

Jon Morehouse
Student-Hacker-Engineer
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I'm a passionate software engineer, USC student and aspiring entrepreneur. I enjoy finding elegant solutions to problems through new tools and technologies. I consider myself a jack of all trades engineer who has the ability to learn new things quickly. I'm a completely self-taught programmer who can immediately benefit any company wherever needed.

I consider my best skills to include my Unix workflow and mastery of my basic tools and techniques. I'm a strong believer in learning new technologies and best practices and will consistently take the extra steps to do things the right way so I don't have to repeat myself. I'm a DRY/KISS developer who loves BDD/TDD using tools such as Django/Flask, Rails/Sinatra and Node/Express. I'm a full stack engineer at heart and have top-notch front-end skills, I enjoy using Less, Sass, Compass and Coffee-script where I can. I'm really excited about app development using front-end mvc frameworks such as Backbone/Angular/Ember in unison with api driven backends. Server automation and setup is another passion of mine as I enjoy using tools such as Puppet, Chef, Nginx and AWS. I'm a Unix first developer who enjoys finding new ways to use VIM, TMUX and ZSH to help my workflow.

Experience and skills aside, my two most valuable traits I can bring to any team are my insane work ethic and unmatched hunger for knowledge when it comes to software development.

Sincerely,

Jon Morehouse

A stylized, handwritten signature in black ink, appearing to read 'Jon Morehouse'.

Projects

Flashquest

Lead engineer / developer. Responsible for making technological decisions and implementing them. Building our V1 backend using Ruby on Rails, Node.js, Express.js, MongoDB. In charge of building our interactive business portal as well as json RESTful api. Utilizing behavior driven development and technologies such as Cucumber to assist business team and development team communicate effectively.

[Site](#)

Extensive Unix Configuration/Scripting/Dotfiles Project

Have created a place to store all of my machine configuration as I explore advanced parts of the Unix operating system. Constantly am contributing to this project as I strive to improve workflow by exploring new technologies and tools.

[Dotfiles Repo](#)

Prospero

Currently launching a full service application / website for a commercial real estate company in Canada. Implemented a complete CMS for non-technical employees to update site. Built using a LAMP backend with the CodeIgniter framework. I implemented a build tool for the project using Node.js as well as a custom search engine using C++.

[Working Demo](#) [Main Repo](#) [Search Repo](#) [Build Tool Repo](#)

Advanced File Synchronization

I created a program using Python and MongoDB to dynamically perform advanced synchronizations of local files. I'm currently researching various sync algorithms to help implement this more efficiently in GoLang.

[Directory Sync Repo](#)

OpenGL / WebGL HeightField Project

I created an interactive 3-d height field imaging tool using OpenGL and C++. I'm currently exploring a way to take this project onto the web using WebGL. Currently

working on this using some tools such as Express.js, Three.js, Backbone.js and Mocha.js.

[HeightField Repo](#)

USC Medical School 3D Brain Imaging Application

I'm currently building a 3-d web application that transforms craniofacial MRI data into an interactive user experience. The application allows user to not only learn about facial structure, but also upload their own MRI data to compare and find deformities. The application consists of a C++ program written to extract vector data from DICOM format data as well as a javascript based front end app. I'm using WebGL with Three.js and Coffeescript to implement the interactive experience as well as an express.js app on the backend.

DNS / General Networking

I'm interested in the various networking protocols and am doing some directed research in my spare time. I'm currently hacking on a DNS Server technology called Bind to implement my own local DNS resolver.

Relevant Experience

OpenOffer

Worked as a full stack engineer. Responsible for data integrity, scaling, server administration and new feature implementation. Worked primarily in PHP, Javascript and HTML. Implemented a social networking feature which linked popular apis with RSS feeds through the PUSH protocols.

March 2012 - August 2012

USC Institute of Multimedia Literacy

Work as a lab technician and tutor. Assist students with multimedia projects involving graphic / film editing as well as basic web application programming. Assisted faculty with web application programming.

August 2011 - Current

Freelance Software Engineering / Consulting

Currently taking on projects as a freelance web engineer. Have assisted and consulted several new startups launching in the USC community. Help optimize and make minor changes on web sites by contract.

August 2012 - Current

Skills/Languages

- Python
- Ruby
- PHP
- Javascript / Coffeescript
- Bash
- C
- C++
- GoLang
- Some Java
- Some Assembly
- Some Haskell
- Some Lisp

Technologies

- HTML/CSS
- Javascript MVC / Backbone / Angular
- Node / Express - Javascript
- Rails / Middleman / Sinatra - Ruby
- Django / Flask - Python

- Codeigniter / Laravel - PHP
- Mac / Unix / Windows
- SQL / NoSQL
- MongoDB / mySQL / Redis / Memcached / Titan / Cassandra
- ElasticSearch
- LAMP/Unix Server Deployment
- Git / Mercurial / SVN
- Web application / network security
- Test / Behavior Driven Development
- QT / OpenGL / WebGL
- DevOPS / Puppet / Chef

Multimedia

- Photoshop
- Illustrator
- Final Cut Pro
- Sketchup

Education

Pepperdine University 2009-2010

Physics / Chemistry.

University of Southern California

B.S. Computer Engineering Computer Science expected Spring 2015

Previously Aerospace Mechanical Engineering

Overall GPA: 2.5

Major GPA: 3.2

Relevant Courses:

- CSCI 101 / 102 - Intro to programming / Data Structures
- ITP 425 - Web Application Security
- ITP 115 - Introduction to Python
- CSCI 480 - Graphics Programming (current)
- CSCI 271 - Discrete Mathematics (current)
- ITP 499 - Professional C++ (current)