

Thomas Royle

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References available on request

I am a lifelong game and computer enthusiast. Since a young age, I have loved all aspects of technology, software and their complexities. I enjoy taking things apart to see how they work and also trying to design my own solutions to tough problems or reprogram old solutions to make them more efficient like on a GPU. In my free time, I work on small test projects and also later games in a team. More information on all my work can be found on my portfolio: <http://www.tom-royle.co.uk>

Technical Skills

- **Programming Languages:** C# (.net, .netcore, WPF), C++, DirectX, HLSL/GLSL, Python
- **Applications:** Visual Studio, Unity3D, Blender, Photoshop, Reaper (DAW), Pitch HLA
- **Operating Systems:** Windows, Linux

Work Experience

March 2019 - Present: **Software Engineer (BAE Systems, Warton)**

I work in the simulation department developing the pilot training sim devices and environment that someone learning how to fly a Typhoon will be spending hundreds of hours before moving onto the real jet. The work that I do involves everything except the main aircraft, which means environment sound effects, weather, enemies and friendlies, etc. This also include things like RF propagation and LoS calculations to model radio communication. I have found that my games-based experience has helped me since day one as I constantly seem to have a different approach to solving problems. More recently, we have started to expand our capabilities into the VR/MR field to bring maximum levels of immersion to the pilots while also being able to assess work load with eye tracking. In this small team, I lead the Unity side of development to enable to use of VR hardware as well as any graphics programming that needs to be done to allow pass through with different headsets.

Dec 2017 – Oct 2018: **Junior Software Developer (Harlequin Gaming, Manchester)**

I worked with a small team to develop games for digital fruit machines. Using DirectX 9.0 as a framework, I developed new engine features and implemented game features to build up the games from their design documentation and eventually put them on the cab to play test. These games are then put into everywhere from service stations to pubs to casinos in Las Vegas. I try to use the techniques and theories I learned from my games degree to make our games stand out from the rest of the gambling industry in interesting and eye-catching ways.

Jun 2015 - Jun 2016: **Software Development Internship (Fujitsu, Augsburg, Germany)**

For my industrial placement, I worked as a software developer at Fujitsu in Germany. I learned about the application of agile methodology for development and how it is useful in a development team. I could use my programming skills to create testing scripts that fit into larger applications to be used by test engineers. In a parallel team, I made an application that compiled a folder structure into multiple ISO images that are then tested by the team and sold to customers.

Educational Achievements

- 2014 – 2017 **1st BSc (Hons) Computer Games Development** (University of Central Lancashire)
Core Subjects: Game Development 2, Maths and Tech, Mobile Development, Object Oriented Programming, Final Project (<http://tom-royle.co.uk/wreckingball.html>).
- 2012 – 2014 **Foundation Degree** – Computer Games Development (2:1) Runshaw Adult College
Core Subjects: Advanced Programming in C++, Game Development, Database Systems, HCI, Interactive Programming, Systems Analysis and Design, Practical Skills.

Personal Skills

Fast Learning – Joining the defence sector, I used and integrated with a lot of applications I had never heard of before. After a short amount of time, I was able to understand the base architecture of these systems and write code that efficiently managed and connected to these other applications written by other developers in the team and commercial applications. I throw all my effort into picking up new things as fast as possible so deadlines can be kept and pushed to add new features. I can adapt to new teams very fast and I make sure that I can be as helpful and hinder-free as possible.

Problem Solving – With my academic background in games development, I tackle problems from a different perspective from most. Games try to be the most efficient in terms of resource usage and complexity, and that is how I like to tackle most problems. Some situations require less micro-optimisation, so a more technically efficient method, polymorphism/object oriented, is more maintainable and understandable, whereas high performance environments require lower-level approaches (bitwise, etc.)

Team Working and Management – I can work with multiple people in multiple locations. In the past, I have worked and coordinated throughout differing time zones and made sure that the work I was doing fit in with the rest of the team. I used status meetings to update everyone with progress and ask questions if necessary. This gave me time to reflect on my own work. I am comfortable working within a team and can step up to assist or take over the leader role within that team easily.

Time Management – Due to previous planning and implementation experience, I know what I am capable of as a developer. I can accurately assess whether I can keep within a deadline. I was credited with being able to work under pressure and deliver on targets. The use of Agile helped me learn how fast I can work and how to plan my workflow to achieve the targets that were set.

Hobbies and Interest

- **Gaming:** When I was younger, I would watch my dad play games as if they were a film. When I eventually started to play myself, I fell in love with the interaction and pacing that cannot be achieved in any other medium. I prefer the kind of game that allows the player to improve the way they play and not just upgrades for the player character.
- **Photography:** Since learning about game shaders and how the programmer needs to manipulate light, this piqued my interest in the physics of actual light and how I can manipulate it with a camera.
- **Drones:** I enjoy making FPV drones for all different situations. I have made 5+ drones that all have had different purposes to be utilised in the right environment. Having to work with analog technology is quite interesting as problems can't be solved in the same way they would digitally.

- Drums: I love playing the drums in my free time; recording songs, playing with bands and other musicians. I have had the opportunity to perform in the Tower Ballroom, touring Bavaria and the Czech Republic in a Youth Jazz Orchestra and the Wigan International Jazz Festival sharing a stage with Jools Holland among others.
- Squash: I play in the northern squash league playing multiple times per week for my club and competing in the competitive league with the possibility of promotion into higher leagues.
- Personal Development Projects: I also enjoy to make things in my free time, both digital and physical. I like to spread knowledge of the game development process and techniques, have made some tutorials and am a member of a few discord groups designed to help people make game.