MICHAL CIECIURA
Principal Software Engineer

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I have been passionate about programming and problem solving ever since I can remember, but it wasn't until I first played Unreal Tournament, back in 1999, that I have found my true calling to be the real-time, 3D graphics. Since then, I have delivered projects ranging from simple visualizations to very complex, real-time simulations. Working with massive companies like Siemens, Network Rail, BBC or NCFE allowed me to acquire crucial commercial experience from various industries, and my long-standing cooperation with the University of Salford provided invaluable exposure to the cutting-edge technologies, especially in the field of VR. I consider myself first and foremost a generalist programmer, with a preference for gameplay mechanics and overall optimizations, but I also have strong experience with VR, real-time game engines, UX and UI design, as well as, 2D and 3D content creation.

Skills and Highlights

Back-End Development
C/C++, C#, Java, PHP

Real-time Graphics
Unreal Engine, Unity, Optimizations, UE4 contributor

VR Development
Hands-on experience, Oculus Rift, HTC Vive

Front-End Development
User Experience, HTML, CSS, JavaScript, Slate, UMG

Content Creation
Photoshop, 3DS Max, Substance, Simplygon

Collaboration
Team leader, Agile, Issue tracking, Version control

Multi-industry, commercial experience

Award-winning developer

Education

BSc (Hons), Computer Science
University of Salford, 2012

Professional experience

Principal Software Developer
University of Salford, Manchester 2018 – Present

Senior Software Developer
University of Salford, Manchester 2014 – 2018
As a member of the THINKlab team, liaised with clients across various industries (construction, engineering and health among others) to advise on and help deliver a range of bespoke Unreal Engine based commercial projects, including VR and mobile applications. Responsible for managing development of ongoing projects and implementing efficient workflows both, internally and with the clients. Developed in-house tools and frameworks to help with project deliveries.

IT Services and Interactive Media
Freelancer, 2012 - Present
Working with various small to big companies, advised on and helped deliver a range of bespoke Unreal Engine and Unity based commercial projects, including VR, AR and mobile applications. Provided bespoke software solutions and IT consultancy.

Lead Software Engineer
IOS International Ltd, 2011-2012

Software Engineer
IOS Security Services Ltd, 2007-2011
Provided bespoke in-house software solutions, IT consultancy, helped administering office systems and network, as well as provided software and hardware support

Awards

Unreal Dev Grant
Epic Games, June 2018
Awarded for creation of the Point Cloud Plugin - a free plugin for Unreal Engine 4, developed to help with importing, processing and real-time rendering of large point cloud datasets.

Research Project of The Year
Times Higher Education Awards, November 2016
Part of Dr Mike Wood's team working specifically on Virtual Reality aspects of the project. Combining 360 video and 3D geometry within a UE4 application, utilizing a mapping interface to jump into areas of the exclusion zone. Visualized and interacted with using an Oculus Rift HMD.

BIM Project of the Year
Constructing Excellence National Awards, November 2016

BIM Project of the Year
North West Regional Construction Award, June 2016
Lead programmer of the University of Salford's THINKlab team that developed a 4D planning package for track renewal. THINKlab helped Network Rail create 4D simulations, used for visualising and scheduling tasks over time, allowing them to run different scenarios for pre-work briefings and post-work evaluation.

Projects

Point Cloud Plugin for UE4
Epic Games
A free plugin for Unreal Engine 4, developed to help with importing, processing and real-time rendering of large point cloud datasets.

Track Renewal Simulation and Planning
Network Rail
A 4D simulation and planning tool, used for visualising and scheduling tasks over time, allowing Network Rail to run different scenarios for pre-work briefings and post-work evaluation.

Interactive Model of a Power Station
Siemens
A large scale virtual model of a power facility created for Siemens. This very complex model utilised level of detail techniques to maintain quality and a high frame rate in order to allow VR use through the HTC Vive.

Interactive Model of an Offshore Electrical Substation
Siemens
Working closely with Nigel Platt and his team at Siemens an interactive visualisation was produced allowing users to explore the Substation in real time. The model makes use of Oculus Rift HMD technology allowing users to be immersed within the virtual world.

Flood Defence Simulation
Environment Agency

A multi-user, interactive, VR enabled simulation and training tool. Its main purpose is to visualize different flooding scenarios and compare possible defence protocols.

Virtual Chernobyl
University of Salford

Combining 360 video and 3D geometry within a UE4 application, utilizing a mapping interface to jump into areas of the exclusion zone. Visualized and interacted with using an Oculus Rift HMD.

Energy House
University of Salford

The Energy House 2.0 model is a VR visualisation of a proposed new development at The University of Salford. BIM models were provided by architects and optimised for real-time rendering. Features of this work include, a weather system (allowing for snow, rain and ice), simple AI characters, high quality real-time lighting and shading and of course the model is VR ready running on the Oculus Rift.

Pendleton Time Machine
University of Salford

The Pendleton Time Machine was created for Salford City Council. It depicts the area around Pendleton Park showing elements from the past, present and future. The past being the historic cattle market, the present the area as it is currently and the future showing the planned developments for the area. The environment has been made to run on various technologies such as standard PCs, power walls and HMDs, as well as NVIDIA Shield tablets.

Open Tournament Game
Open Source, Public Project

One of the developers behind the community-made, spiritual successor to Unreal Tournament 3. The project has been cancelled in the pre-alpha stage, after Epic Games announced their plans for the official sequel.

Velresco vFlow
Velresco

vFlow allows you to easily capture and then analyse the effectiveness and efficiency of your key processes. Allowing you to ensure that you are performing optimally across your whole business, or assess if recent improvements have had an impact ensuring that quality is maintained.

Dirt Factory Site Visualisation
Dirt Factory

A conceptual virtual reality model of an indoor bike park created for Dirt Factory to allow them gather funding for the project. The Dirt Factory team more than met their target and are now hunting for a suitable premise.

PowWow Energy Game
Melin Homes

Digital conversion of a board game from Melin Homes under the same name. Produced as part of the Little by Little project.

VR Point Cloud Viewer
University of Salford

VR enabled Point Cloud Viewer, powered by the Unreal Engine.

Mars Exploration Game
University of Salford

A spin-off from the CROSS DRIVE project, developed as means for the younger audience to experience Mars' surface in an entertaining way.

Cross Drive
University of Salford
CROSS DRIVE targets on creating the foundations for collaborative distributed virtual workspaces for European space science.

Design 4 Energy
University of Salford
Building a life-cycle evolutionary Design methodology able to create energy-efficient buildings flexibly connected with the neighbourhood energy system.

Creative and Media Module
NCFE
High quality remaster and port of the interactive Creative and Media module from NCFE. Gives users a wide range of features, from organizing a music concert and designing their posters, to setting up an interactive theatre play.

Interactive Wildlife Exploration
BBC
This platform implements a "magic mirror" metaphor. A depth sensor with an HD camera is used to create the mixed reality environment were semi-interactive 3D models of wildlife are brought into the user space.

Volcano Simulation Game
BBC
The Volcano Game platform features a 3km tropical island, with lakes and bays and a central volcano cone rising to 340m. It is a two-player game that allows users to enter the volcanic island using body gestures to change the parameters such as gas content, crystal content, silica and magma flow to affect the type and intensity of the volcano eruptions.

All-in-one Office Suite
IOS Security Services Ltd.
All-in-one office application, designed to streamline intradepartmental cooperation. Links HR, payroll, shift rotas, event management, logistics and marketing into one, easy to use tool.

Further project details available upon request.