

Mark McKay

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Previous work experience:

Name Available Upon Request (Dec 04 – Present)

- Sports training software. Focus on creation of 3D interfaces for simulation of cyclists within an immersive urban environment. Includes on-the-fly terrain generation and collision.

Mr X Fx(Jun 04 – Oct 04)

- Maya tools programmer. Assisted 3D artists in creating special effects for feature films.

AutoRef Systems(Dec 04 – Feb 05, Nov 03 – Feb 04, Jan 03 – May 03)

- Developed 3D client in Java3D and Swing to display animated trajectories of shots in a tennis game. Wrote modules to summarize shot data and display statistics.
- Wrote an interface for the server to allow easy administration of cameras that monitored the tennis game. Created networking modules to allow client / server communication.
- Created algorithm to remove the effect of a fish-eye lens in the camera image data (the camera returned slightly warped images).

Insomniac Games(May 03 – Aug 03)

- Developed animation and artificial intelligence algorithms for characters within the game Ratchet and Clank 2: Going Commando. Also developed lighting and atmospheric effects.

Union Energy(Jun 02 – Jan 03)

- Used SQL to generate reports and update a customer database for a large electrical company.
- Developed scripts to automatically generate and email reports in Excel that were run nightly.

Information Balance(Nov 01 - Jan 02)

- Worked on projects for AGF and CIBC. Developed a software suite for analyzing and automatically documenting large amounts of legacy computer code and natural language documents.
- Wrote a parser for Bourne shell scripts using Perl

Dyadem- Software developer (Jun 01 - Sept 01)

- Part of a team extending the capabilities of a risk management software package with Visual C++.
- Developed modules that provided views of data, as well as modules to import and export various file formats.

Open Source:

SVGSalamander – <http://svgsaslamander.dev.java.net>

SVGSalamander is an SVG parser, viewer and animator. It consists both of programs to load and display SVG content, and as a library that can be used to display SVG in any Java application. I originally wrote this to gain insight into creating graphics engines, as well as to provide a useful way to import and display vector graphics in Java. It also addresses some of the shortcomings I perceived in Batik, the other major SVG viewer for Java. Since then, the community has grown, and my library is used in a number of projects and handles many varieties of SVG documents.

Gazelle – <http://gazelle.dev.java.net/>

An earlier project, Gazelle is an interactive vector editor and animator. It lets you create simple vector graphics and animate them using key frames. Demonstrates important concepts in IDE design.

Self Directed Projects:

The Puzzle Corner - <http://www.kitfox.com/puzzlecorner/index.html>

This is program that daily generates and publishes a variety of newspaper style puzzles. Technologies used include SVG, XSLT/XSL-FO.

Other:

- Was a speaker at JavaOne 2007, delivering part of a talk on Swing and vector graphics in Java. (Session TS-3755)

- Created a 2D kinetics based rigid body collision engine which includes rigid bodies undergoing rotation. Includes frictional forces.

- Created plugins for Maya using C++ and the Maya Plugin API to export the scene graph from Maya to a custom XML file format. Wrote a co-responding importer in Java3D to import models into Java scenes. Includes animation information, so imported Java models can deform.

Education:

University of Waterloo, Waterloo Ontario Canada

- Graduate with an Honors Bachelor of Mathematics (Computer Science)
- Obtained minor in Fine Arts, Visual Arts Studio (included three courses in computer art and 3D animation)
- Completed CS 488, a fourth year CS computer graphics course that includes building a rendering engine, image processing and topics in modern computer graphics
- Completed CS 484, a fourth year course covering modern topics in Artificial Intelligence.
- Completed CS 444, a fourth year course on compiler construction. Involved implementing an Ada compiler.

Interests:

I enjoy cycling and am trying to learn piano in my spare time. I also am interested in improvisational theatre and have taken classes with Second City, Theatre Sports Toronto and Theatre on the Edge (Waterloo).

References:

Available upon request