James Anthony Stewart



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Technologist with a background in software development + devops and a recent focus on technical leadership and product development. Maker and Open Source proponent with a life-long passion for technology. Specialist in Linux, Python, IoT and Cloud.

## Employment

### [Mason Development Group](https://www.mason.build) - *NSW Central Coast, Australia*

**Technology Team Lead** *01/2022 - 01/2023*

Leader of a nascent team developing a Building Management System (BMS) for deployment in light industrial units.

* Introduced user story mapping to distill nebulous product concepts into an achieveable MVP.
* Led development of the Mason access control system comprised of:
  + Proprietary door controller: hardware developed off-shore and software developed in-house.
  + Access mangement service built in Python using [FastAPI](https://fastapi.tiangolo.com/).
  + Frontend components built in Javascript with [Lit](https://lit.dev/).
* Architected a foundational BMS built on [Home Assistant](https://www.home-assistant.io/) and incorporating the Mason access control system.
* From nothing to production systems installed in customer premises in < 9 months.

### [NEV Power](https://nararaecovillage.com/nev-power/) - *NSW Central Coast, Australia*

**Consulting System Architect & Engineer** *04/2021 - 11/2021*

Consultant responsible for the architecture and IT engineering of the $4.73m ARENA-funded [NEV Smart Grid](https://arena.gov.au/projects/narara-ecovillage-smart-grid/) project.

* Applied agile concepts and user story mapping to build a shared understanding amongst stakeholders.
* Architected and led development of the Narara Ecovillage Smart Grid built around a private LoRaWAN network:
  + Modbus/LoRaWAN bridges to collect meter/inverter data and facilitate inverter control.
  + [The Things Stack](https://www.thethingsindustries.com/stack/) to bridge LoRaWAN and IP networks.
  + Modbus RTU/IP gateways to collect BESS, grid controller and site meter data.
  + [Volttron](https://volttron.org/) with custom Agents and Drivers as core smart grid management system.
  + TimesscaleDB and Grafana for time-series data storage and local visualisation.
  + AWS Lightsail for off-site data replication and visualisation.

### [Honesty Box](https://honestybox.io) - *Sydney, Australia*

**Head of Technology** *01/2019 - 02/2021*

Head of a team responsible for a fleet of 1500+ IoT devices and associated SaaS services used by [Choice](https://www.choice.com.au/) and [NBNCo](https://www.nbnco.com.au/) to monitor the Internet connection quality of Australian homes and business.

* Introduced kanban board and agile methodologies + processes to Engineering team.
* Provided product and technical direction in response to evolving business needs.
* Led ongoing architecture and development of core services:
  + Metric collection devices built on ASUS Tinkerboard SBCs running a custom Python agent.
  + Metric ingestion service built upon AWS IoT, Lambda and DynamoDB.
  + Metric storage service built upon AWS Kinesis, Lambda, RDS and S3.
  + Device management service built on Django.
* Championed the development of the Open Source [honestybox-measurement](https://github.com/honesty-box/honestybox-measurement) library.
* Introduced CI/CD using AWS CodeBuild/CodePipeline/CodeDeploy and Github Actions.

### [Enstaved](https://enstaved.com) - *NSW Central Coast, Australia*

**Co-founder / CEO / Tech Lead** *04/2017 - present*

Co-founder responsible for the strategy, technology and manufacturing processes of a growing niche product startup.

* Raised >AU$150k via crowdfunding campaigns on [Kickstarter](https://www.kickstarter.com/projects/enstaved/deluxe-d20-staff-of-critical-hits) and [IndieGoGo](https://www.indiegogo.com/projects/deluxe-d20-staff-of-critical-hits#/).
* Established an off-shore manufacturing and 3rd-party logistics pipeline for worldwide distribution.
* Developed early-stage MVP tooling:
  + E-commerce store using a custom fork of [Saleor](https://saleor.io/) (e-commerce platform built with Python + Django).
  + Service to render dynamic custom product images in near-real-time using Flask and OpenSCAD.
  + Production process based on Fused Deposition Modelling (3D Printing) to bring custom, locally manufactured physical products to market rapidly and cost-effectively.

### [Availery](https://www.availery.com) - *NSW Central Coast, Australia*

**Consulting DevOps Engineer** *01/2019 - 03/2019*

Consultant responsible for the migration of talent-matching SaaS [isaptalent](https://isaptalent.com/) to Amazon Web Services.

* Migrated web services from legacy single-VM hosting to AWS utilising EC2, RDS, ELB, S3 and EFS.
* Created automated build pipelines using CodeBuild/CodePipeline/CodeDeploy.
* Orchestrated infrastructure configuration and deployment using Terraform and Ansible.

### [Thermeon](https://www.thermeon.com) - *Remote*

**DevOps Engineer** *08/2015 - 12/2018*

Member of a geographically distributed DevOps team administering industry-leading automotive rental SaaS [CARS+](https://thermeon.com/carsplus/).

* Migrated services from legacy KVM hosting to Google Cloud Platform (GCP) orchestrated with Terraform, Ansible and Puppet.
* Designed and developed internal services using Docker containers deployed to Kubernetes (GKE).
* Implemented metric/log collection and analysis using Graphite/Grafana and Elasticsearch/Logstash/Kibana.

### [iCrew](http://www.icrewservices.com) - *Remote*

**Technical Partner** *04/2016 - 06/2017*

Early-stage partner responsible for development and DevOps for a SaaS to manage sub-contracted event staff.

* Introduced founder and project manager to agile development process based on kanban.
* Developed SaaS comprised of RESTful API backend using [Eve](https://docs.python-eve.org) (Python + Flask + MongoDB) and frontend using Vue.js + Vuex.

### [Optiver Asia Pacific](https://www.optiver.com/ap/en/) - *Sydney, Australia*

**Tools Developer** *09/2013 - 07/2015*

Full stack development role creating internal tools used by various departments across the business.

**Monitoring Engineer** *04/2010 - 09/2013*

DevOps role using Open Source tools and custom middleware to monitor critical high frequency trading systems.

### [Beam.tv](https://www.beam.tv/)/[The Mill](http://www.themill.com) - London, United Kingdom

**Systems Manager** *03/2005 - 06/2009*

Senior Systems Administration role. Responsible for junior staff and all operational aspects of a pioneering video-sharing SaaS used by the advertising industry.

### InciteMVNE - London, United Kingdom

**Operations Manager** *10/2003 - 02/2005*

Systems Administration role responsible for all operational aspects of a mobile content delivery system.

### [Professional Golfers Association](https://pga.org.au/) - Sydney, Australia

**IT Administrator** *02/2002 - 05/2003*

Responsible for the PGA’s nationwide IT infrastructure. Introduced Open Source solutions to save this member-based organisation significant licensing costs.

### Access Gaming Systems - Sydney, Australia

**Systems Administrator** *12/1999 – 02/2002*

Member of a 4-person team responsible for administering company network of 150 users.

## Volunteering

[SparkCC](http://sparkcc.org) *2014 - present*

President and co-founder of [SparkCC](http://sparkcc.org): a makerspace located on the Central Coast of NSW, Australia. Empowering people to make anything that they can imagine.

[Primary Ethics](https://primaryethics.com.au/) *2016 - present*

Teaching primary school children to listen empathetically, disagree respectfully, build on each other’s ideas and use evidence and reasoning to make decisions.

## Projects

[Tosr0x](https://github.com/amorphic/tosr0x)

Tosr0x is a Python module for communicating with ‘TOSR0x’ USB relay controllers made by [TinySine](http://www.tinyosshop.com).

[OpenGB](http://opengb.readthedocs.io)

OpenGB is a 3D printer control interface. Backend written in asynchronous Python using Tornado and frontend in Vue.js.

## Presentations

### Controlling a 3D Printer with Python

08/2016

PyCon Australia Melbourne ([video](https://www.youtube.com/watch?v=qgvnPB_77z8))

## Qualifications

1998-2001

**University of Technology, Sydney**

Bachelor of Science: Computing Science (Honours 2nd Class).

*Sub-major in Computer Graphics.*

2012

**EXIN**

ITIL v3 Foundation

2013

**Red Hat, Inc**

Red Hat Certified Systems Administrator (RHCSA)