Jack Bulson

Programmer

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Personal Profile

Programmer with 3 years experience in the games industry developing games. I have a passion for low-level programming, with an interest in graphics and optimisation. Proficient in C++ and experience with Rust. Highly-motivated and looking for new experiences in or outside the games industry.

Employment

Gameplay Programmer (C++ / Unreal Engine)

Sumo Newcastle
2024~

- Worked on **Critter Cafe**, a critter collecting, cafe management cozy game.
- Implemented **multiple** gameplay mechanics to a **high-standard** in C++, these include: character's tools, level ingredients(blocks/redirectors/switches), cafe open for trade + minigame, **UI**.
- Collaborated closely with designers & level designers to create these mechanics according to a **specification**, and communicated with them about issues that arose.
- Worked with level design to build in-editor functionality to improve their **workflow.**
- Improved the **game feel** and **UX** of the customisation mode by reworking how objects were placed into the world, allowing for a more seamless experience.
- Experience gained with **fixing bugs** and **debugging** across a complex game with data used across a variety of places, such as save data or global game data.
- Reduced frame times by **profiling** the game, identifying slower code and increasing the speed while maintaining behaviour

Graduate Programmer (C++ / Unreal Engine)

Sumo Newcastle
2022 ~ 2023

- Worked on **DeathSprint 66**, a multiplayer, high-speed on-foot racing game.
- Prototyped gameplay systems and mechanics within a **small feature team**, iterating on these to find the fun and moving on once we were satisfied with the outcome.
- Gained experience with **networking & replication** on a multiplayer project.
- Worked on a **shelved** project where I took the lead on implementing outlines for interactable objects, improving the **player experience** and **accessibility.**

Projects

Game Engine (Rust/Vulkan)

2022 ~ 2023

- Consisted of a renderer, simple asset management, collision detection and other utilities
- Used **data-driven design** to create a performant rendering pipeline
- Implemented PBR, shadows, post-processing, instanced rendering
- Created a renderlist that used virtual resources to **abstract** away render pass creation and resource pipeline barriers, and allowed for easily swapping the order of passes

Hydraulic Erosion Simulation (C++/Vulkan)

2022

- Implemented a simple form of water erosion as part of my final year university dissertation
- Compared the visual and **performance** results between CPU and GPU
- Utilised **compute shaders** to create a GPU version of this simulation

Technical Skills & Qualifications

- 3 years industry experience using C++/Unreal Engine/Perforce
- MComp Computer Science (Games Engineering) Newcastle University, UK (1st)