TOM VAN DIJCK

Senior Software Engineer - Tools & Middleware
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OVERVIEW OF EXPERIENCE

Last update: January 21, 2025

26+ years of programming experience. BASIC on TRS-80 and MSX, proceeding to Borland Turbo Pascal and Assembly in late 1992 and C/C++ since 1997. Familiar with assembly for Intel x86, ARM, PowerPC and Cell.

Console specific experience:

Game engine development since 1998 on PlayStation, Xbox and PC. For hobby played around with iOS and Android, but never shipped any games on either platform. Emphasis on low-level engine code, backend and animation, but designed and implemented graphics and system level code for these platforms too, such as file systems, input handling, memory management, etc.

Engine specific experience:

Unreal 3, 4 and 5, as well as several custom and proprietary engines, including my own which was used on PS2 and Xbox for title by a studio in Tokyo, Japan back in 2004.

Games:

At Embark: THE FINALS
At DICE: Battlefield V
At Blizzard: Diablo 3, StarCraft 2, Heroes of the Storm.
At EA: Although not directly involved in these titles, I've contributed to most EA Sport titles from 2006 to 2011, such as Madden, FIFA, NBA, as well as Battlefield 3. Both through providing technology and supporting the game teams, or directly through consulting on location. Finding optimizations, memory problems, and integrating our animation system into several game engines, Battlefield 3 being the prime example moving them from Granny Animation to ANT.

Games prior to EA:

Moorhuhn 1, Moorhuhn 2, Moorhuhn Winter edition, Big Brother the game 2, US Racer, London Racer 2, Knight Rider, Autobahn Racer 4, Paris Marseille Racer, Cyclone Circus, Red Ninja: End of Honor.

Familiarity:

C/C++, ASM, C#, Go, Rust, Pascal, Perl, Python, Lua, ASP.NET, Javascript, MySQL, MS-SQL.

Additional fun fact:

Developed several demos in the demo scene, most notably a 4KB intro for the Assembly 1996 Demo Party (100% 386 assembly), (became 6th in the competition). Source and executable can be found at https://hornet.org/code/demosrc/intros/shorty.zip

EMPLOYMENT HISTORY

Embark Studios AB, Stockholm, Sweden.
4/2019 – Present
Senior Software Engineer
Started as a generalist, spearheaded the platforms team to start development for consoles. Then moved to the backend team to help out building our core backend infrastructure for our games in Go and C++. Then eventually started working on Anti Cheat for THE FINALS, and spearheaded the Security Team within Embark Studios, where I'm currently still active as an anti-cheat developer.

EA DICE, Stockholm, Sweden.
1/2018 – 4/2019
Senior Software Engineer
Working on the 'Studio Core Engine' for Battlefront 2 and Battlefield V. Mostly involved in patching, filesystem, and animation, as well as the upgrade process of Frostbite while keeping the Battlefield V live-service operational during the upgrade. It's tedious but somewhat challenging work. The animation engine was the first to succeed in a full upgrade to the latest internal EA Tech, while causing virtually no disruption to our players. (I was also involved in the Gen5 upgrades for PS5 and XSX).

Blizzard Entertainment, Irvine, California
7/2014 – 12/2017
Senior Software Engineer II
Working on 'Engine Team' for Starcraft 2/Heroes of the Storm during the first two years. Mostly working on performance improvements, code deprecation as well as implementing our new build system using premake. (http://premake.github.io/). Implemented a new package server on ASP.NET. When the engine team was split, I moved to the Tools team working on the new asset build pipeline. The new build system then got picked up by most other teams at Blizzard, and my role became much more of a middleware engineer supporting teams like Overwatch, World of Warcraft, SC2 and Heroes of the Storm.

Sony Computer Entertainment America
2/2013 – 6/2014
Senior Software Engineer
Mostly been working on the internal diagnostics toolkit for its PlayStation platforms, including the PlayStation 4. This product comes as a C++ library to be included in games or other libraries to diagnose performance, memory usage and other system metrics. Then the visual component of the product is written in C#, which allows for real-time monitoring of all metrics. The toolkit was used by teams all throughout SCE, including teams such as Japan Studios, SCEE, Santa Monica and San Diego Studios, across titles such as God of War and MLB.

Blizzard Entertainment, Irvine, California

11/2011 – 12/2012

Senior Software Engineer II

Working at the Battle.NET team as one of the engineers maintaining the latest incarnation of battle.net for Diablo 3. In addition I've worked on streaming technology, optimizations and bugfixes for Diablo 3, as well as World of Warcraft and Starcraft 2.

Electronic Arts, Canada

5/2006 – 11/2011

Senior Software Engineer - Runtime Architect - Technical Director (as of 2009)

Working at the EA Technology department on the leading animation engine within EA, used in games such as FIFA, NHL, NBA, Madden, Battlefield 3, and more. running on all current console platforms (PS3, Xenon, Wii, PSP, iOS, Android), and PC. As the runtime architect, I've been responsible for setting the direction for the technology that ends up in the games. Working together with the tool architect and several game teams to come to proper software designs, invent and/or research new technology, as well as lead discussions towards new standards for animation technology within EA. In January 2009 I became Technical Director for the Animation technology group, responsible for about 12 engineers, supporting over 15 game-teams, still doing lots of development but obviously less due to the added tasks of managing people. Also transitioned into working more on the entire tool, including the C# authoring tool.

Playlogic Game Factory BV, Netherlands

5/2004 – 4/2006

Technical Lead

After Cyclone Circus was finished a new Project started, for Playstation 2 using the Eyetoy device, although Eyetoy has the name of being used only for mini games, we had the intension for a lightweight easy to play RPG game where you actually had to use your full body for character control and casting spells to vanquish enemies. This title got canned by SCEE.

Playlogic Game Factory BV, Netherlands

4/2003 – 5/2004

Playstation2 Developer

Started working on Cyclone Circus, which was released somewhere in. I've been working in the team to implement filesystem and rendering features such as stencil buffer shadow utilizing VU1 code. Furthermore I had the main task of getting the full game inside the 32 megabyte of memory the PS2 has, and worked on several general optimizations.

mudGE Entertainment, Netherlands

2/2003 – 4/2007

Owner, Software Developer

As a result of the work I did at Opus, I started my own Tools & Middleware company to provide Opus with the tools and support for their future games. This technology has been licensed to Opus, Phenomedia AG, and eventually sold to Playlogic Game Factory (for the Eyetoy Project). The day I left Playlogic I discontinued all work on this technology, and concentrated on new ideas.

OPUS Corp, Tokyo/Japan (www.opus.co.jp)

1/2003 – 3/2003

Software Developer

Designed and implemented a multiplatform Game Engine for Playstation2, Xbox and PC, providing in basic needs for Filesystem Management, Memory Management, 3D Graphics engine, Animation System, and a lot more. Although the engine was already in development on PC for two years as a hobby (since the bankruptcy

of Witan, (read below)), at Opus Corp I got the chance of porting it over to Playstation2 and Xbox. This engine has been used in Red Ninja: End of Honor a game published by Vivendi on PS2 and Xbox.

DAVILEX GAMES BV, Netherlands
8/2001 – 12/2002
Software Developer (Engines & Tools Department)
Designed and implemented the filesystem on IOP processor on behalf of Playstation 2 game title development. The filesystem is designed for multi-platform use, and is implemented on Linux, Windows, Macintosh, and Playstation 2 and can also be used for Internet access. Worked on I- LINK communication between PS2 and PC. Before these two projects which had great impact on the game we develop, a colleague and I started to port the game from PC to PS2, which took us about 2 or 3 week, mainly because of the use of NDL's NetImmerse 4.1 graphics engine, which is multi-platform. It took us about 4 months to get rid of all memory and performance related problems. Davilex has released 6 Playstation2 titles since I work there, such as Knight Rider the Game and London Racer 2.

Witan Entertainment B.V. (www.witan.nl)
1999 – 2001
Lead Programmer (Research & Development)
Designed and implemented, with 2 other programmers, the toolkits and utilities used to build games. This toolkit contains 3D engine, 2D engine, GUI system, Network system and many more useful tools. As well as exporters for 3Dstudio MAX. Several games have been made with this toolkit, such as: Moorhuhn, NaNuk, Klaverjassen Deluxe, Ran Trainer 3, Omnifausta Soccer. In July 2001 Witan filed for bankruptcy.

EDUCATION

2001 - BACHELOR INFORMATICS
Bachelor of Science, Computer Science (U.S. compatible degree)
Thesis: networking technologies. Designed a protocol based upon UDP, with reliability control and quality of service.

2001 - Microsoft Certified Professional Windows 2000 Server.
1998 - Microsoft Certified Professional Windows 95.
1997 - Extra math certificate… extra courses in Discrete Math and Vector Math.

1997 - MTS Informatica/Telematica
Completed 4 year program within 3 years.

1994 – MAVO
Completed 4 year program within 3 years.