Caleb Anderson
Centennial, CO 80112
caleb@quaintrobot.com
http://quaintrobot.com

Skills

Programming/Systems
- C#
  - WPF
  - Mono
  - LINQ
  - Azure
  - Unity
- C/C++
  - Win32
  - PS3
  - Unreal Engine 3
- Actionscript 3
- JavaScript
  - CoffeeScript
  - node.js
- PostgreSQL

Version Control Systems
- Git
- Mercurial
- Perforce
- Subversion

Interests
- 3d Printing
- Game Dev
- Electronics
- High Altitude Balloons
- Whatever strikes my fancy

Buzzwords
- Docker
- Agile
  - SCRUM
- Continuous Integration
  - CruiseControl.NET

Work Experience

Quaint Robot   January 2014 - Present
Software Consultant/Problem Solver

C#, C++, Microsoft Azure, PostgreSQL, Javascript, Aerial Mapping, Map Stitching
I provide expert advice and custom software solutions as needed.

New Frontier Global, LLC / Global Remote Technologies   January 2014 - Present
Senior Software Engineer

Remote Oilfield Sensor Monitoring System

C#, Mono, PostgreSQL, Azure, Javascript, WebSockets, System Design/Integration
Engineering lead on from-scratch system to monitor remote sensors in oilfields. C# backend, Azure-hosted processing, web frontend. Designed system interactions, frameworks, communication methods, logging system. Light hardware design, construction. Many hats worn on a very small team.

New Frontier Innovations, LLC   January 2013 - January 2014
Software Engineer

EO/IR Sensor Simulation Framework

C#, MEF, WPF
One of two main developers on a new EO/IR turret sensor simulation framework. Shaped the architecture and design of the plugin-based, multi-role, multi-platform, high performance sensor simulation in C#.

EO/IR Sensor Partial Task Trainer

C#, multiple stations, hardware emulation, radio simulation, VoIP
Co-lead on delivered partial task trainer incorporating EO/IR sensor simulation, hardware emulation, and radio simulation via VoIP.

Render Injection Tool

C#, DLL injection, render hooks, hardware accelerated screen duplication
Lead on EO/IR sensor overlay render injection framework. Project involved injecting software into hardware accelerated first and third party applications in order to pull the render buffer from one process and render in-process in another process in realtime.

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Sony Online Entertainment   October 2008 - December 2012
Client Programmer II

DC Universe Online

C++, C#, Python, Playstation 3, Steamworks

DC Universe Online is the only next-generation massively multiplayer online action game that delivers unparalleled physics-powered combat set in the DC Universe.

- Implemented client portion of DCUO's custom housing system
- Shipped title and 5 DLC packs
- Integrated crash reporting system for PS3
  - Wrote WPF application for parsing data from PS3 core dumps and visualizing the crashes on a zoomable map interface
- Implemented two-tiered anti-cheat system
- Developed internal 3d screenshot utility for marketing use
- Assisted with Unreal Engine code drop integration
- Developed custom tool to assist with implementing Playstation 3 Trophy system
- Implemented post-launch Steam Achievements integration
  - Added support for backfilling previously acquired achievements
- Took over and maintained in-game "communicator" technology
- Developed publish processes for hard drive and Blu-Ray deployments
- Maintained PC crash reporting database and web page
- Integrated Bink video codec
- Provided general editor, client and Playstation 3 client support for various teams

USAF   July 2003 - October 2008

B-1B Crypto Fill Part Task Trainer (PTT) and CDU-900 Computer Navigation Management System trainer

C++, DirectX, JSBSim

The B-1B Crypto trainer utilizes DirectX in C++ for its main displays and supports custom, in-house-developed I/O boards. This trainer used JSBSim for its flight dynamics model. Trainer features included support for flight-plan creation and a waypoint-following autopilot.

Reduced Oxygen Breathing Device (ROBD) training tool

C#, X-Plane

The ROBD training tool is used to train pilots to be aware of the effects of hypoxia and learn how to recognize and react to the symptoms. The ROBD training tool integrates COTS software and hardware, and in-house developed software and hardware.

F-117 Data Entry Panel (DEP) trainer

C++, Altia Design

The DEP trainer implements a custom-built rudimentary flight physics engine and used a four-head setup for data output. Output includes flight gauges, physical plane attitude indicators and a virtual joystick.

Web-Based (WBT) and Computer-Based Trainers (CBT) and Hardware System Emulation Terminals (SETs)

HTML, JavaScript

Researched and trained developers on requirements and restrictions pertaining to the systems used in development. Implemented encryption routines to secure private personal data used to track training progress of thousands of users. Wrote middle-layer JavaScript API to communicate with WBT server software.

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Personal Projects

- Operation StratoSphere - High altitude 360x180 degree video
  - Website - http://robotrising.org
  - Footage - http://robotrising.org/StratoSphere/collection.html
  - Sensor Pod - https://github.com/RobotCaleb/StratoSphereSensorPod
- Launched a weather balloon to 99,000 ft. Tracked in realtime via custom website built over the course of a week's worth of evenings on node.js using CoffeeScript.
- Engineer's Nightmare
  - Contributor to open source game project - Engineer's Nightmare
  - GitHub - https://github.com/engineers-nightmare/engineers-nightmare
- Contributor to open source RTS engine, OpenRA. Bug fixes, various features, emergency downtime support.
  - OpenRA - http://openra.res0l.net
  - GitHub - https://github.com/RobotCaleb/OpenRA
- Assisted with infrastructure, logistics, and provided advice to the development team for Primal Carnage, a team-based multiplayer game on Epic's UDK.
  - Primal Carnage - http://www.primalcarnage.com
- Wrote a ray tracer in C#
  - Gallery - http://imgur.com/a/S8DFR
- Participated in Mario AI Competition 2009. Our team took third place.
  - Mario AI Competition 2009 - http://julian.togelius.com/mariocompetition2009/
  - Youtube video of our AI agent - https://www.youtube.com/watch?v=k533qKCN-hc
- Lead developer on PewPew scrolling arcade-style space-shooter.
  - PewPew - http://blahg.res0l.net/2009/01/pewpew-shooter/
- Developed ActionScript 3 puzzle game Replay 2 : The Sequel for JayIsGames.com's Casual Game Development Competition 3.
  - Replay 2 : The Sequel - http://jayisgames.com/review/replay-2-the-sequel.php
- Ported Federico Poloni's Bastet from C to ActionScript 3.
  - Bastet - http://blahg.res0l.net/2009/01/bastet-bastard-tetris/
- Battlefield 2 Stats Signature Generator was developed to provide customizable forum signature images based on Battlefield 2 user stats using ActionScript 2 and PHP.
- Built custom LAN attendee sign-in and registration script for LANCAMP.com's annual DESERTBASH LAN event. Utilized realtime registree information and tied-in with pre-existing registree accounts.
  - AJAX and PHP.
  - Used by multiple staff-members simultaneously.

References

Available upon request