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HANDLOOM HACKATHON

Round 1 Briefing

31st July 2025

राष्ट्रीय डिज़ाइन केंद्र
National Design Centre

FITT

Indian Institute of handloom Technology

TIDES
IIT ROORKEE

INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY
HYDERABAD

CE
ACCELERATING DEEP TECH

Congratulations!

4 Stages of HH 2025

R1: IDEATE → R2: RESEARCH & VALIDATE → R3: BUILD → R4: FINAL PITCH

Round 1 Process & Key Dates

31st July 2025 Finalist Webinar
Round 1 : IDEATE
Release Problem Statements PPT submissions

Output Required: 4 page PPT latest by 11:59 AM of 2nd Aug 2025

- Page 1: Understanding of User / Process
- Page 2: Solution Concept - Core idea with 3-4 key features
- Page 3: The Impact
- Page 4: About Your Team Capability

Round 1 Process & Key Dates

4th Aug 2025
8:00 AM: Registrations
9:00AM: **Round 1 : Starts**

Teams display their Round 1 Solutions (Chart Paper) + Prototype

Theme 1: Innovation in Design and Handloom Operations

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Problem Statement 1.1: Smart Production Tracking for Weavers

The Challenge

Individual weavers and small clusters struggle to track their daily production, manage yarn inventory, and predict demand, leading to frequent stockouts, overproduction, and income uncertainty.

Your HH Mission

Design an intuitive system (mobile app, voice-tool, or simple digital solution) that helps weavers monitor their production progress in real-time, manage raw materials efficiently, and make basic demand forecasts to optimize their income and reduce waste.

Theme 1: Innovation in Design and Handloom Operations

Problem Statement 1.2: Streamlining Pre-Weaving Processes

The Challenge

Traditional pre-weaving activities like yarn winding, warping, sizing, and dyeing are time-intensive, inconsistent, and often wasteful, creating bottlenecks that limit weaver productivity and product quality.

Your HH Mission

Develop affordable digital tools or innovative low-tech solutions that can standardize and accelerate pre-weaving processes at the village or cluster level, reducing manual effort, processing time, and material waste while maintaining quality

Theme 1: Innovation in Design and Handloom Operations

Problem Statement 1.3: Smart Weaving Process Enhancement

The Challenge

The actual weaving process requires intense concentration and skill to maintain consistent tension, follow complex patterns, and detect defects early. Weavers often struggle with pattern errors, uneven fabric quality, and thread breakages that can ruin hours of work, while the lack of real-time guidance makes it difficult for new weavers to master traditional techniques quickly

Your HH Mission

Develop intelligent solutions (digital pattern guidance systems, tension monitoring tools, or smart weaving aids) that can assist weavers during the actual weaving process by providing real-time feedback on pattern accuracy, thread tension, and quality control, while preserving the handmade authenticity and allowing weavers to learn and perfect traditional techniques more efficiently..

Theme 1: Innovation in Design and Handloom Operations

Problem Statement 1.4: Ergonomic Loom Solutions for Weaver Wellness

The Challenge

Traditional handlooms cause significant physical strain, leading to back pain, eye strain, and repetitive stress injuries among weavers, while also limiting their working hours and productivity.

Your HH Mission

Design cost-effective modifications or solutions for traditional handlooms that improve weaver comfort and ergonomics, reduce physical strain, and potentially increase weaving efficiency without compromising the handmade quality that makes these products special.

Theme 2: Market Access and Digital Integration

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Problem Statement 2.1: Connecting Rural Weavers to Digital Markets

The Challenge

Talented weavers in remote Indian villages lack direct access to urban and international customers, forcing them to sell through multiple intermediaries who capture most of the profit margin..

Your HH Mission

Create a user-friendly, multilingual, low-bandwidth digital platform that enables individual handloom weavers in remote areas to directly showcase their products, set their own prices, and sell to customers across India and globally, bypassing traditional middlemen.

Theme 2: Market Access and Digital Integration

Problem Statement 2.2: Digital Authenticity and Weaver Stories

The Challenge

Consumers struggle to distinguish genuine handloom products from machine-made imitations, while weavers' personal stories and craftsmanship heritage remain invisible to end customers, reducing the premium value of authentic handloom products.

Your HH Mission

Develop a reliable, easy-to-verify digital system (using QR codes, blockchain, or other technologies) that allows customers to trace a product's journey from loom to market, learn about the weaver's story, and confidently verify its authenticity

Theme 2: Market Access and Digital Integration

Problem Statement 2.3: Digital B2B Marketplace for Bulk Orders

The Challenge

Handloom weavers and producer groups struggle to connect with bulk buyers, fashion designers, and export houses, missing out on large-order opportunities that could provide stable income and business growth.

Your HH Mission

Design a digital marketplace or networking platform that seamlessly connects handloom producers with bulk buyers, facilitating easy discovery, communication, order management, and transaction processing for B2B handloom trade.

Theme 2: Market Access and Digital Integration

Problem Statement 2.4: Digital Storytelling for Global Brand Building

The Challenge

The rich cultural significance, intricate craftsmanship, and human stories behind Indian handloom products are poorly communicated to global audiences, limiting their perceived value and market appeal

Your HH Mission

Create engaging digital content strategies and formats (short videos, interactive experiences, virtual tours) that effectively tell the compelling stories of Indian handloom traditions, weavers, and craftsmanship to build emotional connections with global consumers.

Theme 3: Sustainability and Environmental Impact

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Problem Statement 3.1: Eco-Friendly Natural Dyeing Solutions

The Challenge

Synthetic dyes used in handloom production are expensive, environmentally harmful, and often produce inconsistent colors, while natural dye alternatives are difficult to source, prepare, and standardize at scale.

Your HH Mission

Develop cost-effective, scalable natural dyeing solutions using locally available materials (vegetables, plants, minerals) that can deliver consistent, vibrant colors while being environmentally friendly and economically viable for widespread adoption by handloom clusters.

Theme 3: Sustainability and Environmental Impact

Problem Statement 3.2: Water Conservation in Handloom Production

The Challenge

Handloom production, especially yarn dyeing and fabric finishing processes, consumes large amounts of water, creating both environmental concerns and operational costs for weavers in water-scarce regions.

Your HH Mission

Design innovative water conservation techniques or systems that can significantly reduce water consumption in handloom processes, particularly dyeing and finishing, while maintaining product quality and being affordable for small-scale handloom units.

Theme 3: Sustainability and Environmental Impact

Problem Statement 3.3: Circular Economy for Handloom Waste

The Challenge

Handloom production generates significant fabric waste, yarn scraps, and textile offcuts that are typically discarded, representing both lost economic value and environmental waste.

Your HH Mission

Propose viable business models or technologies for collecting, sorting, and transforming handloom waste materials into new valuable products, creating additional income streams for weavers while promoting circular economy principles..

Theme 3: Sustainability and Environmental Impact

Problem Statement 3.4: Sustainable Energy for Handloom Operations

The Challenge

Many handloom units rely on expensive grid electricity or diesel generators for lighting and auxiliary processes, increasing operational costs and carbon footprint, especially in areas with unreliable power supply.

Your HH Mission

Develop affordable renewable energy solutions specifically designed for handloom operations that can reduce energy costs, improve reliability, and minimize environmental impact while being practical for rural implementation

Idea Submission Link

(Last date to submit – 2nd Aug 2025, 11:59AM)

https://bit.ly/HH_Round1