Michal Wiatrowski

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Education

2016-2020: BSc (Hons) Computer Games Application Development (2:1)
Abertay University
Scotland

Skills

Languages: C++ (6 years), C# (2.5 years with Unity), HLSL (1 year).
Development Tools: Visual Studio, Unreal Engine 4, Unity, Wwise, MATLAB, Github/Bitbucket, Jira, Confluence.
Libraries and APIs: SFML, Box2D, ImGui, OpenGL, DirectX11.

Projects

PsychoHound Limited - Game Programmer   [July 2021 - Present]
- Currently working on 2 projects; a game installation of AUDL sponsored by the official body, and a mash-em-up game titled "Ruff 'N' Tumble: Mayhem" which can be found on Steam.
- Designed and implemented networked gameplay mechanics; using both C++ and blueprints
- Tasked with improving and fixing current mechanics and other issues within the projects, including code reviews.
- Implementing assets throughout the pipeline provided by other disciplines, and/or modifying them if necessary which included, but not limited to, UI, AI, Level Sequences, and 3D art assets.

Graphics Programming   [C++ (DirectX11) and HLSL | PC]
- Application to demonstrate the **different stages of the graphics pipeline** by developing shaders using **HLSL in DirectX11**. The application covers the usage of the **Vertex, Hull, Domain, Geometry** and **Pixel Shaders**.
- Using the shaders, demonstrations of **vertex manipulation**, such as loading **height maps** and **billboarding**, **tessellation**, **physically based rendering** and a selection of **post-processing effects** were assembled.

Gameplay Programming   [C++ (Unreal Engine 4) | PC]
- **Created an archer character in a 3D environment of Unreal Engine 4** using a character from another game as a reference with extra mechanics in addition.
- The application is not a game but has a small level that can be used to showcase the abilities.
- The **character has multiple mechanics** that include but are not limited to **wall climbing**, **a full working bow feature with simple animations**, and arrows ranging from **standard** to **sonic** and **vacuum arrows** that allow the user to see enemies through walls and pull all objects towards the centre respectively.

Instruments of Destruction   [C# (Unity) | PC]
- A game created during the **Imperial War Museum Game Jam**. Roles included **programming** and **UX design**.
- Made by 4 students over 48 hours where the users need to **split into teams and communicate pieces of information from a physical document to meet the mission brief** and send the correct aircraft.
- Things that I worked on included: **UI design** of the main game, an **inventory style system** where selected aircraft are added towards the mission, implementation of a **CRT monitor style shader** to give the game a post-Cold War feeling and **the overall implementation, testing and flow of all the game assets and gameplay**.

Audio Programming   [C# (Unity) and Wwise | PC]
- A demonstration application showcasing **audio effects within a game engine written in code** and **third-party middleware**.
- The application was made in Unity and it contains a custom made **61-key piano-based synthesizer**, **audio effects created through code** including **reverse play** and **amplitude modification**, and the **integration and usage of Wwise** which allows the application to use its **3D audio positioning** and **attenuation**.