Jesse Mack Software Engineer Washington, U.S.A.

TECHNICAL SKILLS

- Languages: PHP, Javascript, TypeScript SQL, Python, JSON, HTML, CSS, SASS
- Frameworks: Node.js, React, Express, Socket.io, Prisma, jQuery, AJAX, tRPC, Astro
- Tools: Linux, Git, MongoDB, Apache, Nginx, CI/CD, REST API, Unit Testing

Experience

• Software Engineer

- o Improved MySQL database performance by 30% through optimizing field indexing and queries
- o Identified and resolved over 40 critical bugs through the use of unit and integration tests
- Achieved a 25% improvement in overall performance by refactoring existing code
- o Automated data fetching, parsing, and database table actions with Python
- Employed websockets to enable real-time updating of product metrics and analytics
- o Created an administrator dashboard with PHP, JavaScript, and MySQL to analyze site and user statistics
- o Developed a forum with React, Express, and MySQL, supporting threads, posts, and user authentication
- Set-up Apache and Nginx configurations to handle server routing
- Generated and upheld comprehensive documentation of both installation procedures and features

Volunteer Experience

Software Developer at The Pokemon Kingdom

February 2017 - Present

An up-to-date online Pokemon RPG with 44,000+ members and 300,000,000+ pageviews

View Website

- o Discovered and swiftly patched over 100+ bugs, including SQL injection and XSS vulnerabilities
- o Improved overall load times by 20%+ by optimizing database field indices and SQL queries
- Generated over \$750.00 USD through organized community events
- Lead development of many features, including architectural and structural aspects

Projects

Aetherim - Unity Modding Framework

January 2023 - Present

A C++ wrapper for accessing Unity engine's IL2CPP methods during run-time

Source Code

- o Provides a wrapper allowing easy use for working with IL2CPP images, classes, methods, and fields during run-time
- Utilizes Premake to generate necessary IDE project files for compilation
- Upheld comprehensive documentation of the installation process and wrapper functions

Pokemon Absolute

December 2020 - Present

An online Pokemon RPG with complex battling, trading, map exploration, and more

Source Code

- Automated MySQL database table creation and data insertion of 1100+ Pokemon species, 800+ battle attacks, and 600+ items through Python
- Enhanced DevSecOps by setting up a permissions system to regulate user access to vital functionalities
- Employed a continuous integration and deployment pipeline to synchronize the repository with the server
- o Developed a real-time chat system displayed in-game through the use of websockets in TypeScript
- o Created a Discord server bot that facilitates communication and interaction with the game server
- Implemented an administrative panel to display and allow management of database information
- Engineered an extensive custom battle system using object-oriented programming practices
- Utilized Phaser.js to create an open-world map engine that allows exploring custom Pokemon maps

October 2019 - Present

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