

Skills

Languages

Application Programming Interfaces

Tools

Platforms

Database Technology

C++, C# (ASP.NET), Java, Python, ActionScript 2, 3
OpenGL, GLSL, HLSL, Qt, XNA, Boost, CGAL
Perforce, SVN, Nant, Visual Studio 2008, Eclipse
Nintendo 3DS, XBOX 360, Windows 7
Oracle 9i, PL/SQL, SQL Server, JDBC

Employment

Three year experience in the Software Development Lifecycle processes

- Verizon FIOS, Texas (USA)** Nov 2010 – Present
Role: Software Engineer (Contractor)
Fios Internet TV
Technology: C++, Python
 - Developing framework for inserting ads in HTTP live video streaming on server side
 - Developing product to enable live Video streaming through internet across different devices
 - Prototype adaptive bitrate video streaming media player on android OS
 - Maintain legacy code and integrate it with newly developed product for backward compatibility
- Electronic Arts, NC (USA)** July 2010 – Oct 2010
Role: Software Engineer (Contractor)
FIFA 3DS (Nintendo 3DS)
Technology: C++, C#, ActionScript2, Nant Scripts, Python
 - Extended rendering primitives to support in-game User Interface elements in depth
 - Collaborated extensively with the UI designer to get Flash/ActionScript screens working in game
 - Modified asset pipeline using Nant scripts to support new game modes
 - Moderated C#/Nant scripts which dealt with compiling all the assets of the game
 - Setup compiler defines to handle different build configurations in sync with all the other dependency packages
 - Worked closely with other team members to ensure project deliverables are completed on-schedule
- University of North Carolina, Charlotte (USA)** July 2009 – June 2010
Role: Research Assistant
Technology: C++, OpenGL, Qt, CGAL, Boost
 - Developed software for reconstructing terrain-surface using Marching Triangle Algorithm
 - Implemented Delaunay Triangulation constraint over point cloud (LIDAR data)
 - Implemented renderer in OpenGL to view the CGAL Polyhedron model
 - Studied computational geometry concepts such as Polyhedron and half-edge data structures
- 3i Infotech, India** Nov 2007 – Feb 2008
Role: Software Engineer
Technology: SQL Server
 - Communicated technical concepts to non-technical managers
 - Interacted, interviewed, and gathered functional user-requirements from client
 - Reviewed System Requirements Specifications
- Mahindra Satyam, India** Oct 2006 – Apr 2007
Role: Software Engineer
Technology: Java, Oracle 9i, PL/SQL, Informatica ETL
 - Developed prototype application in J2EE technologies for undisclosed automotive sector client
 - Underwent training in advance Database applications using Oracle 9i, PL/SQL, Informatica ETL and ASP.NET (C#)

- **Ministry of Information Technology, Govt. of India**

Jan 2006 – Jun 2006

Role: Intern

Technology: Java Swings, JDBC, MVC

- Simplified decision-making for client by facilitating managers to work at concept or knowledge level
- Designed software individually using 3-tier architecture of Presentation, Application & Data Layer
- Implemented design patterns using MVC framework, Data Transfer Object, Data Access Object
- Implemented validation layer attached to Presentation and DAO Layer
- Implemented flexible search utility giving user the option to search based on desired fields
- Developed custom Exception Library to provide useful messages to the client

Independent Projects & Graduate Coursework

- **Kolor (PC)** (In progress)

www.p-yank.com

Technology: C++, OpenGL, Qt Framework, Boost, OpenGL Mathematics

- Designed 3D First Person Shooter with a unique game mechanic of claiming enemies by Colouring
- Developed collada-DAE importer to get 3D models into the game
- Implemented custom Frame Transformation classes & First-Person Camera
- Developed Bounding Sphere(s) hierarchy information for the imported DAE model to complement collision detection subsystem
- Implemented efficient hash-based collision detection/resolution for players and bullets in game world
- Improved rendering performance using Vertex Buffer Objects

- **Juhuligan (PC)**

www.p-yank.com

Technology: C#, XNA

- Designed a side scrolling 2D-Arcade game inspired by Mario and Contra
- Focussed the game code to follow object oriented architecture
- Implemented game State management utilising State design pattern & finite state automata
- Developed User Interface that used Bezier curves to change player's expression
- Designed and Developed enemy AI using Finite State Machines

- **High Dynamic Range Images (Coursework)**

Technology: Matlab

- Implemented the High Dynamic range algorithm to retrieve the original color response function for a given photographic scene
- Final image result closely resembles natural scene and lighting conditions as seen with naked eye

- **Racquet Ball game (Coursework)**

Technology: C++, OpenSceneGraph

- Simulated experience of a Racquet ball game using the CAVE Virtual Reality technology
- Player body was tracked with head mounted tracking

Education

University of North Carolina, Charlotte(USA)

May 2010

MS in Computer Science

GPA: 3.8/4.00

(Graphics and Visualization)

U.P. Technical University, Lucknow(India)

July 2006

BS in Computer Science

(Software Development)