



Association for Computing
Machinery
RVCE Student Chapter



Association for Women
in Computing Machinery
NITK Student Chapter

HACK-ULA

TEAM & TITLE

Title of the project: Spooky Ed

Team Name: Spookies

Team Lead: Nancy Gupta

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ABSTRACT

Problem Statement

The challenge of making education in the digital era more engaging, motivating, personalized, and accessible, as traditional methods often struggle to maintain student interest and adapt to individual needs.

Objective

To enhance student motivation, foster deeper understanding, and provide real-time feedback for more effective learning by developing a platform of AI-powered educational games.

Proposed Solution/Approach

Developing interactive games that integrate learning with engaging mechanics. Examples include a Pac-Man-style game where a pumpkin collects correct "cupcake" answers, and a chemistry game involving "potion-brewing." All games will feature dynamic questions and adaptive feedback generated by AI.

Expected Outcome

A platform containing multiple AI-powered games that make learning fun and interactive. This platform will boost student engagement, provide real-time feedback to teachers and students, and foster essential skills like problem-solving and critical thinking.



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THE SOLUTION

What is our idea, and how does it solve the problem?

Our idea is to create a platform of AI-powered educational games to solve the problem of traditional digital learning often being unengaging, impersonal, and boring.

It solves this problem by transforming learning into a fun, interactive experience. Instead of static content, students play games (like a Pac-Man-style game or a potion-brewing challenge) where the questions and difficulty are dynamically adapted by AI. This approach makes learning motivating, provides instant feedback, and personalizes the experience, which in turn fosters deeper understanding and critical thinking.

Key features

- AI-Driven Dynamic Content: The AI generates adaptive questions and real-time feedback, tailoring the difficulty and content to each student's performance.
- Engaging Gamification: Learning concepts are embedded in motivating game mechanics (e.g., collecting rewards, "potion-brewing" challenges, consequences for errors) to boost student engagement.

The image displays three distinct panels, each enclosed in a glowing blue border, representing different features of the Hack-Ula platform:

- AI-Driven Dynamic Content:** This panel shows a central character icon surrounded by various educational icons like a brain, a graph labeled "Adaptive Difficulty", and speech bubbles containing the equation $E=mc^2$. A network of connections is visible between the icons.
- Engaging Gamification:** This panel features a cartoon witch character brewing a potion over a cauldron, with a large jack-o'-lantern nearby. It includes icons for "XP" (Experience Points) and a gold star badge.
- Real-Time Feedback:** This panel shows a dashboard with a line graph titled "Time" and a circular progress bar. A student profile icon is shown next to a checkmark and a message box indicating "Correct! +10 XP".



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LEAN CANVAS



Problem:

Traditional digital learning is often unengaging, impersonal, and fails to motivate students or adapt to their individual needs.

Customer Segments:

- Students (K-12 & University)
 - Teachers & Educators
 - Educational Institutions (Schools, Districts)
 -

Unique Value Proposition (USP):

We combine deep gamification (immersive games, not just quizzes) with AI-driven adaptive learning (dynamic questions and personalized feedback) to make learning fun and effective.

Cost Structure:

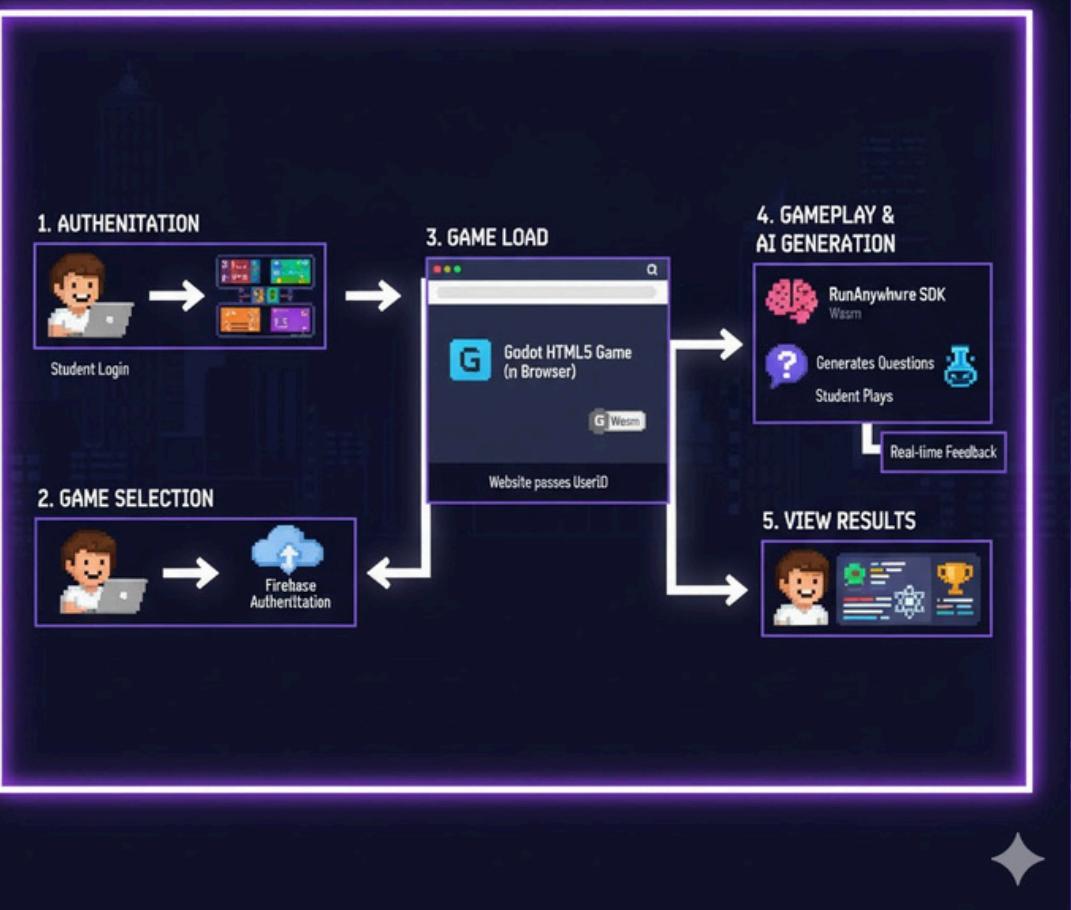
- Cloud Infrastructure: Costs for servers, AI model hosting, and data.



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EXECUTION PLAN (MVP IN 24 HRS)

WORKFLOW: WEB PLATFORM INTEGRATION

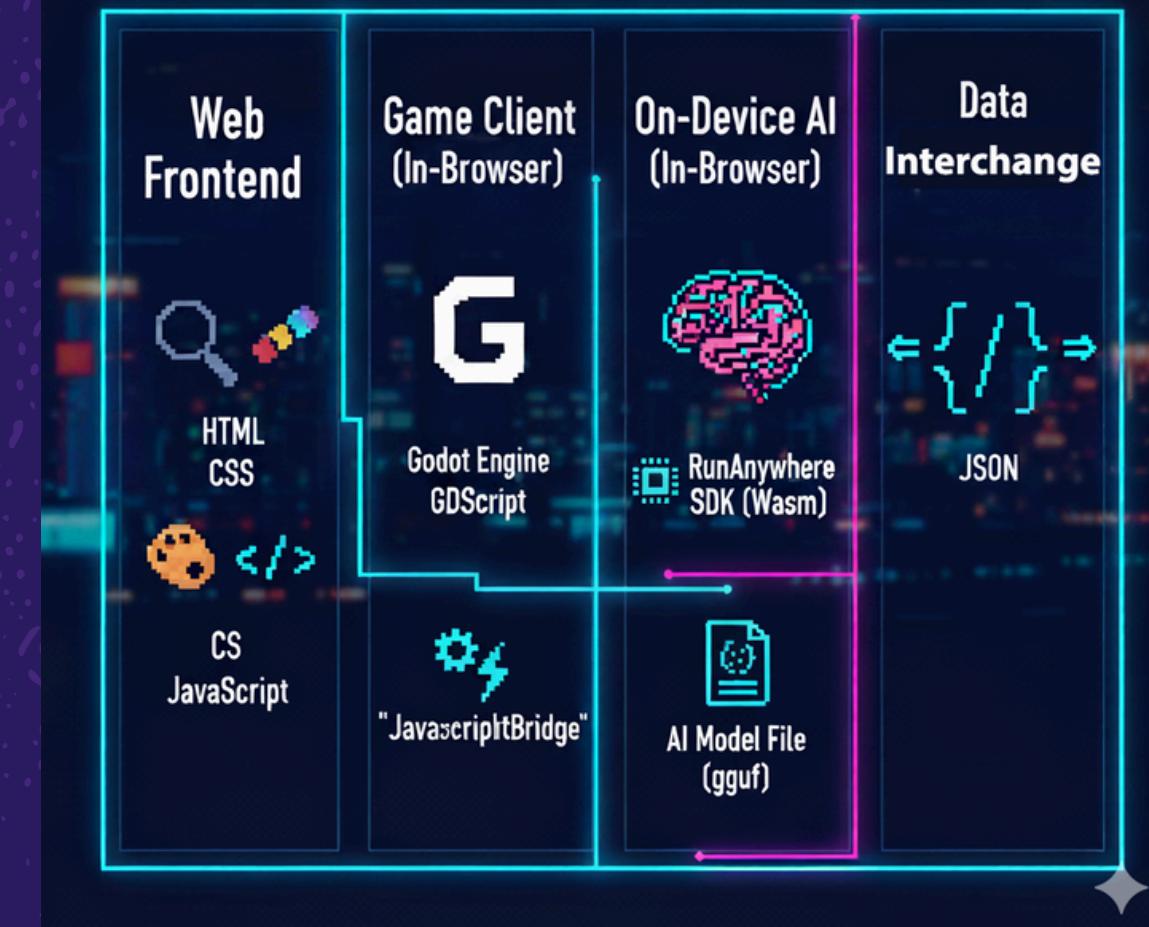


Our prototype will include a web based application that has 2 games (Trick or answer and the witch game).

- The first game will have a pumpkin searching for the answers in the maze, correct answer leads to points and too many wrong ones causes a GAME OVER.
- The second game features a witch trying to brew her potion and we have to help her get to the right chemical she needs to do so.

(The questions and answers will be provided by the Runanywhere SDK in realtime.)

AI-Powered Learning Platform: Tech Stack





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IMPACT & RUNANYWHERE SDK USAGE

This solution benefits students, teachers, and educational institutions. Students gain from increased engagement, stronger motivation, and improved long-term retention as learning becomes interactive and enjoyable through game-based activities. Teachers benefit by having flexible tools to create personalized, adaptive lessons and can easily track student progress and participation, making instruction more effective and dynamic. Educational institutions and parents would see advantages through raised performance and positive, resilient attitude towards learning, fostering creativity, critical thinking, and collaboration among learners. Runanywhere SDK will be used in making the quizzes and would be integrated in the game to create a fun learning experience.

AI-Powered Learning Platform Tech Stack

STUDENTS

Increased engagement, stronger motivation, and improved long-term retention

TEACHERS

Flexible tools to create personalized, adaptive lessons

EDUCATIONAL INSTITUTIONS & PARENTS

Raised performance and positive attitude towards learning

