

Madison Towriss

AI Design System Architect

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SUMMARY

AI design system architect with 10 years of product design experience. I build the systems that change how companies build software and how people reach their own data. At Group 1001, I architected the AI design infrastructure that accelerated delivery and established scalable quality and governance across an 80-engineer organization. Independently, I built an open-architecture mRNA simulation engine and an AI patient portal that turns scattered health records into plain language. Every system I design answers one question: what the user controls, what the engineer guarantees, and what the model is allowed to do.

EXPERIENCE

AI Design System Architect · Group 1001

Mar 2026 – Present · Indiana (remote)

Architected the AI design infrastructure behind Group 1001's multi-brand insurance platform, with a core team of two engineers and two designers building for 80 engineers, 3 designers, and 8 product managers. In the CSO's words, it "changed how we build software."

Accelerating delivery

- Design work moves ~100× faster, front-end engineering ~40× faster, and QA checks run faster too. Design review went from months to hours.
- Prototyping agents turn a BRD into a hi-fi Angular prototype in a few hours, built on the system's real rules, databases, and APIs. Approved work lands in the front-end repo as a Kiro spec, ready for engineering.

Scalable quality and governance

- Replaced 200+ duplicated variants with 47 composable components and ~90 hard-coded colors with 42 semantic roles on a three-tier token architecture. A new brand is now a token change instead of a rebuild.
- An audit trail from Figma sign-off to code, WCAG 2.1 AA built into every component, and drift and conformance checks that run as build gates. End-to-end testing across design and code is now possible.
- A two-way diff layer keeps Figma and code in sync and catches drift when a design is proposed, not after it ships.

AI infrastructure

- Made the design system queryable by AI: five sources of truth (brand SCSS, Figma, Storybook, app routes, app captures) served to agents as 7 typed tools, with Code Connect binding Figma to production.
- A plugin of 40 scoped skills grounds every prototype in the system's rules and data. FullStory analytics from live user sessions drive AI suggestions for component and UX design.
- Checking a whole change in one AI call cut AI calls ~10× on busy days.

Organizational influence

- Own the roadmap; secured budget and headcount; present the strategy to executives.
- Adopted by 3 teams: designers, front-end engineers, and product managers. Trained and onboarded each one.
- Scoped the AI layer with the VP of AI Infrastructure so it plugs into the company-wide enterprise AI stack.

Senior Product Designer · Group 1001

Jan 2021 – Jun 2025 · Indiana

- **Producer / Client Portal:** consolidated 8+ disconnected third-party systems (Zendesk, BIG background checks, state licensing, commissions, document storage) into one dual-role enterprise insurance platform. Designed for white-label deployment; secured a partnership outside the parent company.
- **One Portal Sign-In (Delaware Life):** consolidated 5 fragmented sign-in experiences into one role-adaptive authentication system across B2B and B2C. Substantially reduced portal-selection abandonment and support volume.
- **Open-Architecture Calculator:** self-service fund reallocation with live NYSE market data. Clients model a reallocation without a support call, which freed agents for advisory work.

- **Onyx Design System (v1):** a nucleus-based system extending Material Design for financial workflows, adopted across multiple product teams. The foundation the AI-ready v2 is built on.
- Scaled design operations as the company grew from 8 to 82 employees, leading initiatives across 4 engineering pods. Launched 28 products and 53 product features. Implemented WCAG accessibility standards.

INDEPENDENT RESEARCH

mRNA PK/PD Simulation Engine · Systems architect, solo build

Jun 2025 – Present · Miami, FL

- An open-architecture simulation engine for mRNA-LNP drugs. Construct, vehicle chemistry, patient, and dose are all inputs, and one solver runs any combination, so scientists can run experiment after experiment without rebuilding the model.
- 12 organs today on the way to 82. 46 composition functions built from 60+ published sources feed a 156-state ODE system.
- 15 of 18 validation gates pass at a 2.14× fold error, with no fitting to the panel. Pre-validation: chemist and physicist reviews are in progress, with university hosting planned after.

COMPETITIONS

ONC EHIgnite Challenge · Lumen, AI patient health record

2026

- Designed Lumen with a full-stack engineer: a patient portal that pulls fragmented EHI exports from every provider into one place and explains clinical reports in plain language.
- Its AI chat answers only from the patient's own records, cites every source, and declines medical advice. Submitted the Phase 1 brief and wireframes.

LEADERSHIP

Co-Owner · Goldvine Coffee Bar & Gallery

Jun 2025 – Present · Seattle, WA

- Co-founded a hybrid coffee bar and art gallery and took it from concept to launch in five months.
- Hired and lead a team of 9; oversee training, scheduling, and performance management.

EDUCATION

BASc, Business Science & Graphic Design · Nova Southeastern University

2014 – 2018

SKILLS

AI and agents: Claude Code, Kiro, multi-agent orchestration, sub-agents and scoped skills, MCP servers and typed tools, context engineering, knowledge graphs, LLM product design

Design systems and product: Design systems architecture, multi-brand theming, governance, accessibility (WCAG 2.1 AA), product strategy, information architecture, user research, usability testing, enterprise UX

Design and analytics tools: Figma and Code Connect, Storybook, Style Dictionary, Kiro specs, FullStory, Webflow, Adobe Creative Suite

Engineering: Angular, Next.js, React, TypeScript, Tailwind, Python (SciPy, NumPy, uv), Streamlit, Plotly

Data and infrastructure: Neo4j, SurrealDB, Supabase, GitHub, GitLab Pages, Vercel

Domains: Healthcare AI, mRNA therapeutics (PBPK-QSP modeling), financial services, insurance, marketplace products, regulated industries