

# Garrick (Rick) Berger

Resume/Curriculum Vitae (Full)

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## GENERAL

Graphics (2d/3d) and UI developer, with deep experience in a wide range of technologies and platforms. Integrate well into existing development environment and technical base (for current endeavors.) Ongoing efforts to keep abreast of emerging technologies (for newer endeavors.)

Looking for any of the following:

- Short term (3-12mo) development position. Can work on-site/relocate for duration of project at own expense.
- Longer term development position with ability to perform majority of work off-site. Can travel as necessary to support project at critical junctures. Can relocate for first 3-9mo to establish relationship.
- Position that will allow me to leverage my experience to expand into adjacent/newer technologies.

## SKILLS

### **Design Techniques:**

Strong design w/ OO techniques, model/view, dependency/functionality isolation, design pattern terminology where applicable. Some UML.

### **Software Development/Scripting Languages:**

*MS VisualStudio, C/C++, PHP, Perl, Java (ECMA) Script(expert)*  
*ActionScript3, VisualBasic, C#, Java (very good)*

### **Web Technologies:**

HTML, XHTML, DHTML, CSS, XML PayPal Merchant Toolkit (WSDL/SOAP/XML),  
Flash/Flex3  
J2EE/Struts/Tiles(familiarity)

### **Word Processing Technologies:**

*MS Office, Open Office, some Framemaker* (high and low level – constructed a Document Control system that manipulated *FM* document templates to generate reports.)

### **Operating Systems:**

*Windows, Unix* (various flavors), *FreeBSD* sysadmin, *Mac OS X*.

### **Frameworks/Toolkits (expert level, unless otherwise noted):**

**3D/2D** - *Open Inventor (internals), OpenGL, Windows GDI*  
**Windows** - *Qt, MSVC, COM/ActiveX, MFC, Win32API (expert)*  
*.NET/.NET 2.0 (very good)*  
**Mac OS X** - *Qt*  
**Unix/Java** - *Qt (expert), Swing (very good)*  
**Web** - *CGI, Netscape Plugin, MFC, SSL, Apache.*  
**Other** - *Compiler Development w/LEX & YACC*

### **Ancillary:**

Windows Internationalization,  
Technical/Proposal Writing

**Outside Interests:** Photography, sailing, cycling, music, cooking, travel.

## **EXPERIENCE**

From present:

### **Feb 2009 – Present**

*KIS Systems.* –  
*Facebook* project *Active Biorhythm*.

- Exploration of *Adobe Flex3* web/desktop graphics application development environment.
- Exploration of *Facebook* social networking API (REST server) – provides users with charts to compare their values with that of their ‘friends’.
- Demonstrates ‘active charting’ capability (*Google Analytics*-style charting) with rollover and other mouse effects to display data or provide control at various points on the graph.
- (Preparatory effort to investigating emerging 3d frameworks on *Flex3* platform.)

(*ActionScript3* on *Adobe Flex3* framework, *Facebook API*, *REST client*)

### **Mar 2008 – Dec 2008**

*University of Southern California at San Diego (UCSD)* –  
*3d Molecular Viewers* for *RCSB PDB* website, incorporation web updates, *Java Web Start*, and web analytics for the site.

- Re-architected group of 3d molecule viewers that had diverged significantly – unified entire codebase under a coherent architecture (merged app-frame-document / model-view-controller architecture.)
- Introduced more rigorous software engineering practices to above, including updating documentation via javadoc and initiating unit testing framework.
- Updated web site as needed and re-implemented *Java Web Start* mechanism to deploy viewers.
- Web Analytics (via *Google Analytics*) effort which involved defining a large suite of back-end regular expression filters to re-organize site URLs into ‘CEO’ friendly output. Also instrumented a significant amount of the *J2EE* codebase to actively track specific user actions on the site.

(*Java* on *Mac/Windows/Linux*, *JOGL (Java OpenGL)*, *Swing*, *J2EE/Struts/Tiles*, *SVN*, *Google Analytics*, *some Python*, *XML*, *HTML*, *etc.*)

### **Sep 2007 – Mar 2008**

*KIS Systems* – Open source projects, demos, and web updates.

- Qt ‘Active Listview’ component.
- Qt/Open Inventor financial animation simulation
- Miscellaneous web updates.

(*C++*, *Qt*, on *Mac/Win/Linux*,  
*PHP*, *XHTML*, *Apache*, *MySQL* on *FreeBSD* under *IE*, *FF*, *Safari* browsers)

### **Jun 2006 – Mar 2007**

*Schlumberger/Western Geco* Seismic Visualization software. Assisted division in adding features to product:

- Animation sequencer – generic implementation. Application animates textures over 3-d geometry.
- “Statistical Histogram Selector” - dynamically selects out points on a 3-surface using interactive sliders on histogram set. Intense UI/interactivity and optimization requirements.
- Dynamically modify 3-d surface tessellation depending on camera viewpoint. Very intense optimization requirements – additional UI for schematic visualization and feedback analysis.

(C#.NET, C++, wxWidgets on Windows platform.)

## **Jan 2005 – May 2006**

(Sabbatical project)

Designed and built website e-zine *scribi.com*. Technical features include:

- All content (beyond front page) dynamically generated w/PHP custom CMS.
- XHTML1 Transitional/CSS compliant.
- All content, including pictures dynamically retrieved. Pictures stored out of web-space to control external links.
- Pages generated from 'dot' code – easily generated in any text editor, with rich layout capabilities. Custom parser (PHP) allows flexible generation to a variety of output formats.
- Subscription mechanism w/ escalating 'incentive annoy' levels - determined by tracking user duration on pages of interest.
- Credit Card/Payment processing w/ PayPal ExtendedPayment API through SSL..
- JavaScript and CSS/DHTML provide site dynamics. In particular, the the photo gallery is almost entirely JavaScript driven. This offloads the server, considerably (noting there are now better photo gallery implementations...)
- PhotoShop scripting (JavaScript) to handle bulk image manipulation and branding.
- Tuning for SE via Apache mod\_rewrites, JavaScript stripping, and HTML validation.

(PHP/Apache on FreeBSD OS, XHTML, DHTML, CSS, XML, JavaScript, PayPal Merchant Toolkit (SOAP/WSDL), RSS, Google Sitemaps)

## **Jun 2000 – Jan 2005**

Long-term project with Pfizer/Agouron Pharmaceuticals working on in-house molecular modeling product (initially called *QuikVu*, but name changed to *MovIt*.)

- Performed initial port from Unix platform to Windows platform.
- Provided *Open Inventor* expertise and guidance.
- Key participant in complete re-design of product, providing input on architecture, *Open Inventor* usage, and adoption of *Qt* for cross-platform UI implementation.
- Designed and implemented main page layout and components.
- Tuned and implemented product-side communications with web-server for asynchronous download of molecule directory information, including descriptions and 'just-in-time' retrieval of images.
- Perl scripting, CVS, gmake, shell, etc. for configuration management issues.
- Ongoing support and bugfixes.

(C++ on IRIX/Linux, ViewKit, MSVC++ on Windows, Qt on both platforms, XMLRPC, XML, HTTP, sockets, Perl, CVS.)

## 1995-2000

Long-term association with *Template Graphics Software* (San Diego) developing applications and providing low-level support for graphics programs on Windows, Unix, and Mac platforms.

### **Zap Plugin**

Netscape plugin for display of 3D graphics on webpage, using OpenGL. Ported to MacOS (classic) with additional bugfixes and support for Windows. (C/C++, MSVC++, Mac Toolkit., Netscape Plugin ToolKit)

### **Qbert Prototype – TGS/Nova Development Corporation**

Defined and implemented bridge architecture for product to run on MacOS (classic) and Windows. (PowerPlant, Metrowerks C++, MFC, MSVC++)

### **Open Inventor for Macintosh**

Ported TGS' *Open Inventor* product to the MacOS (classic) platform. (PowerPlant, Metrowerks C++, MFC, MSVC++)

### **LiveWork3D**

ActiveX control for displaying and manipulating 3D pictures and animations in embedded scenario, such as Word or PowerPoint documents. (MSVC++, MFC)

### **3SpaceManager - TGS / JCNLand, Japan (Japanese)**

Rescued project from previous contractor, who had abandoned the effort, taking source with him. Re-fixed bugs and enhancements from prior source versions, fulfilled internationalization requirements, salvaged ActiveX control code and allowed for full rebuild and continuation of project. Restored customer's confidence in TGS' ability to complete the project. (MSVC++, MFC, Windows Internationalization).

### **3SpaceAssistant – TGS/Digital Equipment Corp (now Compaq).**

Developed 3D application to run standalone, or as in-place COM (*Word* and *PowerPoint*) component, or as *ActiveDocument* component for *Internet Explorer*. Seamlessly interacted with *IE* to present *OpenInventor* and VRML 3D models. (MSVC++, MFC).

### **IVF – Open Inventor Framework - Template Graphics Software**

*Open Inventor* class framework that parallels and enhances MFC's Document/View architecture. Allows MFC developers the ability to generate 3D applications easily. Consists of two major items:

- Class Library that parallels and works in concert with MFC.
- MSVC++ Wizard extension to create framework application from within IDE.

## 1991-1995

Highlighted Projects:

### **A3D to Standardized API Adapter - Nasa Ames Research**

Wrote adapter to allow NASA proprietary programs to run on standardized 3D Graphics API on UNIX platforms (NASA system was written on IBM Mainframe). Requirement was to support legacy software in transitioning hardware environment. (C++, Unix)

### **Document Control System - Megatek Corporation**

Prototyped document control system for engineering documents. Table driven document and project status output, to *FrameMaker* markup language templates. (C++, *FrameMaker*, db, Unix)

### **Mapping Overlay System - Ciba Geigy Corporation**

Another translation interface to read .dxf files (AutoCad) and draw using standardized 2D software. Allowed company-wide viewing of various layers of environmental SuperFund site data managed by Ciba Geigy. (MSVC++, *Tel-A-Graf*)

## **EDUCATION**

BS Geology - Mesa State College, Grand Junction, CO

## **REFERENCES/ENDORSEMENTS**

(Endorsements viewable under my profile at LinkedIn.com – <http://www.linkedin.com/in/rickberger>, or on request.)