GOA POLICE HACKATHON 2025

36 TEAMS WITH

09 PROBLEMS STATEMENT

STARTS FROM 01 SEP 2025

CASH PRIZE OF RS. 50,000/-
FOR EACH PROBLEM STATEMENT

Goa Police is excited to announce its IIIrd Hackathon to encourage the students to use their logical and/or coding skills to solve core Policing problems. With increasing reliance on technologies while on one hand prevalence of Cybercrimes has increased on the other hand technology has transformed the way things are done. With the aim of using technology to boost Police efficiency and to use technological advancements to augment conventional way of detecting crimes, Goa Police urges all Goan students to enthusiastically participate in the event and contribute to the service of the people and nation building.

Hackathon is being organized as a partnership between Goa Police and students who can use their innovative thinking, technical knowhow and enthusiasm for building digital solutions for effective policing and assuring civil safety. Though the Hackathon is being organized in a competitive format, but it is in fact the first step in partnership of socially responsible students with law enforcement agencies in building a safe and secure society.

All Goan students are invited regardless of the field they are pursuing to participate in this endeavour to ensure safety in the society through technological solutions for crime detection and prevention.

Format of the Hackathon

- **Online Registration opens on 01st September 2025**
- **Abstract Submission by 08th September 2025 on enroll**
- **Shortlisting of teams based on the Abstract Submission by 14th September 2025**
- **48 hours Hackathon for designing of solutions starting from 19.00 hrs on 19th Sep 2025 till 19.00 hrs on 21st Sep 2025.**
- **Final Presentation of Solutions before Judges to be announced later**
- **Prize Distribution Ceremony for Winners to be announced later**

Registration & Abstract Submission

- Participant needs to register their teams online at given link https://forms.gle/qbqtzkiErixbTi1j8
- Team should have at least 2 members and at the most 4 members.
- Teams may enter the contest by submitting an abstract on any one or more of the problem statements (list of Problem statement is annexed).
- Teams need to submit a two-page abstract for the chosen problem containing:
    - An explanation of the Problem statement (max. 100 words)
    - Proposed solution to the Problem statement (max 200 words)
    - Features of the Final solution to be designed (max 200 words)
    - Reason for opting for the Problem statement (max 100 words)
    - Past expertise in the area (if any)

- Deadline for emailing the pdf format of abstracts on Official Email Id - pawar.vidyanand@goapolice.gov.in is 23:59 hrs on 08th September 2025.

Shortlisting of Teams

Only 36 Teams will be selected to participate in the final 48 hours Hackathon based on the Abstract submitted. The 04 Teams each will be selected for a Single problem statements. The abstract will be evaluated on following parameters:

- Suitability of the proposed solution to the requirements of police
- Usability of Policing application
- Technical and economic feasibility of the proposed solution
- Scope of scalability of the proposed solution
- Scope of deployment during the 48 hours Hackathon duration

The results of the selection of teams following scrutiny of the abstract will be declared on **14th September 2025**.

48 hours Hackathon

The 36 teams selected on the basis of the abstract submitted will be invited to participate in the final non-stop 48 hours hackathon to bring their ideas to fruition. At this stage the teams are expected to design a working prototype of the solution based on the chosen problem statement. The event will start from 19.00 hrs on 19th Sep 2025 and will continue till 19.00 hrs on 21st Sep 2025. In the end the designed application/ solutions developed by students alongwith data, libraries, dependencies etc. shall be submitted to the Goa Police Team at the venue.

Final Presentation

- All 36 teams shall present the prototype designed during the Hackathon period to a panel of judges on any specific date to be announced later.
- Each team will be given a 10 minutes slot for presentation.
- The presentation shall be evaluated on the basis of suitability to police requirements, technical innovation, design robustness and UI/IX.
- The marking criterion for final presentation shall be communicated later.

Prizes & Rewards

Certificate of Participation will be awarded to all the participants selected for the Final round and Cash Prizes will be awarded to the Winners of the Hackathon, immediately after the presentation and evaluation on the decided date, is as following:

1st Problem Statement Winner, Cash Prize of Rs. 50,000/-

2nd Problem Statement Winner, Cash Prize of Rs. 50,000/-

3rd Problem Statement Winner, Cash Prize of Rs. 50,000/-

4th Problem Statement Winner, Cash Prize of Rs. 50,000/-

5th Problem Statement Winner, Cash Prize of Rs. 50,000/-

6th Problem Statement Winner, Cash Prize of Rs. 50,000/-

7th Problem Statement Winner, Cash Prize of Rs. 50,000/-

8th Problem Statement Winner, Cash Prize of Rs. 50,000/-

9th Problem Statement Winner, Cash Prize of Rs. 50,000/-

I. NIGHT VIGIL – SMART PATROLLING VERIFICATION APP

Objective:

Develop a mobile and web-based solution to ensure transparency, accountability, and monitoring of night patrolling and naka duties assigned at Police Station level.

The tool should:

1. Enable SHOs to **pre-assign patrolling and naka duties**, with personnel and duty locations mapped in advance.
2. Allow on-duty staff to **check-in by clicking a selfie photograph**, validated with:
    - Date-time stamping,
    - Facial recognition, and
    - Geofenced location tagging.
3. Auto-generate entries confirming whether the duty was completed or missed.
4. Provide an **admin dashboard** for real-time monitoring, duty logs, and compliance tracking.

Expected Outcome:

A reliable verification system ensuring police night patrols and naka duties are performed as assigned, minimizing lapses and strengthening citizen safety.

II. AI-BASED DEEPFAKE VIDEO DETECTION TOOL

Objective:

Develop an AI-powered tool to detect, analyze, and document deepfake videos for law enforcement use.

The tool should:

1. Detect facial manipulations and voice cloning in common video formats.
2. Provide **binary classification (Real/ Deep fake)** with confidence scores and visual heat maps.
3. Generate **tamper-proof forensic PDF reports** including metadata, hashes, detection results, and snapshots.
4. Maintain chain of custody using secure storage and block chain-based audit trails.

Expected Outcome:

A reliable forensic tool to help law enforcement identify manipulated media and present validated reports in court.

III. AI-BASED VOICE RECOGNITION & SYNTHETIC VOICE DETECTION

Objective:

Develop a secure voice recognition system for identification, verification, and detection of synthetic voices, especially in **prisons and investigations**.

The tool should:

1. Build a **voice biometrics database** of inmates for identification and verification.
2. Detect **AI-generated/ synthetic voices** in calls and recordings.

3. Generate **forensic reports** with file hashes, results, spectrograms, and system validation (QR code/digital signature).
4. Ensure evidence integrity with secure storage and complete audit logs.

Expected Outcome:

A robust solution to detect voice-based impersonation, safeguard prison communications, and strengthen audio evidence in investigation.

IV. CYBER PATROLLING TOOL FOR FRAUDULENT ONLINE CONTENT

Objective:

Develop a cyber-patrolling tool to track, identify, and flag fraudulent and illegal online content targeting residents and tourists in Goa.

The tool should:

1. Detect fraudulent ads and platforms on **Facebook, Instagram, Google, YouTube** (investment scams, fake loan apps, work-from-home frauds).
2. Monitor **Telegram channels** for mule account trading, SIM card markets, and fraud groups.
3. Identify **fake hotel/resort websites**, cross-checking against an official list of 4-star and 5-star resorts in Goa.
4. Flag **prostitution and gambling content** across Telegram, Facebook, and Instagram via keyword/ hashtag searches.
5. Provide **real-time dashboards** with evidence logs and take down recommendations.

Expected Outcome:

An AI-enabled cyber patrolling system that strengthens Goa's digital safety, protecting citizens and tourists from online fraud and exploitation.

V. AI-BASED TOOL TO ASSIST VISITORS AT POLICE STATIONS (2024 Problem 4)

Objective:

Develop an AI-based assistant to help visitors at police stations by providing basic legal knowledge and overcoming language barriers.

The tool should:

1. Provide **basic legal information** on 10 common queries (house theft, assault, PCC, etc. list will be provided during the hackathon).
2. Offer **multilingual support** (English, Hindi, Konkani) for effective communication.
3. Use **conversational AI** with text/voice support for user-friendly interaction.
4. Guide visitors through required steps and documents for filing reports/ complaints.
5. Act as a **translation intermediary** between visitors and police personnel.

VI. E-BANDOBAST – POLICE DEPLOYMENT TRACKING TOOL (2024 Problem 9)

Objective:

Create a digital tool to manage deployment and track movement of police personnel during large events using real-time location tracking.

The tool should:

1. Accept deployment data in a structured Excel format (officer details, duty location, timing, supervisor, etc.).
2. Send SMS notifications to officers with duty check-in links.

3. Track officer location via **geofencing**, triggering alerts if they deviate from assigned duty area.
4. Require supervisor approval for log-off to confirm duty completion.
5. Provide **real-time dashboards** for monitoring deployment, check-ins, and deviations.

VII. AI-BASED CCTV & DIGITAL MEDIA FORENSIC ANALYSIS TOOL

Objective:

Develop an AI-powered tool to analyze CCTV footage and media files, automating offender detection and forensic validation.

The tool should:

1. **CCTV Analysis** – Detect, tag, and list all persons and vehicles in footage; match against **offender datasets** with minimum 80% accuracy; generate **time-stamped logs** of appearances.
2. **Forensic Media Analysis** – Extract metadata from photos/videos (GPS, device details, timestamps, editing history, file hashes) and flag anomalies/tampering.
3. **Dashboard & Reporting** – Provide investigators with searchable dashboards across multiple CCTV/video files and export **tamper-proof reports**.

Expected Outcome:

A dual-purpose tool that saves massive investigation time by automating CCTV review and enhancing forensic credibility of digital evidence.

VIII. AI-BASED ANALYTICS TOOL FOR 112 POLICE HELPLINE DATA

Objective:

Develop an AI-enabled analytics solution to derive actionable insights from emergency calls received on the 112 Police Helpline.

The tool should:

1. Perform **temporal analysis** to identify peak hours, daily/weekly/monthly trends, and seasonal variations in call volumes.
2. Conduct **spatial mapping** of calls using caller location data, with visualization of hotspots on digital maps.
3. Generate **heat maps** for different categories of emergencies (crime, accidents, women safety, etc.) to highlight vulnerable zones.
4. Enable **filtering and drill-down analysis** by time period, call type, police station jurisdiction, and response outcome.
5. Provide an **interactive dashboard** for supervisory officers to monitor trends, allocate resources, and improve emergency response strategies.

Expected Outcome:

A comprehensive decision-support system that transforms raw helpline data into meaningful insights, enabling data-driven deployment of police resources, faster response times, and improved citizen safety.

IX. AI-POWERED SEXUAL OFFENCE INVESTIGATION GUIDE

Objective:

Develop an AI-driven assistant to support Investigating Officers in conducting faster, smarter, and SOP-compliant investigations specifically for **sexual offence cases**.

The tool should:

1. Provide **case-specific investigation steps** by referring to SOPs, legal provisions (BNS, POCSO, IT Act), model charge sheets, and predefined checklists relevant to sexual offences.
2. **Analyze relevant court judgments** (session courts, high court and Supreme Court) **with an upload feature on the tool** to highlight admissibility of evidence, investigation pitfalls, and judicial expectations in sexual offence trials.
3. Auto-generate **case diaries, charge sheets, and final reports** in standardized formats tailored to the sexual offence case.
4. Assist in **legal compliance** by flagging missing investigation steps (e.g., medical examination, victim statement under Section 183 BNSS, digital evidence collection) and suggesting corrective actions.

Expected Outcome:

A specialized digital investigation assistant that strengthens a reported sexual offence investigations by ensuring compliance with legal protocols, integrating judicial guidance, and improving conviction rates.

THANK - YOU