

Dom McCollum

I began my career in games development by earning a first-class master's degree at Sheffield Hallam University. My first game credit came from Zool Redimensioned on PS4, which was the result of a collaboration between Steel Minions and Sumo Digital Academy. Helping young people into STEM careers has become a passion of mine, and I've delivered talks and workshops to a variety of audiences with that aim. I am also a trustee at Safeguarding First, a charity which offers low-cost safeguarding training to organisations that provide services to children. Outside of work, I'm learning French, I play videogames, and I play guitar.

Education

Sheffield Hallam University, September 2019 – July 2024	
Master in Computing with First Class Honours – Computer Science for Games	
Applied Professional Diploma in Industry	Game Over 2024 – Outstanding Research Award
Hallam Award – Gold	Outstanding TIGA Postgraduate of the Year 2024 – Nomination (Winners TBA autumn 2024)
Game Republic Student Showcase 2022 Award for Games Technology – Runner Up	TIGA Excellence in Games Research Award 2024 – Nomination (Winners TBA autumn 2024)
TIGA Excellence in University / Industry Collaboration Award 2022 – Finalist	
My time at university focused on low-level C++ programming supported by a foundation of mathematics and practical research. I developed a graphics research framework from scratch which can render using both DX12 and Vulkan. I used the framework to demonstrate Vulkan compute, multithreading, ray marching, real-time blending of geometry, and domain repetition, culminating in a render of the Mandelbulb.	
My dissertation investigated the relationship between fine motor skills and performance in first-person shooter (FPS) videogames. I applied knowledge from occupational therapy research to design software that would improve the fine motor skills of participants, and then assessed their performance in FPS games against a control group. The results supported my proposal for the identification of the stages of motor movement in target acquisition and may aid future research into an esports training framework.	
Steel Minions (SHU's in-house game studio) produced 2 ports of Zool Redimensioned as part of a collaboration with Sumo Digital Academy. My team focused on a Vulkan port which was a finalist in the Excellence in Industry Collaboration category at the TIGA Education Awards 2022. The PS4 port was released in 2023 and earned me my first industry credit.	

Technical Skills

- Languages: C++, C#, Lua.
- Gameplay programming.
- Unreal Engine.
- API's: DX12, Vulkan, PS4, PS5.
- Graphics programming.
- Entity Component Systems.

In addition to these technical skills, I have developed mentoring skills by working with level 4 and 5 computing students. I have also delivered programming and careers workshops to secondary school children, and I have spoken to audiences of 100+ people with the aim of making STEM careers accessible while also improving the experience of those in STEM education.

Employment

Sumo Digital, August 2022 – July 2023 (Placement), then July 2024 – Present

Junior Programmer

- Support the programming team with the development of a AAA game.
- Provide feedback in code reviews.
- Be accountable for the development of gameplay features.
- Solve technical issues as reported by QA.
- Implement engine changes as required by the project. (Both in Unreal and in Sumo's engine)
- Present progress in scrums, and other regular meetings with the wider team.
- Work with other disciplines to fulfil design requirements.
- Maintain documentation as required.
- Proactively manage my professional development.
- Write clear, maintainable C++.

Safeguarding First, January 2024 – Present (Part-time, approx. 4 hours a week)

Trustee

- Support the Director with the admin of the charity.
- Attend and record minutes at meetings with the Director and the other trustees.
- Write blog posts focused on the safety of children who use technology.
- Maintain the charity's website.

Sheffield Hallam Students' Union, October 2021 – July 2022

Department Representative – Computing

- Mentor course representatives in their duties.
- Collate feedback from course representatives to monitor trends, or areas of wider concern.
- Report to senior department staff on the progress of projects within Computing.
- Support staff with the completion of projects.
- Provide support to students when they feel they are not able to resolve issues at course level.
- Work with the Equality, Diversity and Inclusion team to ensure all students feel represented.
- Support student mentors that run support sessions for the students within the Department of Computing.

Talent, September 2008 – August 2019

Test and Commissioning Engineer

- Ensure that testing is completed to a specified standard such as, FTN, BS7671:2018, etc.
- Coordinate a multidisciplinary team to complete the test and commissioning of network elements within project deadlines.
- Collate and check results from the testing team for entry onto the testing certificate by the PICOT.
- Conduct fault finding on complex telecoms networks, collaborating with third parties where necessary.
- Be accountable for safety arrangements such as electrical isolations and line blockages.
- Report issues promptly using recognised industry methods such as via a Defect Observation Record.
- Mentor junior team members in the correct testing procedures and safe working practices on the operational railway.
- Install network elements to a high standard, adhering to customer specifications and to British standards.
- Proactively maintain technical knowledge as equipment and processes are updated.
- Ensure team and public safety on and around my worksite.
- Conduct site handover tours with customers.

References available upon request.