

## **Jeremy Evers**

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### **Programming Languages**

- C/C++
- C#
- Javascript
- Actionscript (Flash 8)
- Java
- PHP
- NSIS installer scripting language
- z80 Assembly
- x86 Assembly
- 6502/6510 Assembly
- HuC6280 Assembly
- J2ME
- HTML

### **Areas of Expertise**

- Software Development
- TCP/UDP/IP
- Debugging
- Optimization
- User Interface design
- Multi-Threading
- Web Development
- Graphics
- DirectX
- OpenGL
- Engine/Tools Development
- AI and Collision Detection
- Audio Engineering
- Audio DSP, Synthesis & Sequencing
- Digital Music & Sound Recording, Editing, Mixing and Mastering
- **Target Platforms:** PS3, Xbox One, Unity, Windows, Linux, Nintendo DS, Gameboy Advance, Gameboy Color, Flash, NEC Turbo Grafx
- **Tools:** Microsoft Visual Studio, Unity, Perforce, Wireshark, NEWT, Clumsy, Pro Motion, Platform Builder, GNU C/C++, Ethereal, Glowcode, Flash, mProjector, MySQL, Paint Shop Pro, Ableton Live, Nuendo, Wavelab, Waves Plugins, After Effects, Vegas, Word, Writer, Excel, Quark, Poser, Soundforge, ACID, Photoshop, CVS, Bugzilla, SOAP, Tortoise SVN

### **Employment History**

**United Front Games**, Vancouver, British Columbia, Canada **2008-2016**

Programmer

- My main responsibility at United Front Games is to program videogame software for the Sony Playstation 3, Microsoft Xbox One and Windows PC.
- I was mostly involved in online components, but fixed bugs everywhere.

***Smash and Grab*** (Steam, Xbox One, PS4) ~ Programmer

- Smash and Grab used Unity under the hood.
- I was brought on the project to build a new gameserver and port the game away from the Unity server lockstep model to a predicted model with time correction.
- I also wrote client side dll that are used as our prediction and communication layer, using RakNet as the transport layer.
- I also was heavily involved in fixing a lot of client side c# code that was non-performant under the version of Mono that Unity uses.
- Technical Environment: Microsoft Visual Studio, Unity, RakNet, Visual Assist, Perforce, Hansoft.

***Halo Master Chief Collection*** (Xbox One) ~ Programmer

- Halo Master Chief Collection was a crazy project involving studios from around the world.
- We built the front end UI.
- I was responsible for parts of the online component of the front end.
- Technical Environment: Microsoft Visual Studio, Visual Assist, Perforce, Hansoft.

***Tomb Raider Definitive Edition*** (Xbox One, PS4) ~ Programmer

- Tomb Raider was a reboot of classic franchise.
- We ported the xbox 360 version to the Xbox One.
- I was responsible for ripping out the network layer and replacing it with RakNet.
- Technical Environment: Microsoft Visual Studio, Crystal Engine, RakNet, Visual Assist, Perforce, Test Track Pro, Dev Track.

***Little Big Planet Karting*** (Sony PS3) ~ Programmer

- Little Big Planet Karting was a Mario Kart style game with large emphasis on player-created content. Players could create their own vehicles, characters and tracks and share and compete on them.
- I worked on the online components to do with content sharing and creation. Developed file formats, async loading, thumbnailing, metadata etc.
- Technical Environment: Microsoft Visual Studio, SN Systems Debugger, Visual Assist, Perforce, Test Track Pro, JIRA, Dev Track.

***Mod Nation Racers*** (Sony PS3) ~ Programmer

- Mod Nation Racers was a Mario Kart style game with large emphasis on player-created content. Players could create their own vehicles, characters and tracks and share and compete on them.
- I worked on the online components to do with content sharing and creation. Developed file formats, async loading, thumbnailing, metadata etc.
- Technical Environment: Microsoft Visual Studio, SN Systems Debugger, Visual Assist, Perforce, Test Track Pro, JIRA, Dev Track.

**Backbone Entertainment**, Vancouver, British Columbia, Canada **2006-2008**

Senior Engineer

- My main responsibility at Backbone Entertainment was to program videogame software for the Nintendo DS and Nintendo Wii.
- I mentored other programmers and run a bi-monthly discussion group on programming related books and topics.
- I work closely with designers, artists and producers to ensure the creation of the highest quality product in a timely fashion.

***Monster Lab*** (Nintendo DS, Wii, PS2) ~ Programmer

- Monster Lab is a Pokemon style RPG where players collect ingredients to create monster parts and assemble them into monsters that battle other monsters. It involves many mini-games.
- I was responsible for the DS 3D and combat engines, multi-player, and some of the mini-games.
- I also created automated tests for checking complex asset combinations for a number of different errors.
- I fixed many low-level problems in the DS engine, including rendering, sync, touchscreen, IRQ and network issues. The largest recurring issue with Monster Lab on the DS was memory fragmentation- I solved this by improving the memory manager to use an efficient multi-heap, best-fit approach.
- Technical Environment: Microsoft Visual Studio, Code Warrior, IS-Nitro debugger, Visual Assist, Pro-Motion, XNView, Cygwin, Perforce, Test Track Pro, Bugzilla.

### **Netsweeper, Guelph, Ontario, Canada 2005-2006**

#### Senior Developer

- Netsweeper provides Internet content filtering for schools, businesses, ISPs, and end-users.
- My main responsibility at Netsweeper was to design, create, and maintain the filtering client for Windows platforms, including Windows CE, based on customer needs.
- I also occasionally worked in PHP on the administration interface, and on the Linux policy server.

#### ***Netsweeper Client Filter*** (Windows XP, 2000, 98, CE) ~ Lead Programmer & Designer

- The Netsweeper Client filter can be installed on a Windows box to Filter out unwanted web pages based on category or allow/deny lists, and can also filter out Instant Messengers, Peer to Peer applications, email, newsgroups, streaming media, etc. based on protocol identification and application detection.
- I created a low-latency LSP that analyzes network traffic to determine protocol or contents of an http request, makes a request to the policy server, and then allows or denies based on the policy.
- Some of the tasks involved: looking at packet data find ways to identify protocols, transparently analyzing and filtering traffic to ensure compatibility, designing and implementing the policy server request protocol, persisting user sessions, identifying roaming users on NT domains, writing scripts to generate brands automatically, implementing customer feature requests without disrupting other customer brands.
- Experimented with an NDIS solution, but determined that localhost proxies (for example web accelerators like Slipstream and Propel) could not be filtered in that manner.
- Technical Environment: MSVC, Platform Builder, Vmware, Ethereal, Glowcode, NSIS, SOAP, CVS, Bugzilla

#### ***Netsweeper Desktop Communicator*** (Windows XP, 2000, 98) ~ Maintenance Programmer

- The Netsweeper Desktop Communicator allows schools, businesses, etc., to broadcast messages to users that want to be alerted about upcoming events or other news articles.
- The outsourced developers of this project abandoned ship. The code they left behind was undocumented, uncommented, riddled with typos, flawed logic and unsafe design. I stepped up and fixed the bugs and completed the missing features.
- Technical Environment: Flash 8, mProjector, CVS, Bugzilla

### **3 Sides Square, Park City, Utah, USA 2004-2005**

#### Graphics Lead

- 3 Sides Squared produced a documentary television series about professional snowboarding. This was an awesome opportunity to work in a film production environment and snowboard my ass off.

#### ***2BX*** (Video) ~ Graphics Lead

- My main responsibility at 3 Sides Squared was to create visual effects and graphics for the show, animating sequences from stills and writing scripts to control them.
- I also did a lot of pre-production, placed the stationary microphones, rigged all the audio equipment, spliced broken tape, and operated a camera for the Roxy Chicken Jam..
- Technical Environment: After Effects, Paint Shop Pro, Canon miniDV camera, boundary microphones, mixing board, razor blade, gaffer's tape

## **Negspect, Inc. 2003-present**

### President/Senior Engineer

- Negspect is my contract-work and odd-job company. I worked freelance from 2003-2004, and kept the company alive for projects like Atlantis.

#### ***Atlantis*** (VST and VSTi) ~ Designer and Lead Programmer

- Web Page – <http://jeremyevers.com/atlantis>
- Atlantis is a great sounding, high quality hybrid subtractive wavetable synthesizer instrument. It has an intuitive modulation routing system that makes it very easy to program, it is very easy to produce excellent results. Internally, it is a modular system that makes it very easy to add additional filter algorithms, etc., but to the user it has a solid, simple interface.
- Atlantis is also a great sound effects processor, it has many great waveshapers and filter algorithms that can be used to process any audio source.
- I designed Atlantis from the ground up, to compete with professional synthesizers and effects in terms of sound quality, features and performance- and to create the perfect synthesizer for my own use. I am extremely pleased to say that it has exceeded my goals, and version 1.0 will be available to the public soon.
- Technical Environment: MSVC 2003, VST sdk, VST gui, SOAP, Nuendo, ACID, Renoise, Psyche, Tortoise SVN

#### ***SpudButt*** (Flash) ~ Lead Programmer

- SpudButt is a hilarious new take on the classic game Pong, for Mark Mothersbaugh of DEVO fame. It adds levels, opponents, obstacles, spins, multiplayer, and of course, a variety of butts.
- Technical Environment: Flash 8, Actionscript, Wavelab., Tortoise SVN

#### ***Count It!*** (Flash) ~ Lead Programmer

- Count It is an educational game to reinforce basic principles in stockroom inventory management. It uses a modified A\* pathfinding algorithm to control 2 forklifts that manipulate the environment.
- Technical Environment: Flash MX, Actionscript, Paint Shop Pro, Wavelab, Custom Tools

#### ***Psyche*** (PC) ~ Programmer

- <http://psyche.pastnotecut.org>
- [http://psyche.sourceforge.net/wiki/Main\\_Page](http://psyche.sourceforge.net/wiki/Main_Page)
- Psyche is an open source modular tracker, which is a type of music sequencer. I got involved with the project when I decided that the competing modular tracker, BUZZ, was too unstable and poorly designed to be a viable option for serious music composition.
- Responsibilities include User Interface design and implementation, database access, optimization of internal functions, compatibility testing, debugging, file format implementation, MIDI, ASIO and VST support, custom lossless audio compression algorithms, synthesis, delay, filter and other DSP algorithms, anti-denormal code, etc. for Windows platforms using MSVC and inline Assembler.
- Being a part of the Psyche's international community was a great experience; it gave me an opportunity to advance my skills while working with talented people from a number of different cultures and encouraged me to write some interesting sound synthesis and processing plug-ins, which is a great interest of mine.
- Technical Environment: MSVC, MFC, ASIO sdk, VST sdk, WinCVS

#### ***Cinefile Video Roundupper*** (PC) ~ Programmer

- <http://cinefilevideo.com>
- Roundupper is a simple tool built in MSVC to parse an odd binary database and prepare data in an SQL database for the web. It also handles some basic backup tasks.
- I had to reverse engineer the database format to find the encoding methods and locations of the fields that were required for the SQL database, and then create a simple application with a Windows GUI to be used by employees of Cinefile Video.

- Technical Environment: MSVC, Hex Workshop, Custom Tools

***Columns Clone*** (J2ME Phones) ~ Designer and Programmer

- Puzzle game prototype developed in 2002 for Nokia in J2ME
- Columns Clone was written as a quick exercise in learning J2ME. It was a playable clone of the classic game Columns.
- Technical Environment: J2ME, Nokia Emulator

***Robert Morris College Survey Sorter*** ~ (PC) Lead Programmer

- This is a very simple application that processed data and tabulated results. I was responsible for building the application to be used by the admissions department of Robert Morris College and proving readable C++ source code to be used as an example for the programming classes.
- Technical Environment: MSVC

**Cavebarn Studios, Toronto, Ontario, Canada 2000-2003**

Lead Programmer

- My main responsibility at Cavebarn as Lead Programmer was to design and build game engines and tools, and motivate and mentor my team.
- I also worked closely with the Art lead to ensure graphic elements were created and implemented smoothly.

***Black Rodeo*** (Gameboy Advance) ~ Lead Programmer & Engine Designer

- Black Rodeo is a crazy cowboy adventure game, set in the future. It combines a number of different gameplay styles and engines. Although it was shaping up to be a great achievement, Cavebarn Studios closed shop before it was complete.
- My duties as Lead Programmer were to design and program the core, the graphics management system, the sound effect management system and two of the gaming engines. We were able to re-use many elements and tools from Urban Yeti. I was responsible for delegating tasks and helping the junior programmers with any problems that they encountered. I also helped the Art Lead prioritize the art assets so that we could receive them in a timely fashion.
- Technical Environment: GCC, MSVC, Paint Shop Pro, Code Coop, Custom Tools

***Battlebots*** (Gameboy Advance) ~ Debugging, Multi-player Support

- Battlebots is a game based on a television show where robots battle in an arena. It was subcontracted to a small team in Russia. They had some serious problems with multi-player mode, and could not complete the project on time. I came in at the end of the project to solve their network communication problems.
- Technical Environment: GCC

***Urban Yeti*** (Gameboy Advance) ~ Lead Programmer & Engine Designer

- Urban Yeti is a hilarious adventure game. The player controls a Yeti who had to win the heart of a female Yeti by traveling around the city and completing several amusing scenarios. It combines several different gameplay environments.
- All of the members of the Toronto studio were able to give creative input into the story and elements of the game.
- My duties as Lead Programmer were to design and program the core, graphics management system, sound effect, text display, parallax scrolling and mapping, collision detection and the base AI engines.
- I assisted the other programmers in designing some of the tools that were needed to prepare collision and mapping data for the game, and helped them with any other problems that they encountered. All of our in-house tools had Windows GUIs. Urban Yeti used unique and efficient methods for both collision and mapping.
- I worked closely with the Art Lead to schedule the creation of art assets. I also had to implement and debug scenario modules that were developed by a team in Poland.
- Technical Environment: GCC, MSVC, Paint Shop Pro, Pro Motion, Code Coop, Custom Tools

***Tom and Jerry: The Magic Ring*** (Gameboy Advance) ~ Lead Programmer & Engine Designer

- Tom and Jerry: The Magic Ring is a side-scrolling brawler based on the movie of the same name.
- My duties as Lead Programmer were to design and program the core, graphics management system, cut scene, sound effect, scrolling, palette manipulation, collision detection and the base AI engines, and give advice to the other programmers regarding any problems that they encountered.
- I also designed and developed Windows based tools for graphic conversion and lossless data compression that were used on all subsequent projects. The graphic conversion suite could convert to any format the Gameboy Advance supported, and had selectable conversion algorithms. The hybrid lz77/rle compression scheme I devised provided extremely fast decompression and was ideal for decompressing sprites on the fly.
- Technical Environment: GCC, MSVC, Paint Shop Pro, Code Coop, Custom Tools

***Ultima Demo*** (Gameboy Color) ~ z80 Assembly Programmer

- The Ultima demo is a simple demo of a top down environment and a character that the player could control.
- I was responsible for the sprite display and scrolling engines.
- Technical Environment: ISAS Assembler, no\$ debugger, Custom Tools

***Curious George*** (Gameboy Color) ~ z80 Assembly & Programmer for Game and Audio System

- Curious George is a collection of small game environments. Although it was completed, it was never commercially released. The marketing budget was canceled due to problems with the PSX version.
- I was responsible for the programming of two of the mini-games, and for the audio system.
- Technical Environment: ISAS Assembler, no\$ debugger, Custom Tools

**RUNANDGUN! Inc.**, Chicago, Illinois, USA **1996-2000**

Lead Programmer

- My main responsibility at RUNANDGUN as Lead Programmer was to design and build game engines, audio engines and tools, and to assist the artists and designers with planning.

***Animorphs*** (Gameboy Color) ~ z80 Assembly & Programmer for Text and Audio Systems

- Animorphs is an RPG based on the series of books and television show of the same name.
- I created the text and audio engines that were used in the game. I also drew some of the animal sprites, and assisted with testing.
- Technical Environment ISAS Assembler, no\$ debugger, gb debugger, Custom Tools

***Fatass Music Production System*** (Gameboy Color) ~ Lead Programmer & Designer

- Web Page – <http://jeremyevers.com/?p=17>
- Fatass is built around version 2 of the audio sequencing engine I developed for Wicked Surfing.
- It is an extremely powerful and efficient audio suite for the Gameboy and Gameboy Color, much better than Nintendo's MusyX in terms of performance, memory usage and control. It also sounds great.
- I also built a tracker-style editor that ran on the Gameboy Color for testing and mobile composition.
- Technical Environment: ISAS Assembler, no\$ debugger, gb debugger, Paint Shop Pro, Custom Tools

***Wicked Surfing*** (Gameboy Color) ~ Lead Programmer & Engine Designer

- Wicked Surfing is a ¾ overhead view surfing game, with some RPG elements. The project ran into financial difficulty and was never completed.
- As the only programmer on this project, I was responsible for all of the code. I even created some of the art and music.
- I also wrote the graphics conversion tools and music composition tools that would be used on all subsequent Gameboy Color titles that I worked on.

- I worked closely with the designer and artist to create a very fluid interface that was visually stunning.
- Technical Environment: ISAS Assembler, no\$ debugger, gb debugger, Paint Shop Pro, Custom Tools

***Taboo!/Sasquatch Engine*** (PC) ~ Lead Programmer & Engine Designer

- Taboo is a 3d surfing game, the sequel to Wild Ride, set in the Bikini Islands. Taboo itself was never developed beyond a prototype, due to lack of funding.
- The Underlying Sasquatch Engine allowed the shape of the environment to be dynamically altered, to produce a realistic simulation of the wave.
- I was responsible for the entire Sasquatch Engine and the conversion tools that were used to prepare the wave data. Sasquatch was designed to take advantage of the latest features of DirectX.
- Technical Environment: MSVC, DirectX, Paint Shop Pro, 3dStudio

***Wild Ride*** (PC) ~ Lead Programmer & Engine Designer

- Wild Ride is a 3d surfing game, and was my first project for RUNANDGUN. It was published by Interplay.
- I was responsible for all of the programming, engine design, and testing with various video card configurations. I also helped lay out the animation cycles of the characters and contributed to the audio, graphics and animation. This was an insane amount of work for one person.
- Technical Environment: MSVC, MFC, DirectX, Paint Shop Pro, 3dStudio, Sound Forge

### **Freeware Plug-in Development**

- I have developed several free software plugins in C/C++. They have all reached a large number of users, and generated positive response.

***Winamp ~ Jeremy's File Deleter v2*** ~ Designer and Programmer

- <http://www.winamp.com/plugins/details.php?id=141713>
- System tray controls for collection maintenance that allow you move, delete or rename the currently playing song or folder.
- Technical Environment: MSVC, Winamp API

***Psyple ~ FM Laboratory*** ~ Designer and Programmer

- <http://psyple.pastnotecut.org>
- [http://psyple.sourceforge.net/wiki/Main\\_Page](http://psyple.sourceforge.net/wiki/Main_Page)
- [Subtractive synthesis, filters, waveshapers, lofi processing, delay and more.](#)
- [The predecessor to Atlantis, FM laboratory gained internet notoriety as an excellent subtractive synthesizer. It is highly tweakable, easy on the CPU and sounds great. I also made many effects plugins to complement it.](#)
- [Technical Environment: MSVC, Psyple API](#)

***Buzz ~ Pulse width and waveform modulation synthesizers*** ~ Designer and Programmer

- Before I began developing synthesis and processing plugins for Psyple, I made some Buzz plugins. They have very low CPU requirements and a unique sound.
- Technical Environment: MSVC, Buzz API

### **Amusements**

- Fun and games.

***Pongfolio*** (Web) ~ Designer and Programmer

- Pongfolio was designed as an unobtrusive way to liven up my portfolio. It's a simple yet elegant Pong with killer AI, that runs in the background of a web page.
- Technical Environment: Javascript, HTML, CSS

### ***Buggun*** (PC) ~ Designer and Programmer

- Puzzle game prototype developed in 2003 for Windows
- Buggun was assembled quickly as a way to test the underlying design I came up with for a new type of multiplayer puzzle game. The rules are simple, solid and fun, and the AI is nearly impossible to beat. This is a project that could be completed for any platform on a relatively small budget.
- Technical Environment: MSVC, OpenGL

### **Audio Recordings**

- I have been the recording engineer, producer, editor, mix engineer or mastering engineer for more than 25 compact discs, compilations and demos. Many of the recordings I have worked on have charted on college radio stations and received airplay on commercial stations, as well as reaching a nation-wide audience through the CBC.
- Technical Environment: Ableton Live, Nuendo, Wavelab, Psycle, Waves plugins, Vegas, Roland vs880, Acid, Tascam DA-30, microphones, preamps, EQs, compressors and other processors

### **Activities**

- I love snowboarding, skateboarding, hiking, biking, barbecuing, playing bass, beer making and hammocking.

### **References**

- References will be provided upon request.