Project 1: MF Scheduler

- Chooses the best configuration of member and labor assignment, taking into account preferences and availability.

- Capable of handling 10,000+ members and labor positions in the database.

- Written primarily in entirely in C++, leading to performance optimizations and very quick runtime. Highly maintainable and scalable codebase.

- Cross-platform, with export options of Windows, Linux, and Mac OS X
Project 2: Burst Battle

- Fast-paced at a smooth 60 frames per second, adaptively scales to any screen resolution
- Supports multiplayer
- Written primarily in GameMaker Language (object-oriented C++/JavaScript style language) and uses Java and ActionScript for asset creation/management.
- Includes robust networking capabilities leveraging the security and reliability of TCP communications.
Project 3: Low Keys

- Web Application for helping people find new music
- Includes library of hundreds of songs and artists across a variety of genres
- Written using the React framework (HTML, CSS, JavaScript)
- Includes robust, well-documented REST API endpoints using Flask to quickly query, filter, and sort from a large collection
Project 4: AniMotion

- Developed software allowing users to create captivating character animations with ease and precision.
- Implemented root motion functionality to achieve natural and realistic character movements.
- Provided advanced users with extensive customization options for fine-tuning animations, adjusting timelines, and creating complex animation sequences.
- Powered by GML and GLSL, allows for dynamic color customization through built-in color palette swapping capabilities.
Lightweight command line application, streamlining workflow for client-server communications

Can support multiple concurrent clients, repeatedly bombarding the server with packet sizes nearing the UDP limit

Written entirely in python, making the code highly readable and dynamically typed

Leverages the power of the lightweight UDP internet protocol and has packet loss/duplication detection.
Project 6: PokéGains

- Developed a unique mobile app that merges fitness and gaming, allowing users to create personalized exercises and catch Pokémon while working out.

- Developed a robust storage system allowing users to store and manage hundreds of Pokémon, while also implementing special evolution methods that add depth and strategy to the gameplay experience.

- Utilized React with the Ionic Capacitor framework to design a cross-platform mobile app, ensuring compatibility and accessibility for both iOS and Android users.
Project 7: AniMake

- Converts Adobe Animate json files into a more readable and easily parsable text file
- Can batch create different animation files, saving the user time considerably
- Supports additional functionality not given by Adobe Animate such as symbol modifiers