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Portfolio: <https://pang.github.io/>

About Me:

I have been avidly pursuing growth and knowledge in technology throughout my career. In my spare time I like learning closely related skills and then building projects such as NPC AI vision, or studying networking concepts and building a virtual multiplayer obstacle course for players to race each other online. Most recently I have been learning to use the Vulkan Graphics engine using C++. I do also enjoy a few things away from my PC! Travelling, practising Spanish, drawing and long runs to name a few. This year I hope to run my first 10k in under an hour!

Projects

Procedural Terrain Generation

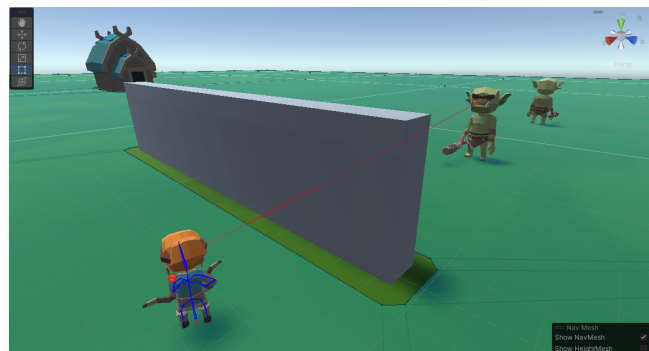


Through the use of perlin noise, creating my own mesh and building a shader for the colours of the terrain depending on it's height, I was able to generate different maps and then use "fall-off" to turn them into islands. I shared my findings and how I built this project on my youtube channel below.

 [How to Procedurally Generate Terr...](#)

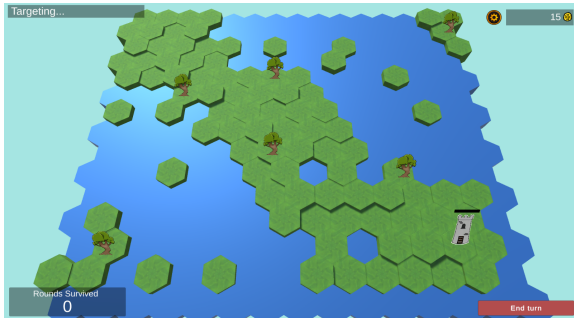
NPC AI

Some of my favourite games are the ones that allow me to choose stealthy approaches to completing my objectives. I used a state machine design pattern to set the idle, investigating and attacking states of the NPC and then through the use of linear algebra, using the Dot Product to check the position of the player from the NPC and finally I gave the player a crouching state which meant their footsteps couldn't be heard when sneaking behind a wall or the back of an enemy.



You can see a snippet of my repo here: <https://github.com/Pang/NpcLogic>

HexWorld



I built this game to understand pathfinding and how to use .CSV files as a way to create more content. The grid is programmatically rendered and then uses the CSV selected from the menu to determine land, water, buildings and both player and enemy starting points. Finally it uses the pathfinding 'Breadth-First-Search' algorithm to find either the nearest player unit or attacks your base! Itch.io page: <https://pangdev.itch.io/hexworld>

Shield Maidens

This was my first real project in Unity, a randomly generated world so you never go on the same run twice, shared-screen co-op and joypad support. All hand-drawn assets by myself (some special effects animations were purchased) and a combat system that allows the player/s to decide their own style of play. My favourite part of building this game was coming up with ideas for boss fights and turning them into reality. I

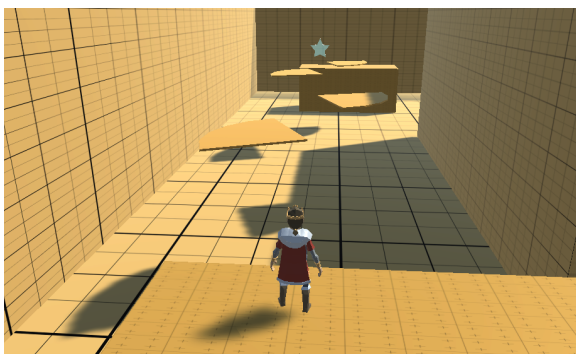


During my work on this I created a devblog on Youtube and released the game on itch.io

See the trailer: [ShieldMaidens Preview Trailer \[Indie-game\]](#)

Itch.io page: <https://pangdev.itch.io/shieldmaidens>

Online-Multiplayer Platformer



This is a nameless project that I built with Unity's "Netcode for Gameobjects" library to build a game that I could also play with friends and family. It contains a private lobby with a code to join system, uses a Client-Host model and runs over Unity's online services to collect analytics. One of the biggest challenges for this project was getting all of the moving objects to sync up the same for every player. I wrote an article about my findings with this

multiplayer library on my blog here : <https://pang.github.io/blog/UnityNetworking.html>

WebContractor

Fullstack Developer – May 2022 – Present

WebContractor utilises C# for full-stack development, with Blazor for creating front-end interfaces and .Net for building microservices, I have been able to be a part of all areas of development in their core product. Daily scrums and Azure Dev-Ops allow us to make sure we are working on the right tasks and on track for when it comes to sharing our progress with clients when requests to functionality have been made.

WebContractor's main product is for construction Contractors who need a solution to simplifying and improving the efficiency of managing multiple sub-contractors on a project. Companies can manage applications for payments and invoices more efficiently, whilst ensuring compliance with the UK Construction Act.

Pastest

Frontend Developer – October 2021 – Apr 2022

At Pastest, my main role is front-end developer. Features are planned as a team, then my role is to turn those specifications into a complete interface and help build the API/Models alongside it. One of my main priorities currently is rebuilding the web-app in

MVC and developing additional features. I also help to maintain the in-house content management system, which is used daily by the content team in order to create and edit subscription questions and learning resources, and finally picking up support tickets on the help-desk which contains issues raised from both customers and colleagues.

Blackpool Victoria Hospital

Senior Web Developer - August 2019 – September 2021 [Full Time]

Working with technologies like .Net and Angular, I have been a part of a great team creating web applications which aids the work of the medical and clinical staff at Blackpool Victoria hospital. My main focus was on an in-house Electronic Patient Record known as Nexus, which aggregated together many third party systems as well as having it's own functionality for admitting a patient, following their journey of care and maintaining an overview of each ward in the hospital - allowing for faster, more reliable information retrieval, quicker nurse and doctor handovers as well as more efficient patient flow, allowing for better placement of patients to wards more suited to their needs.

Freelance Web Developer 2018 –2019 [Part Time]

Whilst working at Blackpool Hospital full time, I taught myself to code websites with html, css and javascript, then used these skills to build web pages for small businesses which I obtained through networking.

Education & Qualifications:**UCLAN (University of Central Lancashire)**

Bachelor of Arts with Honours in Music Production Award [Hons Degree-Upper Second (2:1)]

Pendleton College

BTEC - ICT Software Level 3

Technologies:

C++, C#, Js, HTML/CSS, Unity, Unreal, .Net Core, LINQ, EntityFramework, SQL, MSSQLSMS, SignalR, Visual Studio, VS code, IIS, Azure