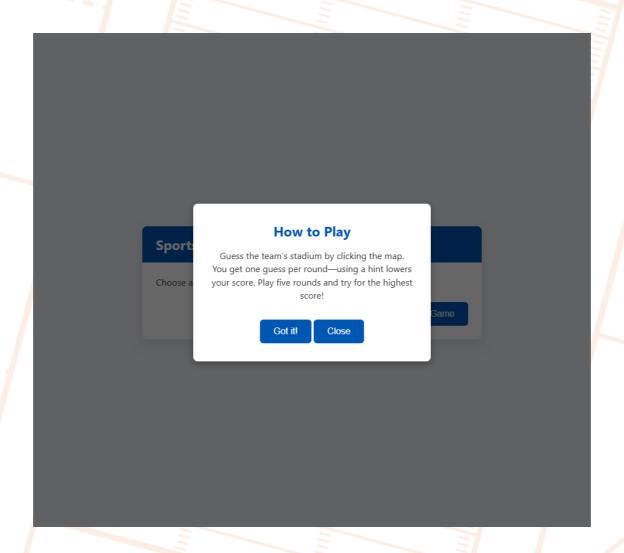


Live Intro Demo











Courtney Yatteau

Developer Advocate, Esri

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Agenda

Foundations

- Goals
- Why AI + Gamification?
- Real-World Examples
- AI Tools Overview
- GAMES Framework

AI-Powered Mini-Demos

Final Demo

Wrap-up & Resources





Goals



Unpack 5 pillars of AI-powered gamification



Explore our end-to-end tech stack



Showcase Al-driven gameplay



Inspire you to build your own AI-powered experiences



Why AI + Gamification?

PERSONALIZED PLAYBOOKS

REAL-TIME COACHING

MOTIVATION ON OVERDRIVE

MOMENTUM MANAGEMENT NEXT-LEVEL IMMURSION



Real-World Examples

Personal Training Apps

- Peloton (US)
- Zwift (EU)
- Fitbit Coach (Global)

Sports Betting Apps

- DraftKings (US)
- Bwin (EU)
- Bet365 (Global)



Al Tools Overview

	Function	Tools
	Generation (Text, image)	Google Gemini, DALL·E, OpenAl
	Adaptive Difficulty	Tensorflow.js
	Adjustments & Crowd Insights	Xenova Transformers
	Sentiment	Azure Text Analytics, Google Vision API, AssemblyAI
	Speech & Audio	ElevenLabs



G.A.M.E.S. Framework

- Generate Content
- Adaptive Challenges
- **M**otivational Rewards
- Emotional Analysis
- Share & Socialize





Generate Content

- Fresh, dynamic content
- Personalization at scale
- Enhanced engagement through variety



Demo: Generate Content



 Al-generated sports trivia questions, hints, and facts



Key Takeaways: Generate Content

AI-DRIVEN CONTENT PARAMETER CONTROL LIGHTWEIGHT GAMIFICATION



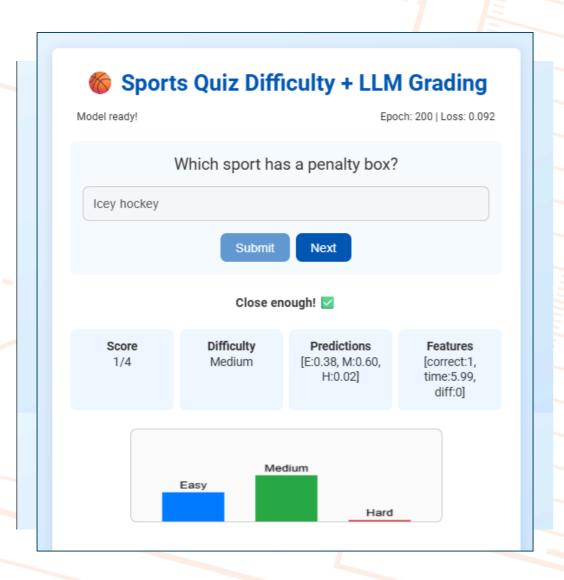


Adaptive Challenges

- Keeps players "in the zone"
- Mirrors real athletic training
- Drives engagement & learning



Demo: Adaptive Challenges



- Adjust difficulty level in real-time
- Utilize Zero-shot grading





Key Takeaways: Adaptive Challenges

Adaptive Challenges Lightweight Al

Seamless LLM Integration

Gamification Hooks

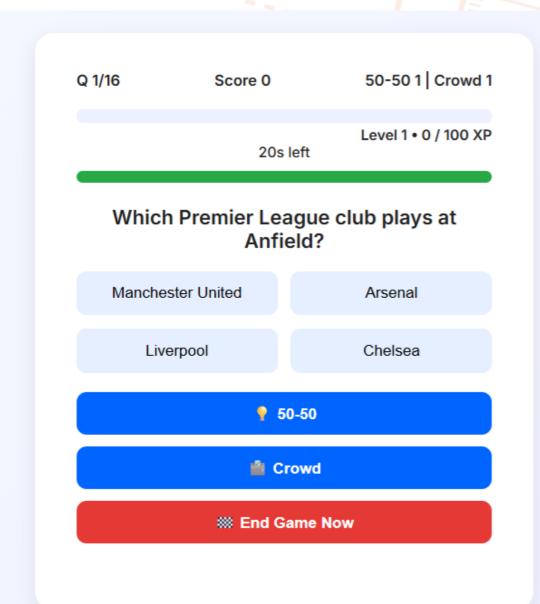


Motivational Rewards

- Personalized Motivational Insights
- Dynamic Reward Loop
- Flow-Preserving Assistance



Demo: Motivational Rewards



- Booster one-time rewards
- Track hint usage in UI header
- Voice encouragement



Key Takeaways: Motivational Rewards

Small AI, Big Impact Motivation through Insight

Minimal Setup

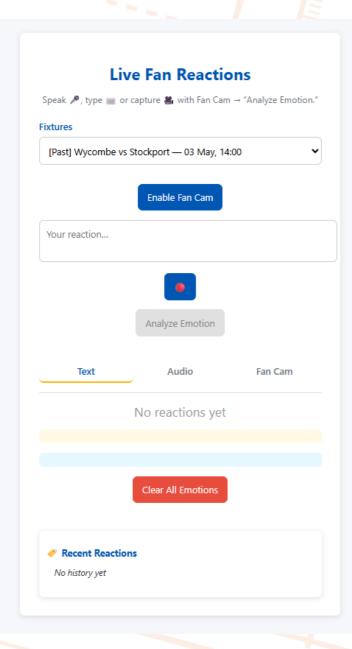


Emotional Analysis

- Real-Time Sentiment Sensing
- Emotion-Event Correlation
- Adaptive Emotional Feedback



Demo: Emotional Analysis



 Sentiment detection in three ways



Key Takeaways: Emotional Analysis

MULTI-MODAL EMOTIONAL CAPTURE

PERSONALIZED
GAME INSIGHTS

ENGAGEMENT HOOKS

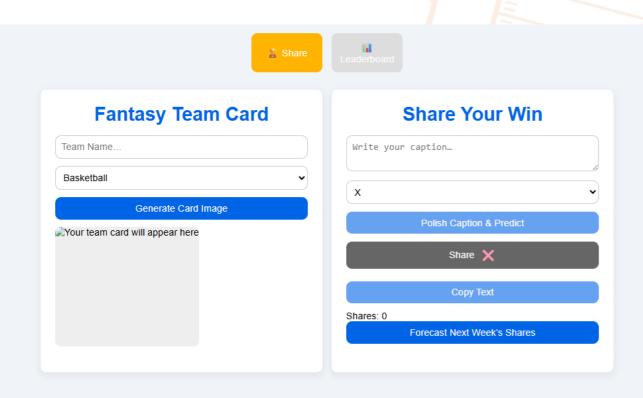


• Share & Socialize

- Fandom Needs an Audience
- Social Juice Powers the Game Loop
- Sharing Drives Viral Growth and Smarter Al
- Conversation Must Be Baked-In, Not Bolted-On



Demo: Share & Socialize



- Generate fantasy team card
- Polish caption
- Post to social media
- Forecast shares



Key Takeaways: Share & Socialize

CREATE & SHARE WIN

AI-POLISHED CAPTIONS

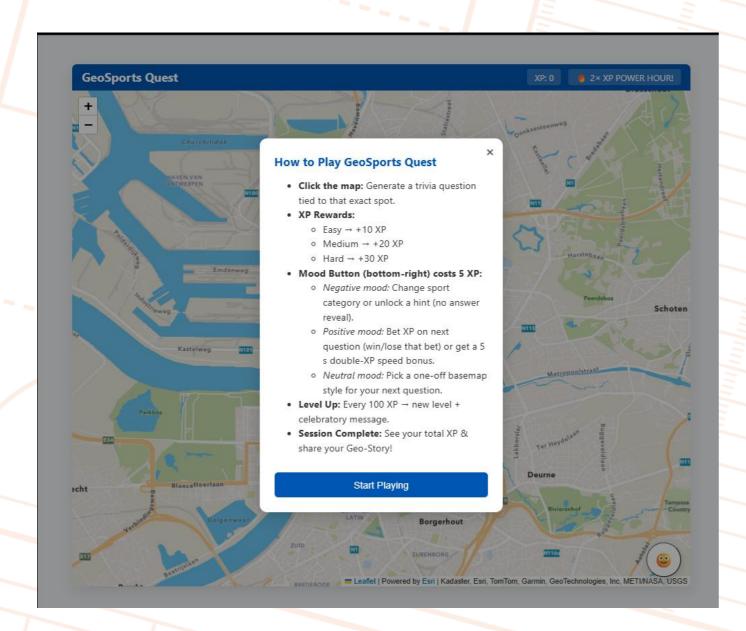
LEADERBOARD & FORECASTS

GAMIFY SOCIAL ENGAGEMENT



Final Demo: GeoSports Quest





- Full integration of GAMES features
- XP, Levels, Power-Ups, Fun Facts, Sharing, etc.



G.A.M.E.S + Tools Summary

	Pillar	What it delivers in the demos	Key AI / ML Tech used
	G – Generate Content	Quest trivia, facts, & hints, logo map pins, Fantasy-team logo cards	DALL·E 2, Gemini & OpenAl
	A – Adaptive Challenges	Edge-AI Power-Ups Quiz that raises/lowers difficulty on the fly, check for typos	TensorFlow.js micro-model, Xenova Transformers
	M – Motivational Rewards	50-50 and Crowd Lifelines, Encouraging speech	Xenova Transformers, ElevenLabs
	E – Emotional Analysis	Live Fan Reactions (text, speech, fan-cam)	Azure Text Sentiment, AssemblyAI, Google Vision Face API
	S – Share & Socialize	Share-&-Socialize app → polished captions, forecasts	OpenAl caption polish & forecast



Tips & Best Practices

- Al is so much more than just a generator
- Cache everything cheaply
- Budget temperature & max-tokens per task



Resources

Repo with Slides & Demos – https://github.com/cyatteau/techorama-2025-ai-gamification-sports

OpenAI - GPT-40 / function-calling & DALL-E API

Google Generative AI – Gemini Vision & Generative Language

Google Cloud Vision – Face Detection

ArcGIS Maps – GIS Documentation

Leaflet JS - Open source mapping

TensorFlow.js - ML models

Transformers.js – Pretrained models

Azure AI Text Analytics – Sentiment

AssemblyAI – Speech-to-text & sentiment

ElevenLabs – <u>Text-to-speech</u>

Chart.js – Charts for the web



Thank You, Techorama!



Slides and Demos



