Thomas Mezzie
Software Developer

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WORK EXPERIENCE

Trashfire Games   **Jan 2024 – Current**
Gameplay Programmer Intern
- Engineered and fine-tuned enemy AI algorithms and player controller mechanics for a 3rd person hack-and-slash game using Unity (C#), implementing complex vector mathematics for telekinesis-based combat interactions, resulting in a highly responsive gameplay experience.
- Designed and implemented a dynamic boss fight system, utilizing state tracking and database-driven logic to seamlessly transition between boss phases based on HP thresholds, ensuring smooth player experience and complex multi-phase combat mechanics.
- Utilized Git to resolve version control conflicts, implement bug fixes, and optimize branching strategies, significantly reducing code merge issues and improving team collaboration.
- Assisted team members in debugging and refactoring code by conducting detailed code reviews and providing mathematical insights, ensuring adherence to performance and quality standards.

Hexfork   **Aug 2023 – Jan 2024**
Gameplay Programmer / Unreal Developer Intern
- Spearheaded the integration of Unreal Engine's networking architecture into a 3v3 party game using C++, implementing multiplayer features via Steam's networking API and leading the development of a custom server browser, integrating front-end UI elements for improved matchmaking and user experience.
- Led a cross-functional team in developing self-driving car mechanics, designing collision detection systems and AI algorithms in C++ for autonomous navigation, obstacle avoidance, and real-time GPS-based rerouting, while also working on UI elements to ensure intuitive player interaction with the feature.
- Confidently led teams in troubleshooting and resolving both front-end UI bugs and back-end network-related issues, aligning the user interface with back-end processes to create a cohesive and high-quality user experience.

PROJECTS

Portfolio Website | HTML / CSS | JavaScript | **tommezzie.com**   **2023**
- Created a personal portfolio website from scratch using HTML, CSS, and JavaScript.
- Ensured cross-device compatibility with responsive design for both mobile and desktop platforms.
- Implemented scroll-to-section links and fullscreen image option to enhance user experience.
- Configured custom domain hosting through GitHub Pages for seamless deployment.

The Last Wager | Card Game | Unity | C# | **Github Repo**   **2024**
Roles: UI Programmer | Gameplay Programmer | Level Design | Design
- Created the game within a 48-hour timeframe, ensuring functionality and playability under tight deadlines.
- Designed and programmed the core card ability system and game loop mechanics using object-oriented principles in C#, implementing modular, reusable code to handle dynamic player interactions and balance gameplay logic efficiently.
- Led the development of the user interface (UI) using Unity's UI toolkit, applying event-driven programming to create intuitive, responsive interfaces that ensured seamless gameplay flow and interaction with complex card mechanics.
- Collaborated with a back-end developer to architect and integrate a grammar-based card logic system, leveraging algorithmic design to enable generation and validation of new card abilities based on player interactions and game state.

EDUCATION

California State University San Bernardino   **2023**
Bachelor of Arts, Computer Systems Game Development   San Bernardino, CA

Crafton Hills College   **2021**
Associate in Science, Computer Science   Yucaipa, CA
Associate of Art, Mathematics

Technical Skills & Interests

Skills:
- **Programming Languages:** C++, C#, Python, JavaScript, HTML/CSS, Lua
- **Game Development:** Unity, Unreal Engine , AI Programming, Game Mechanics, Pathfinding (A*), Finite State Machines
- **3D Mathematics:** Linear Algebra, Vector Math, Matrix Transformations, Quaternions
- **Software:** Git, Visual Studio, Test-Driven Development, Continuous Integration/Continuous Deployment (CI/CD)
- **Networking:** Steam API Integration, Multiplayer Networking, Client-Server Architecture
- **Collaboration Tools:** Jira, Trello, Slack, Confluence

Interests:
- PC Building | Custom Keyboards | Game Jams | Drumming | Studying Japanese | Art | D&D | Music | Gaming