

Damien House

Washington, DC • dhouse109@gmail.com • LinkedIn • Portfolio

Lead full-stack engineer, technical architect, and senior engineering advisor with 20+ years delivering mission-critical software, platform modernization, DevSecOps, cloud migrations, and accessible digital services across federal and enterprise environments. Combines hands-on engineering depth with the ability to guide architecture decisions, mentor engineers, translate stakeholder needs into executable technical plans, and reduce delivery risk across complex application environments. Brings practical applied AI experience across RAG, agentic workflows, content automation, AI-assisted engineering, and human-in-the-loop systems for high-trust environments.

CORE COMPETENCIES

- **Technical Leadership & Architecture:** Lead solution design, architecture reviews, technical design sessions, engineering standards, implementation tradeoffs, code review, risk management, mentoring, and cross-functional technical decision-making.
- **Full-Stack Application Architecture:** Design scalable frontend and backend systems, APIs, service integrations, identity boundaries, data flows, and maintainable application architectures for enterprise and public-sector environments.
- **Cloud & Application Modernization:** Lead legacy modernization, cloud migration, platform consolidation, containerization, infrastructure improvement, and production-readiness initiatives.
- **DevSecOps & Engineering Quality:** Establish CI/CD, automated testing, security and dependency checks, release controls, environment standards, technical documentation, and repeatable engineering practices.
- **Federal, Security & Accessibility:** Deliver mission-critical government systems within accessibility, security, privacy, identity, operational continuity, and audit-aware constraints.
- **Applied AI & Automation:** Design practical generative AI, RAG, agentic, retrieval, evaluation, and human-in-the-loop capabilities with security, governance, and responsible-use boundaries.

TECHNICAL SKILLS

- **Languages & Application Engineering:** TypeScript/JavaScript, React, Next.js, Node.js, Python, PHP, Drupal 7–11, HTML/CSS, SQL, REST, GraphQL
- **Cloud & DevSecOps:** AWS, Azure, GCP, Acquia Cloud, Docker, Kubernetes, Rancher, GitHub Actions, GitLab CI, Terraform, Ansible, CI/CD, automated testing, dependency scanning, release management
- **Data & Integration:** PostgreSQL, MySQL, MariaDB, NoSQL concepts, Redis, Solr, Elasticsearch, API-first architectures, authentication integrations, structured data flows
- **AI & Automation:** OpenAI, Anthropic, LangChain, LangGraph, LlamaIndex, RAG, agentic workflows, MCP, tool/function calling, context engineering, structured outputs, LLM-as-judge, human-in-the-loop automation
- **Delivery & Collaboration:** Agile/Scrum, technical discovery, solution architecture, architecture documentation, implementation planning, Jira, Confluence, Figma, Miro, Git/GitHub, stakeholder communication

PROFESSIONAL EXPERIENCE

Fractional CTO & Principal Architect – 109.studio (June 1996 – Present, Washington, DC / Remote)

Principal-led engineering and architecture practice delivering platform modernization, full-stack product architecture, DevSecOps, applied AI, technical strategy, and prototype-to-production execution for founders, product teams, and enterprise platform environments.

- **Technical architecture and delivery leadership:** Led technical discovery, architecture planning, implementation strategy, and delivery decisions across web, platform, and product initiatives, translating ambiguous business requirements into scalable system designs, implementation plans, technical standards, and risk-managed delivery paths.

- **Full-stack and platform engineering:** Designed application architectures spanning APIs, structured content systems, frontend and backend services, identity boundaries, data flows, and cloud delivery, balancing scalability, security, accessibility, maintainability, and speed of implementation.
- **DevSecOps and engineering quality:** Standardized CI/CD, containerized environments, automated testing, dependency scanning, code-quality gates, release practices, and operating documentation; reduced PR review time by 20%, caught 15% to 30% more defects, cut rework by 10% to 25%, and compressed 3-to-6 month prototype or modernization cycles into 3-to-4 week delivery paths.
- **Applied AI and intelligent automation:** Designed retrieval-backed and agentic workflows spanning RAG, tool calling, structured outputs, context management, evaluation, and human review; expanded AI-supported audits from 50-page samples to a 6,000+ item content estate while preserving provenance and accountable review.
- **Cross-functional technical leadership:** Partnered with founders, product stakeholders, designers, engineers, and operational teams to evaluate implementation approaches, explain technical tradeoffs, surface risks early, and keep technical decisions aligned with product and delivery goals.

Senior Technical Consultant – GXM Consulting (Aug 2022 – Apr 2025, Washington, DC / Remote)

U.S. Department of Commerce, International Trade Administration; trade.gov, a public-facing federal trade platform supporting approximately 2,200 staff across 100+ U.S. locations and 70+ international markets while serving U.S. exporters, international buyers, researchers, and other global trade stakeholders.

- **Cloud and platform modernization:** Architected migration from Azure-hosted delivery to Acquia Cloud, standardized Composer deployments and Docker/DDEV environments, reduced release risk, improved onboarding velocity, and strengthened operational consistency.
- **Enterprise application engineering:** Engineered 24 custom modules across 61 content types, 338 fields, 72 views, and 294 templates, establishing maintainable application and content patterns for a complex public-facing federal platform.
- **Cross-functional technical delivery:** Partnered with product, UX, analytics, content, infrastructure, and government stakeholders to translate requirements into implementation decisions, deployment practices, and maintainable platform changes.
- **Quality, accessibility, and documentation:** Remediated implementation toward WCAG 2.2 AA and established deployment and environment SOPs that strengthened release confidence, onboarding, testing readiness, and long-term operational support.

Senior Technical Consultant – Innosoft Corporation (Jul 2021 – Jun 2022, Washington, DC / Remote)

U.S. Department of Commerce, National Telecommunications and Information Administration; sole technical lead for modernization of NTIA.gov, a federal public-information and grant-program platform supporting approximately 527 agency staff and serving state and local government administrators, researchers, telecommunications stakeholders, and the general public nationwide.

- **Technical lead – legacy application modernization:** Served as sole technical lead for the Drupal 7-to-9 modernization, directing the full code and infrastructure transition, rebuilding custom modules and responsive application components, extending QA/UAT, and delivering ahead of schedule with zero downtime.
- **Application engineering and visualization:** Built responsive themes, custom application functionality, and D3.js visualizations while modernizing underlying platform architecture and preparing the application for future PaaS hosting.
- **Government stakeholder delivery:** Coordinated technical decisions, testing, accessibility validation, and launch readiness across agency stakeholders while maintaining Section 508/WCAG alignment and reducing migration risk.

Senior Technical Consultant – Focused Management, Inc. (May 2017 – Dec 2020, Washington, DC / Hybrid)

U.S. Department of Agriculture, Office of the CIO – Platform Services; enterprise modernization across 13 mission-critical public-sector sites with 24/7 operational requirements.

- **Enterprise modernization:** Designed and led modernization of 13 mission-critical federal sites from fragmented Windows/IIS/SQL Server infrastructure to Linux/Apache/MariaDB, reducing operational fragmentation and creating a maintainable shared-services foundation.
- **Containerization and DevSecOps:** Introduced the organization's first production containerized environment using Docker and Rancher-orchestrated CI/CD, reducing environment drift and improving deployment consistency across platform teams.
- **Identity, reliability, and operations:** Implemented USDA eAuth SSO, reduced credential fragmentation, supported 24/7 production operations, strengthened authentication and deployment practices, and delivered the modernization three months ahead of schedule.
- **Engineering standards and documentation:** Established reusable deployment patterns, operational documentation, and platform practices that improved maintainability and reduced future implementation risk across the shared environment.

Senior Technical Consultant – Blackstone Technology Group (Nov 2013 – Dec 2016, Arlington, VA / Hybrid)

U.S. Department of Agriculture, Food and Nutrition Service and Agricultural Marketing Service; lead engineer and Drupal SME supporting production operations, platform modernization, secure integrations, and client-driven delivery across major public-facing federal websites.

- **FNS operations, maintenance, and client delivery:** Supported fns.usda.gov through approximately 18 months of production O&M, partnering directly with USDA stakeholders to resolve operational issues, identify enhancement opportunities, translate business needs into scoped technical work, and maintain continuity for a mission-critical public-facing platform.
- **AMS site build and launch leadership:** Led development of the ams.usda.gov Drupal platform through approximately one year of architecture, implementation, testing, stakeholder review, and launch, guiding the build from requirements through production release.
- **Application architecture and secure integrations:** Designed and implemented key AMS integration patterns, including Market News data flows and PIV authentication, establishing reusable approaches for content, identity, and deployment that reduced implementation risk across ongoing delivery.
- **Post-launch O&M and platform evolution:** Continued technical leadership for approximately one year after launch, managing production issues, enhancements, release support, and stakeholder-driven improvements while strengthening maintainability and operational confidence.
- **Engineering leadership and delivery discipline:** Coached a cross-functional Agile team through architecture, implementation, and delivery decisions, increasing sprint velocity by 67% from 18 to 30+ story points during critical phases while maintaining quality and stakeholder acceptance expectations; consistently received "Exceeds Expectations" evaluations.

EDUCATION

- **Morgan State University** – Electrical Engineering, 1997–1999
- **Baltimore Polytechnic Institute** – STEM / Advanced College Prep, 1993–1997