TCG Deckhand

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**The Problem Space: The 'Why'**

A Strategic Void for High-Value Competitive Players

While the global Trading Card Game (TCG) market is a robust, multi-billion-dollar industry, projected to grow to as much as $37.42 billion by 2034 with a CAGR of 10.98%, a critical gap exists for its most valuable players: the competitive community. These players, who invest significant time and resources in high-stakes tournaments with prize pools reaching $2,000,000 USD, are underserved by the current digital ecosystem. The problem, which we term the "preparation paradox," manifests in three key, quantifiable areas:

Inefficient Playtesting: Competitive preparation is a rigorous process, requiring players to play between 20 and 100 games per matchup to obtain reliable data. Existing public simulators are not designed for this methodical, data-intensive practice, forcing players to use cumbersome workarounds and wasting valuable time that could be spent preparing for tournaments with substantial financial incentives.

Erosion of Strategic Advantage: The public nature of online simulators exposes proprietary deck builds and innovative strategies. This strategic liability can directly impact a professional player’s ability to secure a winning position and claim substantial prize money, such as the $50,000 first-place prize at the Pokémon Worlds 2025 TCG event.

Player Attrition Due to Toxicity: While the card game genre has a comparatively low toxicity rate of 23%, the problem is acutely concentrated in the high-stakes competitive space. This pervasive negativity is a financially costly issue, as over 67% of gamers have left a game entirely due to toxic experiences. This represents a loss of the lifetime value of a dedicated player who may have a decade or more of experience. The need for a safe, private space is a crucial factor in retaining this valuable player base. This quantifiable market gap demonstrates a clear demand for a platform that provides a private, secure, and professional-grade environment for competitive playtesting. The opportunity lies in providing a solution that addresses these pain points and captures the significant value currently lost to player attrition and inefficient practice

**Validation Evidence:**

Qualitative Evidence: Direct user feedback and observations indicate that players are frustrated with the public nature and lack of privacy on existing platforms. The need for a private training ground is a key point. Competitive Gaps: Current online simulators do not offer deep, real-time strategic analysis or private sandboxes, which represents a clear gap in the market.

**The Solution Space: The 'Possibilities'**

The solution is an AI-powered, private sandbox for competitive TCG players. This tool will provide real-time strategic analysis and win-probability metrics, enabling players to refine decks and practice without exposing their strategies.

**Core Functionalities & Features:**

A downloadable, TCG-agnostic game engine. A single-player mode for playing against a computer opponent. A "Win Advantage" calculator that analyzes the board state. A "Best Move" suggestion feature for the current turn.

**User Interactions & Touchpoints:** Users will download the application, input their decks, and play a single-player game. The primary interaction will be the ability to get real-time analysis and "best move" suggestions at key decision points in the game. Game data will be stored locally on the user's computer to ensure privacy.

**Value Proposition**

We help competitive TCG players to refine decks and practice alone by providing a private, AI-powered sandbox with real-time strategic analysis and win-probability metrics. This is a private, focused training environment that is unlike public online simulators.

**Who Benefits:** Competitive TCG Players, Aspiring Pro Players, Deck-building Enthusiasts, Beginners who want to enhance their skills

**Goals and Success Criteria**

Goals: Prove the value of the AI-powered strategic analysis concept. Establish a core, functional single-player game engine that is TCG-agnostic. Validate the accuracy and usefulness of the "Best Move" suggestion algorithm.

**Success Criteria:**

A minimum viable product (MVP) is launched by December 2025. The core game engine is stable and can successfully run a full game between a user and the AI. The "Best Move" suggestion feature consistently provides useful and valid strategic advice. Initial user testing (e.g., in a DMT 445 class setting) receives positive feedback on the core concept and features.

**User Experience**

Key User Flow: User downloads and opens the TCG Deckhand application. User inputs their deck data. User starts a game against the computer opponent. During a complex board state, the user feels unsure of the optimal play. The user clicks the “suggest best move” button. The application highlights the best move they hadn’t considered. An advantage bar shifts, showing the strength of the play. The player wins the game feeling more confident and prepared for a tournament. The UI will be simple and clean, focused on the core gameplay loop and the analytical tools.

**Competitor Analysis**

Existing Online Simulators:

Strengths: Often free, public, and support a wide variety of card games. They allow players to test out new decks against other people.

Weaknesses: They are public, which exposes a player's strategy. They often lack a private sandbox environment for focused training. They do not offer deep, real-time strategic analysis or win-probability metrics. The public environment can also be unfriendly and unwelcoming.

TCG Deckhand will address these weaknesses by providing a private, AI-powered solution focused on strategic improvement rather than social play.

**Key Features and Releases**

V1: MVP (In-Scope) Generic TCG Rule Engine: The core system that handles game logic. Single-player vs. Computer: The main game mode. "Win Advantage" Calculator: A visual tool that scores the current board state to show who is ahead. "Best Move" Suggestion: An algorithm that analyzes all legal moves and suggests the one with the highest potential score.

V2 and Beyond (Out-of-Scope) Computer vs. Computer simulation for rapid analysis. Advanced AI with multiple difficulty levels. Official card art or branding. Mobile application. Multiplayer functionality.

**User Stories and Requirements**

As a competitive TCG player, I want to play against a computer opponent so that I can practice my strategies in a private environment. As a strategic player, I want to see a win-probability metric so that I can evaluate the current state of the game. As a player who wants to improve, I want the tool to suggest the best move so that I can learn optimal plays I might have missed. As a user, I want to input my own card data so that I can use the tool for any TCG without copyright issues.

**Out of Scope**

The following items are explicitly not included in the MVP to ensure a focused, achievable launch: Advanced AI with multiple difficulty levels, Official card art or branding, A mobile application, Multiplayer functionality, Computer vs. Computer simulation

**Notes, Meeting Minutes, Decisions**

Assumptions: The "trial and error" AI algorithm is feasible to develop within the MVP timeframe. A flexible game engine can be created that is easily adaptable to different TCG rule sets in the future. Copyright Mitigation Strategy: The engine will be 100% generic, and users will input card data themselves. The platform will never host or distribute copyrighted images, names, or text.