David Beirne

Key Skills

- C++/ C
- Gameplay Programming
- GUI development

- C# Unity
- DirectX, OpenGL, CG/HLSL
- Game Engine Development

- Network programming
- Technical Design / UML
- Agile methodologies

Employment History

Job Title   Experienced Programmer   May 2014- Present
Employer   Codemasters Software Co. Ltd.

At Codemasters I have on the Formula One titles from 2015-2017, my primary responsibilities are implementation & maintenance of the rules / penalty system, tyre regulations, the Safety Car system, Formation Lap, Championship game modes, Invitational Events, vehicle managers and other smaller systems.

Job Title   Programmer   Jan 2011 – May 2014
Employer   Magenta Software Games Ltd.

I worked for Magenta Software as a gameplay programmer primarily. I worked on an unreleased first person CSI PlayStation Vita launch title named Broken, A third person platformer Invizimals: The Lost Kingdom released for PS3, and a prototype cooperative title for PS4, I specialised in gameplay, HUD/UI/Menu implementation and also handled some tools programming within our proprietary editor.

Job Title   Junior Programmer   Sept 2008 - Jan 2011
Employer   Playbox Ltd.

I started at Playbox working in a three-programmer team for a Nintendo DS game for the Ubisoft Imagine range, which was released worldwide in 2009. Following this I worked as a physics, graphics/tech and gameplay programmer on an arcade-style top-down racing game BangBang Racing, including single handily porting the OpenGL based engine to DirectX on Xbox360 which the game released on.

Education & Qualifications

Institute   University of Abertay Dundee   2007 – 2009
Qualifications PGDip in Software Engineering (CGT)

Institute   University of Huddersfield   2003 – 2006
Qualifications 2.1 BSc(Hons) Computer Games Programming

Institute   St Brendans Sixth Form College   2001 – 2003
Qualifications 2 A2-Levels, 1 AS-Level (B-C)

Institute   St Bedes Secondary School   1997 – 2001
Qualifications 9 GCSES (A-C)

References

Allan Findlay
Senior Developer Atomicom Ltd.
email allan175@hotmail.co.uk
Tel 07886 179488

Nick Burombe
CEO Playrise Digital Ltd.
Tel 07748 113 842

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Profile

I am a bright, talented professional with strong programming skills and a passion for computer games. Having achieved a degree in Computer Games Programming (BSc(Hons)) from the University of Huddersfield and completed a Post Graduate Diploma in Computer Games Technology from the University of Abertay Dundee,.

I started working at Playbox games in September 2008. The first project I would work on at Playbox was "Imagine Salon Stylist/ Beauty Stylist" Nintendo DS game for Ubisoft alongside 2 other programmers. I started with no previous experience of working on the DS but learnt very quickly and was able to contribute a great deal to the development of the title. I worked on the title from its early design stages through Alpha, Beta, TRC testing and final launch in December 2009. Working through the life-cycle of an entire game as a member of a very small but driven team has taught me a great deal about game development and seeing my product hit the shelves was something I was very proud of.

After releasing Imagine Salon Stylist, I worked a top-down arcade racing game which was initially targeting WiiWare but then moved over Steam, PSN and Xbox Live Arcade, named Bang Bang Racing. For the first few months on BBR I took on the role of Physics Programmer – using the PhysX API, I designed and implemented a robust, re-usable physics solution which was integrating it into the game engine and meta-data based art pipeline. Throughout the games development I was also responsible for implementing any physics based gameplay elements, this included the tracks with varying road surfaces which affected handling and driving conditions, the cars, collectables, track-side objects (cones, tyres, barriers etc.) and exploding, oil, and water barrels which affected the track surface.

While maintaining all physics based code, I also worked alongside the lead graphics programmer on the engine side of the game. When I joined the BBR team, the graphics engine was a very basic fixed-function based Wii implementation. As we moved over to targeting higher end platforms, such as Windows and PS3, I was integral in moving the art pipeline and graphics engine over to the programmable pipeline, I enabled the graphics engine to leverage CgFx shaders on both the PS3 and OpenGL platforms, and Implemented HLSL on the Xbox 360.

On the gameplay side of BBR, I have implemented a number of graphics / special effects including a re-usable GPU based particle solution, capable of rendering thousands of stateless particles, used in game for explosions, waterfalls, tire smoke, tire kick-up, fire, engine smoke, lights, ground water, snow, sand storms, vortices, and many other things. I created other special effects which are used in the game including real-time shadow mapping, HDR lighting, water bodies, car paint, and a dynamic depth of field post-processing technique based on tilt-shift photography techniques which gave the game a unique "miniature" look.

Over the last few months of BBR development, while still working on game code, and the PS3 renderer, I have was also solely responsible for the Xbox 360 port of Bang Bang Racing. I was able to create a Windows based DirectX implementation of the graphics engine in my own time (as we did not have access to an Xbox 360 dev kit), which was then used as the foundation for my Xbox 360 graphics engine. I worked alone in porting the entire game over to Xbox 360 and had a release build up and running at 1080p, 60fps within a month of us receiving a dev kit from our publisher. With only a few features missing from the full Ps3 version of the game (sound, networking and post-processing effects).

After completing Bang Bang Racing, I went on to work for Magenta Software Ltd. my first year at Magenta was spent on an unreleased PSVita launch title; 'Broken' which was a first-person crime scene investigation / puzzle game. The game focused heavily on story line with facial motion capture being used for all characters (similar to L.A. Noir), interspersing crime solving mini-games and puzzles (such as finger print dusting, audio sample decoding, lock picking) with a dialogue/choice system and exploration elements. For Broken, I worked on the in-game data / menu systems primarily, implementing a number of prototype screens and linking them in to games and mission structures,

before we settled on a ScaleForm implementation for which I created a Flash / ActionScript User Interface from outsourced artwork as reference material, and tied it to the internal data structures of the game. I also worked on in-game character navigation / dynamics, and a number of evidence collecting mini games. While the game was eventually put on hiatus, there was a very short clip of an early version used in a PSVita pre-release trailer available on Youtube [http://www.youtube.com/watch?v=IQxiTeyjQQE].

Following Broken, I started working on Invizimals : The Lost Kingdom, a third-person Action Adventure for Playstation 3. We worked on a number of pitch demos for Sony Computer Entertainment Europe to develop a PS3 title in the previously PSP / PSVita only Invizimals series originally developed by Novarama in Spain. For Invizimals I worked on the front-end and save/load/progress features, a number of gameplay elements such as the players grapple swinging, telekinesis, reconstruction, and marksman abilities, the dragon flying levels, and the instruction / activation system, I also worked on the in-house level creation tools. Invizimals was released in mainland Europe on 4 October 2013 and will be released in the UK and US markets in Early 2014. A playthrough of Invizimals : The Lost Kingdom is available on YouTube [http://www.youtube.com/watch?v=h9lMR53CJWs].

Following my tenure at Magenta Software, I moved on to Codemasters in Birmingham where I have worked since May 2014. I was brought onto the gameplay team early on in the development cycle of Formula One 2015. I worked alongside a designer to implement the rules and penalty system for the game which essentially detects whether drivers are breaking the regulations (either the rules of the real-life F1 sport or griefing activities), evaluates the severity of their actions, and issues what are fair punishments. An example of this would be cutting corners, the system must detect when a vehicle leaves the track, determine whether any time or race positons have been gained, allow the user a chance to give back the positons and evaluate whether or not an advantage has been gained either in time or speed, and then punish the driver for their misconduct. All of the systems run for all drivers (including AI drivers) and work effectively in multiplayer / online games.

In 2016 I was given the task of adding a Safety Car / Virtual Safety car and Formation Lap to the game. These are all features of the F1 Sport which had either never existed, or been completely removed in the previous iterations of the game. On evaluation of the previous implementation of the Safety Car in earlier games, we also decided that we were going to go in a different direction and have an actual physically represented AI driven vehicle for the Safety Car as opposed to a box following a spline robotically as in previous versions. The logic for a safety car is very much beyond the scope of this statement but it is a deeply involved gameplay system which touches on AI, and Network replication.

In 2017 I was primarily responsible for implementing the Championship Game modes, which allowed the designers to set up custom championships from our internal Game Value Database, dictating the structure of the weekends and sessions within each championship, the grid rules, scoring procedures, the weather scenarios and other parameters. The Invitational Events which were varied rulesets such as a checkpoint challenge, pursuit challenge, overtake challenge. and time attack mode which allowed players to compete in classic cars all of which were previously not possible in the F1 game series.

During my time at in the games industry, my programming skills improved to a level that I feel I am capable of designing and delivering stable, efficient code within a fixed and limited deadline. I am able to communicate clearly, both in formal technical documentation and at a non-technical level my ideas and design criteria. I have worked in an environment where I was responsible for planning my own tasks and being responsible for delivering them on time. I am a highly motivated, ambitious person with great team skills, a strong work ethic, and an overriding passion for creating exciting and interesting computer games. Outside of work I am always experimenting with my own game concepts (I'm currently creating a 3d platforming game in Unity) If you would like to find out more about that, and see some of my previous work and demos, please visit my site at www.myGameDemos.com.