

# Rob Corell

## Software Architect

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## Skills

<i>Leadership</i>	Architect/coder on eleven new projects from inception to success.
<i>Technical</i>	API design, web services, networking, C++, JavaScript, metadata, cross-platform and multilingual development.
<i>Communication</i>	Published author, experienced public speaker, skilled at remote presence and achieving consensus. I pride myself on being easily approachable and accessible even while meeting aggressive goals.

## Experience

### Traitwise, *Chief Technical Officer and Co-founder*

[Traitwise.com](http://Traitwise.com) Crowdsourced survey engine for healthcare communities

#### *Technical Architect*

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Traitwise aims to become the Wikipedia of survey technology, allowing anyone to contribute answers, questions, rate our automated findings and use state-of-the-art analytical tools developed in partnership with Bill Press, author of [Numerical Recipes in C](#).

Implemented in Ruby-on-Rails, DHTML, jQuery, Flash/Flex, MySQL, Apache 2 and Phusion Passenger.

[Photoshop Express](#)

Online photo editing, organizing and storage

*Server architect*

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Adobe's first large web application, this browser-based version of Photoshop for consumers tested the limits of Flash development and helped sculpt the underlying service platform. I created and maintained the database schema, acted as technical liaison for its many client and server teams and wrote the initial deployment script.

Implemented in Flash, Flex and AIR.

[Photoshop.com](#)

Photo editing and storage site

*Server architect*

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The Photoshop.com server API provides high-level semantic operations on Photoshop Express accounts, and some relational database services. I drove the API design, co-designed the server framework and implemented friends lists and RSS/Atom feeds.

Implemented on CentOS Linux using Merb, a custom-designed C++ FastCGI framework, mysql and nginx.

*Ozzy*

Massive cloud file storage

*Consulting architect*

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The Ozzy project aimed to provide a storage service similar to Amazon's S3, and to serve as a low-level platform for future Adobe services.

I represented client needs to the Ozzy team, consulted frequently with the lead architect and drove the feature requests.

Implemented on Slackware Linux using C++ FastCGIs and lighttpd.

## Adobe Bridge

Adobe's file browser and metadata manager

*Architect of Bridge CS3,  
Platform Architect of Bridge CS2*

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Starting as a file selection feature of Photoshop, Adobe Bridge became a full-fledged file browser that supports preview of all Adobe formats, acts as an extensibility platform for the product suites and ships with every Adobe application. I created the scripting API and redesigned the app to adhere to [Model-View-Controller](#) (MVC) principles.

Implemented in C++ for Windows and Mac OS.

## *BridgeTalk*

Inter-app communication for desktop products

*Architect*

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All Adobe applications use BridgeTalk to communicate with each other, usually by sending a JavaScript to be executed in the target DOM. I identified the need for it, gained consensus on its implementation strategy, designed the protocol and API, implemented version 1.0 and aided its integration into all CS2 Suite applications.

Implemented in C++ for Mac and Windows.

## Version Cue

Version control for non-programmers

*Technical Lead*

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Version Cue 1.0 offered a familiar filesystem metaphor for version control and added an exception-based workflow to handle conflicts. I consulted on the API, and led its implementation and integration into the first Creative Suite, and selected the Open Source [gSoap](#) library for our remote procedure-call needs; worked with Adobe legal and University of Florida to make it viable for corporate development.

Implemented in C++ for Mac and Windows.

## *WebAccess*

HTTP, SSL, WebDAV and FTP support

### *Architect*

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An internal library for full-featured network support not offered by Mac or Windows at the time. Designed API and architecture for asynchronous network protocols and coded on them.

Implemented in C++ on Mac and Windows, using [libwww](#) and [OpenSSL](#).

## [CreatePDF.com](#)

Adobe's first full web service

### *Architect*

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CreatePDF added a web front-end and online subscriptions to the Capture 3.0 server support in Acrobat 5.0, becoming Adobe's first profitable web service. I created and implemented the database schema and client/server protocol.

Implemented in C++, Perl, HTML and JavaScript.

## [Acrobat 5.0](#)

Dynamic integration of back-end web services

### *Plug-in Architect*

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Created WHAPI (Web-Hosted Application Plug-In) that self-updated, performed intranet and internet service discovery and dynamically added UI to Acrobat to access new services. Supported Capture 3.0-based OCR.

Acrobat's first C++ plug-in, implemented for Mac and Windows.

### Capture 3.0

Graphics libraries, OCR to HTML

*Programmer*

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Capture 3.0 features top-of-the-line OCR and professional workflow tools for large-scale scanning and conversion to PDF or HTML. Nine years later, Adobe continues to sell this exact version. I wrote the 2D graphics library as well as the automatic HTML and stylesheet generation, for which I received a [U.S. patent](#). Implemented in C++ for Mac and Windows.

ADAM

Scanner library for Acrobat and Photoshop

*Architect*

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An internal product, ADAM (Adobe Device Acquisition Manager) provided a general scanning library that abstracted TWAIN and ISIS access. I co-designed and coded on it. Implemented in C++ for Mac and Windows.

### **Brute Force Games, CTO**

1996-1997

*Unsuccessful startup*

Two game designers and I incorporated and attempted to secure funding for a computer game. I created an isometric game engine and associated art tools for it.

Implemented in C++ for Windows, using DirectX.

### **Simtex / MicroProse, *Project Lead, network and graphics***

1995-1996

[Master of Orion II](#), [Agents of Justice](#)

Designed and implemented IPX network library, created 2D visual effects, Project Lead of the unreleased "Guardians: Agents of Justice" superhero title.

## **Origin Systems, Sr. Software Engineer**

1993-1995

[Wing Commander Academy](#), [Ultima VIII](#),  
[Wing Commander Armada](#), [Crusader](#)

Implemented 3D physics, 16-channel sound system, created custom video codec, implemented (and acted) in the first speech pack for a computer game.

## **University of Texas at Austin, B.S. in Computer Science**

1988-1992

Member of the ACM, studied AI under Bruce Porter, minored in Geology.

## **Notable works**

### **One patent approved, two pending**

- [U.S. Patent #7,249,318 - Automatic Stylesheet Generation](#)
- Two pending patents remain confidential; Lori Behun at Adobe can verify.

### **Co-authored three JavaScript DOM references and guides**

- [Adobe Bridge CS3 JavaScript Reference](#)
- [Adobe Bridge CS3 JavaScript Reference](#), also published as a [public wiki site](#).
- [Adobe Bridge CS3 JavaScript Guide](#)

### **Addressed the W3C about XMP**

- In 2002, [addressed the W3C developers](#) and met with [Tim Berners-Lee](#) and [Guha](#) among others, in order to create an easily-parsable subset of [RDF](#).

### **Helped foster telecommuter culture at Adobe**

- At Adobe, I worked with teams and co-workers sited at numerous locations around the U.S and abroad. Amongst others, I evangelized the use of Instant Messaging (IM), wiki and chatrooms to bind these widely spread teams together. I helped provide the necessary tools, offered technical support, managed the structure of wiki sites and made myself almost constantly available to answer questions via IM. In recognition of the value of these tools, the IT department now runs them and they have become a ubiquitous aspect of Adobe's corporate culture.

## References

Dan Brotsky, Chief Architect, Adobe

Arno Gourdol, Director of Engineering, Adobe

Thomas Nielsen, Director of Web Services and Consumer Applications, Adobe

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