Jonathan Lam

Game and Full-Stack Web Developer
Toronto, ON
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647-406-0108

Developer of interactive applications. Believes the marriage of code, art, and music can create beautiful things.

Work Experience

Assistant Instructor

University of Toronto - Toronto, ON
April 2018 to October 2018

Independent Game Developer

Quadolor Games - Toronto, ON
January 2013 to July 2017

Full development and support of various game and development tool projects for Windows, macOS, Linux, HTML5, and Android platforms.

Responsibilities include:

- Designing, development and testing of games and tools in GameMaker: Studio, GameMaker Studio 2, and Visual Studio.
- Graphic design: creating pixel and vector art assets in GraphicsGale, Adobe Photoshop and Illustrator.

- Audio production: creation of background music and sound effects with various audio tool such as Cakewalk Sonar, OpenMPT and Deflemask.
- Regularly making posts, videos and GIFs to promote games on Twitter, Facebook, IndieDB, Cartrdge, and Tumblr.
- Providing technical support to end users.

Freelance Game Programmer

Giant Fox Studios - Remote
October 2016 to April 2017

Worked on Luke Sidewalker for release on Steam (Windows, macOS), iOS, and Android.

Responsibilities:
- Ported Game Maker 8 prototype project (code and assets) to GameMaker:Studio for multiplatform export.
- Participated in daily Scrum meetings with project manager, game designers, artists, and publishers on Trello and Skype to finish and polish prototype features, and add new features to the game such as additional levels and characters, UI/UX, and leaderboards and achievements (via Steamworks SDK, iOS Game Center, and Google Play).

- Managed game builds and depots on Steamworks.

Teaching Assistant (TA)

University of Ontario Institute of Technology - Oshawa, ON
September 2009 to April 2012

Responsibilities
Marking assignments and tests for the following courses:

Computer Architecture, Graphic Design II, Linear Algebra, Linear Algebra & Physics for Games, Game Design and Production I, Computer Animation: Algorithms & Techniques, Virtual Reality and User Interfaces.

Graduate Student Research Assistant

University of Ontario Institute of Technology - Oshawa, ON
September 2009 to April 2010

Responsibilities
Assisted the Faculty of Business and IT in researching novel methods of teaching using technology.

Skills Used
Research skills

Student Research Assistant

University of Ontario Institute of Technology - Oshawa, ON
May 2008 to August 2008

Responsibilities
Assisted faculty member with research work related to computer vision. (NSERC USRA grant.)

Accomplishments
Created a prototype system that automatically blurred or obscured objects of a given description (e.g. colour) in security camera footage.

Skills Used
Programming concepts related to machine vision and graphical processing, technical writing.

Education

Certificate of Web Developement in Full Stack Web Development

Lighthouse Labs - Toronto, ON
July 2017 to August 2017

MSc in Computer Science

University of Ontario Institute of Technology - Oshawa, ON
2009 to 2012

Recognition of Achievement (ROA) in Japanese Language Skills

Seneca College of Applied Arts and Technology - Toronto, ON
2005 to 2010

BIT (Hons) in Game Development and Entrepreneurship

University of Ontario Institute of Technology - Oshawa, ON

2005 to 2009

Skills

C++ (8 years), GameMaker: Studio (5 years), Unity (Less than 1 year), C# (Less than 1 year), Game Design (6 years), Software Development (6 years), Html (6 years), Computer Programming (10+ years), OpenGL (2 years), Video Editing (5 years), Photoshop (7 years), Illustrator (7 years), Javascript (1 year), GameMaker Studio 2 (2 years), React.js (1 year), Express.js (1 year), Ruby On Rails (Less than 1 year), MongoDB (1 year), Node.Js (1 year), Jquery (1 year), Ajax (1 year), Material UI (1 year), Sql (1 year), Web Development (1 year), PostgreSQL (1 year), Sass (1 year), Phaser 3 (Less than 1 year), pixi.js (Less than 1 year), Socket.io (Less than 1 year), Babel (1 year), Webpack (1 year), Browserify (Less than 1 year), Gulp (Less than 1 year), Mocha (1 year), Chai (1 year), Puppeteer (Less than 1 year), Css3 (2 years), Material-UI (Less than 1 year), MySQL (Less than 1 year), Amazon S3 (Less than 1 year), Github (3 years)

Links

https://github.com/mstop4/

https://itch.io/QuadolorGames

https://jonathanlam.ca

https://www.linkedin.com/in/mstop4

Certifications/Licences

Japanese-Language Proficiency Test, Level 4 (N5)

February 2008 to Present

Publications

Sound localization on a horizontal surface: virtual and real sound source localization

http://link.springer.com/article/10.1007/s10055-015-0268-2

30 July 2015

As the technology improves and their cost decreases, tabletop computers and their inherent ability to promote collaboration amongst users are gaining in popularity. Their use in virtual reality-based applications including virtual training environments and gaming where multi-user interactions are common is poised to grow. However, before tabletop computers become widely accepted, there are many questions with respect to spatial sound production and reception for these devices that need to be addressed.

Spatial sound and sound localization on a horizontal surface for use with interactive surface (tabletop) computers

http://hdl.handle.net/10155/243

1 August 2012

(Master's thesis) Tabletop computers (also known as surface computers, smart tables, and interactive surface computers) have been growing in popularity for the last decade and are poised to make in-roads into the consumer market, opening up a new market for the games industry. However, before tabletop computers become widely accepted, there are open problems that must be addressed with respect to audio interaction including: "What loudspeaker constellations are appropriate for tabletop computers?" "How does our perception of spatial sound change with these different loudspeaker configurations?" and "What panning methods should be used to maximally use the spatial localization abilities of the user(s)?" Using a custom-built tabletop computer setup, the work presented in this thesis investigated these three questions/problems via a series of experiments. The results of these experiments indicated that accurately localizing a virtual sound source on a horizontal surface is a difficult and error-prone task, for all of the methods that were used.

A framework for sound localization experiments and automation

http://dl.acm.org/citation.cfm?id=2160749.2160779&coll=DL&dl=GUIDE&CFID=90459810&CFTOKEN=64001093

March 2012

Table-top computing has been growing in popularity slowly for the last decade and is poised to make in-roads into the consumer market soon, opening up another new market for the games industry. However, before surface computers become widely accepted, there are many questions with respect to sound production and reception for these devices that need to be explored. Here, we describe two experiments that examine sound localization on a horizontal (table-top computer) surface. In the first experiment we collect "ground truth" data regarding physical sound source localization by employing a computer controlled grid of 25 equally spaced loudspeakers. In the second experiment we investigate virtual sound source localization using bilinear interpolation amplitude panning method and a modified quadraphonic loudspeaker configuration whereby four loudspeakers are positioned at each corner of the surface in a manner such that they emanate sound in an "upwards" direction. Obtained results indicate that sound localization of virtual sound sources on a horizontal surface is prone to errors and this is confirmed with our physical sound source "ground truth" data.

Amplitude Panning-Based Sound System for a Horizontal Surface Computer: A User-Based Study

http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=5623999

16 October 2010

Given the growing popularity of multi-touch mobility devices (e.g., iPods, smartphones), the move to multi-user touch screens and horizontal surfaces is a likely trajectory of the technology. Before smart tables become widely accepted, there are many questions particularly with respect to sound production and reception and multi model interaction for these devices that need to be explored (i.e., the interaction of sound and video cues). With respect to the sound interface, this introduces several design issues that must be addressed. More specifically, where do we position the loudspeakers and where should we position sounds in the mix, (in which speaker) for best reception? Here we describe a simple, and computationally efficient bilinear interpolation-based amplitude panning method designed specifically for horizontal surface computers with four loudspeakers. Preliminary user-based experiments were conducted to test the effectiveness of the method. Preliminary results indicate that

virtual sound source positions very close to the user lead to the greatest localization error while the localization error for virtual sound source positions along the border of the surface was less.

Wiimote-controlled stereoscopic MRI visualization with sonic augmentation

http://dl.acm.org/citation.cfm?id=1920825&dl=ACM&coll=DL&CFID=71279264&CFTOKEN=19293234

2010

Medical imaging techniques such as Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) that produce three-dimensional views of the body have become commonplace. In this paper we provide a preliminary overview of an MRI stereoscopic visualization system that we have recently begun developing. Stereoscopic visualization augmented with auditory cues (sonification) and a Nintendo Wii remote controller ("Wiimote") allows the user to easily manipulate the visualization.