

PROJECT ABSTRACT

Hackathon Team Finder Portal

A web portal that helps students form hackathon teams: hacker profiles with skill tags, team listings with open roles, match scoring and invite workflows. Delivered built-to-order with the complete web application, report, PPT and viva kit.

01. Title

Hackathon Team Finder Portal

02. Introduction / Background

Hackathons reward balanced teams — frontend, backend, ML, design and a pitch lead — but most teams form from whoever sits nearby in class. A strong ML engineer never meets the designer two branches away who would complete her team, and first-year students with real skills stay invisible. A team-finder portal makes skills searchable: hackers build profiles with stacks, past hackathons and availability; teams post their idea and open roles; a matching engine ranks candidate teammates by skill complementarity; invites and applications flow through the portal instead of scattered DMs.

03. Problem Statement

Hackathon teams form by proximity rather than by fit: skilled students remain undiscovered, teams lack critical roles (no designer, no pitch lead), and coordination happens across fragmented chats. The project addresses this with a portal where hackers publish skill profiles, teams list open roles against their idea, match scores rank mutual fit, and invites, applications and acceptances are managed in one place — with hackathon listings so teams form against real upcoming events.

04. Objectives

- Let hackers create profiles: skills, stacks, past hackathons, achievements and availability.
- Let teams post their hackathon idea with defined open roles (ML, frontend, design, pitch).
- Compute match scores from skill complementarity, stack overlap and past performance.
- Manage invites and applications: send, accept, decline with notifications.
- List upcoming hackathons with dates, format and team-size rules.
- Show team pages: members, roles filled/open, idea summary and team activity.
- Deliver the complete student kit: working web app, database schema, report, PPT and viva Q&A.;

05. Proposed Methodology

Built as a three-tier web application. (1) Profile module: hacker profiles with skill tags, stack proficiency levels and a hackathon history that feeds a lightweight reputation signal. (2)

Matching engine: for a team with open roles, candidates are scored on role-skill match, complementary (non-overlapping) skills with existing members, availability for the event dates and past hackathon participation; weights are configurable and documented. (3) Team workflow module: invite/application state machine, team formation against a hackathon's team-size rules, and role closing when filled. The methodology chapter documents the scoring formula, the state machine and test cases for invites, duplicate applications and full teams.

06. System Architecture / Working

A hacker builds a profile with skills, stacks and past events, and marks herself looking for a team. A team lead creates a team against a listed hackathon, writes the idea summary and opens roles. Browsing hackers shows cards with skill tags and looking-for-team badges; the matches view ranks teams or hackers by the complementarity score with a breakdown. Invites go from team to hacker and applications from hacker to team; accepting fills the role and updates the team page. Team chat and a shared checklist keep the formed team coordinated till the event.

07. Hardware / Software Requirements

- Server: shared hosting/VPS; client needs only a browser.
- Backend: PHP (Laravel) or Node.js (Express) with notifications.
- Database: MySQL/PostgreSQL — hackers, teams, roles, invites, hackathons.
- Frontend: responsive HTML/CSS/JS with filter chips and match-score visualisations.
- Optional: email/push notifications for invites and applications.

08. Expected Outcomes

- A working portal with hacker profiles, team listings, open roles and match ranking.
- A documented, explainable match-scoring formula based on skill complementarity.
- Invite/application workflows and team pages with role tracking.
- A complete report (SRS, ER diagram, matching design, test cases), PPT and viva Q&A.;

09. Applications

- Forming balanced hackathon teams across branches and years.
- Teaching matching/recommendation fundamentals and profile-reputation design.
- Reusable for project groups, club recruitment and startup cofounder matching.

10. Future Scope

- Skill endorsements verified by past teammates.
- In-portal team formation for specific hackathons with organiser APIs.
- Idea feedback: mentors comment on team ideas before the event.
- Post-hackathon retrospectives feeding the reputation signal.