Louise Ramsden

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LouiseRamsden

Skills and Technologies

Languages: C/C++, C#, HLSL, GLSL, UE Blueprint + Material Nodes, LaTeX, Lisp(Scheme and Clojure), Python, APL

Technologies: DirectX12, DirectX11, DXR, OpenGL, Unity, Unreal Engine, .NET, RenderDoc, Git, SDL.

Programming Skills: Graphics, 3D Maths(Linear Algebra and Calculus), Debugging, Gameplay/Scripting, Concurrent/Parallel.

Soft Skills: Communication, Teamwork, Adaptability, Time Management, Interpersonal Skills.

Experience

University of Staffordshire - 1UP Scheme Programmer, Stoke-on-Trent, 2024

- Worked as part of a 30 student team in the tech department over the summer creating a game set for commercial release named "Disc-Go!". Resulting in a **Tiga Game Industry Award Shortlist**.
- Made extensive use of Unreal Engine and its tools such as Blueprints, Material nodes, Behaviour trees, UMG and Unreals Physics Engine to create mechanics and modes for the game.
- Worked using an Agile Scrum methodology including daily stand-up meetings and lots of communication between departments.
- Made heavy use of source control to allow for work in parallel for each department and helped as a part of the tech team to manage merge conflicts and the overall project workflow.

University of Staffordshire - Student Demonstrator, Stoke-on-Trent, 2025-Current

- Working with lecturers weekly to aid students in tutorials by answering questions, helping them with their work and steering them towards a better understanding of the material taught in the module.
- Occasionally demonstrate programming and game development concepts for students and aid the lecturer/s in their initial talk at the beginning of the tutorials.

Projects

dxr/d3d12-framework, 2025

- Raytracer using the DXR framework to render a complex scene showcasing a variety of raytracing techniques such as reflections, shadows, lighting, and translucency.
- Made use of DX12 and and DXR's acceleration structures to allow the renderer to run in real time with a complex scene.
- **Tools Used:** C/C++, HLSL, DirectX 12, DXR, WinAPI, Visual Studio, Git

water-rendering-benchmarking-project (in progress), 2025-2026

- Renderer and benchmarking tool made to support my dissertation by benchmarking a variety of techniques for generating and propagating realistic looking water waves.
- Features include: a variety of different water implementations using a variety of techniques for wave generation, use of different graphics shader stages for some of the techniques, and multiple ways to benchmark said techniques including an in-depth UI and a set benchmarking procedure for use in quantitative data collection.
- **Tools Used:** C/C++, HLSL, DirectX 11, WinAPI ,Git, Renderdoc, Visual Studio, Desmos

Education

BSc(H) University of Staffordshire, Computer Games Programming w/ Foundation Year, 2022 - Current

- 2nd Year Avg Mark: 67.5%
- **2nd year Modules:** Realtime Rendering Frameworks, Multiplayer Games Programming, Game AI, Applied Maths for Games, Realtime Illuminations Programming and a Collaborative Project
- 1st Year Avg Mark: 72%
- **1st year Modules:** Programming Fundamentals, Computational Methods, C#Scripting for Game Engines, Mechanics Prototyping, Introduction to Graphics Programming and Bespoke Platform Development.
- Foundation Year Completed.