Nathan John Mates

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Objective:
Generalist programmer able to jump into existing systems and codebases, and safely
engineer needed changes, as well as develop quality new codebases from scratch. I
develop quality architectures, implementations and user-facing documentation, and
learn programming languages as needed for projects. I also provide excellent post-
release customer support.
Focused on the videogames industry, but with a side of WinForms tools and studio
support.

Programming experience:
Fluent in C#, C/C++, MS Visual Studio, Perforce, WinForms,

Platforms/libraries programmed for:
HTML5 & CSS3, JQuery, PHP5, WAMP/LAMP stacks, iPad, Microsoft Windows, Microsoft
Xbox, Xbox 360 and Xbox One, Sony Playstation 1-3, Sega Saturn. Microsoft Windows
experience includes DirectX, Winsock, MFC & WTL, Win32. Have developed with Adobe
Flash, including Scaleform & ActiveX libraries, and ActionScript 2/3 code. Additional
experience programming on Android (Java), FreeBSD, OpenBSD, Linux.

Other tools/technology experience:
Subversion (SVN), JavaScript, Objective C, Flash (ActionScript 2 &3), PHP,
HTML5/CSS3, Lua, Perl, 6502/65816 Assembly
Agile/Scrum development cycles
Small-scale system setup and administration of Windows, FreeBSD, OpenBSD, and Linux
platforms.

System administration experience:
Windows, FreeBSD, and Linux platforms

Work Experience: (extended detail on page 3+)
- Certain Affinity (2013-present)
    - Work on Halo Infinite
    - In collaboration with @worldoftanks , contributions for the 1.0 update
      and the 2018 Soccer mode
    - Developed studio-wide tool for project setup, configuration, updating,
      more
    - Work on Crackdown 3
    - Work on Call of Duty: Modern Warfare Remastered & Call of Duty:
      Modern Warfare 2 Remastered
    - Work on Halo 2: Anniversary as part of Halo: The Master Chief Collection
- Cubic (as Intific/Total Immersion Software), 2009-2013

- o Lead programmer on a contract phase revising and enhancing an iPad/Android tablet application for pilots.
  - o ENGAGE, phases 1-2, lead programmer on a team that developed a clean slate HTML5 application.
  - o PRIME phases 2 – 4, lead programmer on phases 3 & 4.
  - o PRIME phase 4 was listed on the United States Air Force's "Best Practices" list (BP-0165)
- Pandemic Studios: Programmer / Senior Programmer, 1998 - 2009.
  - o The Saboteur - Playstation 3, Xbox 360, PC (2009)
  - o Mercenaries 2 - World In Flames - Playstation 3, Xbox 360, PC (2008)
  - o Star Wars: Battlefront II - Playstation 2, Xbox, PC (2005)
  - o Star Wars: Battlefront - Playstation 2, Xbox, PC (2004)
  - o Star Wars: The Clone Wars - GameCube, Playstation2 (2002), Xbox (2003)
  - o Triple Play 2002 - PS2, Xbox (2002)
  - o Fifa Online (never released in North America)
  - o Battlezone II - Windows (1999)
- Adrenalin Entertainment: Software Engineer, 1996 - 1998
  - o Brunswick Circuit Pro Bowling - Playstation 1, Windows (1998).
  - o Ten Pin Alley - Playstation 1 (1996), Windows, Sega Saturn (1997)
- Scalable Programming Laboratory, Caltech: Staff Programmer, 1994 - 1996
- SoftDisk Publishing, Inc.: Programming intern, summer 1993

Education:
Bachelor of Science in Engineering & Applied Science (emphasis on Computer Science) from California Institute of Technology, June 1996.

Activities and positions:
Caltech Anime Society: President 1994-1995.
Boy Scouts 1986-1992. Earned Eagle Scout (highest Boy Scout) rank, May 1990.

Brief summary of my major contributions to published projects, most recent first:

Certain Affinity
- Work on Halo Infinite
- In collaboration with @worldoftanks , contributions for the 1.0 update and the 2018 Soccer mode
- Developed studio-wide tool for project setup, configuration, updating, more
- Work on Crackdown 3
- Work on Call of Duty: Modern Warfare Remastered & Call of Duty: Modern Warfare 2 Remastered
- Work on Halo 2: Anniversary as part of Halo: The Master Chief Collection

Cubic (as Intific/Total Immersion Software), 2009-2013
- Lead programmer on a contract phase revising and enhancing an iPad/Android tablet application for pilots. Worked with UI/UX designers and customers to craft an accomplishable and meaningful upgrade to the software. Coded most of the iOS upgrades, and provided guidance on Android. Helped author and implement a standard for delta updates to the software for efficient upgrades of 4GB and 60,000+ file datasets
- Social Action Storm – additional JavaScript, PHP and SQL work to help the team meet a major milestone. Wrote the majority of researcher-facing documentation of game data structures, updated TDDs.
- ENGAGE, phases 1-2, lead programmer on a team that developed a clean slate HTML5 application, including the JavaScript architecture and the overall backend PHP & MySQL server stack. Led team of developers to develop a robust client engine and backend, with fully featured editing capabilities. Developed HTML5 canvas & audio code, working around browser quirks. Integrated 3rd party JavaScript libraries like jQuery, Box2D, etc. Edited Optimized SQL interactions in our build process. Authored TDDs, code style & documentation guides, and customer-facing documentation. Provided support for external customers. Specified requirements for Windows/Linux servers, and handled installs of ENGAGE on Linux machines.
- PRIME phases 2 – 4, lead programmer on phases 3 & 4. Integrated flight model and weapon code. Developed new display code in ActionScript 3. Merged codebases and bugfixes to/from company core technology team. Led junior programmers up to speed on using Scaleform. Wrote networking code to link all PRIME-specific code together. Managed backlog & per-sprint priorities. Met with customer to determine requirements and priorities.
- PRIME phase 4 was listed on the United States Air Force's "Best Practices" list (BP-0165)

Pandemic Studios projects:
- The Saboteur: Handled TRC/TCRs for PS3 & Xbox 360 versions, including save/load, signouts, and downloadable content. Worked on worldbuilding tools to optimize speed and disk usage.
- Mercenaries 2: Added many features to world & sound editing tools, including search, memory optimizations, and image processing. Tracked down and fixed

crashes in those tools. Handled TRC/TCRs for PS3 & Xbox 360 versions, including save/load, signouts, and more.

- Star Wars: Battlefront II: handled TRC/TCRs for PS2 & Xbox versions. Built and maintained an overnight automatic build system, including high-level functional tests of every level, generating graphs of framerate/memory usage.
- Star Wars: Battlefront, wrote cross platform menu system, Xbox Live user interface and parts of the Gamespy user interface.
- Star Wars: The Clone Wars: headed PS2 conversion from GameCube. Also worked on the Xbox version, handling Xbox Live session creation/management and user interface.
- Triple Play 2002: Headed PS2 to Xbox conversion. Updated other low-level code.
- Fifa online: Took standalone PC SKU, and adapted it to run in a web browser for EA.com (ActiveX/Netscape plugin). Reduced PC SKU to a 4MB download with a custom installer.
- Battlezone 2: Implemented networking code and other code. Tracked down post-shipping crashes, and coordinated collecting bug reports, code/asset changes, and managed releases of 1.2 and 1.3 patches. Worked on 1.3 on my own time since 2001, adding DirectSound 3D support, rewrote rendering engine in DirectX 9, lots of features features, crash fixes, Vista compatibility, patch installer, and much more.

Adrenalin Interactive projects:
- Brunswick Tournament of Champions Bowling: Implemented 3D art and animation translation and playback programs from AGFLI (3DS:Max Plugin) format to Playstation HMD and D3D formats. Also worked on other art tools, cross-platform AI code.
- Ten Pin Alley: wrote Sega Saturn code inspired by PlayStation version – nearly everything but the shared physics code was rewritten; additional programming for bowling AI and other platform-independent engine code for the PlayStation and Windows SKUs

Previous projects:
- Caltech Scalable Programming Laboratory: Developed large dataset manipulation tools for half-gigabyte files and scripts to automate lab work. Generated pictures and movies from results of all of the laboratory's scientific simulations with Alias| Wavefront's Data Visualizer and Composer; production quality video equipment used to create videos for publications and funding proposals.
- SoftDisk Publishing, Inc: Wrote Apple IIGS utilities.