

# Randall Knapp

Game Developer

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## Education

B.S. in Real-Time Interactive Simulation (DigiPen Institute of Technology, 2010)

*Designed and implemented three team-based games as Lead Designer and Engine Architect. Worked on interdisciplinary teams of artists, programmers, producers and designers. Received extensive training in C++, graphics programming, linear algebra and game engine architecture.*

## Skills

**C/C++** Built four games from scratch in C++: one text-based RPG, one 2D business simulator, one 3D action platformer and one 3D Nintendo DS action game. Implemented graphics engines, AI systems, scripting systems, general game-engine architectures. Competent at integrating external libraries and systems. Currently teaches C/C++ and Windows game development professionally.

<i>Proficiency:</i>	<i>Experience:</i>	<i>Likes:</i>
Very High	5 years	Template metaprogramming, strong typing, speed, age & maturity of language, control of
Very In-Depth		memory

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**C#** Built numerous tools and editors using Windows Forms and C#. Many of the editors include game prototypes built-in for testing.

<i>Proficiency:</i>	<i>Experience:</i>	<i>Likes:</i>
High	2 years	Garbage collection, Windows integration, good documentation, large user-base, anonymous functions

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**Lua** Integrated Lua into two previous games. Extensively used in several editors and side projects. Implemented unique run-time method binding system (better than ToLua++ and LuaBind).

<i>Proficiency:</i>	<i>Experience:</i>	<i>Likes:</i>
High	2 years	Extremely loose typing, run-time execution, easy embedding, function closures, re-entrant coroutines, data definition, metatables (and OOP-like behavior), the C-API

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**ActionScript 3.0** Created a Flash-based, Facebook integrated game as a side project at DigiPen. Currently teaches ActionScript/Flash game development professionally.

<i>Proficiency:</i>	<i>Experience:</i>	<i>Likes:</i>
High	1 year	Garbage collection, Flash integration, good documentation, built-in libraries, large user-base, web integration, anonymous functions and objects, Event system

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**PHP/MySQL** As a self-employed web developer, developed a Content Management System (CMS) from scratch that is currently in use by former clients. Also implemented a template system for building and displaying web pages.

<i>Proficiency:</i>	<i>Experience:</i>	<i>Likes:</i>
Competent	2 years	Huge built-in libraries, excellent documentation, loose typing, XHTML integration

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**XHTML/CSS/JS** Built and supported web sites for several clients. Familiar with many web-based technologies.

<i>Proficiency:</i>	<i>Experience:</i>	<i>Likes:</i>
Competent	7+ years	XML based, JavaScript's hashes, satisfaction of a beautiful web site

## Work Experience

Lecturer – DigiPen Institute of Technology Singapore (January, 2010 – Present)

*Teaches several stand-alone continuing education modular courses to professional programmers entering the games industry. Courses include: programming in C/C++, Introduction to Flash Game Development using ActionScript 3.0, Developing Flash Games for the Facebook Platform, Introduction to iPhone Game Development, and Introduction to PC Game Development. Develops each course's curriculum from scratch. Assists in curriculum development for other courses. All game development courses include training in linear algebra, collision detection, game engine architecture using the component/object model and some graphics programming.*

Web Developer/Designer – Self-Employed (April, 2008 – November, 2009)

*Designed and developed web sites for numerous non-profit organizations and small businesses. Built a content management system from scratch using PHP/MySQL.*

References and code samples available upon request