Brendan Thompson

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EDUCATION

Transylvania University   **Lexington, KY**
BA in Computer Science, Psychology Minor, GPA: 3.441   *May 2018*

EXPERIENCE

Team Alpha Services   **Lexington, KY**
Web & Mobile Developer   *Oct 2017 - Present*
- Developed an Android mobile application for a client using Android Studio (*Java & XML*) that communicates with Firebase for user authentication as well as for data storage & retrieval
- Developed a hybrid mobile application for a client using the Ionic framework (*Angular, TypeScript, HTML, & CSS*) that communicates with Firebase Database and Firebase Storage for images
- Used *WordPress* to manage content & features on multiple different client websites

Awesome Inc U   **Lexington, KY**
Youth Coding Instructor   *Feb 2018 - Present*
- Helped students understand important software development concepts such as conditionals, iteration, object oriented programming, utilizing tools & frameworks, and the value of good documentation
- Taught 11-14 year-old kids game development basics like sprites, object instantiation, collisions, user input, and physics
- Led a summer camp developing a mobile app with Thunkable, a website with HTML & CSS, and a game with Unity

Awesome Inc   **Lexington, KY**
Web & Mobile Development Intern   *Aug 2017 - May 2018*
- Learned the Ionic hybrid mobile framework (*Angular, Typescript, HTML, & CSS*) in order to create the Awesome Check-In iPad app that alerts the appropriate team members via Slack of guests to the Awesome Inc space
- Managed content & features for Awesome Inc's suite of websites using tools such as *Jekyll & Bootstrap* and manipulating *GitHub & FileZilla* codebases in *JavaScript, Sass, CSS, and HTML*
- Refactored a website from native *HTML, CSS, and Javascript* to having its content managed by *Jekyll*
- Strove for excellence in a highly productive, fast paced, high tech, entrepreneurial environment surrounded by developers, marketers, designers, video producers, and other talented individuals

IBM at Lexmark through Pomeroy   **Lexington, KY**
Tape Operator / Tier 1 Hands & Eyes   *Aug 2016 – Present*
- Rebooted servers, collected data on cables, escorted engineers, and handled other basic IT tasks in a secure IBM data center
- Used enterprise level IBM applications and other professional software to create and verify records regarding data storage tapes as well as to communicate with employees and clients around the world
- Balanced work with having an internship, attending college classes, and still meeting a handful of other academic, social, and work related obligations

Transylvania University Computer Science Program   **Lexington, KY**
Technology Assistant   *Aug 2014 – May 2016*
- Created, populated, organized, and maintained a Tellico database for the Transylvania Computer Museum
- Taught myself HTML & CSS in order to develop a virtual tour of the computer museum

PROJECTS

Awesome Check-In   **Ionic Hybrid Mobile App**
Ionic, Angular, Slack API, HTML, CSS, TypeScript   *Sept 2017 - Feb 2018*
- All guests to the Awesome Inc space now use the app I developed to check in on an iPad by supplying basic information to the app which then sends a Slack message alerting the appropriate team members of the guest's arrival
- Built a minimum viable product and then implemented an all new interface based off of a designer's mockups

Angel Central   **Ionic Hybrid Mobile App**
Ionic, Angular, Firebase Database & Storage, HTML, CSS, TypeScript   *Jan 2018 – Present*
- Used native Android tools to develop a mobile application for a client that sets and handles multiple alarms
- Implemented Firebase as a backend for user authentication as well as for data storage & retrieval

Soul Meds   **Android Mobile App**
Android Studio, Firebase Database, Java, XML   *Feb 2018 – Present*

- Used native Android tools to develop a mobile application for a client that sets and handles multiple alarms
- Implemented Firebase as a backend for user authentication as well as for data storage & retrieval

Moosnick Museum | **iOS Mobile App**
Xcode, Swift | *Mar 2018 – Apr 2018*

- Focused on the Controller aspect of the MVC design paradigm while working as a group of three to develop an iOS app minimum viable product capable of displaying the Transylvania University Moosnick Museum's entire catalog

Transy Rambler | **Android Mobile App**
Android Studio, Java, XML | *Jan 2018 – Apr 2018*

- Worked as a team to develop a mobile platform for the Transy Rambler news source based of a 30 page IEEE software requirement specification document we created and got approved by the client

BRENxOS | **Simulated Operating System**
C, GCC, GitHub | *Jan 2017 – Apr 2017*

- Simulated an Operating System that manages multi-processing with a Scheduler, a Process Table, and a Memory Manager
- Implemented paging of memory and used semaphores to manage critical sections
- Spent months working on the same elaborate & well documented codebase while implementing carefully considered new features and re-factoring classes based off of new needs & old feedback.

BRENxCompiler & BRENxExecutor | **Language Compiler & Executor**
C++, GCC, GitHub | *Sept 2017 – Dec 2017*

- Implemented a Compiler in C++ that turns the "Transy" language into "Transy Object Code" which can be ran using an Executor that I also developed
- Created multiple objects to simplify the process such as a Parser, a Tokenizer, a Symbol Table, and a Literal Table
- Spent months developing an elaborate & well documented codebase and implementing carefully considered new features while re-factoring older sections based off of new needs & feedback.

Formant Filter | **Max 7 Patch**
Max, MSP | *Nov 2017 – Dec 2017*

- Implemented a normalized, windowed, and overlapped Fourier Transform on complex sound waves to filter out all audio except from in bands around the three loudest frequencies
- Went above and beyond the course objectives by teaching myself the complex physics & mathematics behind the analysis of digital signals & sound waves

Audio Synthesis Summer Project | **Audio Synthesizer Desktop Applications**
JUCE Audio, C++ | *Jun 2017 – Aug 2017*

- Taught myself the JUCE Audio C++ framework to develop an additive synthesizer that generates sine waves for selected intervals in the harmonic series given a fundamental frequency
- Generated digital signals by filling buffers with values based off of sine wave cycles at specified frequencies

BRENxSynth | **Max 7 Patch**
Max, MSP | *Oct 2017 – Nov 2017*

- Used the Max visual programming environment to develop an additive synthesizer and its module components which included three shape-controllable oscillators, an LFO, and an ADSR envelope

Researched 3D Printed Connection Pin Schemes | **3D Printing Research**
MakerBot Replicator (+ & 2x), SketchUp | *Apr 2016 – May 2016*

- Defined a way to design 3D printed objects that could be assembled into something much larger than the standard MakerBot printer by testing and comparing the strength of different connection pin design schemes

Traffic Cop Hero 1000 | **Desktop Game**
Unity, C# | *Apr 2017 – May 2017*

- Taught myself Unity and C# in order to take a game concept from just an idea to an exciting playable adventure
- Handled developing a 2D arcade-style shooter while teammates focused on designing assets and producing the soundtrack

ADDITIONAL

- Competed in the 2017 NCAA DIII Men's Lacrosse Tournament with the Transylvania Pioneers
- **Languages**: C, C++, C#, Java, Swift, HTML, CSS/Sass, JavaScript, TypeScript, XML, Prolog, LISP, Visual Basic
- **Frameworks**: Android Studio, Xcode, Ionic 3, Angular, Bootstrap, WordPress, Jekyll, Unity, JUCE, Max MSP
- **Relevant Coursework**: Interface Programming, Principles of Programming Languages, Operating Systems, Compiler Construction, Game Design, Data Structures, Computer Organization, Computational Theory
- **Audio Tech Experience**: Intro to Music Technology, Interactive Music & Multimedia, Music Cognition, Automated MIDI File Production, JUCE C++ Framework, MAX/MSP, TouchOSC, Ableton Live, Pro Tools