

Daniel Moss

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Personal Statement

If there's anything I love, it's the satisfaction you get from finally cracking a difficult problem. In general, I'm calm under pressure, pretty easy to get on with, and confident in my skills. I love working with others to bring something to life, I'm driven by a strong ethical mindset and a desire to help those around me and I strive to work on projects I fundamentally believe in.

Skills

C#	Unity
JavaScript	PixiJS
Git Source Control	React
PostgreSQL	Python
Test Driven Development (Jest/Supertest)	Paired Programming
C++ (Learning)	Unreal Engine (Learning)

Experience

Crucible Gaming | Game Developer | (09/2022 - Present)

As a game developer at Crucible I create online games using JavaScript PixiJS, and some C#. I work as a programmer in a team which includes artists, designers, mathematicians, quality assurance and more. We use an inhouse framework which I help to develop, maintain, and produce tools for. The ethos we follow is to create extremely stable, highly performant games which can run on any system and always produce the same results. To achieve this we implement a number of design patterns including state machines, observers, SOLID principles and more.

Northcoders | Full Stack Bootcamp | (05/2022 - 08/2022)

Three month bootcamp studying full stack web development. Studies focused on JavaScript fundamentals, back end using Node.js, and frontend using React. During the course we learned important concepts such as following good design principles including agile methodology, use of model-view-controller patterns, test driven development to ensure stability, and more. A significant portion of work was paired programming, leading to me having a strong sense for collaborating and tackling problems in ways that wouldn't be my first instinct.

Nuffield Foundation | Research Placement (04/2014-06/2014)

While studying, I was granted the Nuffield Research Placement for Physics where I worked alongside researchers from CERN and the University of Liverpool to analyse scientific data coming from the Large Hadron Collider. Data was analysed and represented visually using software including MATLAB, LaTeX, and SQL. I presented the findings internally to fellows and other research staff.

Nando's | Cross Trained Associate (05/2012-05/2022)

During my time in education I worked part time at Nando's, having both served front of house and worked back of house preparing food. This provided me with a great work ethic and sense for teamwork, and also has helped contribute to my calm attitude under pressure.

Personal Projects

Games

Out of Water | Unity - <https://purplepuffer.itch.io>

"WAREHOUSE WORK... BUT FUN!" - <https://github.com/DANMOSSDEV/GAME-OFF-22>

C#, CUSTOM CAMERA, CUSTOM PHYSICS, BOSS/EXPANDABLE ENEMY AI, EXTERNAL API LEADERBOARDS

- 3D Platformer inspired by early 3D Sonic the Hedgehog games created for Game Off 22
- I completed all the programming and design, working alongside artists for animations/characters
- Built using custom physics based movement to feel responsive and allow for interesting tricks
- Some interesting systems implemented include powerups, an AI boss fight, a level scoring and grading system, and a complex state machine allowing for fine control of physics by situation
- Fully integrated menu system with animations and customisability
- Online leaderboards maintained using a custom API and Unity Web Requests

Just in Time | Unity - <https://purplepuffer.itch.io/just-in-time>

"WAREHOUSE WORK... BUT FUN!" - <https://github.com/DANMOSSDEV/JUST-IN-TIME>

C#, FINITE STATE MACHINES, OBSERVER PATTERNS, SINGLETONS, OBJECT POOLS, TOOLING

- 3D Roguelike where you have to navigate a warehouse to deliver products to customers
- Extensive use of state machines and singletons for controlling the character and the AI
- Object pools randomly spawn both customers and the products for efficient variety
- Custom tool written which allows the designer to change all fonts with a single click
- Fully integrated menu system with animations and customisability

Soul Siphon | Unity - <https://purplepuffer.itch.io/just-in-time>

"WAREHOUSE WORK... BUT FUN!" - <https://github.com/DANMOSSDEV/JUST-IN-TIME>

C#, OBSERVER PATTERNS, GLOBAL STORAGE, A* PATHFINDING, TOOLING

- 2D Platformer with some Kirby-esque elements
- Highly customisable physics based spells including a black hole which sucks in enemies and flings the player, and a fireball which can spawn a pool of lava on contact
- Custom line renderer which accurately draws the trajectory of charged projectiles in real time
- Custom tool which instantly adds shadow casters onto a tile map
- Basic AI created using states and A* pathfinding

Web Dev

Tindie | Full Stack Web - <https://danmossdev.github.io/Tindie/>

"TINDER FOR VIDEO GAMES" - <https://github.com/DANMOSSDEV/TINDIE>

HTML/CSS, JAVASCRIPT, NODE.JS, EXPRESS, POSTGRESQL (SOLO)

- Custom data collection and storage via headless browser (Puppeteer) and Node.js.
- RESTful API constructed using the model-view-controller pattern
- Jest/Supertest led test driven development
- Custom written user authentication with hashed passwords and data stored server side

I'll Spot You Bro | Front End Web - <https://danmossdev.github.io/ill-spot-you-bro/>

"TRANSFER YOUR SPOTIFY PLAYLISTS TO YOUTUBE" - <https://github.com/DANMOSSDEV/ILL-SPOT-YOU-BRO>

REACT, GOOGLE API, SPOTIFY API (SOLO)

- OAuth to Spotify and YouTube APIs, storing auth tokens in local storage until they expire
- Minimalist responsive design using React hooks
- Due to Google's API constraints, a live demo is provided here: https://youtu.be/t_o1uDLeaiE

Education

Physics | Cert. Higher Education (*Loughborough University*) | (06/2014-06/2015)

Studying physics at Loughborough University I spent much of my time learning mathematics, problem solving, and algorithmic logic. This gave me exposure to high mathematical concepts including data structures and algorithms, and mechanical equations which I frequently use when manipulating objects.

A Levels | Cronton Sixth Form | (09/2012-06/2014)

- Mathematics | A
- Further Mathematics | B
- Physics | A*
- Computing AS | B
- General Studies | A

Volunteering/Extracurricular

During my time at university, I consistently contributed to both the Action (volunteering) and RAG (fundraising) sections of the student's union. I spent most of my Saturdays in the local community centre cooking and serving food to underprivileged local folks, and I helped to organise multiple fundraising charity cabarets for Mind, as well as LAN parties where proceeds went to Child's Play as well as running tournaments for the on average 250 attendees at those events.

I play four instruments and sing, and I have a huge passion for music and the arts. I work freelance as a voice actor, having supplied my voice to companies including Amazon, Marvel, Shopify, and more!

I'm a strong believer that all people have a right to exist and should be tolerated, cared for and supported by our society. I have marched for Black Lives Matter, LGBTQ+ Pride, I'm a feminist and firm believer in bodily autonomy for all.