PETER MOWRY

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OBJECTIVE

Co-op or intern position in software development/engineering, computer science. Available 11/2003

EDUCATION

Rochester Institute of Technology, Rochester, NY
Bachelor of Science in Computer Science, Graduation: May 2005
GPA (Overall): 3.4/4.0 RIT Awards: AP Scholar, Presidential Scholar, Dean's List multiple quarters

COURSES IN SOFTWARE DEVELOPMENT

* See transcript or www.rit.edu/~pem1491/courses.html for full listing

Computer Science General: CS I-IV, Digital Design (CE), Assembly (CE), Data Communications, Programming Language Concepts, Operating Systems Scripting, Operating Systems
Software Engineering: Professional Communications, Software Engineering, Software Verification & Validation, Engineering of Software Subsystems
Computer Science Specialized: Database Concepts, C# & .NET Programming, Scientific Programming, Computer Graphics 1, CG-2, 2D Graphics Game Programming, 3D Graphics Game Programming

PROGRAMMING LANGUAGES AND MAJOR APIS

Most Significant: (C, C++, C#) and Java **More Significant:** OpenGL, DirectX, MS VS .NET
Significant: Networking & Sound C/C++ APIs, SQL, Assembly, Lisp, Prolog, Pascal, PHP/HTML
Types: OO, Functional, Event-Driven, Declarative, Imperative, Low Level, Database, CG/Sound/Network APIs

SOFTWARE DEVELOPMENT SKILLS (OTHER THAN PROGRAMMING SKILLS)

SD Cycle and Process: Requirements Design, Global Design, Detailed Design, UI Design, Implementation, Testing/Maintenance
Design Types: UML (Rational Rose, Visio), UI, Requirements, Sequence, Protocol, Data Base (ER)
Project Coordination: RCS/CVS, FTP, web sites
Platforms: Windows/NT/XP, UNIX (emacs, console, etc), X-win32, SSH, Telnet, Solaris, Redhat, Mandrake, Gnome, KDE, CDE

PROJECT EXAMPLES

* See www.rit.edu/~pem1491/projects.php3 for more examples

"Mega Monkey Mayhem" for IGF GDC 2004 Student Showcase Submission (Team Project): Complete graphics and game logic refactoring of isometric "Super IsoBomb" into 3D. Implement: game logic updates, effects updates, particles, custom culling and drawing optimizations, A* homing bombs, projectile bomb physics, camera views, GUI, AI, more. Recruited and organized contributions (art) for original content for IGF. Console action style cartoon monkeys theme uses all original art: textures, sound/music, maps, GUI, and models rendered with a cel-shaded skeletal animation system. Expected to win entrance as 1 of 10 projects for www.indiegames.com

3D Game "Xundar" (Team Project): 3D game and engine – C++, DirectX, some windows and fmod sound system. Technical features include: outdoor random terrain generation, indoor map file dungeons generation, 1st & 3rd person movement cameras, culling and optimization methods, collision detection, 2D elements (font engine, HUD), textures, lighting, custom imported models, animation, particles, custom sound effects and music, indoor item types with interactivity, and other special effects. www.rit.edu/~pem1491/Xundar

"Super IsoBomb" Net (individual Project): Windows, C++, DirectX. Network protocol design and implementation (using RakNet API) added IP multiplayer to split screen local version. Also 2D graphic and game logic features. www.rit.edu/~pem1491/IsoBomb/

C# & .NET Tile Map Editor: (Individual Project): Windows Form tile map editor used to create map files for "Xundar" dungeons and "Super IsoBomb" maps. Done in addition to weekly CS labs based on C# and the .NET framework and patterns.

Isometric Game ("Water Island") (Team Project): Action RPG. DirectX, DirectSound, C++. Loads map file, displays isometric tiles. 2D-collision detection, combat, scrolling bitmap text output, design of a complex class system, animations, music, sound effects, levels.

Ray Tracer (2-person Project): OpenGL, C++. Implemented simple Ray Tracer (spheres and checkerboard floor with lighting, reflection, refraction, shadows). Applied Tone Reproduction to resulting final image.

Drawing Editor (Team Project): Java. Created an object based drawing editor. Purpose: application of design patterns and principles; development stages and process. Project assigned in three "phases" of requirements – applying patterns well made the updates easier.

Checkers Project (Team Project – Team Leader): Java, Swing GUI, local play, TCP/IP net. Designed 3 major components: specific game logic, general turn-based game logic, and user interface. Focus of SE-I project was to visit all stages of a full software dev cycle.