Mark Simpson

Software Engineer

Flat 16 Caird House
4 Scrimgeour Place
Dundee
DD3 6TU
mjsimpson@gmail.com
https://marksimpson.dev

SUMMARY

Generalist software engineer with heavy test engineer leanings. Experienced in creating testable code and good quality unit / integration tests, with a particular focus on maintainability. Well-versed in a variety of languages and platforms.

LANGUAGES

Python, C#, C++, Ruby, JavaScript, Bash & Windows Batch

OPERATING SYSTEMS / DEVELOPMENT PLATFORMS

Windows, MacOS, Linux (mostly Ubuntu & Amazon Linux), iOS, Android, WebGL

EXPERIENCE

WRLD3D — *Senior Software Engineer*

AUGUST 2014 - PRESENT

- Devops: provisioning, deploying & monitoring services (AWS, Packer.io, Docker, Server Density)
- Optimisation of hadoop data build process (Python, C#, Hadoop, AWS EMR, Pandas)
- CDN log ETL into AWS Redshift DB (S3, EMR, Pig, Data Pipeline)
- Created acceptance tests for regression-prone service (Postman, Elasticsearch, JavaScript)
- Integration of C++ positioning API into Leaflet-based web maps (Javascript, Emscripten, C++)
- Improved web integration for all platforms (Windows, MacOS, iOS, Android). Reduced code duplication, increased performance & created more consistent developer API (C++, cURL, libuv).
- Created web service to validate, build and deploy indoor map submissions (Ruby, Sinatra, Resque, AWS, Docker)
- Created process to generate stylised 3D indoor maps from GeoJSON files (Python, C#, C++)
- Reduced platform SDK build duration from 60 to 30 minutes (C++, Bash, TeamCity)
- Novel method to connect variable-width route visualisation meshes (C++, OpenGL)

WRLD3D — *Software Engineer*

SEPTEMBER 2010 - JULY 2014

- Developed a solution for creating 3D roads from 2D graph data. Rapidly took it from R&D through to large-scale use in production (Python, C#, Unity3D, Hadoop/EMR, AWS)

- Created a pluggable mechanism for generating terrain styles (Python, Hadoop/EMR)
- Automated the data build python environment setup (cURL, pip)
- Automated testing of the Python data build pipeline (Python, Hadoop/EMR, Nose, @ddt)
- Created end-to-end nightly build system for testing resources (Python, TeamCity, Hadoop/EMR)
- Implemented client features in Facebook game, “Heist” (Facebook, AS3, Flash)
- Collision detection, spring camera behaviour and optimisation for “World Flight Club” (Facebook, C#, Unity3D)
- Core platform R&D (C#, Unity3D)

Realtime Worlds — *Software Test Engineer*

JANUARY 2008 - AUGUST 2010

- Responsible for supporting developers in creating automated tests (C#, NUnit).
- Developed a deep knowledge of techniques used to create narrow, focussed and trustworthy tests. Spread this knowledge via pair-programming, blogging and presenting.
- Advocated changing the Software Test Engineer role to a more integrated, collaborative one.

EDUCATION

Abertay University, Dundee — *BSc (Hons) Computer Games Technology (First class)*

SEPTEMBER 2003 - MAY 2007

- Course modules included: Maths, Dynamics, AI, Console Development, Networking, Audio.
- My dissertation comparatively evaluated deferred and forward shading in game rendering.

ADDITIONAL PROJECTS

Fortress Forever — *Half-Life 2 mod*

2003 - 2007

- Involved in founding, running & releasing the project
- Contributed to planning, level design, design, testing, documentation and bug-fixing

REFERENCES

References are available upon request.