Scott Morse
Full Stack Developer
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A React / Node full stack engineer with a background as a professional musician. Author and maintainer of a Python package for music theorists that is part of the public Python library. Experienced as a composer, performer, and educator of music, and now educated in full stack development by DigitalCrafts. I've worked with people from all over the world and have friends on every continent (minus Antarctica). Honest, ambitious, and always looking to surround myself with people to learn from.

Skills:
Languages: JavaScript | Python

Front End:	Back End:
• React	• Node.js
• Redux	• Express.js
• Next.js	• GraphQL
• Apollo	• SQL
• HTML5 / CSS	• MQTT

Certification:
DigitalCrafts | Full Stack Immersive Program | Houston, TX
September 2018 - January 2019
> An immersive software engineering training course covering full-stack development including, but not limited to: JavaScript, Python, cutting-edge frameworks like React/Redux, and server-side technologies in Node/Express and databases such as PostgreSQL.

Education:
University of North Texas | Bachelor of Music: Jazz Studies
Graduated May 2016
Summa Cum Laude
> Info on the UNT College of Music for the curious:
> https://en.wikipedia.org/wiki/University_of_North_Texas_College_of_Music
> It is the birthplace of jazz education, making it a rare conservatory-level program in a state university

Experience:
Instructor of JavaScript: Girl Develop It (Houston, TX) *January 2019 - Present*
- The company is a non-profit dedicated to educating women in tech, though men may participate
- I am a primary instructor of JavaScript, teaching students who pay to attend a 4-part course on how to start building a website utilizing JS (ES6) from a knowledge of only HTML and CSS.

Resident jazz guitarist for luxury cruise companies Oceania and Regent: *August 2017 - August 2018*
- Working with international teams of musicians with no prior rehearsal or meeting
- Playing highly detailed production shows each week with a cast of singers, actors, and dancers
- Basic international maritime training (STCW), duties in safety drills for guests

Composer/Guitarist: Tertium Quid *August 2017*
- Composed and performed original blues guitar background music for the short film *Tertium Quid,* which has been shown in numerous film festivals nationwide.
- Trailer featuring my playing: **www.youtube.com/watch?v=dCo38Y_89M4**

Projects:

- **IoT Gateway + Progressive Web App (for local software company Timbergrove)**
  In Progress

  Summary of Technologies:
  > Gateway: Node, Express, Node-Red, Mosca (MQTT broker), SQLite3, Mocha (testing)
  > Progressive Web App: React, Redux, Webpack, service workers, IndexedDB, InfluxDB

  I am on a small team of developers creating two apps which work together for this particular project.

  My primary responsibility has been to design the IoT "gateway", which will live on an edge device such as a Raspberry Pi. The app is based on a Node.js server. It receives data from a client's sensor devices for their various buildings/locations. It then publishes this data to a local MQTT broker and stores messages in a local

SQLite database. I embedded an instance of Node-Red (a flow-based interface for hardware programming in JavaScript) into the Node app, which locally generates and publishes simulated device data, and will eventually be used to connect to the clients' hardware.

I also wrote the boilerplate for our web application, which uses React and a custom Webpack build and service worker. It is a progressive web app, which will be used to connect to the gateway over a local network and sync data with its own local IndexedDB database and Timbergrove's remote InfluxDB.

I help ensure that the moving parts of these two apps will be able to communicate with each other, and that everyone on the team is always on the same page about the data we're receiving and managing.

- PyMusician (Public Python3 package)
https://github.com/ScottMorse/PyMusician
License: Apache-2.0
Current Version: 1.0.2 *(v1.0.0-beta released to PyPi on October 8th, 2018)*

Summary of Technologies: Python 3.6, Numpy, Regular Expressions

The goal of this Python package is to be a comprehensive library of utilities useful for developers who are also well versed in common practice music theory. Examples of it's purpose include:

- Converting a musical note into it's scientific frequency measured in Hz, and vice versa
- Performing transformations on musical notes using the concept of "intervals"
- Creating objects representing larger musical structures, such as modes and chords
- Parsing a common chord symbol as seen on a lead sheet, and returning an accurate chord object

I maintain this code as a long-term project to grow it into a package that will eventually compete with the handful of other similar packages available publicly.

- React / GraphQL Full Stack E-Commerce Website
https://github.com/ScottMorse/PickinPorchDev
https://pickinporch.herokuapp.com/
Date Completed: December 19th, 2018

Summary of Technologies: React, Next.js, Apollo Client, GraphQL Yoga, Prisma

This is a prototype e-commerce website that has full frontend and backend. The frontend server uses the Next.js framework for server-side rendering of React. The Apollo Client communicates with a backend GraphQL Yoga server (an Express-based server for GraphQL), which is connected to the Prisma service, which allows for basic GraphQL CRUD operations on a remote PostgreSQL-based database.

It also features the Stripe API for checkout, and the website is mobile responsive, using the Styled Components library for styling.

See the GitHub README for more overview on the technologies used.

- AtmosFear (React / Redux game)
https://github.com/ScottMorse/AtmosFear
https://atmos-fear.herokuapp.com
Date completed: December 6th, 2018

Summary of Technologies: React, Redux, Webpack, Babel

This project was a challenge for myself to create a game in React from the ground up in 3 days (no "game tutorials" used), and I succeeded. In this game, you are a space shuttle avoiding collision on the way to space. React is used for the front end, and Redux is used to manage the state of the game. It features:

- Music and sound FX composed by myself
- Pixel graphics created also by myself
- Use of Redux for overall game state (level, health, hit boxes, etc.)
- It is compiled with Webpack and Babel for compatibility and optimization