

the residency



TriHacker Tournament



Finale Hackathon Intro

- Duration: 36 Hours (Dec. 4th noon - Dec. 5th Midnight)
- Use Scaffold-ETH to build your project
<https://github.com/scaffold-eth/scaffold-eth-2>
- Tech Focus: Secure Settlement & State Machine Architecture

Hackathon Problem Statement

Theme: Design and implement an adversarial-resilient settlement protocol that processes trades or rights transfers on-chain under the following constraints:

Required System Behaviors:

- 1) Fair Ordering - Settlement cannot depend on validator ordering
- 2) Invariant enforcement - Define, then prove 3-5 core invariants
- 3) Partial finality logic - Settlement occurs across multiple blocks
- 4) Oracle manipulation resistance - Dispute and correction mechanic
- 5) Attack model clarity - Define adversary capabilities and defend them

Rubric / Point System

 Category	 Points	 What Judges Are Looking For
Protocol Architecture	30	Clear state machine, strong invariants, understanding of partial finality and ordering assumptions, clean systems boundaries
Adversarial Resilience	25	Quality of threat model, MEV-aware ordering mechanism, Oracle manipulation defense
Correctness under stress	20	Handling of partial settlements, idempotence (no-double settlement), reorg safety assumptions, timeouts, liveness guarantees
Implementation quality	15	Clean solidity, correct encoding of state machine logic, no pointless features
Demo Day Presentation	10	Clear communication, ability to justify architecture, response to judge's questions

Demo Day Guidelines



Time Limit

- 5-7 minute presentation
- 2-3 minute technical Q&A

Maximum of 7 slides & presentation must include:

- 1) Project summary
- 2) Architecture overview
- 3) Invariants
- 4) Threat model & adversarial reasoning
- 5) Failure handling (timeouts, liveness, reorg safety)
- 6) Demo of settlement flow
- 7) Limitations & assumptions

Prize Pool

- Total Prize Pool: ₹5 Lakh
- -> 1st Prize - ₹2,50,000 for the Overall Best Project
- -> 2nd Prize - ₹1,50,000 for Second Place
- -> 3rd Prize - ₹1,00,000 for Third Place

Thank you for participating!