

Apollo Grace

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Summary

Senior Software Engineer with extensive experience in 3D Graphics, .NET, and Client/Server Mobile applications. Rapid learner and a creative innovator with a strong mathematics background. Clear technical communicator, working with designers and teammates to deliver a seamless and enjoyable user experience.

Languages & Compilers	Swift, Python/Django, Kotlin, C#, C++, Objective-C; Visual Studio, Xamarin Studio, XCode, PyCharm, IntelliJ
Operating Systems	Mac OSX, iOS, Windows, Linux
Scripting & Markup	JavaScript, HTML, CSS, XML, XSD, MaxScript
Developer Libraries	Direct3D, OpenGL, Unity3D, Qt
Source code control	Git, Perforce, Visual SourceSafe
Developer Tools	Collaborator, Araxis, Purify, BoundsChecker
Technical Documentation	Swagger, Confluence Wiki
Software Skills	Word, Excel, Outlook, Visio, PowerPoint, 3ds Max
Engineering Project Skills	Waterfall, Agile, UML, CRC Working remotely with international teams

Professional Experience

New Startup

January 2015 – Present

Senior Software Engineer, The Pattern

- Designing new iOS application to bring the insights of Shamanic Astrology forward in a consumer-friendly, fun and sharable app.
- Also responsible for developing in-house tools as needed, including a Content Management System and Mac App for the company's database of written content.
- Primary development in XCode for Mac and iOS, originally in Objective-C, eventually entirely in Swift.
- Translated primary algorithms to Python for use in server environment, and then later to Kotlin for speed.

Independent Contractor**March 2013 – December 2014*****Architect and lead developer, Esoteric Technologies, July 2013 - Dec 2014***

- Took full technical ownership of Solar Fire, a large package that's been on the market continuously since 1992.
- Successfully created and released version 9 in March 2014
- Began a complete rewrite, converting VB6 / Pascal code running only on Windows to a cross-platform C#-based code base (using Xamarin on Mac)
- Responsible for most of my own project management and quality assurance.
- Also maintaining several related applications, including web licensing code and a PHP online version of the software.

iPhone developer

- Developing my own health & fitness and productivity apps for iPhone
- Recently converted my own source from Objective-C to Swift 3
- Contractor developing 3D iPhone apps written in Unity3D (with iGUI user interface)

Autodesk, San Rafael, California**1995 – 2012*****Principal Engineer, Autodesk "One Graphics System" team***

- Helped develop new approaches to design/visualization for all Autodesk products
- Provided the best 3D visualization at a reliable speed across a wide range of customer hardware, using the latest 3D graphics techniques
- Worked with a range of engineering groups across Autodesk (Revit, AutoCAD, 3ds Max, etc) to ensure the highest level of graphics system adoption
- Designed software architecture for a distributed worldwide team
- Supported cross-platform development of the graphics system – Windows / Mac / Linux, and DirectX / OpenGL, eventually branching out to Unity3D on mobile.

Senior Software Engineer, "Nitrous" project

- Recreated 3D design software (similar to 3ds Max) in C# and .NET
- Had primary responsibility for mesh data redesign and modeling technologies, focusing on speed, memory space optimization, and hardware compatibility
- Developed XML data interchange formats for testing and benchmarking.

Software Engineer, 3ds Max, specializing in 3D modeling

- Pioneered industry-leading modeling tools in "Editable Poly" and subdivision surface technology in "MeshSmooth"
- Creation of most of the tools provided for modeling geometry in 3ds Max
- Engaged in customer site visits to understand the needs of artists
- Refined clear user interface and effect design with product designer
- Implemented effects on a tight release schedule, often a release every 9 months.
- Took responsibility for all parts of the effect – design, implementation, debugging, and documentation

***Full-time telecommuter for my entire Autodesk career,
as part of a nationwide graphics team.***

Prior Work Experience

Software Developer

- Developed modeling and animation plug-ins for Softimage
- Worked on Silicon Graphics (UNIX) hardware
- Tools development for Geometry Visualization Research, including visualization of higher-dimensional spaces
- Spline/Patch modeler for the original 3D Studio (DOS)

Education

BS, Mathematics, with Honors, California Institute of Technology, Pasadena, CA

Specialization in combinatorics, geometry, and geometric visualization in computer graphics

Ongoing training in software engineering

Have studied Agile, UML, iOS development, WebGL, and other aspects of modern software engineering over the last few years – University of Minnesota, Udacity, iTunes U