

ANDREW TOWERS

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PROFILE

Highly proficient POLYGLOT DEVELOPER with 19 years experience (11 years web apps.) Full-stack knowledge, including system **architecture**, **back-end** software, **database** schema design, **front-end** web development, **deployment** and **scaling** in a cost-effective manner. Now seeking next rewarding opportunity to deliver successful projects in a customer-focused creative team.

EXPERTISE

- **Node.js, ES6+**, async, microservices, REST, idempotence (7 years)
- **Go**, Elixir, **TypeScript**, Python, C/C++, Lua, data-driven (varies)
- **HTML, CSS, Javascript**, DOM, quirks, WebGL, IndexedDB (11 years)
- Angular.js, jQuery, Knockout, data bindings, bundling (5 years)
- **AWS** EC2, S3, CloudFront, ELB, AutoScaling, IAM, CloudFormation (4 years)
- **Postgres**, MongoDB, **SQL**, indexes, transactions (9 years)
- **Nginx, Linux**, iptables, upstart, machine images (7 years)
- Win32, DirectX, OpenGL, Cocoa, Objective C, bare metal (x86, ARM)
- Data-oriented design: cache locality, branch prediction, batching.
- Agile, SCRUM, TDD (11 years)
- **Communicates effectively** with team and stakeholders
- Meets tight and demanding deadlines **under pressure**

ACHIEVEMENTS

Successfully **architected and delivered** a bespoke white-label online training platform (CMS) using Node.js for a **creative digital agency**, enabling the delivery of innovative online training portals for corporate clients. Project included a course-builder with live preview, **reducing the time taken** to build out new courses. Platform allowed the agency to deliver new, **scalable** client web sites in **days rather than weeks**.

Trained and mentored junior developers in best-practice programming techniques resulting in **reduced rates** of customer-visible problems, **less time** re-working past work, and **less demand** for customer support. Increase in **productivity** enabled the team to focus on customisations and enhancements for clients and **new work**.

Planned and oversaw the **initial roll-out** of the platform on Amazon Web Services, providing a **scalable and secure** deployment, delivering a rock-solid **problem-free** experience for corporate clients. Provided ongoing operational maintenance to **eliminate down-time** and keep the platform secure.

CAREER HISTORY

2018 MYXPLORE PTY LTD - CONTRACT (3 MONTHS)

Childcare management software provider. Short-term contract to analyze and address web application security.

- Coordinated changes across **five** in-house development teams.
- **Elixir/Phoenix** development on a new piece of critical infrastructure.
- Successfully deployed changes to existing systems without negatively impacting customers.

2015 – 2017 BEAVER'S TAIL - CONTRACT, 2 RENEWALS

Online lunch-ordering platform for local Melbourne schools. Contract to develop MVP and further contracts to re-develop the site: <http://beaverstail.com.au/>

- Developed and deployed the initial MVP: Node.js, Postgres, Angular.js. Automated kitchen make-lists, **improving productivity and reducing mistakes** in the kitchen.
- Re-worked Node.js back-end for a designer-lead redesign. Provided most of the front-end scripting.
- Third contract: modified Node.js and front-end to accept multiple orders in one transaction, delivering a much-requested customer feature and **improving sales by around 50%**.
- **Node.js, Express**, idempotent REST APIs, **Nginx**, Amazon SES, **PayPal**.

2012 – 2014 SMALL WORLD SOCIAL - FULL TIME

Lead developer on bespoke white-label CMS online training platform for corporate clients.

- **Node.js** REST APIs for CMS, schemas, **microservices**.
- Bespoke CMS front-end: **Angular.js, Bootstrap, Javascript, HTML, CSS**.
- **AWS**: S3, CloudFront, ELB, AutoScaling, VPC, Security Groups, IAM.
- **Nginx**: micro-caching generated front-end pages and proxy-cache from S3.
- Front-end scripting for designers' HTML-first designs.
- **MongoDB** schema design for atomic updates via idempotent REST APIs.
- Drag & Drop front-end to schedule on user's calendar, **Google Calendar API**.
- HTML5 **video player** for seamless white background on Android/iOS.
- Upload service: unzip, image & video thumbnails, MOOV optimization, S3.
- REST API for incremental content **delta-updates** to mobile clients.
- DevOps: dev-server to sim nginx routing and run/restart microservices locally.
- Security: 3rd-party **penetration testers reported no security holes**.

2011 PANGUR PTY LTD - FULL TIME

Full Stack Developer (co-founder) in a bootstrapped online writing community.

Python web app using Jinja2 templates and a Javascript + jQuery front-end, using browser database features (**IndexedDB**, WebSQL) and SQLAlchemy with **Postgres** on the back-end. Included a custom forum and an in-browser document editor.

2008 – 2010 FITNESS2LIVE / McKESSON ASIA PACIFIC - FULL TIME

Back-end web developer at a Health and Fitness start-up.

Python / Twisted web application encompassing meal planning, activity tracking and weight loss. Monolithic server-side rendering application. Company acquired by McKesson Asia-Pacific.

2005 – 2007 TELSTRA RESEARCH LAB - CONTRACT, 2 RENEWALS

Bespoke desktop application development. **C++** applications, **Flash, HTML, Javascript**; customer and technician install kits for Windows and Mac. Worked primarily on stand-alone executables that run without being installed (native **Win32 APIs**), a Flash layout engine with bindings to C++, integration with driver kits from 3rd-party vendors, 3G modem and WiFi-router configuration and control software: Install Kit and Connection Manager.

2002 – 2004 BLUESTAR GAMES

Game engine design and programming, tools programming. **DirectX** and **Win32, C++**, scripting language **interpreter implementation**. Also some **J2ME** game development for early mobile platforms.

1999 – 2002 DYTECH SOLUTIONS

Consulting firm. Multi-threaded C++ server code, Visual Basic, Windows COM and DCOM, system architecture.

EDUCATION

- Bachelor of Applied Computing
- Bachelor of Computing Honours 1st class

REFEREES

TIM STEBBING

CTO at Small World Social, where we developed a bespoke white-label CMS platform for corporate clients using Node.js.

Phone: 0434 746 089

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ADAM BOAS

CTO at MyXplor Pty Ltd. I was contracted to develop and enhance web applications. Current Engineering Chapter Lead at ANZ.

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JEREMY VOS

Founder - <http://beaverstail.com.au/>. An online lunch-ordering platform for local Melbourne schools. I was contracted to build the MVP, and later Node.js development and further enhancements to the platform.

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