Greg Peterson

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Education

Massachusetts Institute of Technology Cambridge, MA

Bachelor of Science in Computer Science Engineering and Game Design (CMS)

Experience

Unreal Gameplay Programmer June 2021 – Present

Crowbar Collective, unannounced game *Remote*

- Architected multiplayer FPS systems such as weapons and inventory with a focus on scalability and optimization
- Rapidly prototyped player-facing game features and iterated on them to deliver a shippable product
- Reduced load times using Unreal Insights and other profiling tools by freeing over 1 GB of hard-referenced memory
- Collaborated across various art, programming, and design teams to ensure the release of polished systems
- Implemented testing suites to help designers integrate Blueprint code
- Designed systems using data modeling and concept structure with UML and Alloy
- Maintained data persistence across levels and sessions by creating subsystems and save game objects
- Designed and developed main menu UI loop using Unreal's UMG UI Designer
- Integrated third-party NVIDIA and AMD plugins to increase framerate
- Created optimized fog post-processing effect using Unreal's material editor

VR and AR Gameplay Programmer Jan. 2019 – September 2021

MIT GameLab *Cambridge, MA*

- Developed game for mobile and VR platforms that was presented to schools in Boston
- Implemented object pooling for thousands of respawning objects and improved the game thread by 5ms
- Developed a graph and state machine for designers to create gameplay events
- Collaborated with research team to improve player experience by logging playthrough to database server
- Created questing system using abstract classes
- Saved game data across levels using static classes and displayed the data on a VR user interface

Projects

Chicken Game | *Unreal Engine 5, C++, Blueprints, Perforce* Jan 2023

- Designed and developed entire first-person clicker-based game in 2 weeks
- Developed roaming animal AI using Unreal's Behavior Trees and EQS
- Optimized GPU thread by using Unreal's profiling tools to investigate lighting improvements
- Utilized Perforce, AWS server, and UE5 multi-user editing to maintain production for a remote team
- Created various props using Blender and Substance Painter

Various Unreal Projects | *Unreal Engine 4, Unreal Engine 5, C++, Blueprints, Git* Jan. 2020 – Present

- Designed and implemented a 3D A* pathfinding algorithm for enemy AI
- Designed and implemented a boids algorithm to mimic flocking birds
- Researched and iterated on implemented algorithms to improve them and make gameplay more fluid
- Collaborated with artists and taught them UE4 and Git to maintain a remote production environment

Technical Skills

Languages: C++, C#, Java, Python, JavaScript, Bash
Engines: Unreal Engine 4, Unreal Engine 5, Unity, Gamemaker
Developer Tools: Git, SVN, Perforce, VS Code, Visual Studio
Data Modeling: UML, Alloy
Miscellaneous: Blender, Substance Painter, Substance Designer, Zbrush, RizomUV