



Technical affairs- IIITDM Kancheepuram



Developers Club



## Day - 04

### Web Development Hackathon

**Date :** 04/07/2025

**Duration :** 24 Hours

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**Background:-** KIT Engineering College has a Tinker laboratory, provides students with a diverse range of prototyping equipment—3D printers, CNC machines, soldering stations, testing rigs, and more. As demand grows, manual booking and inventory tracking have become error-prone, time-consuming, and opaque. The college seeks a web-based solution to streamline equipment reservation, authorization, usage tracking, and reporting

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**Hackathon Challenge Overview:-** Design a responsive, accessible, and secure web application for Tinker Lab management. Your solution should list all equipment, automate user authorization workflows, manage real-time inventory, and generate usage reports. Bonus points for innovative features that optimize resource utilization, or enhance user experience.

## **Key Features:**

### **1. Equipment Catalog:**

- Dynamic listing of all lab equipment with details (name, description, images, location, status).
- Search, filter, and category views (e.g., Mechanical, Electronics, Testing).

### **2. User Reservation & Authorization:**

- Get the details from students (name, department, project), equipment requested, duration, and intended use.
- Automated email notifications to designated authorizers (Tech Secretary, Club Lead, Faculty, phd scholar) based on student input.
- Authorizer dashboard: view pending requests, approve/reject with comments, trigger confirmation email.

### **3. Inventory & Usage Tracking:**

- Real-time update of available quantities, reserved vs. in-use items.
- Logging of check-out/check-in timestamps, user details, and authorized duration.
- Alert when return deadlines approach or when usage quotas exceed thresholds.

### **4. Additional Features (Optional for Bonus):**

- Safety & Training Module: video tutorials or documents linked to each equipment; mandatory quiz completion before first use of any specialized equipment.

- Waitlist & Queue Management: automatic waitlist creation, email updates when equipment frees up.

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## Deliverables:-

Participants must submit the following at the end of the hackathon:

1. **GitHub Repository Link** containing:
  - Complete source code
  - Properly documented **README .md** file
  - Instructions for running the project
  - Screenshots or demo GIFs (optional but encouraged)
2. **Deployment Link** (GitHub Pages, Render, or local demo video recording)

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## Timeline & Rules:

- **Duration:** 24-hour hackathon starts from 12:00AM
- **Team Size:** Students across all colleges can participate with Maximum team size of 4 and individual participants are also allowed
- **Tech Stack:**
  - front-end frameworks (React, Vue, Angular),
  - back-end (Node.js, Django, Flask)

- databases (MySQL, MongoDB), email services, etc.
- Hosting: Use GitHub Pages or render the working project locally with demo.
- Use of open-source libraries is allowed.
- **Submission Deadline:** 11:59PM on same day
- **Judging & Awards:** Winners announced by 10:00 PM of the next day and all participants will get **sponsor verified** resume worthy certificates.

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## Evaluation Criteria

Category	Weightage
Functionality	30%
UI Design	25%
Code Quality	20%
Innovation and Key Features compatibility	15%
Bonus Features	10%

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## Support

For any queries, reach out to:

**Email:** cs23i1010@iiitdm.ac.in

**Name & contact:** sainath reddy , 9390846661

**WhatsApp Community:** <https://chat.whatsapp.com/CEjhrp1QoLYLs1m4OgslMT>

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## Submission

Please Submit here - <https://forms.gle/uV7ZXBaHxTNSGAU17>

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Provide Your valuable Feedback Here

<https://forms.gle/UC3RbHfAPRZMuAyZ6>



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