

Summary

I am a software engineer proficient in C++ and C#. I have some experience writing Java, C, Python, JavaScript/JQuery, HTML, and CSS with the Bootstrap library. I also have exposure to the MASM assembly language.

I am proficient in the .NET/.NET Core Framework with C# and the C++ Standard Library. I also have some experience with the Django Framework and the CMake build system for C++. I have managed group/individual projects using GitHub and Git Version Control, alongside Trello for task management.

I currently live in Weber County in northern Utah. I am open to remote work, as well as work in the Salt Lake City metropolitan area, the Ogden/Layton metropolitan area, and the Logan area.

Technical Skills

Languages: C++, C#, C, Java, Python, HTML5, CSS, JavaScript, SQL

Frameworks: .NET, Bootstrap, Django, Selenium, Playwright

Tools: Git, Microsoft SQL Server, MySQL, CMake, Docker

Education

Weber State University

Aug 2020 — Apr 2024

Bachelor of Science in Computer Science, GPA 3.77

Relevant Coursework: Object-Oriented Programming, Formal Languages and Algorithms, Data Structures and Algorithms, Software Engineering, Server-Side Web Architecture, Web Development, Advanced Database Design.

Projects

Appointment Scheduling System

github.com/nathandavis18/Steamboat-Willie

- Delivered a final product that Weber State University acquired for non-commercial use, reducing appointment scheduling costs by up to 100%; published full disclaimer on GitHub and About Us page
- Enhanced basic minimum viable product into a polished system by leveraging client-based insights from advisors and instructors, leading to 50% improvement in product functionality and user experience
- Built this Capstone project from the ground-up from February 2024 – April 2024 with a team of 4 engineers, enabling students to schedule appointments with advisors, instructors, and tutors utilizing C# and .NET 7.0
- Implemented automated integration with Google Calendar to populate appointments using Google's Calendar V3 API
- Incorporated Google and Microsoft external authentication services allowing users to login and signup using 3rd party services using Google's and Microsoft's OAuth2.0 APIs, decreasing account creation time by 30%

Music Player

github.com/nathandavis18/Nutty-Music

- Engineered a robust music player with queue management capabilities, allowing users to search and play YouTube or local songs; leveraged C++ and wxWidgets to boost application speed by 50%
- Developed a non-blocking GUI improving the usability of the application by implementing multithreaded functionality to run searching and downloading tasks on secondary threads, improving usability by 30%
- Designed system to run CLI tools and play music on secondary threads allowing for a fluid GUI using the Windows and WinRT Media APIs, increasing usability by 60%

Multiplayer Tetris

github.com/nathandavis18/Co-op-Tetris

- Created a multiplayer version of Tetris allowing cooperative play for 1-4 players using C++ and SFML
- Authored a scaling algorithm for automatic board growth, cutting implementation and debugging time by 75%
- Cut build time down by creating a CMake build script that automates the build process depending on the target architecture (x64 Release, x64 Debug, x86 Release, x86 Debug)

Data Structures and Algorithms

github.com/nathandavis18/Projects

- Designed a vector class with geometric growth on the heap, abstracting the implementation away from the user and handling all allocation and deallocation automatically using C++ templates
- Composed a merging algorithm to merge 2 sorted containers in linear time using a 2-pointer approach
- Produced custom random-access compliant iterators to traverse containers without knowledge of the container's size using C++ templates, decreasing traversal time of lists by up to 50%

Experience

Personal Shopper, Walmart

Aug 2020 — Present

- Brought the store's average items picked per hour up by 10%, maintaining an individual average of 200 items picked per hour, while ensuring product quality is at or above standard
- Reduced store's average arrival-to-dispense time within a team of 15 employees by 40%, bringing customer satisfaction rates up by 20%

About Me

I was originally interested in programming because I wanted to learn how games were made and wanted to make my own. I chose to enroll at Weber State University due to all the positive things I had heard about it, and I can say that I made a good choice. During my time in Weber's computer science degree, I started to enjoy the software engineering side of programming more and more.

Outside of my time at Weber and work, I enjoy spending my time working on individual projects, spending time with my family, and playing some of my favorite games. I also frequently do independent research to further hone my programming skills. I am a motivated self-learner, and pride myself in being the best that I can.