

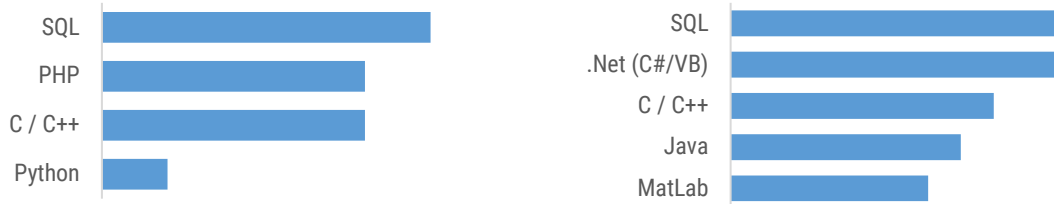
GRAHAM HAYES, SOFTWARE ARCHITECT & SOFTWARE ENGINEER

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PROGRAMMING LANGUAGE EXPERIENCE



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Gamer Publishing Technical Director April 2006 – Present

- Designed, created, and implemented a virtual ad publishing cluster that serves over 500 million impressions a month using only four servers (three serving nodes and a backbone) with only a total of 8GB of ram.

Tycho Media (Startup) CTO June 2012 – Nov 2015

- Designed entire backbone, company technical structure all the way down to repos and project tools, oversaw Agile and CI development, etc.

ACADEMIC RESEARCH

Thesis Research (Not Published) – .Net, C++, * Aug 2013 – Present

- Extremely high resolution voxel climate and environment simulation engine, using dynamic variably scaled voxel simulation windows which allow a reference window of any size. This is used to dramatically speed up simulation ticks.

Dr. Min Shin Image Processing (UNCC FCL) April 2012 – Dec 2012

- Projects: Ant tracking, synthesizing training data, pollen classification
- Cleaned, rewrote, and optimized existing MatLab code.
- Accelerated main bottlenecks via writing and implementing CUDA equivalents (Auction Algorithm, isMember(), mean(), etc.)

NOTABLE TECHNOLOGY DEVELOPMENT

LSA App (Proprietary) – .Net, Java Nov 2015 – Present

- Advanced Statistical analysis for the popular online game *League of Legends*, to derive player intent through analysis of player decisions and from there derive context which is used to generate vast amounts of insightful information (e.g. effectiveness of itemizations, against specific situational context, real-time player item build suggestions, personalized match analysis, etc).

VIYR – Tycho Media App (Proprietary) – UE4, C++ Dec 2014 – Nov 2015

- Virtual Reality walk through implemented in the UE4 engine, featuring track matinees, custom menu animation framework, furniture drag-drop interaction (think The Sims Games)
- Backbone including asset CDN servers, asset meta databases, asset catalog AdminCPs, client CPs
- On the fly asset streaming from asset catalogs and runtime loading

Content Hub App (Personal) – .Net Jan 2011 – Dec 2014

- Website crawler give a centralized hub for various websites with dynamic and variably type content (e.g. articles, messages, images, plain text, etc.)

Scan Slice Visualizer App (FCL, solo) – C++, OpenGL, CUDA Dec 2011 – June 2012

- Tool for viewing 4D slices (i.e. a series of 3D cat scans). Written in OpenGL, Boost, and CUDA.

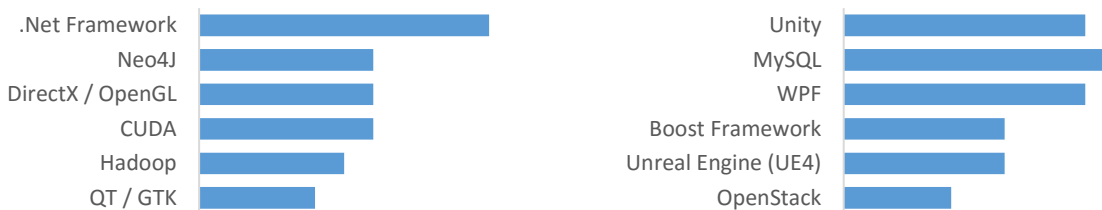
Vault App (Proprietary) – .Net, PHP Oct 2010 – Feb 2011

- Cluster Permission automation, for guests to subscribing users, to moderators and administrators
- Acts as payment gateway for subscribers, pushing subscription information across the entire Cluster in virtually real-time.
- Configures permissions for cluster applications and controls services across the cluster

Elevator Control System Application 2009

- Simple Adaptive system, adapts to intelligently prepare for and serve high traffic times.
- Controls multiple elevators servicing many floors, handling all logic from floor routing, to intelligent elevator call servicing (dependent upon call direction, location and application anticipated high traffic times)

RELATED TECHNOLOGY EXPERIENCE



EDUCATION

Higher Education University of North Carolina at Charlotte Fall 2008 – Fall 2014

- BS in Computer Science, with a minor in Cognitive Science
- MS in Computer Science, with a focus in Data Science and management, thesis on Procedural content generation for use in video games