Danny Spencer

Information

- Danny Spencer
- Email: dan.spencer.np@gmail.com
- Portfolio: http://nukep.github.io/portfolio
- Blog: http://nukep.github.io/progblog

Open source

GitHub: https://github.com/nukep

- **LlamaDB**: A simple SQL database written in Rust
- **libxm-rs**: Rust bindings for libxm, a chiptune audio generator
- **rust-sdl2**: Rust bindings for SDL2
- **Mr. Scroll**: Ludum Dare 31, 72-hour game jam entry written in Rust
- **rust-cubes-demo**: An OpenGL, GLSL demo written in Rust
- various Docker repositories
    - also available at https://hub.docker.com/u/nukep/
- **OpticNav**: See below (Client projects)
- **nesemu**: a simple NES emulator written in Java for learning purposes
- **Battleship**: A networked game written in Java as a school assignment
- **FamiTracker CX**: a chiptune music tracker written in C++ for Linux, port of FamiTracker

Education

SAIT Polytechnic - http://www.sait.ca

- September 2012 – April 2014
- Diploma, Information Technology: Software Development

Employment history

SAIT Polytechnic, SAIT RADLab :: Contracted April 2014 – June 2014

- Junior Software Developer
- Assist projects in the RADLab
- Full-stack developer for prototypical web and mobile applications

Data entry for PMAST :: Contracted January 2012 – April 2012

- Enter written feedback from students into an online database
- 80 WPM

Party Packagers :: Seasonal, October 2011 – November 2011

- Sales Associate
- Assist customers with finding Halloween costumes and other seasonal items
- Stock and count the store inventory

Client projects

OpticNav: proof-of-concept AR, multi-user augmented reality maps system

- September 2013 – April 2014
- Student Capstone project
- Client: SAIT RADLab (ARIS), Stephanie Krause
- Helped design the Java EE webapp.
- Wrote Android app using Java-based Android SDK.
    - Targets consumer mobile devices such as the Nexus 5.
    - Targets the Recon MOD Live, an Android-based head-mounted display.
- Wrote the device daemon. Serves and listens for devices over ethernet and WiFi.

Client project for the SAIT RADLab and FABLab

- April 2014 – June 2014
- Wireless data collection, real-time data visualization from hardware
- Implemented a real-time data graph using D3
- Created mobile iOS and Android instrumentation apps using PhoneGap

Cloud, virtualization

- Amazon AWS
- Docker
- VirtualBox

Technologies and frameworks

Web development

Server-side

- Apache
- nginx
- Glassfish
- Spring MVC
- node.js + Express

Client-side

- HTML, CSS3, JavaScript
- Bootstrap
- Ember.js

Typical node.js workflow:

- nodeenv
- Grunt taskrunner
- LiveReload
- bower
- Sass
- Jade template engine
- UglifyJS

Programming languages

C, C++

- ANSI C, C99
- C++98, C++11
- gcc, clang, some MSVC
- Strong grasp of undefined behavior, including strict aliasing
- Debugging with gdb
- Building with CMake, SCons and make
- Distributing portable binaries under Windows and Linux
- Libraries
    - Qt
    - zlib
    - libpng
    - SDL
    - OpenGL
    - ALSA

Java

- Web and desktop
- Java 7
- Java EE 7
- Building with Gradle, some Maven

JavaScript

- Web and desktop
- node.js

SQL

- MySQL
- Oracle SQL
- SQLite
- LlamaDB: My own work-in-progress SQL database
- Database table design, 3NF normalization

PHP 5

- Used in conjunction with LAMP stack

Python

- Python 2.7, 3
- Ability to make basic utility scripts

Rust

- Active in the Rust community since November 2014 (pre-1.0)
- Kept up with daily language changes, updated GitHub project repos accordingly
- Wrote OpenGL + SDL2 demos in Rust
- Contributed to idiomatic Rust designs for the de-facto Rust SDL2 wrapper library
- Wrote a game for the Ludum Dare 31 game jam: Mr. Scroll
- Wrote a rather limited SQL database: LlamaDB

MOS 6502

- Wrote a 6502 emulator for nesemu
- NES game homebrew