Patrick Martin *Game Programmer*

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Languages	APIs	Software	Algorithms
C/C++	Direct X	Eclipse (Java/C/C++)	Runge-Kutta 4 integrator
C#	Managed DirectX	Visual Studio .NET (2003/2005)	Verlet integrator
Java	OpenGL	GCC	Impulse based Physics
z80 Assembly – Brief	SDL	MATLAB	Constraint based Physics
Inline x86 Assembly – Brief	.NET/CLR	Photoshop (7/CS/CS2)	Hamilton/Lagrange Physics
HLSL – Brief	XNA	Doxygen	Separating Axis Theorem
	Win32/COM	SVN	Triangle Rasterization
	Winsock2		Raycasting/Raytracing

Prominent Projects

Real-Time Soft Body Simulation *Individual Project*	• Soft body simulation utilizing pressure forces rather than a complicated internal system of springs. • Implementation of Runge-Kutta 4 and Euler-Cromer depending on the necessary stability and accuracy of a given component of the simulation. • Simulation written in C++ and Direct3D with a minimal exposed API to allow fast and easy implementation of a graphical frontend using C#.

Slushball
Team Game Project
	• Low level platform agnostic network transport layer (the same source code ran on OSX and Win32 with no changes allowing simultaneous development).
	• Implementation of TCP features over UDP including
	   o Optionally reliable packets
	   o Optionally ordered packets
	   o Client/Server connection system permitting a single server and an unverified number of clients (our record is around 50).

Barcode Reader using Image Processing Techniques
Two Person Team Project
	• Implemented various image operations in C# including:
	   o Geometric Transforms
	   o Opening and Closing Operations
	   o Convolution Masks

Education

DigiPen Institute of Technology	Graduation: April 2009 Major: B.S. Real-Time Interactive Simulations Minor: Mathematics, Physics

Previous Work Experience

Ocean City Tabernacle	Media Crew 2001-2005 Responsibilities: • Maintain Website • Graphic Design • Operate Cameras and Screens