Gavin Lynch
Senior Software Engineer

👤 Profile

Industry veteran with a lifetime of experience and skills that go beyond frameworks or languages or tools. A few items at a glance:

Identity & Access Management (IDAM)
Designed and implemented authentication and authorization systems across JWT, CNN, and Yum! Brands, including RBAC models, Okta and third-party IDAM integrations, SSO, audit logging, and event-driven permission enforcement in distributed Node.js environments.

Enterprise Systems Integration
Integrated LDAP, OAuth/SSO providers, Office365, search appliances, and cross-service APIs. Built middleware and service layers to unify disparate enterprise systems into cohesive internal platforms.

Distributed Systems & Event-Driven Architecture
Designed cloud-hosted service architectures using event-driven patterns, leveraging AWS SQS and Lambda for authorization propagation, audit workflows, and cross-service coordination in decoupled Node.js systems.

Backend Architecture & APIs
Designed and built production Node.js/TypeScript services backed by Postgres and relational data models, including REST APIs, CMS core packages, audit systems, ETL pipelines, and high-traffic commerce infrastructure. Experienced in service design, data modeling, and cloud-native backend systems at enterprise scale.

Frontend Architecture at Scale
Built large-scale frontend systems including ground-up component libraries, dynamic theming engines, schema-driven UI frameworks, and modularized legacy codebases supporting multi-brand and global deployments.

Open to contributing wherever strong engineering and systems thinking are needed. Let's build.

💼 Employment History

Chief Engineer / Owner at Empty.Engineering, Chicago
May 2022 — Present

Engineering consulting, and custom frameworks.

Senior Software Engineer at WarnerMedia / CNN, Atlanta, GA
Mar 2020 — Apr 2022

Brought on as a contractor for 8 months, I was converted to FTE in November 2020 as a Senior Software Engineer to assist with the CNN.com project.

CNN was in the midst of replacing the legacy CMS and website engine

Details

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Profile

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Skills

Full-stack

Node.js

Typescript / Javascript

Ruby

AWS & Cloud Services

AWS CDK & SST

Postgres / MySQL / SQL / RDBMS Data Design

MongoDB / NoSQL DB's

Redis

REST Services

GraphQL

NestJS

Express & Fastify

Next.js

React.js

Redux & Zustand

Vue.js

Unit Testing

CD/CI

Docker

Microservices

Vite

Next.js

UX

for CNN.com and needed help. CNN turned to a Node/Express-based open-source project, Clay CMS. Clay CMS comprises a modular ecosystem of packages to meet various needs for sites and services. Our instance of Clay CMS is hosted in the cloud on AWS, and provides everything from the headless CMS (known as "Amphroa", written in Node), a CMS head (Vue), and the front-end of CNN.com (Vue). CNN has since taken the project internal to make many enhancements that would not fit upstream, and it is now an in-house project.

My first task was on the content-side of things, to revive a dormant RSS feed which generates millions of dollars for CNN for affiliates who subscribe to our content:

- The RSS system draws directly from an AWS ElasticSearch index real-time, and is fed to the Amphora RSS rendering engine, to provide relevant and highly customizable feeds for our partners.
- The feeds are designed to be configurable via the CMS front-end, so there is no developer time necessary to be spent.

My next project was to switch from the content-side of the ecosystem to the core packages that power the headless CMS (Node) and also manages the various Rendering Engine modules that display the front-end of CNN.com (Vue). I was able to sink my teeth into the core Amphora package, which was both a lot of responsibility and a lot of fun.

- Amphora comes out of the box with an Authentication system, however it lacked an Authorization system.
- Along with another co-lead, we created a traditional RDMS authorization scheme and integrated it existing way that resources are accessed and defined within the Amphora ecosystem.
- The Authorization service communicated with other system components to disperse events via AWS SQS and AWS lambdas.
- I am an in-the-weeds type of developer who loves to dive deep into the core systems that power products, so this was simply a joy to spend time working on.

I was next partnered with a small team to focus on build performance and general code cleanup within the core of Amphora.

Senior Software Engineer at Yum! Brands, Chicago, IL
Jan 2019 — Nov 2019

- Lead React developer for Yum! Brands new commerce platform. Helped our team transform our Node.js + Postgresql + React platform--deployed on AWS--we started with QuikOrder to fit the needs of Yum! Brands 3 major subsidiaries: Taco Bell, KFC, and Pizza Hut, both domestically and internationally.
- The front-end of our platform is entirely from-scratch, ground-up React component library, giving us total control over our branding and creating reusable building blocks for up/down-stream interfaces and apps.
- Yum! Brands identified the platform made by our 10-12 person team as the future of a unified e-commerce platform that will work across all of their brands going forward. They adopted our

CSS / SASS / LESS & Tailwind

Storybook

Documentation

Distributed Teams / Remote Work

Soft Skills

AI

Claude

Codex

Cursor

Hobbies
Cooking: Absolutely everything from scratch!

Writing: About current events and topics that interest me.

Camping: Multi-day hikes and sleeping under the stars.

Bicycling: I'm training for my century ride! (100m / 160km)

Assembly & Reverse Engineering: As a child I got really into 6502/2A03 RE and homebrew for the original NES.

Languages
English

data model, our menu format, and our API endpoints. We have been working to get North American and International subsidiaries launched with the new platform in 2020.

- Worked 33% of my time on that Node.js platform, implementing DB and REST API endpoints to support the front-end of the platform. Worked 66% of my time in React.
- After acquisition, I brought the application up to modern best practices and prepared it for the onboarding of a larger React team. Implemented a shared ESLint config for Yum! Javascript Projects, JSDoc for the entirety of the front-end, and auto-generated documentation in HTML and Markdown. The Markdown documentation was imported into our Storybook stories automatically for easier sandbox development. Refactored and optimized our use of Redux. Refactored and updated our UI to be 100% dynamically themed (for white-labeling purposes) with CSS variables, custom SASS color functions, and Mutation Observer to update theme in real-time.
- Started implementation of our i18n effort to prepare for localization and global distribution

Software Engineer at Pizza Hut, Chicago, IL
Aug 2018 — Jan 2019

- Software engineer for the Special Projects team of Pizza Hut (QuikOrder division), a restaurant e-commerce engine that powered all North American sales for Pizza Hut, from the client-facing online ordering site, to the transaction engine, to the store/menu management application. Helped the team bring the project over the finish line for the final 6 months where we went live with over 300 stores for the debut of our Node.js + Postgresql + React platform.
- Wrote and executed an ETL with over 1,000,000+ encrypted customer records from disparate sources that needed to be converted to our new DB format. The records were decrypted on the fly in Node.js streams and written to the database to fit our new platform.
- Created DB schema for an Audit Logging feature to record any data manipulation made by administrators of the e-commerce platform. Wrote the back-end services for Menu Management user authentication and login. Refactored and extended several REST endpoints.

Front-End Engineer / UX at J. Walter Thompson
Apr 2011 — Aug 2018

Lead front-end developer for a basket of projects for a Worldwide app dev team for one of the largest advertising agencies in the world. Our Worldwide IT team creates and manages tools from the corporate home page, to our social network, to our Single Sign-On and Office365 integration. We have our hands in a lot of different spaces and are a small and quick-acting team inside a giant corporation that prides itself on coming up with creative solutions. Our services utilize and are deployed on AWS.

- Developer for myJWT, our internal social network used by the 10,000+ employees of our company, our subsidiaries and clients. Widgets, groups, walls, @mentions, document viewer among other features.
- Lots of one-off application development with Node.js backbone + REST endpoints and custom UI built on top. My bread and butter.
- 2017 Vue.js-based asset-management application. We built an XML-schema driven form system that can suit multiple stakeholder needs, and added a fun home-grown Vue.js validation plugin on top of it. Several Vue-based apps since.
- Worked on the social network re-design of 2014, where I was leading the Responsive Design effort and built the Onboarding pages amongst others. And the same for our 2016 corporate homepage redesign.
- Created File Viewer for myJWT to display uploaded/shared Video, Images and Documents. Incorporates Mozilla's PDF.js library for cross-browser (IE10+) PDF rendering client-side. We created our own pagination and zoom controls and lazy-loading.
- Helped build out a node.js-based Google Search Appliance client tool that indexes files for myJWT's search functionality, collecting data from our various sources feed myJWT (groups, user profiles from LDAP, corporate home-page information, et cetera).
- Am tasked with building out UI's for the various side-projects and tools we create. For instance, "JWTV", an administrative tool built on Node.js with Backbone that allows the Comms team to stream (live or static) video for internal company communications. We identified the need after the Comms team needed quick turnaround on video hosting frequently over the years.
- Other one-off sites include: Insomnia Briefs, a tool to solicit creative brief ideas from around the agency globally; "ConsumerLink", a website for a subsidiary running on node.js for consumer insight collection; "Business Cards", a small visual app that allowed our Corporate officers and higher-ups to preview custom business cards (complete with fancy 3D card-flipping animations, woo) with our new branding before ordering them, and data store/analytics to track selections.
- Front-end Dev on "INDEX", an internal tool we provide to Global IT Admins and Local IT Admins around the world to assist in provisioning user accounts and IT resources.
- Front-end developer on 5+ years of incarnations of the corporate homepage for one of the world's largest advertising agencies. Collaborate with business and development team members in Chicago, Germany, Brazil and Argentina to plan, support and execute new development of site features.
- Built the second half of the JWT.com corporate home, which included Social Networking sign- in via OAuth: G+, Twitter, FB, LinkedIn, et cetera. (Some features have changed in prod)
- Extend and re-factor PHP Zend framework-based front-end web application, which communicates with a Java backend via XML.
- Inherited the entire client-side codebase as 1 single concatenated

.JS file. Organized, extended, documented and rebuilt over the ensuing months and years.
- Developed new jQuery plugins to support new application functionality, and later moving the entire codebase to Backbone.js and AMD/Require.js. And now to ES6 and other libraries.
- Implement SEO and analytics strategy in various iterations (schema.org meta-data, JSON+LD)

Web Developer at SubscriberMail, Lisle, IL
Jun 2007 — Apr 2011

- Planned, designed and implemented User Interface for new project "Vault", an email repository for SEC compliance for banks / financial services. An early Single Page App in JavaScript (front-end) and Java (back-end) that communicated via REST web services.
- Pioneered canvas-based cross-browser (A-Grade, ie6+) HTML5 data visualization tool in 2008 with collision detection, color and size variance, which continues to be an important feature.
- Lead website developer for 3rd party clients in JavaScript, JSP, ColdFusion and Ruby on Rails for such companies as Entertainment Cruises, Brunswick Bowling, Chicago Bulls, Xerox
- Created new UI for our app and took our old HTML frame-based application that was tightly coupled with code and created a fresh CSS, HTML and none-frame-based UI in 1 months time
- Designed and developed a Ruby on Rails based Content Management System for Entertainment Cruises which featured unobtrusive JavaScript, SEO friendly URL's and page structure, AJAX-flavored administrative area, photo-gallery management, drag-and-drop page arrangement, JavaScript and CSS compression, aggregation and caching (2008)
- Developer responsible for flagship SMS mobile marketing integration
- Created new features and debugged the SubscriberMail web application
- Installed Wordpress instances for SubscriberMail's official blog as well as instances for clients.
- Created and tailored Wordpress themes for company and clients.
- Renovated and redesigned our company's home-page from an antiquated table-based and tag-soup-ridden layout system to conform to XHTML 1.0 Strict standards
- Worked with Marketing team to implement promotional activities that tie into email API system
- Installed cross-domain Google Analytics tracking for clients
- Worked with XML-based templating system to create pixel-perfect cross-client rendering email, from PSD design files, in various clients including Outlook 2007, Thunderbird, Lotus Notes, Eudora, Yahoo! Mail, Gmail, and AOL