When combined with creativity, cooperation, and design, this effort demonstrates how the simple act of boiling tea or coffee can begin a long-term revolution. Tea and coffee waste may be turned into capital through careful material science, inclusive design interventions, and strategic alignment with UNSDG 12.

In a society contending with ecological stress and social inequity, such grassroots models provide a scalable, reproducible road to cyclical empowerment in which even the tiniest seller becomes a steward of sustainability.

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Regenerating Sacred Systems: Engaging Systems Thinking to Rediscover the Living Tradition of the Hindu Temples of India


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KID: 20240329

A strategic journey into the living heart of India's temple heritage—where ancient wisdom meets 21st-century systems science. Amid the dense urban and rural envelope of India's ancient urban-industrial pattern lies a web of temple complexes, ancient heritage, worship sites, and much more. These sacred places are alive with cultural rituals, economic exchange, social cohesion, seasonal cycle, and ecological consciousness. However, these living heritages are threatened with extinction by urbanization, environmental deterioration, and disintegrated production and management systems. This PhD research at IITH – Design Department proposes revolutionizing the approach of using Systems Thinking to comprehend, model, and enable sustainable management of temple ecosystems.

The present study views temple compounds not as static architectural remains but as living structural bodies. Systems approach allows the researcher to follow the dynamics of interdependencies and feedback loops across several spatial, ritual, ecological, economic, and social domains. Based on intense fieldwork and in-depth case studies of temple spaces, the study highlights how sacred forms, community life, seasonal festivals, and governance interventions produce life in these heritage landscapes.

Each case study is a window on a specific temple ecology, its complexity, and its singularity. For example, the Chilkur Balaji Temple, with its environs, tangible and intangible heritage, etc., offers a complex water usage system, footfalls, local economies, and volunteer-led management. Urban temples are investigated for their resilience, traditional interaction with evolving cityscapes, and contribution to neighborhood identity. These site-specific studies reveal the intangible elements of heritage — religious performances, community celebrations, oral traditions — that are typically not included in the pages of a traditional conservation plan.
The study has built up holistic models to consider temple systems as adaptive, emergent entities by mapping core elements, characteristics, actors, and cycles. Moreover, the emphasis is not simply on preservation but on co-evolution: how communities and heritage might grow together without losing authenticity.

This study has significant implications for heritage policy, urban planning, and community-based management. It opens up new avenues for involving local stakeholders, increasing stewardship, and building system-based tools to keep the sacred living sites sustainable for future generations. Through the systems thinking lens, and enriched with thickening case study evidence, this study allows us to regard temple complexes not as things – but as living processes worth knowing, caring, and valuing.
Professional projects:

"Unearthing Futures: Sanganakallu Heritage Park — A Living Laboratory of the Past, Present, and Possibility"

Sanganakallu Reimagined: IITH Design research scholar Ar Nitin Ranveer Sinha pioneers an international-standard project of an Archaeological Park integrating Heritage, Innovation & Community. In an effort that bridges ancient history with contemporary innovation, this consulting project spearheads a groundbreaking project at Sanganakallu, one of India's largest prehistoric settlements, in Karnataka. This internationally benchmarked initiative is not just about preserving Neolithic to Megalithic-era heritage—it's about activating it for education, empowerment, and enterprise through a unique fusion of technology, architecture, sustainability, and public engagement.

Titled the Sanganakallu Heritage & Innovation Park, the project aims to create an immersive, multi-functional campus that includes a theme park, skill development and hospitality training center, and eco-sensitive garden landscapes—all woven around the site's authentic archaeological features. Designed as a living museum and learning ecosystem, this ambitious undertaking positions Sanganakallu as a world-class destination for experiential tourism, research, and rural rejuvenation.
At its heart, the project is a testament to the commitment to transdisciplinary research. The design draws upon systems thinking, living heritage conservation, architecture, museum curation, and community-based tourism models, bringing together archaeologists, architects, conservationists, hospitality experts, and local artisans.

More than a static conservation effort, the park acts as an active incubator of cultural heritage, enabling local youth through training in sustainable gardening, heritage interpretation, eco-tourism, and craft entrepreneurship.

The effectiveness of the project lies in its integrated and inclusive approach. Using scientifically grounded Heritage Impact Assessment (HIA) protocols, robust carrying capacity models, and alignment with the Government of Karnataka's Schedule of Rates, the project team has created a model that is both technically sound and financially viable, with a budget meticulously structured under ₹12 crore.

The plan ensures accessibility, community participation, and zero compromise on ecological sensitivity. As a living lab, Sanganakallu is poised to influence how we engage with prehistoric landscapes across India and globally. For Ar Nitin, it marks yet another chapter in his professional journey of designing futures from the roots of civilization, where the past becomes not only a subject of study but a catalyst for transformation, wherein the project aims to turn stones into stories, and stories into sustainable futures.

"Reviving Sacred Waters: A Living Heritage Innovation at Daroji Kere"

A Landmark Research-Based Project for Blending Ecology, Culture, and Community

In a notable fusion of research, sustainability, and design excellence, a multidisciplinary team led by IITH Design research scholar Ar Nitin Ranveer Sinha has developed a master plan for the Daroji Lake Visitor Centre and Interpretation Hub — a living heritage initiative rooted in ecological conservation, cultural revitalization, and community engagement.

Nestled on the banks of Daroji Lake (Daroji Kere) in the heart of Bellary's Sloth Bear Sanctuary, this 13th-century artificial reservoir — steeped in sacred, agrarian, and ecological legacy — is being reimagined not merely as a tourism destination but as a model of responsible, research-driven development for heritage-sensitive natural ecosystems across India.

Led by conservation architects, environmental planners, and systems thinkers, the project employs cutting-edge methodologies in Environmental and Heritage Impact Assessment (EHIA), systems mapping, and visitor carrying capacity analysis, grounded in international best practices from UNESCO World Heritage Sites like Machu Picchu (Peru), Angkor Wat (Cambodia), and India's own Keoladeo and Ranthambore parks.

Designed for ecological balance, the centre integrates climate-responsive architecture, renewable energy, rainwater harvesting, and interpretive programming through gardens, pergolas, screen walls, yoga pavilions, children's zones, and cultural craft shops. More than a space—it is a storytelling platform where natural history meets human heritage.

The plan's community-first philosophy ensures that the region's artisans, farmers, educators, and women-led groups benefit from direct economic and social participation. Moreover, with a project budget capped efficiently at ₹ 9 crore, the solution is scalable and replicable across India's ecologically sensitive tourism belts.

"This is not just about building a visitor centre; it's about cultivating a living laboratory for sustainability, conservation ethics, and public engagement," said Project leader Ar Nitin Sinha. "Daroji represents design with dignity—for people, place, and the planet".

As India reimagines heritage and ecological stewardship in the era of climate urgency, Daroji project initiative offers a compelling blueprint for future-ready, values-driven development.

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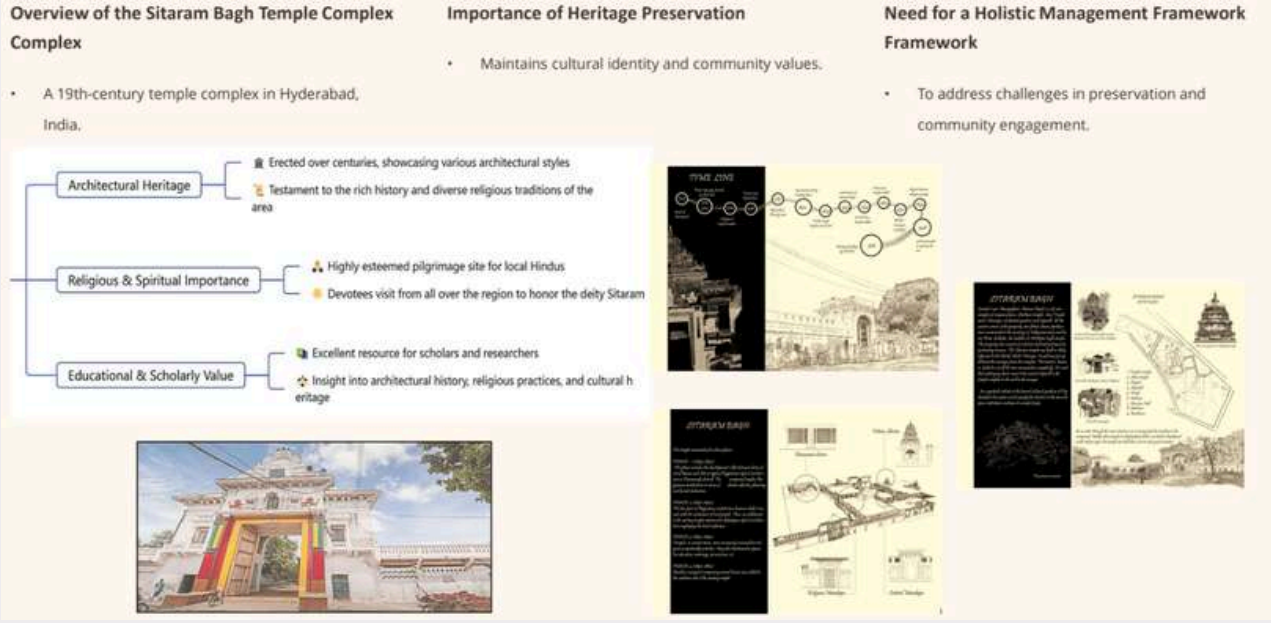

Exploring indoor air quality challenges in non-notified urban slum: A case study from India

KID: 20240330


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Exploring indoor air quality challenges in non-notified urban slum: A case study from India

Subhashree Mohapatra, Shiva Ji, Jane Burry

Introduction

India became the world's most populous country in 2023, yet its urbanisation lags behind China, marked by horizontal expansion into peri-urban areas. This growth has largely been unplanned, pushing low-income migrants into informal settlements with limited infrastructure. Despite a decline in slum percentage, absolute numbers continue to rise, with India projected to have the largest slum population by 2025. These settlements face multiple environmental challenges, particularly indoor air pollution (IAQ), due to poor ventilation, substandard materials, and proximity to roads and industries. Most homes rely on single-sided ventilation, which worsens IAQ by trapping pollutants. While CFD modelling is used to simulate airflow and suggest design improvements, it lacks realism in capturing complex IAQ conditions. To address this, the study integrates CFD with real-time air quality monitoring (PM1, PM2.5, PM10, CO2, HCHO) and qualitative methods to understand how environmental, material, and human factors impact IAQ in slum dwellings.

Methodology

The study was conducted in a non-notified slum cluster in Isnapur, a rapidly urbanising area on the outskirts of Hyderabad. The selected house, built using makeshift materials like bamboo, tin, and tarpaulin, is one of fewer than 50 dwellings occupied by industrial workers without access to formal housing. Over two weeks in March, air quality was monitored using a Prana Air CAIR+ sensor, measuring PM2.5, PM10, CO2, and HCHO. The house, around 60 square feet, shelters a family of three and lacks piped water, sanitation, and space for indoor activities. Qualitative observations and interviews revealed indoor crowding, reliance on LPG for cooking, dusty surroundings, and minimal infrastructure, highlighting typical environmental and structural challenges in such informal settlements.

Results

- PM2.5 and PM10 levels exceeded Class A limits, falling into Class B/C range.
- HCHO levels stayed below Class B threshold but surpassed Class A standards.
- CO2 concentrations consistently crossed Class A limits due to poor ventilation.
- Frying and closed doors during cooking increased indoor pollutant levels.
- Dust entered easily through bamboo mats and unsealed openings.
- CFD showed air getting trapped inside with minimal exit flow.

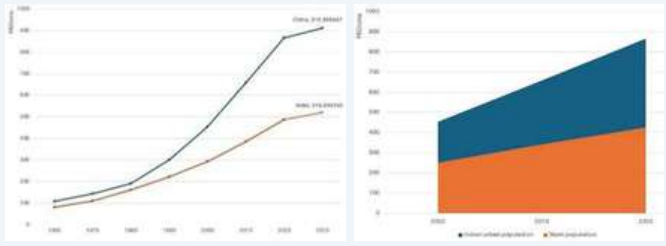


Fig.1.1a. Urban population from 1960-2023 in India and China (WorldBank Group, n.d.-b),1b Urban slum population compared with the overall urban Indian population from 2000-2020(WorldBank Group, n.d.-a)

Fig.2. Exterior of the slum cluster in Isnapur (author)

Fig. 3. Interior pictures with a focus on the equipment used(author)

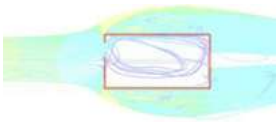
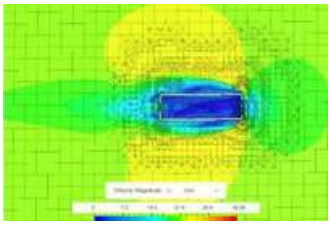


Fig. 7.7a CFD analysis depicting the natural wind movement through the one-sided opening of the door and bamboo mat



7b Air flow with added 06x0.6 metre ventilator with same level of door

Recommendations

- While CFD effectively demonstrates air movement within the structure, it lacks critical elements such as accounting for resident behaviours (e.g., keeping doors open or closed for extended periods), the impact of the surrounding environment (e.g., passing vehicles), and specific health risks like PM1 exposure.
- Real-time monitoring with qualitative data bridges these gaps by capturing dynamic interactions and providing comprehensive insights into pollutant behaviour (Yao et al., 2022).
- Nonetheless, CFD enables recommendations for structural improvements to enhance ventilation.
- For this specific structure, adding a small opening, preferably a ventilator on the wall opposite the door, can help reduce pollutant stagnation and facilitate cross-ventilation as shown in fig. 7b.
- Additionally, sealing gaps near bamboo mats can limit dust infiltration.
- Promoting the use of low-emission construction materials such as mud bricks and advocating for subsidised electric cooking solutions can further improve IAQ.
- Regular cleaning of the roof to remove accumulated dust will aid in low PM.

Conclusion

This study reveals severe IAQ issues in a non-notified urban slum house, driven by poor ventilation, low-quality materials, and daily activities like cooking. PM2.5, PM10, and CO2 levels exceeded Class A standards, while formaldehyde stayed within Class B but above optimal levels. CFD analysis confirmed airflow limitations, supporting recommendations such as adding cross-ventilation and using low-emission materials like mud bricks. The findings underscore the harsher conditions in non-notified slums compared to notified slums and LIG housing. Given that most prior studies focus on Mumbai and notified slums, future research should address non-notified slums in other Indian cities to better inform inclusive housing strategies.

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DIGITAL HERITAGE LAB

Ao Indigenous Architecture Nagaland

भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

Fig. Digital Model of Arju

The Ao Nagas and Their Architecture

The Ao Nagas, an eminent ethnic group among the Naga peoples, inhabit the scenic Mokokchung District of Nagaland, a region defined by its mountainous terrain and rich cultural heritage. The Ao Nagas' territory is nestled between the Tsula (Dikhu) and Tsurang (Disai) valleys, characterized by undulating hills, vibrant rivers, and secluded valleys. The Ao Nagas, known in their vernacular as Aoer ("those who crossed over" from the Dikhu River), are divided into six sub-tribes: Imchen, Longkumer, Longcher, Jamir, Walling, and Pongeno, each contributing to the region's cultural richness.

Arju: The Ao Bachelors' Dormitory:

The Arju, central to every Khel (sub-division) of an Ao Naga village, is a crucial institution for socialization and defense. Boys aged 12 to 14 are initiated into the Arju, where they learn communal responsibilities and martial skills. The Arju fosters a hierarchical learning system with six age groups, emphasizing discipline, bravery, and mutual responsibility. Tasks range from collecting firewood to demonstrating courage through night jungle navigation. Upon marriage, members transition from active residency to mentorship roles.

Fig. Ariju, building ornamentation and symbolism.

Key structures are adorned with intricate sculptures of animals and bird's native to the region. According to belief, these engravings represent their qualities, not their supernatural abilities. It is thought that carvings of creatures such as the tiger, mithan, elephant, hornbill, and python in the morung will make its members courageous and affluent while instilling fear and panic in their opponents. Tiger, elephant, and human head carvings communicated men's strength and ferocity in battle, while mithan, python, and hornbill carvings conveyed riches and beauty.

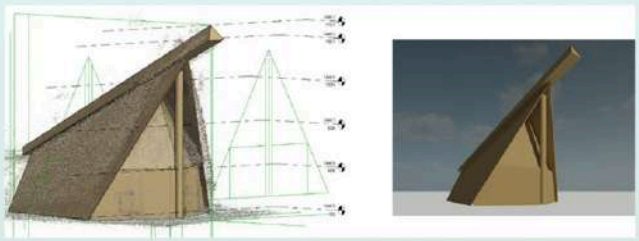

Fig. H-BIM model created with point cloud data

Context and Importance

The Arju House, a traditional structure of the Ao Naga in Nagaland, is a remarkable example of tribal architecture that incorporates unique art styles and geometric proportions. This structure serves as a residence and a cultural symbol, embodying the tribe's traditions, values, and aesthetic preferences.

Research Findings

Geometric Design and Proportions: The study revealed that the Arju House is built according to specific geometric proportions, which are believed to bring balance and harmony to the structure. These proportions resonate with the 'golden ratio', a common aesthetic standard in many ancient and modern designs, suggesting a sophisticated understanding of geometric principles.

Artistic Elements and Motifs: The house features intricate wood carvings and motifs that reflect the natural environment and cultural symbols of the Ao tribe. These elements are not merely decorative; they serve as narratives that tell stories of the Ao's history, beliefs, and aspirations.

Fig. Front Elevation

Project: Creating Digital Heritage of Representative Architectural Marvels from Each State of North East India - DST / Govt of India
Principal Investigator(PI): Dr Shiva Ji
Project Team: Aman, Tejas


Aman Sharma


Dr Shiva Ji

DIGITAL HERITAGE LAB

Site responsive characteristics in the Indigenous architecture of Khasi in Meghalaya

भारतीय सांकेतिक विज्ञान संस्थान हैदराबाद
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad


Fig. Point Cloud Model of Khasi House

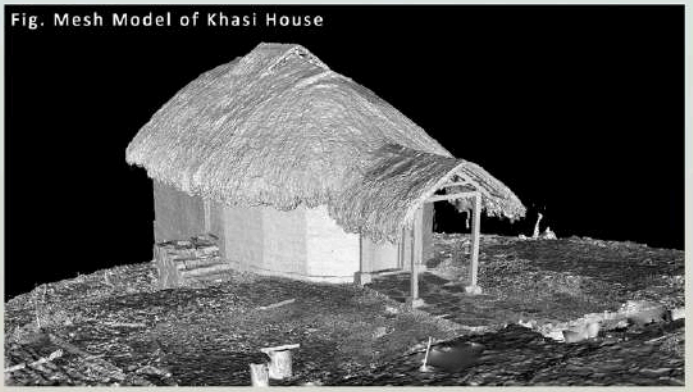
Fig. Mesh Model of Khasi House


Fig. Textured of Khasi House

Khasi

The Khasi people, known as Ki Khási, are an indigenous community primarily residing in the eastern regions of Meghalaya, including the Khasi and Jaintia Hills. They represent nearly half of Meghalaya's population and are culturally significant to the state. The Khasi language, part of the Austroasiatic family, includes various dialects such as Khasi, Jaintia, Lyngngam, and War. Khasi society is matrilineal, with lineage and inheritance passed through the maternal line. The youngest daughter traditionally inherits property, highlighting the tribe's reverence for women.

Khasi villages are characterized by close-knit buildings with stone stairs, strategic placement for protection against storms, and sacred groves nearby. Their architecture includes unique oval or egg-shaped houses with thatched roofs, constructed from wood and bamboo. These houses face east, symbolizing reverence for the sun.

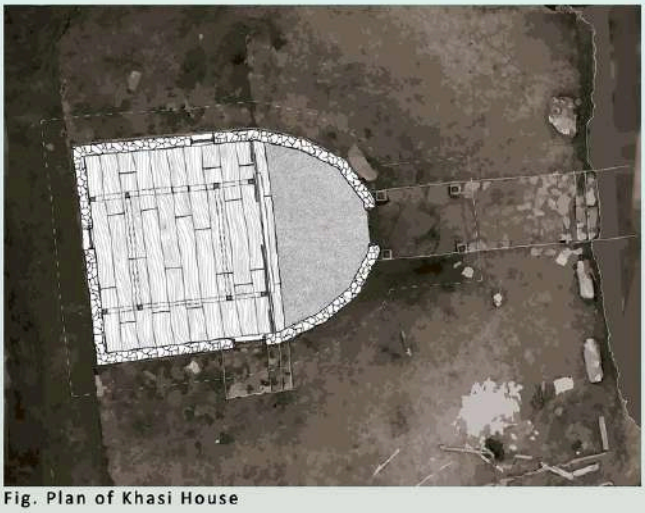
Fig. Plan of Khasi House

Khasi House

The Khasi house, primarily found in Meghalaya, features a unique oval or egg-like shape with an east-facing orientation. Constructed using local materials like wood and bamboo, these homes have thatched roofs resembling an overturned boat. The design, which avoids metal, reflects cultural beliefs and environmental harmony. The houses are built on plinth foundations with strategic placements for protection against the elements. The architectural layout includes a porch, living area, and private quarters, with each element blending practicality and traditional Khasi values.

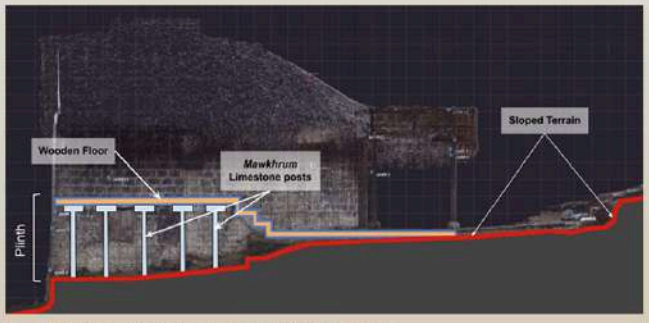

Fig. Section of a traditional Khasi house

The regional physiography and availability of natural resources play an important role in building placement on a highland plain ground and steep slopes as a defensive measure and protection from direct
freezing winds. The selection of building materials is dependent on locally available natural materials to design the building envelope. These are designed to adhere to the climatic conditions of the place. Locally available bamboo and timber are widely. The ground floor is typically an earthen floor with mud plaster. It is occasionally raised slightly, filled with stone and mud.


Fig. Roofing system in Khasi house

Project: Creating Digital Heritage of Representative Architectural Marvels from Each State of North East India - DST / Govt of India
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Aman Sharma


Dr Shiva Ji

THE HINDU

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AIIMS, IIT-H join hands to collaborate on research

The All India Institute of Medical Sciences (AIIMS) Bibinagar and Indian Institute of Technology - Hyderabad (IIT-H) signed a Memorandum of Understanding (MoU) on July 3. Under the terms of the MoU, both the institutions will collaborate on joint research projects, develop new innovations, and initiate joint courses, including PhD, Masters, Degree, Diploma, and Certificate programmes. The partnership also includes the development of patents, exchange of faculty, scholars, and students for research purposes, sharing of facilities and resources, and co-organising academic and scientific events such as conferences, workshops, and seminars.

THE TOI

THE TIMES OF INDIA
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Sun, 21 Jul-24; Times Of India - Hyderabad; Size : 26 sq.cm.; Circulation:138400; Page : 3

IITH marks 1k grad milestone in a year

Times News Network

Hyderabad: The Indian Institute of Technology Hyderabad (IITH) marked its 13th convocation at its Kandi campus on Saturday. BVR Subrahmanyam, CEO of NITI Aayog attended the event as the chief guest. The convocation saw a record-breaking number of 1,090 students receiving 1,103 degrees, along with 4 gold medals and 38 silver medals.

The 2024 convocation is the first time that IITH surpassed the milestone of 1,000 graduates in a single year, one of the highest for any second-generation IIT in India.

The new graduates were found adorning specially designed Pochampalli stoles, as per the institute's tradition. The maximum number of graduates were from B.Tech (414) followed by M.Tech (385) and PhD (132).

Congratulating IITH graduates on occasion, BVR Subrahmanyam, CEO of NITI Aayog, said, "May you be those heroes of science that a Viksit Bharat demands. May you bend your efforts towards ensuring that technology uplifts the masses, not divides them further. May you leverage your IIT identity not just for personal glory but for public good. And may you always stand tall as a true IITian – not just with your intelligence, identity and influence, but also with your sense of integrity, inclusion and impact."

FINANCIAL EXPRESS

THE FINANCIAL EXPRESS
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Empowering Innovators: Inclusive Innovation Takes Center Stage at IIT Hyderabad's Innovation Day 2024

IIT Hyderabad's Innovation Day 2024, held on July 15, was a resounding success, setting new standards for inclusive innovation. The event attracted over 2000 visitors and featured exhibitions, talks, panel discussions, pitch sessions, and networking opportunities, all celebrating the spirit of entrepreneurship and innovation. Chief Guest Ajai Chaudhry Former CEO & Founder HCL, inspired attendees with strategies to elevate India on the global innovation stage, stressing the importance of exploring untapped areas and the critical role of product development. Chairman IITH, Dr. BVR Mohan Reddy emphasized the importance of integrating academic research with industry needs to drive innovation and entrepreneurship. Director, IITH Prof. B.S Murty highlighted IIT Hyderabad's robust ecosystem that nurtures this synergy, showcasing the institution's commitment to pushing the boundaries of technology. A standout feature of this year's event was its accessibility. Through the innovative technology developed by SignAssistive AI, the event was fully accessible to deaf and hard-of-hearing individuals, ensuring inclusive participation for all. The MeitY Grand Challenge 2024 Finale was a major highlight, featuring top teams from across the country pitching their groundbreaking ideas. VAYUT Autonomous, with its no-code robotics OS and simulation software, emerged as the winner of the MeitY Grand Challenge after a tough competition.

THE TOI

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Young innovators show their genius at 2nd Inventors Fair

Anti-Sleep Safety Goggles Bag First Prize

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Hyderabad: Anti sleep goggles, a project by the students of the Army Public School, Bolarum, bagged the first prize at the second edition of the Future Inventors Fair (FIF) organised by the Indian Institute of Technology, Hyderabad (IITH).

The class 8 students — Vadla Niharika and Shivangi Sahoo, have come up with an idea to build a smart device, a safety goggle, that can alert and prevent drivers from falling asleep while driving.

"Majority of the accidents that occur on the highways are due to drivers falling asleep behind the steering wheels due to fatigue and exhaustion. Our device monitors the head movement and eye blinking of the drivers and triggers a loud alarm if the driver tilts his/her head or closes his/her eyelids beyond the stipulated duration, thereby preventing fatal accidents," said Niharika.

Students from 18 schools took part in the finals, which was held at IITH on Sunday. While students from Hyderabad Public School, Ramanthapur, V Swastiksha and T Lakshay, won second prize for their project, Dynamic Temperature Management, Ridhiman Singh, Mayur Sridhar Nithyasree, and Aananya Pakki from St Andrews High School, Suchitra won third prize for their project, micro algae for sustainable air purification.

"Our project is to monitor temperatures in malls using sensors to reduce the carbon footprint. In our prototype, we installed three sensors — two ultrasonic sensors to monitor footfall in a mall and one digital temperature and humidity sensor to monitor humidity. Instead of setting a fixed temperature, this will help in managing temperature and conserving electricity based on the number of people in a mall at any given time," said Lakshay, a class 9 student, adding that IITH has offered to help in creating a better working and viable model to take their idea forward.

The project of students from St Andrew's involved growing algae to purify air in factories. Algae act as a biofilter by using up carbon, sulphur and nitrogen.

IITH director BS Murty, while congratulating students, said that the institute is always there to guide and support students in becoming leaders in Science and Technology for the country.

FIF is an annual event dedicated to nurturing the creative and innovative talents of young students from across Telangana. Students presented a diverse array of projects that highlighted their creativity, technical skills, and forward-thinking solutions. The projects spanned various domains, reflecting the wide-ranging interests and talents of these young inventors.

A PEEK INTO THE FUTURE

ANTI-SLEEP GOGGLES
- Vadla Niharika & Shivangi Sahoo of Army Public School, Bolarum took home the first prize
- Safety goggles monitor head movement & eye blinking of drivers & trigger a loud alarm if they tilt their head or close their eyelids beyond stipulated duration

ALGAE FOR AIR PURIFICATION
- Ridhiman Singh, Mayur Sridhar Nithyasree & Aananya Pakki from St Andrew's High School, Suchitra won third prize
- Project involves growing algae to purify air in factories by acting as a biofilter & using up carbon, sulphur & nitrogen

DYNAMIC TEMPERATURE MANAGEMENT
- V Swastiksha & T Lakshay of Hyderabad Public School, Ramanthapur earned the second prize
- Their system monitors temperatures in malls using sensors to reduce carbon footprint
- Aims to help manage temperature & conserve electricity based on number of people in a mall at any given time

THE HINDU

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Talent galore at IIT-H Future Inventors Fair

The Hindu Bureau
HYDERABAD

Students from three schools – Army Public School, Bolarum, Hyderabad Public School, Ramanthapur, and St. Andrews High School, Suchitra – emerged winners of the second edition of Future Inventors Fair held by the Indian Institute of Technology Hyderabad (IIT-H) on Sunday.

The finale saw participation of Class 8 and 9 students from 18 schools across Telangana, showcasing their innovative projects on a diverse range of topics on science, technology and design.

According to officials, the evaluation committee mainly looked at students' creativity, resourcefulness and technical and forward-thinking solutions.

Director of IIT-H B.S. Murty congratulated the students, and said that he was looking forward to continuing its mission on fostering innovation and excellence. "Technology thrives on innovation, and IIT-H has taken the initiative to foster innovation on campus. This remarkable event is dedicated to nurturing the creative and innovative talents of young students from across Telangana," he said.

Mr. Murty added that collaboration is key to growth and innovation, and assured guidance and support to students in becoming leaders in science and technology. He gave away awards: first prize of ₹20,000 to Niharika and Shivangi of APS Bolarum for their project on 'Anti-Sleep Detector', second prize of ₹10,000 to Swastikesha and T. Lakshya of HPS Ramanthapur for their project on 'Dynamic Temperature Management', and third prize of ₹5,000 to Ridhiman Singh, Mayur and Ananya Pakki from St. Andrews, for project on 'Microalgae for Sustainable Air Purification'.

DISHA

ఐఐటీ అంటే రైట్ ఆఫ్ ఇండియా

- మిషన్ 2047 లక్ష్యంగా భారత్ ముందుకు
- విద్యాభివృద్ధిలో ప్రపంచంలోనే రెండో స్థానంలో ఇండియా
- తీవ్రమైన విపత్తుల్లో ఐఐటీ రీసెర్చ్ బృందం దేశాన్ని ఆదుకుంది
- సమాజానికి మీ వంతు సహకారం ఎంతో అవసరం
- ఐఐటీ హైదరాబాద్ స్నాతకోత్సవంలో నీతి అయోగ్ సీఈవో సుబ్రహ్మణ్యం
- గోల్డ్ మెడల్ అందుకున్న నలుగురు విద్యార్థులు

దిశ, సంగారెడ్డి అర్బన్ : ఐఐటీలు అంటే రైట్ ఆఫ్ ఇండియా గా మారిందని, ఇక్కడ చదివే విద్యార్థులు, రీసర్చ్ బృందం దేశ పురోగతికి ఎంతో సహకారాన్ని అందించాయని నీతి అయోగ్ సీఈవో సుబ్రహ్మణ్యం కొనియాడారు. శనివారం సంగారెడ్డి జిల్లా కంది మండలం ఐఐటి హైదరాబాద్ లో 13వ స్నాతకోత్సవ సంబరాలను ఘనంగా నిర్వహించారు. ఈ కార్యక్రమంలో భాగంగా మొత్తం 1100 మంది విద్యార్థులు వివిధ విభాగాల్లో డిగ్రీ సర్టిఫికెట్లను అందుకున్నారు. వారిని ఉద్దేశించి సుబ్రహ్మణ్యం మాట్లాడారు.

సమాజానికి మీ సహకారం ఎంతో అవసరం

విజయాలు మనం తీసుకునే పట్టా సర్టిఫికెట్ లో ఉండదని, మనం సమాజానికి ఇచ్చే సహకారంలో చూపుతోందని నీతి అయోగ్ సీఈవో సుబ్రహ్మణ్యం అన్నారు. ప్రస్తుతం దేశవ్యాప్తంగా ఉన్న ఐఐటీలు చేస్తున్న సేవలు ఎంతో గొప్పవని, కోవిడ్ వంటి విపత్కరమైన సందర్భాల్లో ఐఐటీ విద్యార్థులు, రీసెర్చ్ బృందం అందించిన తమ సహకారాన్ని ఎన్నడూ దేశం మరచిపోదని కొనియాడారు. వికసిత్ భారత్ లో భాగంగా 2024 నాటికి ప్రపంచంలోనే దేశ ఎకానమీ రెండో స్థానంలో నిలిచేలా ముందుకు అడుగులు వేస్తుందని చెప్పారు. ఎక్కడా లేనివిధంగా భారతదేశంలో 45 కోట్ల మంది విద్యార్థులకు 15 లక్షల మంది ఫ్యాకల్టీలు ఉండి ప్రపంచంలోనే రెండో స్థానంలో నిలవడం, విద్యాభివృద్ధిలో దూసుకుపోవడం గొప్ప విషయం అన్నారు. ఉద్యోగాలు కోరుకునే విద్యార్థుల నుంచి ఉద్యోగాలు సృష్టించే వారిగా ఐఐటీఎస్లు నిలుస్తుండడం మంచి పరిణామం అన్నారు. 2008లో స్థాపించిన ఐఐటి హైదరాబాద్ అతి తక్కువ కాలంలోనే వాటి ర్యాంకింగ్ లో పదో స్థానంలో నిలిచింది అని చెప్పారు. అనంతరం

డైరెక్టర్ మూర్తి మాట్లాడుతూ దేశంలోనే మొదటిసారిగా ఇక్కడి క్యాంపస్లో సెమీ కండక్టర్ ట్రైనింగ్ నిర్వహించామని, ఇందులో 620 మంది విద్యార్థులు ఎంట్రీలు సాధించారని తెలిపారు. ఇంటర్ స్పోర్ట్స్ మీట్ లో కూడా ఇక్కడ విద్యార్థులు ప్రతిభ చాటడం అభినందనీయమన్నారు.

గోల్డ్ మెడల్ సాధించిన నలుగురు విద్యార్థులు

ఐఐటీ 13వ స్నాతకోత్సవం లో భాగంగా ఇక్కడ విద్యాభ్యాసం పూర్తి చేసిన మామిత ప్రజ్ఞ ప్రెసిడెన్షియల్ ఇండియా మెడల్ అవార్డు అందుకోగా, తన్నె దత్త, భారతి డీఆర్, అనిరుడ్ శ్రీనివాసన్ లు బంగారు పతకాలను అందుకున్నారు. వీరితోపాటు పలువురు విద్యార్థులు వెండి, ఇతర పతకాలు, పట్టాలను అందుకున్నారు. ఐఐటీ క్యాంపస్ ఆవరణలో పట్టాలు అందుకున్న విద్యార్థులు వారి తల్లిదండ్రులతో అక్కడ వాతావరణం సంబరంగా మారింది.

DISHA

'ఇన్నోవేషన్' డేకు వేళాయె..

- 15న ఐఐటీ హైదరాబాద్‌లో కార్యక్రమం
- బెస్ట్ ఇన్నోవేషన్ విజేతకు నాలుగు లక్షల నగదు పురస్కారం
- ఆన్‌లైన్‌లో రిజిస్టర్ చేసుకుని ప్రదర్శనను తిలకించవచ్చు

ఐఐటీ హైదరాబాద్

దిశ, కంది : సరికొత్త ఆలోచనలకు పదును పెట్టి కొత్త పరికరాలను ప్రదర్శింపజేసేలా ఇన్నోవేషన్ డే వేడుకలు మరో మారు జరగనున్నాయి. ఇందుకు ఐఐటీ హైదరాబాద్ వేదికగా మారనుంది. ఈ నెల 15వ తేదీన ఉదయం 10 గంటల నుంచి సాయంత్రం 5 గంటల వరకు ఇన్నోవేషన్ డే కార్యక్రమాన్ని చేపట్టనున్నట్లు ఐఐటీ హైదరాబాద్ డైరెక్టర్ మూర్తి వెల్లడించారు. ముఖ్యంగా ఈ కార్యక్రమం చెవిటి, మూగ విద్యార్థులకు ఎంతో ఉపయోగకరంగా నిలుస్తుందని తెలిపారు. గత సంవత్సరం దాదాపు 1200 మంది ఈ ఇన్నోవేషన్ కార్యక్రమానికి హాజరై వీక్షించడం జరిగింది. ఈసారి అంతకంటే ఎక్కువ మందిని ఆహ్వానిస్తున్నట్లు డైరెక్టర్ మూర్తి వివరించారు. ఐఐటీ హైదరాబాద్, సైన్ ఐఐటీ బాంబే సంయుక్త చొరవతో పలు కీలకమైన ఆవిష్కరణలను ప్రోత్సహించడమే కార్యక్రమ ముఖ్య ఉద్దేశం అన్నారు. ఇన్నోవేషన్ డే లో భాగంగా ప్రదర్శింపబడిన ఆవిష్కరణలను అదే రోజు ఫైనల్ చేయడం జరుగుతుంది. ఇందులో చివరగా 10 టీమ్‌లను ఎన్నిక చేసి ఇందులో బెస్ట్ ఇన్నోవేషన్ విజేతకి 4 లక్షల నగదు పురస్కారం ఐటీపీసీ ప్రోటో టైపింగ్ ల్యాబ్ సహకారంతో అందించడం జరుగుతుందన్నారు. ఈ ఇన్నోవేషన్ డే లో పాల్గొని నేరుగా తిలకించాలనుకునే ఆసక్తి గలవారు itic.iith.ac.in/id24 వెబ్ లింకు ద్వారా రిజిస్టర్ చేసుకొని ప్రదర్శనలో పాల్గొనవచ్చు అన్నారు.

ఇన్నోవేషన్ డేలో ప్రదర్శించబడే పరికరాలు

ABN ANDHRA JYOTHI

ఆంధ్రజ్యోతి

ఐఐటీహెచ్‌లో ఎన్‌సీసీ కార్యాలయం

- ప్రారంభించిన సెంట్రల్ గ్రూప్ కమాండర్

ఐఐటీహెచ్ విద్యార్థులతో సెంట్రల్ గ్రూప్ కమాండర్ కల్నల్ సునీల్ అబ్రహం

కంది, సెప్టెంబరు 20 : సంగారెడ్డి జిల్లా కంది పరిధిలోని ఐఐటీ హైదరాబాద్‌ను శుక్రవారం సెంట్రల్ గ్రూప్ కమాండర్ కల్నల్ సునీల్ అబ్రహం సందర్శించారు. ఈ సందర్భంగా ఐఐటీహెచ్‌లోని ఎన్‌సీసీ క్యాడెట్లు గార్డ్ ఆఫ్ హానర్ ఇచ్చారు. అనంతరం ఆయన ఐఐటీహెచ్ స్పోర్ట్స్ కాంప్లెక్స్‌లో తెలంగాణ 33వ బెటాలియన్ ఎన్‌సీసీ లెఫ్టినెంట్ కల్నల్ రమేశ్ సారియల్, ఐఐటీహెచ్ డైరెక్టర్ బీఎస్ మూర్తితో కలిసి ఎన్‌సీసీ కార్యాలయాన్ని ప్రారంభించారు. ఈ సందర్భంగా కల్నల్ సునీల్ అబ్రహం ఐఐటీహెచ్ ఎన్‌సీసీ క్యాడెట్లు, విద్యార్థులనుద్దేశించి ప్రసంగించారు. ఎన్‌సీసీ క్యాడెట్లు దేశ భద్రత, క్రమ శిక్షణ కలిగినవారని కొనియాడారు. ప్రస్తుత సమాజంలో ఎన్‌సీసీ క్యాడెట్ల సేవలు ఎంతో అవసరమని, విపత్తులు, ప్రమాదాలు జరిగినప్పుడు ఎన్‌సీసీ క్యాడెట్లు బాధ్యతతో తగిన సహాయం చేస్తారని పేర్కొన్నారు. ఎన్‌సీసీ క్యాడెట్లు ధర్మబద్ధంగా, నిజాయితీగా ఉంటూ దేశానికి మంచి పేరు తీసుకురావాలన్నారు. ఎన్‌సీసీ క్యాడెట్లు అపూర్వమైన అభిరుచితో సానుకూల సమాజ సేవ చేయాలని ఐఐటీహెచ్ డైరెక్టర్ ఆకాంక్షించారు.

ANDHRA PRABHA

సైంటిస్టులను ఒక్కచోట చేర్చడమే లక్ష్యం

సంగారెడ్డి, సెప్టెంబర్ 8 (ప్రభ న్యూస్) : ఇండియన్ ఇన్స్టిట్యూట్ ఆఫ్ టెక్నాలజీ హైదరాబాద్ సాతి ప్రారంభోత్సవాన్ని సగర్వంగా ప్రకటించింది (అధునాతన విశ్లేషణాత్మక, సాంకేతిక సహాయ సం) ఆదివారం జరిగిన ఈ కార్యక్రమంలో అతిథి ప్రొఫెసర్ అభయ్ కరాండికర్, సెక్రటరీ, డిపార్ట్‌మెంట్ ఆఫ్ సైన్స్ అండ్ టెక్నాలజీ పాల్గొన్నారు. ఐఐటీ హైదరాబాద్‌కు డిపార్ట్‌మెంట్ ఆఫ్ సైన్స్ అండ్ టెక్నాలజీ గ్రాంట్ లభించింది. ఇది అత్యుత్తమ పనితీరు క్లస్టర్ యొక్క అభివృద్ధికి నిబద్ధతను గుర్తిస్తుంది ఇన్-సిటు కోరిలేటివ్ మైక్రోస్కోపీపై కేంద్రాన్ని స్థాపించడానికి పరిశోధన అభివృద్ధి కార్యక్రమాలు. అత్యాధునిక మైక్రోస్కోపీ క్యారెక్టరైజేషన్‌పై దృష్టి సారించిన ఈ కేంద్రం భారతదేశంలోనే బహుళ పొడవు ప్రమాణాలలో సిటు-సమయ క్యారెక్టరైజేషన్‌ను ప్రారంభించింది. పారిశ్రామిక ఆర్ అండ్ డి ఈ చొరవ విస్తృత శ్రేణి సైంటిస్టులను ఒకచోట చేర్చడం లక్ష్యంగా పెట్టుకుంది ఫిజిక్స్, కెమిస్ట్రీ, బయాలజీ, ఫార్మాస్యూటికల్ అధ్యయనాలతో సహా విభాగాలు అటువంటి అధునాతనమైన వాటిని ఉపయోగించడం ద్వారా మాత్రమే పరిష్కరించగల లక్ష్యాలను పరిష్కరిస్తుందన్నారు. సూక్ష్మదర్శిని పద్ధతులు...బి.ఎస్.మూర్తి, డైరెక్టర్, ఐ ఐ టి హైదరాబాద్, ఐఐటి నుండి పరిశోధకుల బృందం ప్రధాన పరిశోధకుడిగా డాక్టర్ సాయి రామ కృష్ణ మల్లాడితో హైదరాబాద్, క్లస్టర్ ఐఐటి హైదరాబాద్‌లో డీఎస్టీ నుండి 60 కోట్ల నిధులు వచ్చాయి. 17 విద్యావేత్తల మద్దతు ఉంది, పరిశోధన, పారిశ్రామిక సంస్థలు రూ.20 కోట్లు, అవి యూనివర్సిటీ హైదరాబాద్, తెలంగాణ స్టేట్ కౌన్సిల్ ఫర్ హయ్యర్ ఎడ్యుకేషన్, వియన్ ఐఐటీ నాగ్‌పూర్, ఎన్ఐటి రాయ్‌పూర్, ఎన్ఐటి వరంగల్, ఎన్ఐటి ఆంధ్రప్రదేశ్, సిబిఐటి, శ్రీ విష్ణు ఎడ్యుకేషనల్ సొసైటీ, వెల్లెక్ విశ్వవిద్యాలయం, ఎలక్ట్రిక్, సిసిఎంబి, ఐఐసిటి, ఎల్వీ ప్రసాద్ ఐ ఇన్స్టిట్యూట్, డాక్టర్ రెడ్డీస్ ల్యాబ్స్, భారత్ బయోటెక్, అమర రాజా గ్రూప్, టాటా స్టీల్ ఈ ప్రారంభోత్సవంలో ప్రొఫెసర్ అభయ్ కరాండికర్ మాట్లాడుతూ, దీని ప్రాముఖ్యతను నొక్కి చెప్పారు అంతటా అందరికీ అందుబాటులో ఉండేలా అత్యాధునిక పరిశోధనా మౌలిక సదుపాయాలను ఏర్పాటు చేయడం సంస్థలు మరియు అంతటా పరిశోధన సహకారం యొక్క బలమైన సంస్కృతిని పెంపొందించడానికి దేశం మన దేశంలో ఆర్ అండ్ డి ల్యాండ్‌స్కేప్‌ను రూపొందించడంలో బలోపేతం చేయడంలో విభాగాలు. భారతదేశ పరిశోధనలను పెంపొందించడంలో ఇటువంటి అధునాతన సౌకర్యాల ప్రాముఖ్యతను ప్రొఫెసర్ మూర్తి వివరించారు. ఆవిష్కరణ పర్యావరణ వ్యవస్థ మరియు విద్యను పెంపొందించడంలో దేశంలో కేంద్రం పాత్రను నొక్కి చెప్పింది. ప్రపంచ వ్యాప్తంగా పరిశోధన సామర్థ్యాలు. డాక్టర్ బి.వి.ఆర్. మోహన్ రెడ్డి (ఛైర్మన్ బోర్డ్ ఆఫ్ గవర్నర్స్, ఐఐటీ హైదరాబాద్), ప్రొఫెసర్ బి. జగదీశ్వరరావు (వైస్ ఛాన్సలర్, యూనివర్సిటీ ఆఫ్ హైదరాబాద్), డా.కృష్ణ ఎల్లా (ఛైర్మన్ భారత్ బయోటెక్ ఇంటర్నేషనల్) అన్ని భాగస్వామ్య సంస్థల అధిపతులు మరియు ప్రతినిధులు ఈ కార్యక్రమానికి హాజరైన ప్రముఖుల్లో ఉన్నారు. సాతి-సిస్ కమ్ ప్రారంభోత్సవం తరువాత, హాల్ ఆఫ్ ఫేమ్, డిజిటల్ హెరిటేజ్ ల్యాబ్‌ను కూడా ప్రారంభించారు. ది హాల్ ఆఫ్ ఫేమ్ ఐఐటీలో ముఖ్యమైన పరిణామాలను ప్రదర్శిస్తుంది. హైదరాబాద్, ప్రధాన పరిశోధన ప్రాంతాలు కొనసాగుతున్న వివిధ ప్రోటోటైప్‌లను హైలైట్ చేస్తుంది. పరిశోధన ప్రాజెక్టులు. ఐఐటీ హైదరాబాద్‌లోని డిజిటల్ హెరిటేజ్ ల్యాబ్ పరిరక్షణలో ముందంజలో ఉంది. వినూత్న సాంకేతికత ద్వారా భారతదేశ సాంస్కృతిక వారసత్వం. డీఎస్టీ మద్దతుతో, ఈ ల్యాబ్ షోకేస్ ఆర్కిటెక్చరల్ డ్రాయింగ్‌లు, త్రీడీ నమూనాలు, అనేక వారసత్వం యొక్క లీనమయ్యే ఏఆర్, వీఆర్ అనుభవాలు దేశవ్యాప్తంగా సముదాయాలు.

ప్రొఫెసర్ కరాండికర్ వారు ఉన్న టిహబ్ బెస్ట్ ఐడి సెంటర్ ను కూడా సందర్శించారు.

INDIAN EXPRESS

Indian Express
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Driverless cars on TG roads soon: IT min

Sridhar Babu: IIT-H car tech superior to Silicon Valley's

P KRISHNA @Sangareddy

A short test drive in a driverless car on Monday left IT Minister D Sridhar Babu excited to the extent that he said that such vehicles could be introduced on the roads of Telangana as part of a pilot project.

The minister visited the campus of the Indian Institute of Technology (IIT) Hyderabad at Kandi village here and took a ride in a driverless car developed by students of the institution in collaboration with Suzuki, Japan.

Prof Bajyalakshmi told the minister that the driverless car was developed at T-HAN, a dedicated autonomous navigation research facility at IIT-H. She said that the effort is to tailor the driverless vehicle to suit Indian road conditions, traffic and weather variations.

In addition to driverless cars, the students are conducting research on autonomous bicycles, motorcycles and drones capable of carrying up to 100 kg.

Sridhar Babu also said that the technology developed at IIT-H is superior to that of a driverless car he recently tested in Silicon Valley. He commended the research efforts of IIT Hyderabad students and faculty. Sridhar Babu said that the government is encouraging research and scientific temperament and mentioned the upcoming Skill University which will have industrialist Anand Mahindra as its chairman. The minister also said that the government intended to involve experts from various prestigious educational institutions as directors of the varsity. He invited IIT-H director PS Murthy to join the varsity.

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CONTINUED ON P3

THE HINDU

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Japan Day concludes at IIT-H; on-the-spot internships big draw

The Hindu Bureau
HYDERABAD

IIT-H Director B.S. Murty and Director General (JETRO Bengaluru) Toshihiro Mouttani (bottom) addressing the gathering. WOHD MM

Eighteen Japanese firms, including eight large corporates, five SMEs and start-ups, participated in Japan Career Day, organised by the Japan External Trade Organisation (JETRO), at the Indian Institute of Technology, Hyderabad.

The two-day event, which had presentations and interactive sessions, concluded on Sunday. For the first time, the event saw on-the-spot internships. Entities this year ranged from established firms to entrepreneurs.

According to Director General (JETRO Bengaluru) Toshihiro Mizutani, the event dates this year were advanced to enable Japanese firms to hire students from IIT-H for semester internships. In a first since 2018, when Japan Day first kicked off, the career event is also for better understanding between students and companies.

"All the participating companies this year have prior experience in employing foreigners. Many Japanese firms are keen on hiring Indian talent because there is a severe shortage of IT engineers in Japan. The companies believe that IIT-H students will be important contributors to global strategies and new forms of technology and innovation," he said.

Some of the large firms that participated were Nikko Co. Ltd, DENSO, Alps Alpine Co Ltd, and startups in AI and Deep Learning were AWL Inc, Sagri Co Ltd, and others.

IIT-H Director B.S. Murty thanked JETRO, and said that the annual Japan Day remains a unique and important day for students to develop an understanding and confidence about the job, work culture, life and career path in Japan.

The exclusive day last year saw a record number of 20 Japanese firms for recruiting top Indian talent to better their technologies and products for global competitiveness.

THE TOI

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IITH faculty in top 2% scientists' list

TIMES NEWS NETWORK

Twenty-three faculty members have made it to the list based on research in 2023. Another 11 faculty members have been listed in the career-long research category

Hyderabad: Twenty-three faculty members of the Indian Institute of Technology Hyderabad (IITH) have made it to the top 2% of scientists of the world list released by Stanford University (SU) and Elsevier.

These faculty members have made it to the list based on research in 2023. Another 11 faculty members have been listed in the career-long research category. This prestigious list identifies the world's leading researchers, representing approximately 2% of all scientists worldwide. It encompasses standardised data on citations, h-index, and a wide range of bibliometric indicators.

IITH chairman Dr BVR Mohan Reddy congratulated all the faculty members for this achievement and said, "This shows our commitment to groundbreaking research and our status as a global leader in the field. This remarkable achievement highlights the talent and dedication of our researchers and faculty."

Along with the institute's director, BS Murty, the list also includes Subrahmanyam Ch, a professor from the chemistry department, and Vinayak Eswaran, a professor from the department of mechanical and aerospace engineering, among others.

THE HINDU

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ANR Award for acting established at IIT-Hyderabad

Indian Institute of Technology-Hyderabad (IIT-H) on September 20 announced the establishment of ANR Award for acting and performing arts. The award was instituted by Akkineni International Foundation, run by the Akkineni family, to honour the legacy of actor Akkineni Nageswara Rao. "The award aims to recognise and support exceptional talent in the field of acting and performing arts, fostering creativity and innovation among aspiring artists. The award will celebrate individuals who have made significant contributions to the performing arts, encouraging a new generation of performers to pursue excellence," as per a release from IIT-H.

ANDHRA JYOTHI

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ఐఐటీహెచ్‌లో సంస్కృతంలో సర్టిఫికేట్ కోర్సు

కంది, సెప్టెంబరు 9: కేంద్ర సంస్కృత విశ్వవిద్యాలయంలోని సంస్కృత అధ్యాపన కేంద్రం సహకారంతో ఐఐటీ హైదరాబాద్‌లో సంస్కృతంలో ప్రత్యేక కోర్సు ప్రారంభమైంది. పదో తరగతి ఉత్తీర్ణులై, 15 ఏళ్లు నిండిన వారికి సంస్కృత భాషలో సర్టిఫికేట్, డిప్లొమా కోర్సులో ప్రవేశానికి అర్హులుగా ఐఐటీహెచ్ ప్రకటించింది. ఆసక్తి ఉన్నవారు సెప్టెంబరు 20వ తేదీలోపు దరఖాస్తు చేసుకోవాల్సి ఉంటుంది. హైబ్రిడ్ మోడ్‌లో (ఆన్‌లైన్-ఆఫ్‌లైన్) తరగతులు నిర్వహించనున్నారు. కోర్సు ఫీజు రూ.1200, పరీక్ష ఫీజు రూ.300లుగా నిర్ణయించారు. మరిన్ని వివరాలను ఐఐటీ-హెచ్ వెబ్‌సైట్‌లో నమోదు చేశారు.

THE HINDU

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Advanced microscopy centre inaugurated at IIT-H

Secretary, Department of Science and Technology, Abhay Karandikar on Sunday inaugurated the Centre for in-situ and Correlative Microscopy (CISCoM) at Indian Institute of Technology Hyderabad (IIT-H). The centre aims to bring together scientists from a broad range of disciplines, including physical sciences, chemistry, biology and pharmaceutical studies, to address common goals that can only be addressed using sophisticated microscopy.

Cheerful Convocation

1103 Degrees were conferred during the 13th Convocation at IITH.
CEO of NITI Aayog, Sbri B.V.R. Subrahmanyam, IAS, delivered the Chief Guest address and said, "become the heroes of science that a Viksit Bharat demands"

Inclusive Innovation Day

IIT Hyderabad's Innovation Day 2024 was a resounding success, setting new standards for inclusive innovation with Chief Guest Sbri Ajai Chaudhry Former CEO & Founder HCL as the Chief Guest. IITH was awarded with five ISO Certifications for implementation of sustainable practices in research and development, consultancy, projects and educational initiatives on campus

Celebrations

78th Independence Day Celebrations

Onam Celebrations

Milan 2024 Celebrations

Japan Cultural Day 2024 celebrations


IIT Hyderabad and Simpliforge Creations in collaboration with Lt. Col. Arun Krishnan of the Indian Army, have successfully delivered India's first on-site 3D printed protective structure in Leh under Project PRABAL

Inauguration of CCE Recording Studio showcasing its Dedication to advancing Digital Education

IITH Faculty has been listed in the world's top 2% of researchers by Stanford University!

Inauguration of cutting-edge AR/VR lab facilitated by InfoVision

Inauguration of Centre for In-Situ & Correlative Microscopy (CISCoM) DST-SATHI grant by Prof Abhay Karandikar, Secretary, DST, GoI

Inauguration of Hall of Fame by Prof Abhay Karandikar, Secretary, Department of Science & Technology, Government of India

Inauguration of Digital heritage Lab at IIT Hyderabad by Prof Abhay Karandikar, Secretary, Department of Science & Technology, GoI

National Space Day Celebrations at IIT Hyderabad

Japan Career Day 2024
7th Edition of Japan Day

Hindi Pakhwada/Fortnight Celebrations at IIT Hyderabad

IITH has secured 3rd rank in the Innovation category, 8th rank in Engineering, 15th rank in Research institutes & 12th rank in the Overall category in the NIRF Rankings 2024.

Farewell Ceremony of Shri Devraj Venkata Subramanyam, Assistant Executive Engineer (Civil)

IIT Hyderabad Successfully Concluded the "Future Inventors Fair 2024" Celebrating Young Innovators!

Central Group Commander Colonel Sunil Abraham inaugurated the NCC room at IIT Hyderabad

IITH has successfully conducted the Plantation Drive for September 2024 by planting approximately 250 shrubs (golden duranta) plants

IITH hosted "Swachhata Hi Seva" Campaign, Swachhata Pledges, cleanliness, hygiene, & contributing to a cleaner India

As part of "Swachhata Hi Seva" Campaign, A Residential Area Cleanliness Drive, engaging the campus community in a collective effort to promote hygiene & maintain a clean living environment

A Youth Connection initiative, inspiring and empowering young minds to actively participate in promoting cleanliness and sustainable practices for a cleaner future

Ek Ped Maa Ke Naam initiative, encouraging tree planting in honor of mother, symbolizing care for both nature and our communities

Safai Mitra Health Camp,dedicated to supporting the health and well-being of sanitation workers who play a vital role in keeping our environment clean

Grama Sabha, fostering community dialogue and collective action towards promoting cleanliness and sustainable practices in rural areas

Fire and Security Department of IIT Hyderabad has conducted Fire awareness program (Fire prevention and firefighting activity)

IITH has successfully conducted the Plantation Drive for August 2024 by planting approximately 300 shrubs (Acalypha) plants

Signing of an MoU between IIT Hyderabad and AIIMS, Bibinagar

CBSE Principals Exposure Visit organised by CBSE in Collaboration with HEIs hosted by IIT Hyderabad

Prof Erick Carreira, Editor-in-Chief, JACS, ACS Publications visit to IITH campus

Deakin Day & Additive Manufacturing symposium at IIT Hyderabad

IIT Hyderabad's Institute's Innovation Council Entrepreneurship-Cell and Prakriti on Internal Hackathon (Smart India Hackathon 2024)

IIT Hyderabad Department of Sports Celebrated the National Sports Day

IITH and the Department of Sports has successfully conducted Run for Unity a 5 km Run to raise awareness about the importance of physical activities and their health benefits

One-day workshop on "AI based Molecular Modelling" jointly organized by IITH & HEMRL, Pune (DRDO)

Talk on"Opportunities for Students - Early Stage Entrepreneurs" by Dr Satyanarayana Kuchibhatla, Co-Founder of Parisodhana Technologies

Entrepreneurship Talk Series on "Converting Innovation into Startup". Mr Sricharan Lakkaraju, Founder & CEO, Student Tribe

Fireside Talk on World Entrepreneurship Day by Mr Sandal Kotwala

Workshop on Innovative Operations Research Approaches for Enterprise by Mr Abhik Giri, Principal Operations Research Scientist

Training session on Procurement via GeM organised by the Ministry of Commerce and Industries & hosted by S&P Department, IIT Hyderabad

Workshop on "Innovation to Commercialization (I2C)" by the Technology Transfer Office (TTO), IInventiv Office, & the IIC

Prof Kiran Kumar Kuchi
Department of Electrical Engineering

was honored with "Pandit Deendayal Upadhyaya Telecom Excellence Award 2024" for his contributions towards the advancement of Telecommunications Technology in India

Prof Narasimha Mangadoddy
Department of Chemical Engineering

received the National Geoscience Award 2023 by the Hon'ble President of India in recognition of his outstanding contribution in the field of Mineral Beneficiation and Sustainable Mineral Development.

Mr Atul S Vivek
PhD Scholar, Department of Mechanical & Aerospace Engineering

selected as "Editors' Suggestion in Physical Review Fluids (PRF) the PRF is the flagship journal in fluid mechanics by the American Physical Society (APS)

Dr Sandipan Ray
Assistant Professor Department of Biotechnology

Joined as an Editorial board of the Journal of Proteins and Proteomics, on invitation by the editor-in-chief

Mr Sandal Kotawala
MTech Ophthalmic Engineering student

has been selected for the prestigious 2024 MedTech Innovator APAC accelerator through his startup, "Alfaleus"

Mr Md Abul Hasanath
PhD Scholar,Department of Civil Engineering

received the Best Poster Award in an international conference titled IWA Leading Edge Conference on Water and Wastewater Technologies.

Dr Devesh Nigam
IIT Hyderabad Alumnus

received prestigious Education Leadership Award

Prof Suryanarayana Jammalamadaka & his Team
Department of Physics

received the Top Cited Paper Award for India in The Nanosciences Category

Prof Siva Kumar
Department of Electrical Engineering

elected as a Fellow of the Indian National Academy of Engineering (INAE)

Prof Vineeth N Balasubramanian
Department of Computer Science & Engineering

elected as a Fellow of the Indian National Academy of Engineering (INAE)

Dr Muvvala Gopinath
Assistant Professor, Department of Mechanical & Aerospace Engineering

Selected as a INAE Young Associate (2024)

Prof Sushmee Badhulika
Department of Electrical Engineering

received the Applied Materials Innovation Challenge Award organised by Applied Materials (AMAT) in Delhi

Mr Athul V Rajeev
PhD Scholar, Department of Biomedical Engineering

received the Best Paper Award at International Conference ICBES 2024

Mr Sriram H K
PhD Scholar, Department of Biomedical Engineering

received the Best Paper Award at International Conference ICBES 2024

Mr Kiran Kumar Garlapati
PhD Scholar, Materials Science & Metallurgical Engineering & Chemistry

received the Best Poster Award in the International Conference on Energy & Environmental Materials (E2M-2024)

Dr Saurabh Kumar

Assistant Professor
Department of Computer Science and Engineering

Dr Saurabh Kumar is an Assistant Professor in the Department of Computer Science and Engineering, IIT Hyderabad. Prior to joining IIT Hyderabad, he was a Postdoctoral Scholar at Northwestern University, USA. Saurabh did his PhD from IIT Kanpur and MTech from IIT Roorkee. Before joining PhD at IIT Kanpur, he served as an Assistant Programmer at Central Bureau of Investigation, Government of India. His research interests are in cybersecurity, Android security, malware analysis, and digital forensics.

Life@IITH:

I feel privileged to be part of the vibrant and fast-growing community at IIT Hyderabad. The support and warmth from colleagues, along with the welcoming environment across the department and institute, have made the start of my journey both smooth and exciting. I am enjoying my early phase at IIT Hyderabad and look forward to engaging in meaningful collaborations and making impactful contributions to teaching and research.

Dr Rashmi Singh

Assistant Professor
Department of Liberal Arts

Dr Rashmi Singh has been appointed as an Assistant Professor in the Department of Liberal Arts, IIT Hyderabad. Prior to joining IITH in 2024, Rashmi was affiliated with Institute of Development Studies, University of Sussex, UK as an Affiliate Researcher and Research Engagement and Communications Officer in PASTRES, an European Union funded project from 2022. She is an associate editor for Pastoralism: Research, Policy and Practice, a Frontiers Journal. Rashmi did her BSc Applied Life Science from University of Delhi and obtained her MA degree in Environment and Development and PhD in Human Ecology degrees from Ambedkar University Delhi (AUD). Her research interests are in the fields of human dimensions of biodiversity and wildlife conservation, environmental justice, complex human-wildlife relationships, and global climate change and adaptations.

Life@IITH:

I joined IIT Hyderabad in July last year, and it has been an exciting and fulfilling journey so far. Teaching young BTech minds about nature and the biodiversity around them—birds, insects, and plants—has been especially rewarding, as I've seen many of them develop a genuine interest in their surroundings. The institute also provides tremendous opportunities and support for both national and international collaborations, which is essential for someone like me who wants to offer the best exposure to her students. Being part of a collegial environment where my peers are doing excellent work and are incredibly supportive has been a major plus, constantly motivating me to do better. I've also been entrusted by our Director to lead the Green Office, which is involved in the plantation of endemic species and various sustainability initiatives such as waste segregation and recycling. This role excites me deeply and aligns closely with my interests in environmental stewardship. I am truly grateful to be part of the IITH family.

Dr Anandita Pan

Assistant Professor
Department of Liberal Arts

Dr Anandita Pan, am an Assistant Professor at the Department of Liberal Arts, IIT Hyderabad. I obtained my Ph.D. from the Department of Humanities and Social Sciences, IIT Kanpur, and M.A. from the Centre for English Studies, Jawaharlal Nehru University, New Delhi. I have previously worked as an Assistant Professor in the Department of Humanities and Social Sciences, IISER Bhopal. I research and teach in the interdisciplinary areas of Humanities and Social Sciences with a specific focus on gender, caste, governance, and citizenship. My books, Mapping Dalit Feminism: Towards an Intersectional Standpoint was published by Sage-Stree (2020), and Aesthetics in India: Transitions and Transformations was published by Orient Blackswan (2023). I have received various project grants from national and international funding agencies such as the Indian Council of Social Science Research, the National Science and Technology Council Taiwan, the Shastri Indo-Canadian Institute, and so on. I was a Visiting Fellow at the University of Ghent, Belgium.

Life@IITH:

My experience at IITH so far has been wonderful. There are incredible opportunities for collaboration, allowing me to engage with talented colleagues and contribute meaningfully to various projects. Additionally, the unwavering support from both the institute and the department has been invaluable, providing the resources and encouragement needed for professional and personal growth. I look forward to making the most of this enriching environment!

Dr Allaka Himabindu

Assistant Professor
Department of Mechanical and Aerospace Engineering

Dr Himabindu Alalka has been appointed as an Assistant Professor in the Department of Mechanical and Aerospace Engineering, IIT Hyderabad. Prior to joining IITH, she was a Manager at the Product Technology Development Center of Larsen & Toubro Precision Engineering Systems from 2022. Dr Allaka also has significant research experience from her tenure at Technion, Haifa, Israel, where she conducted research from 2013 to 2015. She completed her BTech at Jawaharlal Nehru Technological University, Hyderabad, and earned both her Master's and PhD degrees from the University of Haifa. Her research interests include multi-domain unmanned systems, marine hydrodynamics, and subsea robotics.

Dr Srabani Kar

Assistant Professor
Department of Physics

Dr Srabani Kar is an Assistant Professor in the Department of Physics at IIT Hyderabad. She obtained her Master's degree in Physics from Indian Institute of Technology Kharagpur, India in 2011. She earned her PhD in Physics from Indian Institute of Science, Bangalore, India in 2018. She was a postdoctoral research associate in the University of Cambridge, UK. Before joining at IIT Hyderabad, she was an INSPIRE Faculty at Indian Institution of Science Education and Research, Tirupati, India. Her research interests encompass the ultrafast light-matter interactions, terahertz spectroscopy and applications of ultrafast hot carriers in the field of bio-medical research.

Life@IITH:

I find immense satisfaction in being a part of IIT Hyderabad. The department and the institute exhibit an excellent work culture and a strong collaborative spirit, which truly inspires newcomers. The significance of incorporating excellent initiatives, including rapidly expanding research infrastructures, national and international collaborations and industrial connections, is noteworthy, as it uncovers a multitude of opportunities. In addition, the evident commitment to the plantation drive is an admirable trait. I am deeply encouraged and committed to being a part of such a work culture, leading IITH towards top-tier institutional frameworks and carrying out viable initiatives.

Dr Pechetti Sasi Vinay

Assistant Professor
Department of Electrical Engineering

Dr Pechetti Sasi Vinay has been appointed as an Assistant Professor in the Department of Electrical Engineering, IIT Hyderabad. Prior to joining IITH, Vinay was an Assistant Professor in theDepartment of Electronics and Electrical Communication Engineering at IIT Kharagpur from 2022-2024. Before working at IIT Kharagpur, he was an Assistant Professor in the Department of Electrical Engineering at IIT Jodhpur from 2021-2022. Vinay did his B.Tech. from IIT Bhubaneswar, and obtained his Ph.D. degree from IIT Delhi. His research interests are in the fields of wireless communications, MIMO signal processing, joint radar and communications, and high mobility communications.

Dr Sourav Das

Assistant Professor
Department of Civil Engineering

Dr Sourav Das obtained his bachelor's degree in civil engineering from Jadavpur University, India in 2014, followed by his master's degree in Structural Engineering from the Indian Institute of Technology (IIT) Guwahati, India in 2017. He completed his Ph.D. from the University of British Columbia, Canada in 2023 and later worked as a Postdoctoral fellow at University of Waterloo for a year. Prior to joining Ph.D., he worked as an Assistant Professor in Kalinga Institute of Industrial Technology from 2017 to 2019. In August 2024, he joined at IIT Hyderabad as an Assistant Professor in the department of Civil Engineering. In the broader sense, his research interests include stochastic dynamics, reliability engineering, uncertainty quantification and wind energy. Particularly, currently he aimed to develop models for Uncertainty Quantification in High Performance Computing for complex structures.

Life@IITH:

My experience at IIT Hyderabad has been both exciting and deeply fulfilling. Joining as a faculty member, I've been impressed by the institute's forward-thinking vision, strong emphasis on research, and a truly collaborative academic environment. The transition into the role has been smooth, thanks to the supportive colleagues, motivated students, and excellent administrative framework. The freedom to explore my research interests and opportunities for interdisciplinary collaboration have all contributed to a very positive start to my academic journey here. It's been a great environment to grow both as a researcher and an educator, and I look forward to contributing meaningfully to the institute's continued excellence.

Dr Neetu Tiwari

Assistant Professor
Department of Mechanical and Aerospace Engineering

Dr Neetu Tiwari has been appointed as an Assistant Professor in the Department of Mechanical and Aerospace Engineering, IIT Hyderabad. Prior to joining IITH in August 2024, she was a SERB Ramanujan fellow at IIT Roorkee. She was also JSPS doctoral and postdoctoral fellow at Hokkaido University and Tohoku University respectively in Japan. She obtained her Ph.D. from Hokkaido University, Japan. She did her M.S.(Research) from Ocean engineering at IIT Madras and B.Tech. in Mechanical Engineering from NIT Raipur. Her research interests are in the fields of data driven methods for fluid flows, Real Flow simulations and Experimental fluid mechanics. Her diverse experience in fluid mechanics experimental techniques includes pressure and temperature sensitive paints, Ultrasonic velocity profiling, Particle image velocimetry, Schlieren measurements. She is also interested in hydro-kinetic energy converters.

Dr Aneesh S

Assistant Professor
Department of Electrical Engineering

Dr Aneesh Sobhanan has been appointed as an Assistant Professor in the Department of Electrical Engineering at IIT Hyderabad. Before joining IITH, Dr Aneesh was a postdoctoral fellow at The College of Optics and Photonics (CREOL) at the University of Central Florida, USA, from November 2022 to August 2024. Prior to that, he was a Postdoctoral Researcher at the Aston Institute of Photonic Technology (AIPT) at Aston University, Birmingham, UK, from September 2021 to November 2022. Dr. Aneesh obtained his MTech and PhD degrees from IIT Madras in 2014 and 2021, respectively. His research interests include fiber optic communication, optical signal processing, photonic computing, and semiconductor optical amplifiers (SOAs).

Dr Divya Sachdeva

Assistant Professor
Department of Physics

Dr Divya Sachdeva completed her BSc, MSc, and PhD from the University of Delhi. Following her PhD, she held a postdoctoral position at IISER Pune from 2019 to 2021. She then moved to Paris, France, where she was a postdoctoral fellow at the Laboratoire de Physique de l'École Normale Supérieure (LPENS) and the Laboratoire de Physique Théorique et Hautes Energies (LPTHE) from 2021 until she joined IITH. Her research interests lie in Beyond the Standard Model physics, particularly in Dark Matter, combining theoretical model building with phenomenological studies based on experimental and observational data.

Life@IITH:

My experience at IITH has been intellectually rewarding and personally fulfilling. I have enjoyed teaching and engaging with enthusiastic and curious students. Interactions with colleagues have been insightful, and I've found the research atmosphere here to be vibrant and collaborative. I deeply appreciate the supportive and inclusive environment that the institute fosters, which encourages academic freedom, interdisciplinary collaboration, and a healthy work-life balance. Overall, it has been a motivating place to grow as a researcher and educator."

Campus Corner
Bank of Knowledge (Academic)

Dr Manisha Thakurathi

Assistant Professor
Department of Physics

Dr Manisha Thakurathi has been appointed as an Assistant Professor in the Department of Physics, IIT Hyderabad. Prior to joining IITH in September 2024, Manisha was an Assistant Professor in IIT Delhi from 2020. Before working at IIT Delhi, she was a postdoctoral fellow at Dept. of Physics, University of Basel, Switzerland and at Dept. of Physics, University of Waterloo, Canada. Manisha obtained her master's degree in physics from G.B. Pant University Pantnagar, Uttarakhand, India followed by her Ph.D. from Indian Institute of Science Bengaluru, India in 2016. Her research interests include superconductivity, topological phases of matter and quantum phase transition.

Dr Hemam Rachna Devi

Assistant Professor
Department of Materials Science and Metallurgical Engineering

Prior to joining IITH in September 2024, Dr Hemam Rachna Devi was a postdoctoral fellow at National Institute of Materials Science (NIMS), Japan from April 2022. She was selected for Japan Society for the Promotion of Science (JSPS) postdoctoral fellowship in August 2024. She perused her Ph.D. from Indian Institute of Science (IISc), Bangalore in September 2021 during which she spent 16 months at Nanyang Technological University (NTU), Singapore, as part of the IISc-NTU Joint Supervision Programme. She obtained her M.Sc in Physics from Christ University, Bangalore and B.Sc. from Vivekanandha Institute of Arts and Sciences for Women, Salem. Her research interests include advancing materials for sustainable energy technologies, green hydrogen production and utilization, catalysis (including electrocatalysis, photocatalysis, photoelectrocatalysis, and photothermal catalysis), and photothermal sensors.

Life@IITH:

I joined the Department of Materials Science and Metallurgical Engineering at IIT Hyderabad in September 2024, and I am truly honoured to be part of such a prestigious and fastest growing institution. I am grateful to have supportive colleagues, staff, and students both within the department and across the broader institution who foster a smooth, collaborative, and positive academic environment. The modern, beautifully designed infrastructure and world-class facilities that support both teaching and research are truly impressive. IIT Hyderabad provides an ideal setting for both academic pursuits and professional growth. I am excited to contribute to the institution's continued success and look forward to the journey ahead.

Campus Corner
Bank of Knowledge (BoK - Non Academic)

Mr Anurag Pandey

Executive Assistant
Office of the Dean (ITS)

Mr Anurag Pandey pursued his Post Graduation (MBA) in Production and Marketing from Dr CV Raman University and his Graduation (B.F Tech) from National Institute of Fashion Technology, Gandhinagar Gujarat. Before joining IITH, he was working as Manager-Operation in Reliance retail Limited. Having a total of 7.5 year of experience in the retail sector.

Life@IITH:

It gives me immense pleasure and pride to have been a part of IIT Hyderabad. The institute fosters a highly supportive and intellectually stimulating environment, where being surrounded by brilliant minds constantly challenged and inspired me to grow both personally and professionally. My time at IITH has been a pivotal chapter in my career within the government sector, providing me with invaluable experience and the confidence to take on complex challenges with clarity and purpose.

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