

SAMUEL MICHAEL SQUIRE

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Summary

I am a technical software developer with a track record for automating large complicated things, automating large amounts of work and solving technical issues in order to take projects live. Very familiar with how to build reliable and understandable systems that keep working well after I have left.

Education

University of Kent, Canterbury BSc (Hons) Computer Science with a year in Industry (First, 2008 - 2012)

Final year project was a M68000 microprocessor emulator in the concurrent language Occam Pi and our own test program written in assembly.

Worked at Pareto Investment Management for 1 year on a multithreaded JMS system.

The Howard School, Rainham, Kent (2006 -2012)

3x GCE A Levels: Applied ICT C, Biology C, Applied Business Studies C

11x A-C GCSEs including: ICT A, Business Studies A, Biology/Chemistry/Physics B/B/B English Language B, Mathematics C

Experience

ThoughtWorks Limited (2012 - 2015) Software Engineering Consultant

Design agency and large paint manufacturer Java, Clojure, Ruby, Javascript, MongoDB

Ingested data from legacy paint system into MongoDB and Clojure CMS, Worked on Javascript that matched paint company paint colours from photographs

Financial data report publisher C# backend, Javascript MCEdit frontend

Solved concurrency issues related to multiple editors modifying the same items at the same time, fixed various tricky pasted data bugs

Large government web service Python GDS transformation project, PostgreSQL

From alpha to live in 1 year, Worked on complete digitisation of paper forms from web into

PostgreSQL, Wrote a flexible form engine that was driven from configuration

Bank iOS & Android development

Worked on mobile banking application for a national bank

Designed and built an architecture that allowed for cross platform form development between Android, iOS and wearable devices, Built an API for loan application forms

Large national retailer PostgreSQL, data science with IPython Notebook, Hibernate, Dropwizard

Ingested, cleaned and imported loyalty scheme membership data from various sources into PostgreSQL

Ingested, cleaned and imported data of retailer stores to implement a geographical nearest store finder to associate loyalty scheme members to stores

ThoughtWorks Limited (2015 - 2018) Senior Software Engineering Consultant

Very large high profile government project Vault, Cloud migration, F5 configuration, AWS

Moved a large in-house hosted microservice architecture application to the cloud

Went live after the lift and shift to the Cloud

Added DNS and load balancing redundancy by deploying F5s three times within three availability zones

Built a Vault cluster for transparent TLS encryption, issuing TLS certificates on the fly, traffic was encrypted end-to-end

Wrote my own Python command line tool **provision-f5** to configure the F5 Networking appliance from data

Generated F5 configuration for each microservice that provided for reliability, resiliency, redundancy

Worked closely with security teams to deploy anti-virus scanning of traffic and custom iRules

Financial loan company Python, Consul, LXC containerisation

Modernise a large in-house microservice application that was statically deployed with Chef to be deployed by many Ansible pipelines

Went live with a Hashicorp Vault secret management cluster for transparent TLS encryption between microservices, traffic between microservices and between development servers and users was encrypted

Wrote my own Python utility **platform-up** to bring up the entire 36+ microservice platform locally by coordinating LXC containers, running of Ansible, running of chef

Locally deployed platform was very realistic with full High availability locally with two HAProxies and two copies of the microservice running, was load balanced locally

Added capability of running the entire end-to-end platform tests on a single developer workstation

Instigated the introduction of displays within office for displaying platform information

Built my own team platform dashboard with VueJS that people in the office could edit on a large Smart television monitor

Worked around company resource provisioning problems by sharing disk space between machines with SSHFS

October 2018- now

Open source development Building my own lightweight build server **devops-pipeline**

Implemented traditional build server UI like Jenkins and Gocd written in React, React Bootstrap and Redux

Built the command line tool in Python 3 and backend with Flask

Used Google's constraint programming library ORTools to schedule builds with maximum parallelisation

Designed a practical "Pipelines as code" framework by adopting Graphviz's dot graph description language as configuration language allowing entire environments to be defined as pipelines

Implemented multithreaded pipeline execution that can build parts of the pipeline in parallel and spin up worker nodes in AWS to run builds remotely via SSH

Working to define a deterministic pipeline to bring up a ready to deploy cloud infrastructure that everyone needs including Hashicorp Vault, bastion boxes, AWS AMI pipelines, monitoring