

# Martin Morrison-Grant

Software Engineer

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## EXPERIENCE

### Codeplay Software, Glasgow/Remote — Staff Software Engineer

APRIL 2024 - PRESENT

JANUARY 2023 - APRIL 2024 - Software Engineer

Developing specifications and C++ implementations for heterogeneous and parallel programming models such as SYCL and OpenCL as well as driver development kits to allow developers to efficiently target these models to a wide range of processing hardware.

### Wushu Studios, Glasgow/Remote — Gameplay Programmer

MARCH 2022 - JANUARY 2023

Developing gameplay mechanics, tools and systems alongside other game studios in a co-development arrangement using Unreal Engine and C++.

### Rockstar North, Glasgow/Remote — Game Systems Engineer

JANUARY 2021 - FEBRUARY 2022

Created design centric gameplay systems and tools to allow members of the design team to create new content for Rockstar games. I have worked on two updates to GTA: Online - The Contract and Los Santos Tuners, the latter had the highest player count of any update since the launch of the game back in 2013.

### Digital Barriers, Glasgow — Software Engineer

JUNE 2019 - JANUARY 2021

Developed internal and external SDKs related to digital video surveillance for security applications, using mainly C++ and C# across Windows, Linux and iOS. I worked on new features, defects and unit/integration testing.

### JP Morgan Chase & Co, Glasgow — Software Engineer

FEBRUARY 2019 - JUNE 2019

Worked in a small agile development team to deliver software solutions internally to other teams within the company, primarily working with Java.

### Motorola Solutions, Glasgow — Application Developer

OCTOBER 2016 - SEPTEMBER 2017

Developed mobile data capture systems for the emergency services using Java, XSLT and in-house technology. Gained experience of the full software project

## SKILLS

C++	C#
Java	Python
Javascript	HTML & CSS
Git	Perforce
Jenkins	Jira
CMake	MSTest
Github & Gitlab CI/CD	GoogleTest
Docker	Unreal Engine
Unity	SDL
OpenGL	Django
Monogame	iOS
Linux	Android

## AWARDS

Develop 30 Under 30  
Honourable Mention  
2014

Game Jam Winner UWS  
Windows 8 Game Jam

lifecycle including meeting customers to capture requirements, design, implementation and testing.

2013 sponsored by  
Microsoft

## **MindMate, Glasgow — iOS Developer Intern**

JUNE 2016 - AUGUST 2016

Worked on the MindMate iOS app to polish the game section to improve their playability and accessibility for users with Dementia and Alzheimer's. During my time here the app reached #2 in the Health category on the App Store.

**UWS Court Medal Most  
Distinguished Student**  
2011-2012

## **Tick Tock Games, Wakefield — Junior Programmer Intern**

JULY 2014 - AUGUST 2014

Supported the senior programming team, and also responsible for preparing a previously released game for launch on a new platform. Contributed to game projects released across Android, iOS, OS X and PC.

## **EDUCATION**

### **Industrial Robotics PhD — University of Strathclyde**

OCTOBER 2017 - FEBRUARY 2019

Successfully completed the first year of a PhD researching autonomous robotic systems for efficient and effective manufacturing and inspection. Left to re-join the private sector after deciding I prefer working in companies rather than academia.

### **Computing Science MSc — University of Glasgow**

SEPTEMBER 2015 - SEPTEMBER 2016

Achieved a Master's degree in Computing Science to broaden my skills and knowledge. Took a selection of classes such as Computer Architecture, Internet Technology, Safety Critical Systems, Cyber Security and various others. Had many opportunities to work on both solo and group coursework.

### **Computer Games Technology BSc (Hons) 2.1 — University of the West of Scotland**

SEPTEMBER 2011 - JULY 2015

Learned various programming languages and technologies to design and build game engines with 2D and 3D graphics and physics, using mainly C++ and OpenGL. I had the role of team leader in many group projects to gain management and leadership experience. I also had experience presenting projects. I founded the UWS Games Dev Society and ran it for two years, organising game jams and industry talks.

## **PROJECTS**

### **The Contract — GTA: Online Update**

In the second 2021 update to GTA: Online we added a new story based around a "celebrity solutions agency" where the player works with high profile clients, such as Dr. Dre. I worked on similar areas as the previous pack but had the opportunity to improve older systems and learn new things like implementing new animations, visual effects and a new pick-up feature.

## **Los Santos Tuners — GTA: Online Update**

I worked on the 2021 update to GTA: Online which added an underground car culture to the game, including a public car meet space, auto shop property, new races and heist missions. My personal contributions were made across a range of different areas including the new properties, in-game menus, cut-scenes, activities and animations, localisation, audio and vehicle interactions.

## **Wedding Photobooth — Raspberry Pi & Python**

Created a party photobooth for a family member's wedding and later my own. Wrote a Python app using OpenCV and PiCamera and wired up a camera and LED buttons to let guests take a photo and print them as a souvenir. The system was set up in a custom wooden enclosure. The app saved photos to disk, an external drive and uploaded them to cloud storage to ensure nothing could be lost.

## **Kanshi City — Unreal Engine 4 Game Prototype**

A game about avoiding security patrols while escaping a dystopian, Tokyo-inspired city. Originally a prototype and continued to develop it as a hobby project after positive feedback. Took the game to a large games convention in Glasgow where lots of people played it and the game was featured in a national newspaper.

## **Mobile Pressure Input — MSc Group Project**

Group project where we designed an input system that lets the user squeeze their phone to change the layout of the on-screen keyboard from normal letters, to capitalised letters and to numbers and symbols. Developed on an Android smartphone with a companion app for a user study.

## **Unicorn Space Command — Game Jam Winner**

2D space shooter created using Construct 2 that won the UWS Windows 8 game jam in 2013, sponsored by Microsoft. Initially published the game on the Windows Store and later Google Play. The game received coverage on uBelly, MSDN and Scottishgames.net.

## **Dichotomy — BSc Group Project**

Group project where I had the role of team leader. We produced a C++ and OpenGL game engine for a split-screen dungeon game. The engine features a robust input system, physically based rendering, data driven asset and level loading, physics based movement, AI pathfinding and a base for networked play.

## **How To Rule The World In 3 Minutes — Global Game Jam 2014**

Programmer in a team of six where we developed a local multiplayer platformer game. Players capture towers and block others from doing so to gain points. We used C# and Monogame as beginners to build this game over a weekend. I contributed to input, audio and game state management.