

# Matt Burgess

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I am a full-stack developer with more than 25 years of experience of developing production web applications. I am constantly updating my skills to contemporary best practise. I am an excellent communicator, and know the value of quality communication with clients, colleagues and stakeholders.

## All skills

### Key Skills

NodeJS, Express, Solidity, Golang, NextJS, React, CSS, Agile, Jira

### Javascript and TypeScript

Several years commercial experience with React and its ecosystem - NextJS, React, Redux, Formik, React Hook Form, Zod, Zustand, React Query, etc. TypeScript, Svelte, NodeJS, Express, Ember, Adonis, and Command-line Node. Unit testing with Jest.

### Backend Development

Golang. GORM. Express. REST APIs. PHP 3 - 7, Laravel, SOA and JSON API, MySQL, Postgres, Redis, and MongoDB, Behat Acceptance Testing, Unit Testing, Continuous Integration. AWS, Digital Ocean, Kubernetes, Github Actions, Docker, Vagrant, Valet, Homestead.

### Web Development

Tailwind, Storybook, Figma, HTML, Vite, CSS, Responsive, Progressive, and Accessible Web Apps, Bootstrap, PostCSS, Sass/Less, Gulp, Grunt, NPM, Parcel, Webpack.

### Blockchain

Implemented frontend dApp functionality with Web3, EthersJS, WAGMI and WalletConnect. Experience with Solidity programming language for EVM chains, including OpenZeppelin libraries. Experience with Foundry, Ganache, Hardhat, and Truffle. Devised and implemented architectures using EVM and Hashgraph, including distributed Event Sourcing models. Testing Smart Contracts as well as internal auditing.

### General Development

Agile Methodologies, Code Review, Jira Project Management, Search Engine Optimisation, Git, Photoshop 4 - CC, GraphQL, documentation of processes, architecture diagrams, tendering and technical writing. I also write routinely on Medium.

# Roles

## **Senior Developer, Yield App; December 2022 - June 2024**

Yield App is an investment and trading platform for cryptocurrencies. The app is primarily written in JavaScript, with an application frontend in React, and backend written with Express.

Though full-stack my role has been primarily on the frontend to fill a gap in expertise. This has involved a deeper learning of React, including React Server Components, NextJS, and advanced use of React Hook Forms, Zustand, React testing with Jest, and optimising React performance.

### Accomplishments and Key Learning

My primary contribution has been a full rebuild of the frontend application, taking it from a dated JavaScript React application to one written in NextJS with TypeScript and an exhaustive suite of unit tests. This included the development of a full complement of well-tested custom components, and rich Storybook integration. Additional projects include the integration of web3 into the platform to facilitate direct trades and backend integration of Scrypt RFQ provider and websocket connections.

## **Blockchain Developer, Illuvium; June 2022 - October 2022**

Illuvium is a well known company within the blockchain gaming space, working on an ambitious open world "auto-battler" style game extensively implementing NFTs fungible tokens and other open technologies to create a tradable platform.

In Illuvium my role was as a blockchain developer. A large part of my role was documenting and implementing new processes to improve the robustness and consistency of smart contract repositories. I was also tasked with investigation of some previous smart contract exploits in outside contracts and to investigate auditor processes and protocols.

### Accomplishments and Key Learning

Implemented best-practise unit testing processes in JavaScript. I provided a contribution guide and created internal audit processes. I significantly improved test suites for some systems, and provided approaches to static analysis tooling and fuzz testing. Extensive learning around Solidity optimisation, especially in regard to security. Explored and assessed the StarkNet infrastructure and Cairo blockchain language.

**Senior Developer, Civic Ledger; July 2018 - June 2022**

Civic Ledger is a blockchain developer primarily servicing government and corporate requirements for transparent governance, provenance tracking, and market management. It operates more in the "regtech" space than the "fintech" occupied by most blockchain companies.

At Civic Ledger my primary responsibility has been the development and enhancement of the Water Ledger system, an Ethereum based dApp, built on React and Redux. I have been instrumental in the architecture, development, planning, and maintaining of both the React frontend and the underpinning Smart Contracts, as well as regular re-architecting of backend capacity. This has included the creation of innovative models such as an event sourcing architecture used by Water Ledger to maintain high performance and scalability.

Additionally I personally envisioned and designed the product Datasker, though I did not name it and do not like the name. The system is an abstracted data storage system allowing blockchain-connected audit processes to be facilitated for business without blockchain programming requirements. This integrates with the Hedera Hashgraph Consensus services.

**Accomplishments and Key Learning**

Complete application development using React and Redux. Extensive learning around Solidity optimisation, deployment and management of complex smart contracts, training and mentorship of three to four less experienced developers. Designed and worked on integrations with Guardian, a Hashgraph solution for integrating and enforcing ESG policies using W3C standard verifiable credentials along with Hashgraph Token and Consensus Services for tracking and verification. Implementation of Continuous Integration processes. Training and coaching on Agile processes. Extensive work with architecture designs, UML and ERD for tendering and documentation. Writing of Whitepapers, developer documentation and tendering. Implements financial settlement systems using the blockchain DAML language.

**Senior Developer, iSeekplant; July 2017 - July 2018**

A successful startup in the field of construction and heavy equipment, iSeekplant's software handles large-scale user searching, telematics, lead management and generation, and B2B telephony.

As iSeekplant at the time ran with only a small team of three developers, cross-skilling was critical. My responsibilities in the team ranged from architectural decisions, MySQL administration, to AWS infrastructure. I have especially taken ownership of the front-end and user experience domains. In particular I was largely responsible for decisions and implementation of frontend technologies, including components and tooling for React and VueJS.

#### Accomplishments and Key Learning

Served as Scrum Master and Agile coach for embedded commercial web development team. Assisted with implementation and tuning of Elasticsearch-based search algorithms. Transitioning legacy software to contemporary "social media" style interfaces to drive engagement. Mentorship of junior developers. Investigation and implementation of key AWS infrastructures including Polly, SES, and Lambda.

#### **Developer, Australian Tax Office; March 2016 - July 2017**

The Australian Taxation Office (ATO) website is used by millions of people for lodging tax returns and filling in forms. It's a cluster of individual Single Page Apps written in the Durandal framework and backed by a .NET application.

My primary role is web development in JavaScript, implementing new features and legislated changes for the ATO Website. This involves a mix of code, documentation, gathering and confirming requirements, and helping to establish user stories and task scope.

Accomplishments and Key Learning Experience with Microsoft workflows and tooling such as C# and Visual Studio, implemented improvements to data mocking solution, promoted improved Agile practises, advocated new testing approaches such as Specflow for BDD, gained familiarity with knockout templating and the Durandal framework, assisted with initial tooling for Angular 2 implementations

#### **Senior PHP Developer, Jumbo Interactive, Toowong; November 2014 - March 2016**

Jumbo Interactive is an online provider, selling lottery tickets to the public. The core application is a complex web application using an extensive range of custom technologies and solutions.

My main focus at Jumbo Interactive has been implementing and facilitating use of BDD, particularly use of Behat for acceptance testing within the organisation. I am a member

of a small BDD Working Group who seek to share knowledge of implementation challenges and optimisations.

#### Accomplishments and Key Learning

Use of Behat, Cucumber Syntax for acceptance tests, Selenium, PhantomJS, Make, Gerrit Code Review, Jenkins Continuous Integration.

#### **Web Developer, BCM Agency, Fortitude Valley; May 2014 - October 2014**

BCM is a world class advertising agency handling extremely high-end digital campaigns in partnership with large corporate clients.

BCM is an advertising agency, and their development needs are diverse. Much of the development process is based around Wordpress, but there is also some development in Laravel and other tools. Much of my work there has been foundational or as part of a team, developing components of layout or interfaces, as well as implementing tooling (gulp, Sass, etc) that would be used later.

#### **Senior Developer, Arup Engineering, Fortitude Valley; August 2012 - September 2013**

Arup is an international engineering company. The division I was part of was global development and managed critical systems such as invoicing and project management.

A contract position needed due to maternity leave of an existing team member. Work largely revolved around a single extremely large business-critical project management application called the IPP (Intranet Project Plan). Work involved refactoring on existing PHP to fill new requirements and redeveloping Javascript to industry best-practises. Additional projects included a greenfield online knowledge repository tailored at mobile usage.

#### Accomplishments and Key Learning

Implemented extensive improvements in practise and code - OOP PHP standards, unobtrusive Javascript, HTML5, mobile responsive. Agile methodologies for development. JIRA for task management. Sprint practises.

#### **Project Lead, GS Vision, Fortitude Valley; February 2010 - July 2012**

GS Vision primarily run call centre operations in Australia and overseas. The two main projects I lead development on were Motoreach, an auction-like system for trading cars between dealerships, AussieBillCompare, a comparison website for electricity retailers.

Initially retained for development of Motoreach, proposed as an auction site for B2B selling of wholesale cars within dealer networks. Site was originally created as an MVP solo and I later managed a small team to extend functionality. While engaged on that additional work was undertaken with a different team to create AussieBillCompare, a service comparison website with a complex set of industry standard business rules.

#### Accomplishments and Key Learning

Rapid prototyping, Bootstrap, team management, REST API development, complex database requirements, reporting, Salesforce implementation, patenting, documentation

#### **Senior PHP Developer, Joseph Mark, Roma Street; May 2009 - January 2010**

JM is one of Australia's most highly regarded brand management companies, and does work to an extremely high design standard

Chief duties mostly revolved around implementing detailed designs as web standard applications. This included extensive customising of Wordpress CMS based site, creation of pixel perfect website layouts from detailed Photoshop designs, and so on.

#### Accomplishments and Key Learning

Javascript SPA creation, payment gateway implementations, cross-browser compatibility, Wordpress

#### **Senior Web Developer, VirginBlue, Bowen Hills; June 2008 - May 2009**

Well known Airline, local infrastructure was a mix of Java, PHP and ColdFusion

Initially hired as a short-term (three month) contractor I was retained significantly longer than that. Over that time I gained enough familiarity with the system to become the de-facto team lead for the Web team. I was later formally offered that role. Much of my work was in refactoring existing solutions to improve performance and reliability.

#### Accomplishments and Key Learning

Improvement of practices to OOP, exposure to Symfony PHP framework, exposure to Stellant CMS, consultation with key stakeholders.

#### **EARLIER ROLES PROVIDED ON REQUEST**

# Projects

## **Ethereum Catan**

<https://github.com/smallbatch-apps/foundry-catan>

<https://github.com/smallbatch-apps/catan-interface>

The rules and gameplay mechanics for the board game Settlers of Catan written as an Ethereum Smart Contract in Solidity. It is built using Foundry with extensive testing in Solidity and test deployments written with Anvil. The smart contracts are now complete and a frontend in React is currently being developed. This uses React 19, wagmi, and viem, as well as custom SVG generation.

## **EarnSmart**

<https://github.com/smallbatch-apps/earnsmart-frontend>

<https://github.com/smallbatch-apps/earnsmart-api>

The core of a trading platform like Yield App. Backend is written from scratch in Golang. Database functionality is written in Postgres with TigerBeetle managing transactions. The frontend is a NextJS application. This is a currently ongoing project with additional features and refactors added regularly. It will be finished and set up with hosting for demonstration of functionality shortly.

## **Yield App V3**

<https://app.yield.app>

The full rebuild of existing web application from scratch, including implementation of custom component library. For around the first six months development was solo, though it has now become our primary platform. About 60% of the code at this time was written by me, though this is an estimation.

## **Water Ledger Trading Platform**

[waterledger.com](https://waterledger.com) (Promotional website)

[coloradobasin.waterledger.com](https://coloradobasin.waterledger.com) (trading platform)

[admin.waterledger.com](https://admin.waterledger.com) (not publicly visible)

<https://github.com/civicledger/waterledger-contracts>

<https://github.com/civicledger/waterledger-dashboard>

Work for Civic Ledger primarily involved the development and enhancement of Water Ledger as a trading platform for water, build on Ethereum and currently engaged in a number of pilots systems in Australia and the US.

### **Trivialize**

<https://github.com/smallbatch-apps/trivialize-go>

<https://github.com/smallbatch-apps/trivialize-next>

A personal side project to create a SaaS platform for managing trivia events, including questions and the actual nights. Built with a Go backend (recently rewritten from AdonisJS) and NextJS (also recently rewritten from standard React) it is a relatively simple CRUD based system, intended as a full application to test new techniques and build something of significant size.

### **Crab CLI**

<https://github.com/smallbatch-apps/crab>

Crab is an intended enhancement to Create React App, which provides only very limited scaffolding functionality. Crab is intended to provide component generation, as well as scaffolding a richer default (including setup of routing, redux, etc). Note that this is actually Crab 1.0. Crab 2.0 is in production, which removes the Parcel implementation and focuses more on codegen and package setup, such as Tailwind or Redux.

### **Crab Promo Site**

<https://serene-bassi-c5328c.netlify.app/>

A simple website to demo and promote the above CLI tool. Worth noting is that it uses no JavaScript framework, solely standard JavaScript and HTML, along with Tailwind CSS for styling. A future version, for Crab 2.0, will likely be built in Svelte.

### **Datasker**

<https://datasker.io/>

Wholly conceived by me, Datasker is a B2B SaaS application to allow businesses to store data in an external mechanism, then retrieve it for auditing or compliance purposes, with blockchain-based verification of data submission.

Like many Civic Ledger applications it uses a React interface connected to an AdonisJS RESTful API. It also implements Hedera Hashgraph as a consensus mechanism.



### **Property Development Pipeline**

<https://inspiring-hamilton-c1c453.netlify.app/>

<https://github.com/civicleddger/pdpp-contracts>

An application for local government property development applications. Solidity smart contracts enforce ownership and access to various stages of the process.

It is a rare for Civic Ledger that has a frontend in EmberJS, and the backend is Express.

### **Critter Gitter**

<https://suspicious-thompson-accb57.netlify.app/>

<https://github.com/smallbatch-apps/critter-gitter>

Regrettably the primary domain has expired, but this was made as a basic project to find animals in Nintendo game *Animal Crossing*. Though a simple application it is actually one of my favourite projects, as I like the bright colours and animation, a pleasant change from the more corporate work I normally do. It's also written entirely in Svelte, and makes extensive use of Svelte animations and store.

Note that the app only works well on mobile, or at least on a browser scaled to mobile ratios.

### **Devil's Isle**

<https://naughty-spence-b398dd.netlify.app/>

Devil's Isle is a listing of Australian animals, with discussion of their relevant lethality. Not a commercial project it was originally built to learn the use of repository patterns within the Laravel 4 MVC framework. It has more recently been rebuilt as a simple React app, with no backend functionality at all. It should be noted that the site has some of strong language for humour value.

### **Arup Intranet Project Planner**

not publicly accessible

The Intranet Project Planner is a large, bespoke application for creation and management of planning. It combines document management, diagnostics, and reporting to facilitate management of large engineering projects. My role on this project was the addition of new features, as well as optimising the front-end to add responsive functionality and unobtrusive Javascript.

### **Aussie Bill Compare**

[aussiebillcompare.com](http://aussiebillcompare.com)

AussieBillCompare.com is a site for comparison of energy bills as provided by retailers. It contains an advanced back-end for managing energy deals, systems for exporting sales files for retailers, and complex logic to handle different regions of Australia.

### **Motoreach**

[motoreach.com](http://motoreach.com)

Entirely custom software application, intended for B2B within the motor industry, allowing dealerships to trade stock in an open and immediate way. Complex custom backend with a patented system for matching sellers and buyers. Most of the site is not available without an account.

### **Reverse The Effect**

[reversetheeffect.com.au](http://reversetheeffect.com.au)

Written for a government client to conform to strict standards of accessibility while maintaining a high level of functionality. Much of the interface is javascript based, with standard HTML fallbacks. The interface essentially forms a simple shopping cart, which then flows through to a payment gateway (ANZ egate) and later systems generate PDF content as a certificate.

### **Virgin Blue**

not publicly accessible

Rewrote fare management interface, replacing badly written code with good quality PHP5 OOP equivalent. New system is substantially more reliable than the previous, and operates approximately 30 times faster, while providing more reliable feedback and debugging. System also combines requirements for fares from multiple branches of the business, reducing code redundancy, and adds support for other business requirements that were being managed manually. New system saves many hours of manual work, and allows new functionality to set task schedules over the weekend and after hours. Previously this required a staff member to stay back or even come in on the weekend regularly.

[virginblue.com.au/Holidays/](http://virginblue.com.au/Holidays/)

Created new application for Blue Holidays, a sub-site of Virginblue. This is a Symfony based application which lists travel information as provided from an Oracle database and updated through an uploaded CSV.

**Australian Gamer**

australiangamer.com (now defunct)

All work on Australian Gamer was custom developed. It went from being a small gaming site run by myself and a friend to one of Australia's largest independent gaming websites. At its peak I managed a team of 15 writers, and co-hosted one of Australia's most popular podcasts. Note, not gaming podcasts, but podcasts in general.

## References

**Technical Manager - Yield.App**

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