Jonathan Dahan

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work

Founder of Baculus | August 2018

Developed hardware and software for disaster recovery communications infrastructure.
Built offline-first, decentralized web applications on top of scuttlebutt (js/nodejs) over IPV6 link-local multicast.
Wrote custom wireshark dissector in lua for investigating mdns advertisements.
Managed designers and programmers for a short sprint, winning a Mozilla/NSF phase I grant.

Technical Consultant for Small Data Industries | October 2018

Researched and developed preservation strategies for unique hardware such as the IBM Leapfrog and NeXT Computer.
Architected IPFS-based private cloud storage solution for The Current Museum.
Wrote GIF case study for the MoMI to highlight the historical decision-making involved in the creation of the GIF file format.
Developed documentation and code (C/lua) for recreation of Cory Arcangel NES hardware hacks.

Fullstack Freelance Engineer for Micah Walter Studio | September 2017 - June 2018

Built out node.js-based graphql api for mid-sized museums, adapting REST ingestion api and website.

Software Engineer for Etsy | December 2015 - August 2017

Worked on international tax compliance for expanding to new markets, improving the payment processor state machine and api.
Decreased VAT Invoice pdf generation by 40x.
Implemented new payments state machine processes during emergency third party outage, allowing us to process over $30 million independently of the outage.

Freelance Developer for Bard Graduate Center | September 2014 - July 2015

Created interactives for five different platforms, illustrating the differences in HCI over 30 years.
Wrote BASIC for the Commodore 64, HyperTalk for the Mac Plus, native C for the Palm Pilot Professional, javascript/canvas for iOS, and C++/openFrameworks for the kinect.
Installed and ran in public gallery for 3 months.

Freelance Developer for Lab@Rockwell, Fake Love | October 2013 - October 2014

Built html canvas-based frontend for malls to create digital signage for lab@rockwell.
Created backend api and email generation and queueing system to reach out to any person who interacted with an iPad openframeworks application.

Media Technology Developer at Metropolitan Museum of Art | February 2012 - August 2014

Developed web-based virtual touchbooks and twitter in-gallery interactives.
Built collections api in node.js for external use (see Iconoclashes).
Managed 3D hackathon with two dozen artists.
Setup projector visualisations for LIARS concert in the temple of dendur built on openFrameworks/C++.
Worked with bluetooth beacons for wayfinding in galleries.
Developed open source image recognition software in javascript.

Bit Wizard for Bug Labs | February 2011 - March 2012

Created getting started guide and tutorial application using Jade, LESS and CoffeeScript for the BUG hardware prototyping platform, making it easier for new developers to quickly understand the components of the stack.
Write CoffeeScript/Mocha BDD tests for JavaScript libraries that interface with custom messaging platform.
Create tutorial and sample web applications using jQuery and Arduino to help new developer ramp-up.

Web Developer at Cold Spring Harbor Labs | September 2010 - March 2011

Redesign and implement Ruby-on-Rails laboratory information management system for experimental pipeline, helping speed up data entry and retreival.

communities

NYC Mesh	member, node operator, developer, working on security documentation, outreach and installs.
NYC Resistor	member, teacher, where I built out Baculus, working on CNC milling/machining and repair.
Recurse Center	Created a custom NES/famicom controller (in C and arduino) that could playback emulator speedruns on real hardware, build the basics of a blockchain client in rust, and learned a bit about networking layers with an online MOOC.
Recurse Center	Researcher, where I built a programmable room, creating tools for building interactivity in a physical space. Created C/C++/openFrameworks computer vision tools, and a node.js db/event queue to allow others to contribute new sensors and visualizers.
School for Poetic Computation	Programmed and painted a piet program whose source code is just a bitmap. Built a network sonifier to make it easier to understand what is going on with your machine and the rest of a local network. Made a collaborative light drawing robot out of an old pen plotter
Island Labs	Founded and ran hackerspace for three years
Linux Users Group at Stony Brook	Presided for two years

projects

Badge CTF	There were a bunch of puzzles on the hackaday superconference badge and I managed to win the CTF!
0-Player Famicom	Figured out how to do automagic playback of speedruns on an unmodified famicom/NES using an arduino. Working on sniffing the data and address busses for cart identification using a Beaglebone Black.
BadgeAssassin	Built a game of assassin at CCC using the camp badges as local radar. Confused all nonparticipants.
Polyplayer Synth	Creation of multi-person network/phone-controlled motors and relays using OSC and arduinos
Space Balloon	Photography of the tri-state area and captured the curvature of the earth from 34,000m with over-the-shelf hardware
Exherbo Linux	Packaging around 100 applications for the exherbo linux distribution, contributing to user documentation
AMD at HOPE	Built API to access live position tracking of thousands of attendees of a three-day conference, enabling developers to create games on the platform

education

Bachelors of Computer Science / Digital Arts from Stony Brook University, Fall 2010
Attended Computer Science program at Carnegie Melon University, 2005-2007