

James Jarman, Game & Full Stack Developer

I'm a veteran developer that has been creating software in one form or another for over 20 years and hold a bachelor's degree with honours in computer science from Cardiff University. Experienced in a huge range of different languages and technologies. My great intuition and problem-solving abilities, coupled with a creative mind, allows me to excel at designing and developing complex systems. My roles have been as senior and lead developer, and as a specialist, consulting in network code and API development. I have a great passion for game development and enjoy developing advanced game systems and enjoyable gameplay experiences. Additionally, I have both a deep and broad experience of several full technology stacks where I have brought multiple business web applications to production.

Notable Skills & Experience

- Game Development - Unity Engine (C#), Unreal Engine (C++)
- Application Development - C#, C++, Java, VB.NET and VBScript
- Full Stack Development
 - React, Node.js, AdonisJS, JavaScript & TypeScript, MongoDB, MySQL
 - Angular, .NET Core (C#), MVC, Entity Framework, MSSQL
- Other Web Development
 - Front-end Development - HTML, CSS and JavaScript
 - Responsive Web Design - Bootstrap, jQuery, Adapt.js, Velocity.js and Ant Design
 - Back-end Development - Bespoke Frameworks, RESTful Web Services and APIs

Unreal Engine Game Developer – *Personal Project*

JAN 2024 - ONGOING | <https://blog.jamesjarman.dev/hex/>

Project Hex is the development name for an Unreal game project. It is a colourful low poly lofi cosy RPG survival game, featuring heavy use of procedural generation to create a beautiful infinite world to explore and build a settlement in:

- Design and project management using Agile methodology (Jira)
- Prototyping with procedural meshes and rendering techniques using Unreal Blueprints
- Development of procedural generation and core mechanics in C++
- Development of bespoke low poly wireframe terrain shaders to achieve desired style
- Creation of character controller and animation sequences
- Implementing GPU instancing to reduce draw calls and optimise rendering for 100,000s of meshes
- Threading the initialisation and spawning of new world chunks for seamless gameplay and exploration

Discord App Developer – *Guard Software LLC*

AUG 2021 – JAN 2023 | <https://genosphere.io/>

Initially brought on to develop Guard Software's vision and design for their successor project after their wildly successful Karuta (one of Discord's all time top three apps being used in over 750,000 communities), but quickly integrated tightly with the team and responsibilities were extended to also handle the project design, as well as:

- Development of the app in TypeScript on Node.js capable of sharding for scalability
- Development of a React-based SVG image renderer for procedural image generation, caching and hotlinking
- Development of a *Perlin noise* procedural terrain generator that used the SVG image renderer to create maps
- All testing and deployment for the application

Unity Mobile Game Developer – *Personal Project*

APR 2021 – AUG 2021 | <https://jargonoid.com/>

Created an Android mobile game as a personal side project and released it onto the Google Play Store. Also created marketing materials and ran an ad campaign to gain experience with new technologies and the full E2E process of bringing a product to market. Requirements for this project included:

- Design and project management using Agile methodology (Jira)
- Prototyping with various rendering techniques and testing the PhysX (physics) engine in Unity
- Development of game client using Unity Game Engine (C#)
- Implementation of in-game global leaderboards using Google Play Services
- Integration of Unity Analytics to isolate trouble points in the gameplay
- Integration of Unity Ads in the free version of the game to generate revenue
- Creating a single hero page website for the game with carefully crafted meta information that enabled rich embedding in other platforms and social media
- Creating the promotional video and other marketing materials for the game
- Running a Google Ads campaign with the aforementioned promotional materials to boost user acquisition

Lead Developer – *Hydro International Ltd*

NOV 2018 – DEC 2019 | <https://designtools.hydro-int.com>

Hired to handle the management, design, development and deployment of the DataView web application, a smart data monitoring platform and early warning system that operated in the water sector and received telemetry from remote wireless sensors out in the field. Responsibilities included:

- All project management, which was handled in Azure DevOps configured for Agile methodology
- Liaising with project stakeholders to obtain and refine requirements in an iterative approach
- Front-end design and development in Angular (HTML, CSS, TypeScript)
- API design and development in .NET Core (C#), EntityFramework and MSSQL Server
- Integrating DataView with Hydro International's single sign-on system, backed by ActiveDirectory, to allow both domain users to log in via Windows Authentication and customers to register and login with user credentials
- Designing and implementing a dual APIs separating receiving device telemetry and web app communication
- Implementing a secure and reliable method of receiving telemetry from devices and sensors out in the field via encrypted JSON payloads
- Creating and configuring automated unit, functional and integration tests with Azure DevOps CI
- Web application deployment to the Azure cloud hosting platform
- Creating and running product demonstrations and feedback sessions for project stakeholders

Director & Full Stack React Developer – *Valkerus Limited*

FEB 2018 – AUG 2018 | *No longer available*

Valkerus was a startup co-founded by myself and two others, and centred around the development of a smart data platform that receives and analyses telemetry from IoT sensors out in the field. Responsibilities included:

- All system architecture and design for the project
- Configuration of CI tools (Jenkins) with automated deployment to Google Cloud
- Front-end development in Node.js using React, Ant Design and Webpack
- Back-end development in Node.js using AdonisJS framework
- Provisioning of Google Cloud web app instances
- Integrating the web application with Google Cloud's IoT Core

Full Stack .NET Core Developer – Nexus Water Limited

MAR 2016 – NOV 2016 | *No longer available*

The Nexus Water Smart Hub was a web application that linked sensors in the world to a complex data analysis and business intelligence system. It used pattern recognition and other analysis algorithms to provide businesses with services ranging from alerts to in-depth reporting. Responsibilities included:

- Provisioning web application instances in Azure
- Configuring continuous deployment from BitBucket to Azure
- Front-end development using Angular (HTML, CSS & JavaScript)
- Back-end server implementation using .NET Core (C#) MVC with Entity Framework

Full Stack Laravel Developer – Clifton Asset Management

SEP 2015 – Nov 2015 | <https://www.alternativebusinessfunding.co.uk>

Alternative Business Funding is a portal web application aimed at sole traders and SMEs so that they may seek alternative sources of funding. Responsibilities included:

- All system architecture and design for the project
- Front-end user interface development in Angular (HTML, CSS & JavaScript)
- MySQL database design and implementation
- PHP RESTful web API development & security (blacklisting, brute-force protection & rate throttling)

Full Stack LAMP Developer – Hydro International Ltd

NOV 2014 – MAR 2015 | *No longer available*

The Stormwater Separator Sizing Calculator was an upgrade project to the Downstream Defender Sizing Calculator (also developed by myself and a colleague under Binary Protocol). The project was to rewrite the system to be a stand-alone web application and add an additional product. Responsibilities included:

- System design and architecture for the project
- AJAX framework upgrades for both client (JavaScript) and server (PHP)
- Core logic upgrades for product sizing and selection system (PHP)
- Front-end user interface development in HTML, CSS, JavaScript & jQuery
- MySQL database upgrades

Director & Developer – Rogue Vector Limited

MAY 2011 – FEB 2022* | <https://www.solitudegame.com>

Rogue Vector is a self-funded startup co-founded by myself and a colleague to develop Solitude, a first person, multiplayer game in the Unity Engine. It implements a server-client model for its multiplayer functionality and an OAuth provider and consumer for authentication. I was a lead architect and developer, and my responsibilities included:

- All system design and architecture for the project
- Unity (C#) client and C++ server programming
- Bespoke client and server network framework development (C# and C++)
- RESTful API development to allow an in-game server browser (PHP)
- Runtime mesh geometry generation algorithm development (C#)
- Runtime texture atlas generation algorithm development (C#)
- Server and client mod support framework development (C# and C++)
- Custom development tools for use with mod framework (C#)

*Time between work for hire contracts was often devoted to continuing the development of Solitude.