James Hay

Engineering Manager, User Interface Developer, and Software
Architect

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As a strategic thinker, an excellent written and oral communicator, and an expert in web architecture, I am passionately driven to bridge the divide that often stands between a set of business goals, and their technical implementation. My pragmatic approach to meeting this goal, ensures that no single aspect takes priority by default, and that a holistic view of the overall market, industry or business, can determine which paths will lead to the maximum added value, for the minimum cost.

I take pride in my ability to function exceptionally across a broad spectrum of roles, from the design and development of a complex software solution, to the direction and recommendations of a complete business IT strategy.

Employment History

Senior User Interface Manager at Oldendorff Carriers

February 2019 - Current

My management responsibilities primarily covered both the user interface team and our front-end product, for the internal data science platform.

- Founded the front-end team of the data science department, and evangelized user interface development to team members, department heads and other business stakeholders

- Proactively met with members of commercial teams to understand their problems and design capable software solutions

- Coordinated frequently with other engineering managers to present my architecture proposals and integrate their solutions into the front-end

- Ran the hiring and salary negotiation process for the additional team members of the front-end team

- Set timelines and work priorities for the team using Agile methodologies

- Set unique KPI's and other goals for each team member

Engineering Manager at MyDoc

February 2018 - February 2019

After being promoted to Engineering Manager at MyDoc, I was tasked with overseeing the entire cross-functional engineering team at all stages of product development. At the same time, I maintained my role as lead front-end developer (described below) and continued to work on the core platform architecture.

- Coordinated with external clients, and internal stakeholders to present a unified development plan for desired features and functionality

- Developed complex technical specifications across multiple platforms, as a single source of truth for engineers and QA

- Ran regular sprint meetings with the team to organize deadlines, prioritize work items, and preemptively solve looming problems that could affect the release of product features

- Managed the QA team to ensure that our engineering approach was balanced between feature development, and maintenance

- Ran interviews for engineering candidates

Lead Front-End Developer at MyDoc

June 2016 - February 2018

Originally employed as a senior front-end developer, my role gradually expanded to include architecture of the whole platform.

- Lead the complete rebuild of the patient and doctor front-end platforms in React with Redux

- Built from scratch, using the same technologies, an administration portal with role based features for internal staff, or third party clients

- Designed and implemented proper authentication mechanisms, using single-sign-on principles and role-based authentication

- Rewrote our legacy websocket chat server. Initially developed in Closure, I analyzed the existing code and built a new and improved chat service using Node.JS

- Worked closely with designers and product managers to ensure a consistent and elegant user interface

- Introduced code testing, static typing and build tools to the front-end

Senior Front-End Developer at 90 Seconds

April 2015 - May 2016

I was employed at 90 seconds as their first front-end developer, and led the development of the front-end during their rapid Series A growth.

- Rebuilt the entire front-end from scratch

- Initially created a proprietary jQuery-based component framework to replace the ad-hoc javascript used throughout the earlier version of the application

- Worked on full-stack integration with Ruby, moving the team away from a pure Rails system, to a standard REST API approach

- Introduced the concept of websockets, and implemented the client-side of it for an in platform notification and simple chat system

- Introduced React to the platform initially for a "Quick project quote" feature, and later to the platform as a whole

Front-end Developer at EziBuy
April 2014 - May 2015

During my time at EziBuy, I worked almost exclusively on the company's new flagship omni-channel website, and built some minor internal applications.

- Lead and completed front-end development of the EziBuy e-commerce website, taking over the role from multiple offshore front-end developers

- Developed a proprietary jQuery-based component framework to provide better code structure and reusability throughout the site

- Mentored and assisted other front-end developers (and sometimes back-end developers) within the team.

- Coordinated with large teams of offshore backend developers and business analysts to ensure smooth back-end/front-end interaction

- Created a database log viewer with Backbone.JS, early TypeScript, C#, and an MS-SQL database.

Analyst Programmer at AdvanceRetail Technology
January 2013 - April 2014

At AdvanceRetail I acted mostly back-end developer, working on the .Net stack, for a mature point-of-sale software solution used in New Zealand and Australia

- Developed web based internal tools for the development team

- Built FTP windows services to pass batched retail transactions from client servers

- Developed a TCP socket program to receive remote commands at client servers under AdvanceRetails control

- Assisted with migration from ActiveRecord to Entity Framework

- Assisted with the development of a custom clients master data management system

- Built adapter modules to parse and transform transaction data from third-party systems such as Magento to our own format
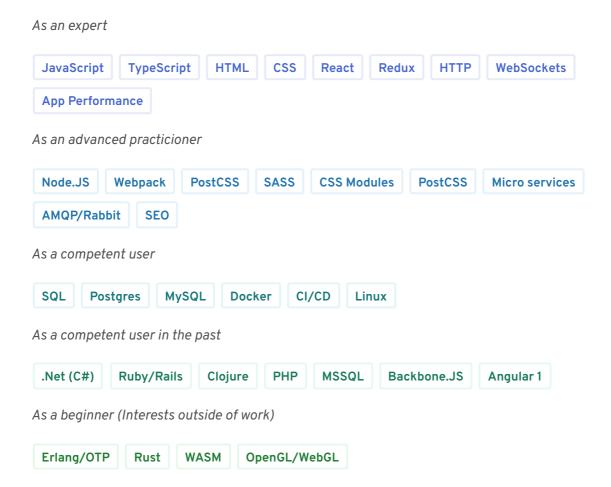
Web Developer at Nouveaux Design

April 2010 - January 2013

Nouveaux Design's primary client was the New Zealand regional arm of 20th Century Fox. I produced many microsites, competitions and internal web applications during my time there as the sole software developer.

- Built an internal content management system to update press release media

- Built the main public portal for information about upcoming film releases and films showing in cinemas

- Built an RSVP system for screenings of unreleases films by 20th Century Fox NZ.

- Built several other simple RSVP sites for film galas and other film based events for the film industry

- Worked with web teams in the US and local print designers to create region-specific microsites for upcoming film releases

Technical Competencies

As an expert

| JavaScript | TypeScript | HTML | CSS | React | Redux | HTTP | WebSockets |

| App Performance |

As an advanced practicioner

| Node.JS | Webpack | PostCSS | SASS | CSS Modules | PostCSS | Micro services |

| AMQP/Rabbit | SEO |

As a competent user

| SQL | Postgres | MySQL | Docker | CI/CD | Linux |

As a competent user in the past

| .Net (C#) | Ruby/Rails | Clojure | PHP | MSSQL | Backbone.JS | Angular 1 |

As a beginner (Interests outside of work)

| Erlang/OTP | Rust | WASM | OpenGL/WebGL |

Notable Software Architecture

If you have an interest in the projects and systems I've designed and built which required a more architectural approach than a standard CRUD application does, I've outlined some of them below. Feel free to contact me on LinkedIn if you want to discuss them in more detail.

- Designed and built a custom set of React tooling around the Mapbox library, by directly manipulating the root Mapbox component with a combination of custom event emitters and React hooks. The solution matches the functionality of other open source libraries such as react-map-gl and react-mapbox-gl, but also provides pragmatic React-based access to a fine-grained level of interactive control that's required in our extensive use of GIS information

- Designed the architecture for a front-end heavy data investigation system within our platform named "QPD" (Query-Pivot-Dashboard). The "Query" part of the solution is visually analagous to a GUI SQL builder, but utilizes the functionality of the Javascript language to connect diverse data sources both in memory and via API endpoints. The resulting dataset of a query is then piped to a fully customizable pivot table. The expressive combinations of these data investigation technologies, can be utilized repeatedly, and placed into a dashboard, allowing end-users to create their own unique view of the world, for them or their team

- Implemented a generic filtering framework for deeply nested logic-based filtering of entities. It allows JavaScript filtering as well as dynamic SQL generation for back end filtering, and provides the ability to create custom resolution of individual filter nodes.

- Developed a standardized architecture and methodology for communicating between containerized microservices, which heavily utilizes a mix of RabbitMQ and HTTP, for both request/response and fire-and-forget communication paradigms. The need spawned from the real-time communication required in the MyDoc platform, and I initially used the architecture to build out a set of Node.JS services to ensure that "instant" messenging truly seemed instant to a user by deferring non-essential work out to seperate services.

- Developed a Node.JS finite-state machine framework for creating chat bots within the MyDoc messaging platform. I designed a JSON format compatibile with the framework that could allow quick building of different chat bots, as well as state serialization formats for tracking current conversations with users.