AeroVision 2023 Flagship Event Summary

The Eye, CSEA

DATE	TIME	EVENT	MODE	ACTIVITY
August 22 (Tuesday)	4:30PM - 6:00PM	Workshop	Offline	• Introduction to Event • Partners and Panel Introduction • Introduction to Aviation Security • Secure Coding Techniques, GitHub and GitGuardian • Linux and Python Basics for Security
August 23 (Wednesday)	7:30PM	Workshop	Online	• Secure Coding for Aerospace • Top 10 Vulnerabilities in Commercial Aviation web portals and Aerospace Embedded Systems • Software-Defined Radio and ADS-B? • Problem Statements Release
August 24 (Thursday)	5:00PM	Hackathon (Round 1)	Online	Online MCQs on Kahoot Platform
August 25 – 28	12AM - 11:59PM	Hackathon	Online	Hackathon Takes Place
August 30 (Wednesday)	8:00PM	Workshop	Online	Online MCQ Round on Kahoot Platform and Google Meets
August 31 (Thursday)	1:00PM	Workshop	Offline	Prize Distribution and Closing Ceremony at College
September 1 (Friday)	4:30PM - 6:00PM	Conference Event	Offline	AvCON Conference Event • Presentations • Closing Keynote

Prize Pool: INR X (min: INR 10,000) in ratio of (6:3:1)

First Prize: INR 0.6X + 1 Month of Free Labs (x2) + 1 Month of Webinars (x2)

Second Prize: INR 0.3X + 1 Month of Free Labs (x2)

Third Prize: INR 0.1X + 1 Month of Webinars (x2)

Runner-Up: 1 Month of Webinars (x2)

Other Expenses: INR 9,764 (Rounded to INR 10,000)

Hosting Expenses:

- Domain Hosting and Server Hosting for CTF
- Server Spaces will be given to Participants for Secure Coding Stream

Financial Expenditure Plan: Prize Pool from Sponsors, Hosting Expenses by IntellX, Other Expenses from College

Intellectual Property Agreement: Any intellectual property developed during and within the scope of the hackathon is under the command of the intellect that generated it. It is up to the participants to accept or not the proposals of the organizers on the post-event.

Proposed Dates: August 22 – August 31, 2023

Maximum # of Participants: 150 Participants

Eligibility Criteria: Open to All Departments and Years of PSG College of Technology.

Pre-Requisites

- Knowledge in basic Coding Concepts
- A brief history showcasing the individual's interest in either Coding, Security, or Aviation

August 22 (Tuesday | Offline Session [4:30PM - 6:00PM])

- [4:30PM - 4:45PM] Intro to the Event
- [4:45PM - 5:00PM] Partners and Panel Introduction
- [5:00PM - 5:15PM] Introduction to Aviation Security
    - What are we trying to protect?
    - Profile of an Airport, Profile of an Airplane
    - A peek into Drone Security and Drone Systems
- [5:15PM - 5:30PM] Secure Coding Techniques, GitHub and GitGuardian
- [5:30PM - 6:00PM] Linux and Python Basics for Security

August 23 (Wednesday | Online Session [7:30PM])

GitHub Stream

- What is secure coding for aerospace?
- Top 10 vulnerabilities in
    - Commercial Aviation web portals
    - Aerospace Embedded Systems
- Using GitHub for private collaboration work
- What is Software-Defined Radio and ADS-B?
- Problem Statements Release
    - Develop a simulated ECAM System as a Software Application
    - Develop a secure Ticketing and Aircraft Tracking system
    - Develop an in-flight entertainment system as a web-application, and simulate the aircraft parameters for live flight tracking
    - Develop an offline in-flight entertainment system with 0 internet dependencies, and simulate the aircraft parameters for live flight tracking
    - Develop a flight-scheduling and dispatch, and pilot management system
    - Develop a system for timely plane quality assurance, inspection management, engineering support
    - Develop a system for customer information management (e.g. flight history, contact data)
    - Develop a system for revenue cycle management, cost, and financial analysis
    - Develop a system for departure/arrival and runway flow management for airports
    - Develop a system to track passenger footfall and analyze the same based on the number of check-ins at an airport
    - Develop a radar system for air traffic controllers with a live radar screen based on ADS-B feed, and a wi-fi based communication system
    - Develop an airline reservation management system

    - Develop a system for fleet maintenance, inventory tracking and flight operations
    - Develop a tool for intercepting Drone Downlinks and Drone Hijacking
    - Develop an automated Drone Delivery system app like Swiggy
    - Develop a Drone-Based Transport App like Porter.In
    - Develop Software related to National Air Defense for war

Vulnerability Testing Stream

- What is a Capture-The-Flag?
- Using the Lockheed KillChain to identify vulnerabilities
- OWASP Top 10
- What is SCADA?
- How to test SCADA?
- Tips to score in a CTF
- Release problem statement
    - There exists an airline company "iFly" whose website will be available at ifly.intellx.in. Compile a list of all flags found in their services and submit to portal.

August 24 (Thursday | Online Session [5:00PM])

Online MCQ Round (Round 1) on Kahoot Platform. [Different Kahoots for different streams]

Top 50 Members are taken for Secure Coding Stream Round 2

Top 30 Members are taken for Vulnerability Testing Stream Round 2

August 25 – August 28 [12AM - 11:59PM] (Friday, Saturday, Sunday, Monday)

Hackathon Takes Place.

August 29 (Tuesday | Online)

All GitHub Repositories must be made public between 12:00AM and 10:00PM of this day.

Depending on whether the participant decides for the software solution to be Open-Source or Proprietary-Ware, they can choose to keep it public or change it to private after 10:00AM.

Submissions will be made on DevPost (https://devpost.com/)

Panels Review takes place.

Top 5 teams from each stream is released by 10:00PM

August 30 (Wednesday | Online Session [8:00PM])

Online MCQ Round on Kahoot Platform and Google Meets Platform is conducted at 8PM, and top 4 out of 10 teams are announced as winners. [Kahoot will be conducted amongst all 10 teams on the topic of Secure Coding]

August 31 (Thursday | Offline Session [01:00PM])

Prize Distribution and Closing Ceremony at College (Audience: All participants that qualified to Round 2)

September 1: AvCON Conference Event Friday 4:30PM - 6:00PM | Offline Session

Audiences :- Interested and Available Event Organizing Partners, All available members from in-house partner clubs, All interested professors.

The 4 winning teams will have to present their unique ideas on-stage, and interested event-organizers/partners can put forward proposals to developers as to their interests post-event.

[4:30PM] Opening Keynote and Welcome to Partners and Winners by The Eye

[4:45PM – 5:30PM] Presentations, Discussions and Proceedings

[5:45PM] Closing Keynote

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