Mark Metcalfe

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I'm a third year Computer Science and History student, who loves solving real-world problems using code. I've always had an analytical mind, and I love the complex yet solveable challenges that software can present. Whether it be something new like an alarm clock to help wake me up, or improving TradeMe's rental search, I'm always looking to improve the lives of other people and myself through code. I think my proactive, analytical attitude would be a perfect fit for your team.

EXPERIENCE

Young Greens of Aotearoa New Zealand

Full Stack Web Development

February 2018 onwards

markmetcalfe/Young GreensTheme

A medium-sized organisation I'm involved with did not have a website. So I offered to build one. It was an ambitious task, but I've gained the following experience:

- Rapid Development with ever changing requirements.
- Design and development of a product to be used by hundreds of people.
- Setting up and maintaining an AWS server with a LAMP stack.
- Designing, developing and optimising front-end code in PHP, JS, CSS.
- Use of modern web techniques such as responsive design, caching & minification, search engine optimisation, SSL, and HTTP/2.

Personal Project: 'Room Finder'

Development with API Integration

November 2017

markmetcalfe/RoomFinder

I developed a website that sorts rental listings near Victoria University by the price of an individual room. I made it because I was experiencing difficulty finding housing and decided to make an assistant. I gained these skills:

- Integrating my software with TradeMe's API, and then using Google Drive's API to store rental data, using OAuth2.
- Articulating the purpose of my software by submitting an API registration application to TradeMe, which was then approved.

University Group Project

Game Development

September-October 2017

markmetcalfe/SWEN222-Group-Project

As part of a university course, I co-developed a game with four other students. It was a time-intensive and challenging process, developing completely from scratch.

- We used the Waterfall software development model, in which we analysed our program's requirements, planned and divided the program, designed it, developed it and then tested it.
- Our team communicated back and forth to ensure deadlines would be met.
- Advanced use of the Java language, as I actively used lambdas, streams, polymorphism, event handlers, and the AWT library for creating a GUI.
- Advanced implementation of software patterns such as the Model-View-Controller, Strategy, State, Composite, Adapter and Façade patterns.
- I also implemented an Abstract Syntax Tree from scratch, using knowledge I had learnt from a previous course. It read complex level data from a file.

Domino's Pizza Wellington

Pizza Delivery Driver

April-June 2017

I made and delivered food for Domino's pizza. In this role I gained these skills:

- Interpersonal and communication skills from interacting with customers and my co-workers, both in person and over the phone.
- Critical thinking, patience and cool-headedness from resolving customer's complaints.
- Quick thinking and situational awareness, from analysing the state of the kitchen to decide which task should be completed next.

Personal Project:
'Light Control'
Full Stack Development
May-June 2016

markmetcalfe/LightControl

I developed a website that controls the lightbulb that sits in my bedside lamp, in order to help me wake up in the mornings, operating as a sunrise alarm clock.

▸ By wiring different components to the GPIO on the Raspberry Pi's board, I gained basic electrical engineering experience.

▸ By turning button clicks on a website to infrared output using Angular, Node.js, Python and C, I successfully developed using full stack.

▸ I designed an aesthetically pleasing and easy to use online interface that dynamically updates while in use, as I carefully thought about UX.

Personal Project: 'Beep!'
Android Development
December 2016

markmetcalfe/BeepMirrors

I developed an app that played a user-specified tone to remind the user to check their mirrors while driving.

▸ I created a product with a logo and brand identity, designed specifically with the end user in mind.

▸ The software that I created myself that resulted in real-world life improvements, as it helped me attain my driver's licence.

▸ I used Kotlin, Java, and Android's many built in APIs, specifically the accelerometer for detecting when the car had turned a corner.

SKILLS

Communication

I've enjoyed having to explain and justify my thinking at different stages of development. Whether it be to my tech-savvy team mates, or administrators in my organisation, I have the ability to clearly describe what I am doing and what I wish to achieve.

JavaScript

Every project I have worked on outside of university has required the use of JavaScript in one form or another. It is a fundamental part of front end development, and I have used Node.js, React, and jQuery in projects with much success.

Server Management

I maintain two web servers, one an AWS server for my organisation, and a Raspberry Pi server that resides at my house. I access both of these with SSH, and send commands remotely to configure and update software and configurations, whether it be changing some settings in Apache, or pulling the latest version of a repository to be used in production. I also use bash scripts to automate some processes.

Other Languages

I used Java almost exclusively in my assignments in my first two years of university. I also have some experience in SQL, PHP, Ruby, Bash and Kotlin. This experience stems from small one-off projects, in order to broaden my knowledge of languages.

EDUCATION

Victoria University
March 2016 onwards

Current undergraduate third-year BSc student in Computer Science and in History, respectively. I currently have a B grade average.

Wellington High School
2011-2015

NCEA Level 1, 2 & 3, with Excellence and Merit endorsements in History and English.

REFERENCES

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