Jed Simson

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Dedicated and passionate software developer with full-stack experience in high throughput transactional systems. My primary experience is with a .NET backend and Angular frontend, but I am always looking for new stacks and frameworks to try out.

I strive to find new challenges and problems to solve, with the driving goal of designing robust solutions in interesting problem spaces. A capable communicator with proven experience completing high-value projects in an efficient manner to meet requirements.

EDUCATION

2014 - 2017   **University of Waikato**

- Bachelor of Computing and Mathematical Sciences (Hons)
- Awarded First class honours - project: Open Source Linear Genetic Programming
- A grade average, GPA 7.3
- Third place, Tertiary category, NZ Cyber Security Challenge 2016

EXPERIENCE

Vista Entertainment Solutions Ltd.

Squad Lead and Software Developer (Apr 2022 - Present)
Software Developer (Jun 2019 - Apr 22)

Concentrating mainly on the Loyalty and Subscription offerings, responsibilities include:

- Driving scrum rituals as the team's scrum master
- Mentoring interns and junior developers
- Investigation, design and implementation of technical solutions
- Promoting best practices for development including quality, performance, security, testing, documentation and processes
- Modernising codebase to address technical debt and leverage latest frameworks/ tooling
- Acting as the principal technical contact point for the product
- Providing support to services team to resolve customer issues and triage bugs

Notable projects:

- Implementation of a subscription-based model for Loyalty memberships:
  - Subscription/subscriber management UI using Angular
  - Subscription processing: purchase/renewal/refund
  - Recurring payment processing
  - Subscription management API: cancel/hold/CRUD
- Addition of auditing actions against member accounts, including analysis of the solution and leading the project
- Refactored authentication/authorisation pipeline for core API to allow multiple authentication types and improved role management
- Modernisation of product codebase:
  - Migration of source code and build from TFVC/XAML builds to git/Jenkins
  - Migration to SDK-style project format and update to .NET 4.8
  - Port existing services from ASP.NET/OWIN to ASP.NET core
  - Produced documentation for key services as well as technical overviews for infrastructure components

Jan 2018 -
Jun 2019

Graduate Software Developer - Vista Entertainment Solutions Ltd.

Maintained two of the core products – Loyalty, Vouchers and Gift Cards. Applied an agile methodology as part of a continuous release cycle. Responsibilities ranged from developing features and fixing bugs to internal technical support.

Worked primarily in a large .NET codebase with SQL Server as the persistence layer.

Notable projects:

- Connector system to queue incoming Loyalty member transactions and forward to Movio (a Vista group company) for use in near real-time data analysis
- Design and implementation of a queue-based pipeline for generating voucher barcodes with the primary purpose of avoiding concurrency issues in the existing design

Nov 2016 -
Feb 2017

Development Intern - Vista Entertainment Solutions Ltd.

Worked on a project concerned with implementing a custom rule-based system and inference engine for targeted advertising for in-cinema promotions, to eventually be integrated into the existing product. Furthermore, I worked as part of an existing development team, where I primarily performed bug fixes and feature work, utilising an Agile methodology.

Nov 2015 -
Jan 2016

Electronics Assembler/Tester/Programmer

Responsible for assembling, testing, programming, and repairing bluetooth automative diagnostic units, packaging products for customers, organising delivery of packages, and some documentation of processes involved.

SKILLS

GENERAL

- Agile software development
- Team collaboration
- Strong written and verbal communication
- Passionate about documentation

TECHNOLOGIES

Tools

- git + gitflow
- GitHub, GitLab, TFS, Azure DevOps
- Gradle
- Jenkins
- Powershell, bash

Languages

- C#
- TypeScript
- Python
- Java
- Kotlin
- HTML, CSS, JavaScript

Frameworks/Databases

- .NET (full framework and core)
- ASP.NET Web API/ASP.NET core
- Entity Framework core
- Angular
- Flask
- SQL (including SQL Server, PostgreSQL)
- Redis
- Azure: storage, app service, SQL server

INTERESTS

MUSIC

I am an avid musician and love to write and perform music whenever the opportunity arises. I have performed in many groups over the years and have had success providing music for private functions and studio sessions.

PROJECTS

LGP - A robust Linear Genetic Programming implementation on the JVM

https://github.com/JedS6391/LGP

Developed in completion of my Honours degree, this software package provides a framework for solving problems using a linear genetic programming technique. This project is fully open-source and has seen usage by students at the University of Waikato, as well as researchers from other universities internationally.

The framework is implemented in Kotlin and features a highly modular and extensible API design, a suite of unit tests, and a CI/CD pipeline. The package has also been reviewed and submitted to the Journal of Open Source Software (DOI: **https://doi.org/10.21105/joss.01337**).

Artefacts of the framework have been made available on Maven, making it suitable for integration into other projects.

Recipe Manager
https://github.com/JedS6391/RecipeManager.Web (frontend)
https://github.com/JedS6391/RecipeManager.Server (backend)

Following the requirements described by my partner, I created a web application to manage our collection of recipes and ease the process of creating grocery lists. The application allows recipes to be stored and managed, as well as functionality to create grocery lists and export for access when at the store.

The frontend is built using Angular and Typescript, applying RxJS for state management. On the backend, an ASP.NET Core is used with a SQL server database for persistence. The backend uses Mediatr to follow a CQRS architecture.

Both the frontend and backend have CI/CD infrastructure to build the applications and deploy to Heroku (frontend) and Azure (backend). The backend makes use of Azure app services for the web API, Azure SQL for the database and Azure queue storage for asynchronous message processing.

A novel feature of the application is the ability to import recipes from sites on the Internet. I built an ingredient parser (see: https://github.com/JedS6391/RecipeIngredientParser) which uses combinatory parsing to match raw ingredient strings to a set of template definitions.

Reddit saved post viewer - An interface for viewing your saved posts on reddit
https://github.com/JedS6391/reddit-saved-post-viewer-web (frontend)
https://github.com/JedS6391/reddit-saved-post-viewer-api (backend)

This project has an Angular frontend which consumes an API built with Flask on the backend.

The integration with the reddit API is an interesting problem with challenges such as implementing the OAuth flow and asynchronous processing of what could potentially be a large data set returned. I decided to have a separate backend abstraction over the reddit API to prevent the frontend from having to manage the asynchronous processing logic, as well as keeping the option for other frontends available.

Reddit.NET - A .NET client for reddit.com
https://github.com/JedS6391/Reddit.NET

Inspired by my usage of the Python reddit API wrapper (PRAW), I decided to take on the challenge of building a .NET client for the reddit API. The client library aims to provide a simple, modern, asynchronous interface with modular re-usable components

Referees will be made available upon request