MARIJN KENTIE

Sliedrecht, The Netherlands
marijn@kentie.net
www.kentie.net

Objective

Designing and implementing high-performance software, with a focus on simulation and graphics. Engaging in research and building prototypes, but also working with customers and colleagues to increase the quality of existing products.

Professional Experience

Jan 2015-Current Senior Software Engineer (C++) at IHC Systems

In charge of major upgrade/overhaul of 3D engine used for simulator and survey visualization. Performed research on streaming project (CAD) data rendered by a third-party library onto 3D terrain. Extended third-party autopilot software with dredging-related functionality. Work related to release management automation.
Keywords: *C++, Visual Studio, TFS, Direct3D 11, HLSL, PowerShell.*

March 2011-Dec 2014 – Software Engineer (C++) at IHC Systems

Worked on nautical control/survey software and simulators at a multinational ship builder. Huge, mature codebase. Development lead on a 3D environment/vessel viewer for survey and dredging work, from prototype to implementation stage. Did most 3D visualization work for simulators. Developed and maintained installers for all products. Handled Visual Studio and Team Foundation Server upgrades. Took lead on introducing C++11/14 features at company. Together with coworker introduced unit testing at company.
Keywords: *C++, Visual Studio, TFS, Win32, MFC, MSI, Direct3D 10/11, HLSL, WIX.*

2010 – Internship at the German Research Center for Artificial Intelligence (DFKI)

Three-month internship. Helped with the development and testing of a GPU accelerated ray tracer; integrated this C# project with the institute's C++-based scene graph and effects packages. Keywords: *Ray tracing, OpenGL, C++/CLI.*

2005-2010 – Teaching Assistant at Delft University of Technology

Helped students with and graded lab work for various courses related to programming, (digital) electronics and embedded systems. Keywords: *Intel 8051, VHDL, Java.*

Formation

September 2008 – December 2010
Master of Science in Embedded Systems at Delft University of Technology

Thesis: *Biological Sequence Alignment Using Graphics Processing Units; then-fastest GPU(CUDA) implementation of Smith-Waterman based protein database search. Resulted in a published paper in BMC Research Notes 2011 vol. 4.*

September 2004 – April 2008
Bachelor of Science in Electrical Engineering at Delft University of Technology

Thesis: *Design and implementation of a C-to-VHDL converter's call graph viewer and -editor.*
Other: *Member of the study association's education feedback group.*

Skills

Programming languages
Most comfortable: C, C++(11/14), HLSL, PowerShell. Knowledge of Java, C++/CLI, C#, VHDL, PHP, Visual Basic 6, Haskell, various assembly dialects.

Platforms
Microsoft Windows + x86/x64, Microchip PIC microcontrollers, Intel 8051, GPGPU such as CUDA

Technologies
Win32, MFC, GDI(+), COM, C++ STL, OpenGL, Direct3D 10/11, networking (sockets), USB, CUDA , SSE, Windows Installer (WiX, MSI), lock-free programming

Applications/Tools
Visual Studio 6 - 2015, Team Foundation Server 2010/2013 and its API, NVIDIA Nsight, MATLAB, Latex, Subversion, Havok Vision 3D engine, CM Labs Vortex physics engine, 3ds max

Languages
Native Dutch. Fluent in written and spoken English, completed the highest level English course offered by the Delft University of Technology. Basic German and French.

Selected Personal Projects (see kentie.net)

2014-Current HP3300C scanner driver
This scanner was not supported after Windows XP; ported Linux driver to Windows7/8 64.

2010-Current - Personal project: Replacement executable for the video game Deus Ex (2000)
Makes a decade-old game compatible with modern CPUs and operating systems; fixes graphical, input, security and timing issues. Incorporated community feedback to add support for add-ons.

2009-Current - Personal project: Direct3D 10 renderer for Unreal engine games
Improves graphical quality of various older video games and improves compatibility with modern systems. Utilizes current shader techniques whilst preserving the games' fixed-function behavior. Has been featured on various video game news websites and has been downloaded more than 10,000 times.

2007 – SUN keyboard to USB converter
Adapter to use a proprietary SUN Microsystems keyboard on any USB equipped system. Based on a Microchip PIC microcontroller with HID device firmware.

Interests

Motorcycling	Rowing
Video games	Personal hard- and software projects