Dom McCollum

dom.mccollum@outlook.com
07757715565
dommc.github.io

I began my career in games development by earning a first class master's degree at Sheffield Hallam University. Before university, I was a Test and Commissioning Engineer specialising in railway telecoms. 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	**Hallam Award – Gold**
Applied Professional Diploma in Industry	**Outstanding TIGA Postgraduate of the Year 2024 – Nomination**
Game Over 2024 – Outstanding Research Award	**TIGA Excellence in Games Research Award 2024 – Nomination**

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.

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#.
- 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 who need help with their university assignments. 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 and 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.
- Take the lead on the development of gameplay features.
- Solve technical issues as reported by QA.
- Present progress in scrums, and other regular meetings with the wider team.
- Work with other disciplines to fulfil design requirements.
- Write clear, maintainable C++.
- Maintain documentation as required.

Safeguarding First, January 2024 – Present

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

- 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 representation based projects within the Department of Computing.
- Support staff within the Department of Computing with their student experience projects.
- Provide support to students when they feel they are not able to resolve issues at the course level.
- Work with the Equality, Diversity and Inclusion team to ensure all students, regardless of background, feel they are represented.
- Support student mentors that run support sessions for the students within the Department of Computing.

Telent, 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.