Charlie Ngo

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OBJECTIVE

I am seeking a full-time software engineer position in gameplay or tools programming, but I remain open to other positions. I will graduate in May 2013, as a senior student at DigiPen with three years of game development experience in 2D and 3D C/C++ games. I would like to be involved in roles that allow me to improve the development time, end quality and overall experience of projects that I am engaged on, while collaborating with teammates to make the projects successful.

SKILLS

Languages	C/C++, GML (Game Maker Language), Knowledge of C#
Tools/APIs	Visual Studio, Game Maker, FL Studio, Adobe Photoshop, Paint.NET, SVN Knowledge of Unity, StarCraft II Map Editor, FMOD, Winsock, OpenGL, DirectX
Professional	Worked in successful game teams ranging from 2-4 people, writing game design documents, creating weekly producer reports, and presenting milestone progress to both students and professionals. Acted as either a game designer or producer for all teams so far. Work well under deadlines and reprioritization. Familiarity with Agile and SCRUM. Have made varied styles of art and/or music for all team games.
Personal	Dedicated, committed, tenacious programmer with experience building over 10 games, including an independently developed title that was purchased by a game company. Enjoy every aspect of making a game shine, including gameplay programming, tools programming, UI design, art, music, and any other needed task. Hard worker, self-motivated, work well on teams.

GAMES

R-Chain (Unity, C# scripting) **Sept 2012 – Dec 2012**

Student project – 2D chain reaction/ bullet hell gameplay that reacts to user-specified music tracks from their own collection

Roles: Programmer, Game Designer, Artist, Composer

- Developed algorithms to turn the frequency spectrum of a music track into usable events for generating enemies and bullets
- Programmed enemies to exhibit dynamic behavior using the event generation system and frequency amplitudes from music
- Designed gameplay as additional 'add-ons' such that at any point in development, there existed a solid, polished foundation to build on top on rather than working with an all-encompassing design, allowing for flexibility in experimenting
- Created a unique music track to serve as both the theme song as well as an effective debut track to generate gameplay

Redemption (C++) **May 2011 – May 2012**

Student project - 3D first-person block-based shooter involving fighting off an invading goo monster that swallows the map

Team: *Wired Productions (4 programmers, 2 artists)*

Roles: Gameplay Programmer, Special Effects Programmer, In-Game Tools Programmer, Game Designer, Art Director, Composer

- Wrote a feature-loaded particle system that worked with deserialization to provide flexibility and control over particle behavior, as well as support for mixing billboard sprites and oriented quads for complex visual effects
- Created an in-game level editor that provided an simple interface for creating worlds, intended for both casual and enthusiastic players to easily use, featuring advanced menus, color selection, history tracking and more
- Programmed a variety of interesting weapon behaviors, ranging from over-the-top orbital lasers to strategic turret creation
- Drew UI, texture and concept art, served as the mediator between the developers and artist on the team to import 3D models into the game, designed the look of various explosion particle effects, and prototyped many game concepts
- Composed 4 dark-themed tracks for the current iteration of the game idea, with a total of 6 tracks during project lifespan

Descension (C++) **Aug 2010 – May 2011**

Student project - 2D platformer/shooter with a single dynamic boss fight, emphasizing on screen-filling weapons and effects

Team: *Braindead Games (4 programmers)*

Roles: Gameplay Programmer, Game Designer, Artist, Composer

- Wrote the AI and behavior of boss and player weapons, and balanced their abilities for enjoyable gameplay
- Refactored programmed systems over several milestone iterations for performance and polish purposes
- Set up a structured weapons system for other teammates to easily create boss weapons
- Improved workflow by reducing game scope and acting on player suggestions and feedback through development lifetime
- Took over for a background artist who left the team halfway in development , drew nearly all art assets used in the game
- Composed the main theme song and mentored a teammate on the use of FL Studio to create more music tracks

The Dark Void (C) **Jan 2010 – April 2010**

Student project - ASCII turn-based strategy game with unit weapon customizability

Team: *Team Kronos (4 programmers)*

Roles: Special Effects Programmer, Producer, Artist, Composer

- Created a particle effects system and programmed intricate visuals and scene setups for in-game unit attack phases, an intro cutscene and the background of the main menu
- Wrote weekly producer reports and took responsibility to ship the game despite sudden unexpected team member issues
- Made ASCII art for the game world and composed chiptune music to further enhance the game's retro theme

Avirnei (Game Maker engine, GML scripting) **Jan 2008 – Nov 2008**

Independent project - Top-down squad-based RTS with customizable unit abilities and multiplayer capability

Team: *2 independent developers (2 programmers)*

Roles: Gameplay Programmer, Network Programmer, Game Designer, Artist, Composer

- Programmed a client-server network system for multiplayer, which supported several clients and handled disconnects
- Focused on customizability and features for the multiplayer lobby, which allowed each client to have their own ability modifications, basic chat with all other clients connected and other options
- Set up the core unit hierarchy system and a shared attack/movement structure, along with generic AI for all units
- Created an external editor which would export structure locations, as well as an internal editor for placing units and area effects for gameplay testing purposes
- Scripted a tutorial and scenario level, designed and implemented special effects for unit abilities and attacks
- Drew concept art for units and structures along with all finalized art assets
- Composed an experimental soundtrack for the title menu and in-game scenarios

Varia (Game Maker engine, GML scripting) **June 2007 – Oct 2007**

Independent project - 2D vertical scrolling shoot-em-up, with a mechanic that allows the player to steal enemy abilities

Team: *2 People (1 programmer, 1 musician)*

Roles: Programmer, Game Designer, Artist

- Made extensive usage of state machines for enemy AI, designed and implemented many types of glowing visual effects
- Designed a scrolling shooter game based on an ability to steal and store specific enemy abilities as an innovative mechanic
- Designed sprites that were layered together and rendered in specific way to create abstract, glowing environments and objects

WORK EXPERIENCE

Social Games International (in partnership with 1988 Games) **August 2011**

Programmer

- Sold the IP rights for Varia, my independent game, to Social Games International
- Completed all contractually requested work on programming features and polish, providing design suggestions on the side

Nintendo of America, Inc (contracted through AeroTek) **May 2010 – Sept 2010**

Game Tester

- Verified stability for the Nintendo DS game '*Professor Layton and the Unwound Future*' over the duration of the contract, writing detailed bug reports for both the US and European versions
- Completed all tasks on or ahead of schedule

HONORS, AWARDS

- Finalist in the Tetris Design Challenge Contest hosted by Tetris Online, Inc, to design new Tetris game variants
  Top ten out of 30+ games

- 1st Place in an online game development competition 'SHMUP-DEV 2k7 Round 2' with my indie game Varia
  (20 Official Entries)

EDUCATION

DIGIPEN INSTITUTE OF TECHNOLOGY, *Redmond, WA* **May 2013**

Bachelor of Science in Computer Science in Real-Time Interactive Simulation, on Dean's List