



IOTA TECH-A-GOLD

THINK. BUILD. DOMINATE.

Welcome to Iota Tech-A-Gold, the ultimate hackathon experience designed to ignite innovation, creativity, and technical brilliance. This is not just another coding event – this is where we build minds capable of striking gold at the Inter IIT Tech Meet.

Every great victory starts with an idea. Every champion starts with a spark.

Here's your chance to prove your mettle, push your limits, and create something that leaves a mark.

Let's craft solutions that resonate with precision, intelligence, and imagination – and together, let's take one step closer to bringing home the Gold.



INTER IIT
TECH MEET
14.0

IIT PATNA, DEC 11-14

 **TRACK STRUCTURE**

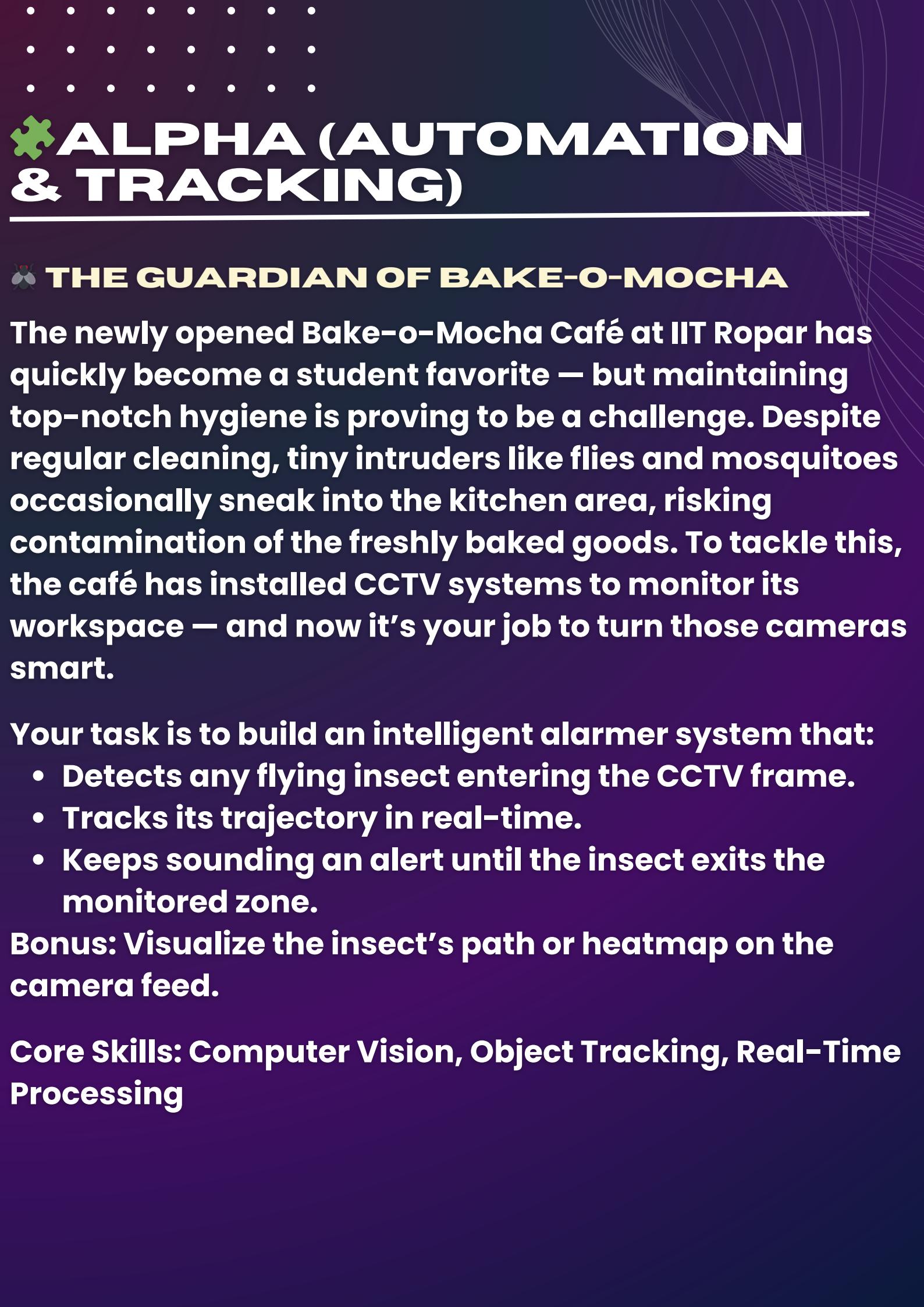
You'll face three challenges, each inspired by real-world scenarios — progressing from simple automation to intelligent perception and finally to the edge of AI creativity.

Your journey begins as an Alpha, evolves through the Beta, and culminates in the Chad — the stage where brilliance meets audacity.

Teams may attempt any or all PSs. Evaluation will consider:

- Innovation & Technical Depth – smart use of algorithms and models**
- Practicality & Feasibility – real-world deployability**
- Presentation & Clarity – how clearly you convey the idea and results**

Remember — in Inter IIT Tech, it's not just about writing great code. Your presentation, clarity of thought, and storytelling matter just as much as your technical approach. Judges evaluate how well you communicate your idea, structure your solution, and demonstrate impact. A working prototype backed by a clear explanation and clean documentation often scores higher than a complex model with poor delivery.



ALPHA (AUTOMATION & TRACKING)

THE GUARDIAN OF BAKE-O-MOCHA

The newly opened Bake-o-Mocha Café at IIT Ropar has quickly become a student favorite — but maintaining top-notch hygiene is proving to be a challenge. Despite regular cleaning, tiny intruders like flies and mosquitoes occasionally sneak into the kitchen area, risking contamination of the freshly baked goods. To tackle this, the café has installed CCTV systems to monitor its workspace — and now it's your job to turn those cameras smart.

Your task is to build an intelligent alarmer system that:

- Detects any flying insect entering the CCTV frame.
- Tracks its trajectory in real-time.
- Keeps sounding an alert until the insect exits the monitored zone.

Bonus: Visualize the insect's path or heatmap on the camera feed.

Core Skills: Computer Vision, Object Tracking, Real-Time Processing



HOW TO START & APPROACH

1. Understand the Use-Case

Read the story and pain-point carefully. Each PS is designed around a real context (Bake-o-Mocha, IIT Ropar Salon, Arijit Singh Concert).

Think about what problem you're truly solving — hygiene monitoring, look personalization, or sensory restoration.

2. Define the System Flow

Break the idea into 3-4 functional modules — e.g., for Alpha: Detection → Tracking → Alert → Visualization.

3. Research the Tech Stack

Look up existing open-source tools or models that fit the PS (YOLO, Mediapipe, OpenCV, CLIP, Whisper, Wav2Lip etc.).

Choose what balances accuracy and time-to-build.

4. Start Small, Iterate Fast

Build an MVP within the first half of the hackathon, then improve performance or UI later.

Don't chase perfection early — chase working output first.

5. Document as You Go

Maintain a small README or slides:

- **Problem Understanding**
- **Proposed Architecture (with a flow diagram)**
- **Key Tech Used**
- **Demo / Output screenshots**
- **This is crucial for judging and later submissions.**

6. Present Like a Product

Show results visually — live demos, dashboards, or small videos.

End with how your project could scale to real IIT Ropar use-cases or Inter IIT tech tracks.



APPROACH HINTS

ALPHA

- **Object detection model (YOLOv8/Detectron2) trained/fine-tuned on insect datasets**
- **Track ID per insect using SORT/DeepSORT**
- **Sound alarm via buzzer module or on-screen alert until exit event detected**
- **Optional: trajectory overlay or heatmap on video**