Preston Brown

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SKILLS

Languages - C#, Python, C++, Java, SQL, PHP, JSON, XML, HTML5, CSS
Software - Unity, Unreal Engine 4/5, TeamCity, Jira and Confluence, Perforce, Git, MySQL, REST APIs
Game Dev - AI, VR/XR, Gameplay Systems, Backend Systems, Crash Reporting, 3D Math, QA, Cross-Platform, CI/CD, Agile
Computer Science - Data Structures, Code Optimization, Source Control, Algorithms, Documentation, Sys Admin

EDUCATION

Bachelors of Science - Computer Science (Games Emphasis)   MAY 2022
University of Utah
Courses - Artificial Intelligence, Game Development, Algorithms, Data Structures, Graphics, Databases, Asset Pipeline, Machinima, Trig, Calculus 3, Linear Algebra, Discrete Math, Physics
- Developed various C++ programs including a web cache, a 2D medical triage game, a concurrent web server, and a networked multiplayer asteroids game..

WORK EXPERIENCE

DevOps Jr Software Engineer - *Avalanche Software, Salt Lake City, UT*   OCT 2023 - PRESENT
Hogwarts Legacy, Unannounced Title
- Optimized and maintained a crash pipeline processing 10,000+ crashes daily across PC, PS4, PS5, Switch, XB1, and XSX ensuring efficient analysis and stability.
- Designed and developed a real-time monitoring dashboard for the crash analyzer servers to track the processing status and detect missing symbols/callstacks.
- Built a MySQL database backend and wrote queries to efficiently store and track 1M+ crash analysis records.
- Debugged code and asset changes that caused compilation and build failures.
- Wrote significant code changes for the code submission tool, change validation checks, and various backend systems.
- Oversaw the storing of symbols for recent and master builds.
- Created a Windows Service (Crash Agent) that automates startup, monitoring, and management of the crash analyzers, reducing manual workload and improving system uptime..
- Enhanced UnrealGameSync by troubleshooting issues, integrating upstream updates, and implementing extensive custom features.
- Authored comprehensive documentation for internal tools and workflows.

Dev Support QA - *Avalanche Software, Salt Lake City, UT*   APR 2022 - SEP 2023
Hogwarts Legacy
- Wrote detailed bug reports in Jira providing debugging information to streamline troubleshooting for engineers.
- Executed comprehensive regression testing to ensure stability across builds and platforms.
- Collaborated with other QA teams to validate game mechanics and playability on all supported platforms.

OTHER GAME PROJECTS

Headlights - *Gameplay Programmer - C++, Blueprints, UE5*   IN DEVELOPMENT
A UE5 atmospheric horror driving game where you must outmaneuver a deadly AI-driven enemy on a desolate road.
- Implemented realistic AI-driven enemy vehicle behavior, enabling patrolling, pursuit, and aggressive attacks.
- Developed core driving mechanics including crash functionality, collision detection, and vehicle handling.
- Created an efficient road system to be navigated by NPC vehicles to find the ideal path from point A to B.
- Integrated Enhanced Input, MetaSounds and animation systems (IK, blueprints, montages).

Deadly Daycare - *Gameplay Programmer - SteamVR, C#, Unity*   MAY 2021
Steam - store.steampowered.com/app/1561560/
A VR game where you must care for a handful of chaotic creatures and keep them happy in order to ensure your safety.
- Implemented VR interactions, particle systems, and creature AI behaviors.
- Developed an interactive Bestiary book, displaying live creature data, care instructions, and the settings menu.

Additional Projects
- **8th Century Breakout** *(May 2020, GameMaker)* - Designed and programmed all of the puzzles.
- **Iron Maiden** *(Dec 2019, Unity, C#)* - Developed combat mechanics, enemy AI, and interactable objects.