



Dylan Heyes

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Built & led a generative-AI slot-game platform · Platform & engine used company-wide to build and ship games · 100+ live titles · 120M+ daily transactions · 20+ engineers led · Granted U.S. patent

Executive Summary

Software architect with 15 years in online casino and iGaming. At MahiGaming (Games Global), built the **platform and engine behind all of the studio's games**, used day to day by engineers and designers alike, including a visual editor for building games without code, at **120M+ transactions a day** across regulated U.S. and European markets. Most recently designed, built, and led a **next-generation platform for building slot games with generative AI**, through bespoke, **human-in-the-loop** tooling and workflows. **U.S. patent holder.**

Core Competencies

Generative AI Systems

Human-in-the-Loop AI

Custom ML/LLM Pipelines

Platform & Engine Architecture

Config-Driven Platforms

Visual Tooling

Full-Stack Development

High-Throughput Systems

iGaming & Regulated Markets

Game Math & RNG

CI/CD & Automated Testing

Technical Leadership

Mentorship

Professional Experience



MahiGaming — Las Vegas, NV

Principal Architect (Feb 2023 – May 2026)

Lead Game Developer (Jun 2018 – Feb 2023)

iGaming game developer and the top-performing studio within Games Global, operating across U.S. and European regulated markets.

Generative AI Platform

- ▶ **Next-Generation AI Platform:** Designed, built, and led a **next-generation platform for building slot games with generative AI:** bespoke tooling and workflows that keep designers and engineers **in the loop**, pairing custom-trained models with human review instead of fully automated, prompt-only generation.
- ▶ **Custom Models & Infrastructure:** Built custom **training-data generation, model fine-tuning, and evaluation/integration tooling** on **Microsoft AI Foundry**, wiring models directly into the authoring pipeline rather than relying on off-the-shelf APIs.

Platform & Delivery

- ▶ **Platform & Engine:** Architected the reusable, config-driven **platform and engine behind 100% of the studio's games**, used daily by both **engineers and designers**. Game-specific logic (gameplay, math, UI, features) is authored as **runtime-interpreted node graphs** rather than written by hand.
- ▶ **Efficiency Gains:** Shared a **single runtime across every title**, eliminating per-game engine rebuilds and substantially reducing the engineering, certification, and maintenance effort to ship and operate each new game.
- ▶ **Extensibility & Reuse:** Designed a **plugin-driven, composable architecture** for gameplay, math, UI, and features, extensible by any discipline and safely evolved across live titles.
- ▶ **Visual Tooling:** Built a **Unity-like visual editor with runtime-interpreted node graphs**, enabling real-time iteration, hot reload, and live desktop/mobile previews for engineers, designers, QA, and marketing.
- ▶ **Patented Innovation:** Invented a **deterministic, seed-based method for generating reel outcomes**, granted as **U.S. Patent 12,579,865** (assigned to MahiGaming).
- ▶ **Scale & Reach:** Scaled to **over 100 live titles** serving players across **multiple U.S. and European regulated markets**, processing **120M+ game rounds daily**.
- ▶ **Engineering Standards:** Introduced **unit and end-to-end testing, linting, and code review** as team-wide engineering standards, building a testing framework into the platform and enforcing them through **CI** so quality became part of the day-to-day culture, and documented these processes to support the studio's **ISO audits**.

- ▶ **CI/CD & Automation:** Established studio-wide CI pipelines (~1 hour) enforcing quality, compliance, and release readiness.
- ▶ **Full-Stack Systems:** Designed and delivered **multiple full-stack internal tools and services** supporting development, operations, and leadership workflows using **React, Node.js/NestJS, FastAPI, Apollo GraphQL, PostgreSQL, and MongoDB.**

Leadership & Culture

- ▶ **Leadership & Scope:** As the company's **senior-most engineer, reporting directly to the CEO,** held organization-wide technical ownership and led **20+ engineers across 4 North American studios** after progressing from senior engineer to principal architect.
- ▶ **Culture Transformation:** Transformed a previously siloed and adversarial culture into a collaborative, ownership-driven organization through transparent technical processes and shared documentation.
- ▶ **Knowledge Sharing:** Created and hosted a **weekly voluntary platform forum** for **5+ years** that brought together engineers, artists, designers, and QA, regularly attended by **~50% of the company,** driving cross-discipline alignment and platform evolution.
- ▶ **Mentorship & Growth:** Led mentorship and talent development via formal quarterly reviews with SMART goals, direct coaching, and promotion advocacy (including outside engineering).
- ▶ **Executive Partnership:** Served as the primary technical partner to executive leadership, aligning business strategy, regulatory constraints, and long-term technical investment.



Independent R&D / Sabbatical

Self-Directed Projects (Apr 2017 – Jun 2018)

Self-directed research and high-fidelity prototypes between roles (not commercially launched).

- ▶ **Generative Game Math:** Built a tool that designs **slot-game math models using genetic algorithms,** automatically evolving reel layouts and pay tables toward target volatility and return-to-player profiles.
- ▶ **Full-Stack Platform:** Designed and built a complete **social-casino platform (frontend + backend)** as a production-quality prototype, exercising end-to-end architecture from game client through services and data.



Gamesys — Las Vegas, NV

Lead Game Developer (Mar 2015 – Apr 2017)

Senior Game Developer (Mar 2014 – Mar 2015)

Social casino game developer and operator.

- ▶ **Engine & Revenue:** Built shared engine systems behind social-casino titles generating **~\$5M in monthly revenue**, and was a principal contributor to the studio's **Flash → HTML5** engine transition.
- ▶ **Live Operations:** Operated in high-traffic, revenue-critical environments, collaborating across product, design, math, and QA.



Genesis Gaming — Las Vegas, NV

Lead Game Engineer (Feb 2011 – Dec 2013)

Senior Game Engineer (Aug 2010 – Feb 2011)

iGaming game studio.

- ▶ **Engine Architecture:** Designed and built a **casino game engine from scratch**, establishing the core architecture and development patterns that standardized game creation across the studio.

Technical Stack (Selected)

Languages

TypeScript, JavaScript, C#, Python

Frontend

React

Game Client

PixiJS, WebGL, HTML5 Canvas

Backend

Node.js, NestJS, FastAPI, Apollo GraphQL

Data

PostgreSQL, MongoDB

Architecture

Plugin-Based Systems, Reusable Engines, Config-Driven Platforms

Tooling

Visual Editors, Node Graphs, CI/CD, Automated Testing

Generative AI

Custom ML/LLM Pipelines, Model Fine-Tuning, Training-Data Generation, Microsoft AI Foundry

Patent

- ▶ **U.S. Patent 12,579,865** — “Systems, Methods, and Storage Media for Reel-Based Events with Seed-Based Features.” A deterministic, seed-based method for generating slot reel outcomes. Granted Mar 17, 2026; assigned to MahiGaming. [View patent](#).

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