

**Hackathon Project Phases Template** that ensures students can complete it efficiently while covering all six phases. The template is structured to capture essential information without being time-consuming.

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# Hackathon Project Phases Template

## Project Title:

Playful AI: Interesting games opponents and advisors

## Team Name:

CATASTUCKY

## Team Members:

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## Phase-1: Brainstorming & Ideation

### Objective:

- Identify the problem statement.
- Define the purpose and impact of the project.

### Key Points:

1. **Problem Statement:** Interesting games opponents and advisors
2. **Proposed Solution:** Making Board Games More Interesting

Dynamic Game Boards

Use modular or changeable boards (e.g., Catan-style tiles) so that no two games are the same.

Introduce interactive digital overlays (via AR apps) for extra effects.

AI-Generated Challenges & Events

Implement an AI system that creates random in-game events based on player choices.

Example: In Monopoly, AI could introduce unexpected scenarios like "Stock Market Crash" or "Real Estate Boom."

#### Real-Time Player Adaptation

AI or an advisory system could analyze how players are playing and suggest difficulty changes.

Example: If a player is winning too easily, the AI could introduce handicaps or tougher opponents.

#### Hybrid Physical-Digital Gameplay

Integrate companion apps that track player progress, generate unique quests, or even keep track of game stats.

Example: A chess AI that analyzes past moves and suggests alternative strategies

**3.Target Users:** Players (Casual & Competitive)More engaging gameplay with dynamic challenges.Fairer matches with AI-adjusted difficulty.Personalized experiences through adaptive storytelling. 2. Board Game Designers & DevelopersInnovative features that make their gamesstand out.AI-powered testing to balance rules and mechanics.Increased replayability, attracting more players.

#### 4.Expected Outcome:

Enhanced Player Experience

More Engaging Gameplay – AI-generated challenges, adaptive difficulty, and dynamic boards make games more exciting.

Personalized Strategy Help – AI advisors provide real-time hints and move suggestions based on player skill.

Fair & Balanced Matches – AI can analyze game patterns and adjust rules to ensure fairness.

## Phase-2: Requirement Analysis

### Objective:

- Define technical and functional requirements.

### Key Points:

1. **Technical Requirements:** Hardware,Software and AI Frameworks
  2. **Functional Requirements:** Dynamic Game Boards,Player Move Detection,Game Rules Enforcement.
  3. **Constraints & Challenges:** Processing power and hardware limitations,AI Training data and Learning,Internet and cloud dependence.
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## Phase-3: Project Design

### Objective:

- Create the architecture and user flow.

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AI Hints & Suggestions Panel      |
| ----- |
| Board Game Layout (Chess, Tic-Tac-Toe) |
| [AI Move Indicator]           |
| [Player Move Detection]       |
| [Interactive Game Pieces]     |
| ----- |
| Score & Game Status Panel     |
| AI Analysis: "You should move here" |
| Voice Commands: "What's my best move?" |
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## Phase-4: Project Planning (Agile Methodologies)

### Objective:

- Break down the tasks using Agile methodologies.

BUILDING AND SUBMITTTHE SOLUTION: ALL TEAM MEMBERS

## Phase-5: Project Development

### Objective:

- Code the project and integrated components.

### Key Points

**Technology Stack Used:** JavaScript,HTML,Django

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## Phase-6: Functional & Performance Testing

### Objective:

- Ensure the project works as expected.

### Key Points:

1. **Test Cases Executed:** (List the scenarios tested)
  2. **Bug Fixes & Improvements:** (Mention fixes made)
  3. **Final Validation:** (Does the project meet the initial requirements?)
  4. **Deployment (if applicable):** (Hosting details or final demo link)
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## Final Submission

1. **Project Report Based on the templates**
  2. **Demo Video (3-5 Minutes)**
  3. **GitHub/Code Repository Link**
  4. **Presentation**
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