Carl Reynolds' Résumé

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My major areas of expertise are Computer Graphics and Human Interface Engineering. I have designed applications and user interfaces for numerous graphic applications including Artists Workstations, Publishing, Computer Aided Design, Web Page Design, etc. I also have extensive experience in Scientific and Engineering applications including Robotics, Industrial Automation, Trajectory Planners, Applied Mathematics, and Physics. I am often called upon in designing applications to design languages and perform systems administration.

r&b dances	Dec 03 … Present	Calico Rock, Arkansas

r&b dances is a media production and entertainment development company.

I designed the user interface, functional specification, and hardware specification for a new device to be used with video. The details of this device are proprietary. I used C/C++, JavaScript, Perl and HTML for the design of this project.

Industry Knowledge

Computer Graphics	Graphical User–Interface Design
Functional Specification	Implementation Specification
Hardware Specification	Database Specification

Technical Knowledge

Perl5	JavaScript
DHTML	CSS
C/C++	MySQL

Hyperbole Creations   Apr 03 … Dec 03   Madison, Indiana

Hyperbole Creations is the web design, media and graphics creations side of Hyperbole Software, UnLtd.

I re-designed and developed a new look for the Hyperbole Software, UnLtd web site (www.hyperbole-software.com).

Industry Knowledge

Computer Graphics	Graphical User–Interface Design
Implementation	Implementation Specification

Technical Knowledge

Perl5	JavaScript
DHTML	CSS

r&b dances   Jul 02 … Mar 03   Calico Rock, Arkansas

r&b dances is a media production and entertainment development company.

I designed and developed an interactive solutions manual for a computer game called Chip's Challenge. The manual was developed using perl to generate pages of DHTML which could be viewed in a browser such as InterNET Explorer or Netscape.

Industry Knowledge

Computer Graphics	Graphical User–Interface Design
Cross–Browser Implementation	Implementation Specification

Technical Knowledge

Perl5	JavaScript
DHTML	CSS
C/C++	

McKesson APS, Inc.   Apr 02 … Jun 02   Alexandria, Louisiana

McKesson is a company that designs and markets Automated Pharmaceutical Systems.

McKesson had designed a centralized controller to replace the various boards used to control the components of their automated pharmacy system. I helped to design the software system that would run the controller. I also designed the Graphical User–Interface that would be used for system set up and to operate the system when running. I designed the coding standard used to implement the system. As a result, future programming changes will be cost effective.

Industry Knowledge

Embedded Systems	Graphical User–Interface Design
Cross–Compiling	Implementation Specification
Industrial Automation	Coding Standards

Technical Knowledge

C++	Linux
MSql	ARM Processor
QT–3.1.4	

BroadWing Communications, Inc. Mar 00 … Jul 01   Louisville, Kentucky

Broadwing Communications is a telecommunications company. I was working for their InterNET Services Division.

I ported a web server from IRIX to Linux converting databases from MySQL to Sybase. I automated the Call Record Database auditing process, field tested the automation, and Continued to enhance its capabilities. I supported the scripts used to present the Time–on–Line and POP List Dial–In web

pages. I set up security measures for web page and database access using Apache web server, Xitami web server, and FTP access

I provided program documentation to allow later system enhancement.

Industry Knowledge

Porting	Server–Side Programming
Database Programming	InterNET Server Support
Web Page Design	Client–Side Programming
Graphical User–Interface Design	Program Design
Program Implementation	Network Security

Technical Knowledge

C–Language	HTML	Linux
C++	CGI	IRIX
Perl5	DHTML	LERG Database
Bourne–Shell	JavaScript	
Korne–Shell	Java	
Sybase	awk	

PowerWay, Inc. Feb 00 … Mar 00 Indianapolis, Indiana

PowerWay provides industry–specific process management so OEMs and suppliers can work together as virtual enterprises, enabling them to deliver quality products while reducing costs and increasing profits.

I Designed and Implemented OLE Automation Clients and Servers. I provided program documentation to allow later system enhancement.

Industry Knowledge

OLE Automation Client/Server Design

Program Design

Program Implementation

Technical Knowledge

MicroSoft Visual Studio

Visual C++ v–6.0

Windows–98

The Fiber Artist Oct 99 … Feb 00 Madison, Indiana

The Fiber Artist designs clothing.

I Helped design The Fiber Artist's logo and Web Page.

Industry Knowledge

Logo Design

Web Page Design

Graphical User–Interface Design

Technical Knowledge

HTML	DHTML
CGI	PhotoShop

Howard Needham, Violin Maker Aug 99 … Sep 99 Bathesda, Maryland

Howard Needham repairs and makes violins, violi, bass violi, and celli.

I Helped design the web page.

Industry Knowledge

Logo Design

Web Page Design

Graphical User–Interface Design

Technical Knowledge

HTML

DHTML

PhotoShop

Howard W. Sams, Publishing Feb 99 … Sep 99 Indianapolis, Indiana

Howard Sams is a subsidiary of MacMillan Books. I worked for their catalog publishing division.

Howard Sams had marketed Catalogs on CD–ROM. Design errors kept the project from succeeding. Previous consultants had failed to correct these design errors. I analyzed their existing software and wrote an Implementation Specification. I made the User Interface more functional, expanded the program's capabilities, and increased the system stability. As a result they were able to continue selling a product that had been scheduled for discontinuation. I provided program documentation to allow later system enhancement.

Industry Knowledge

Implementation Specification	Server–Side Programming
Enhanced System Stability	Electronic Catalogs
Database Programming	Graphical User–Interface Design
Web Page Design	Program Implementation

Technical Knowledge

MicroSoft Visual Studio	CodeBase by Sequiter	HTML
Visual Basic v–5.0	Windows–3.1	DHTML
Visual C++ v–1.52	Windows–95	JavaScript
Visual C++ v–5.0	Windows–98	Java
CD Author by Dataware	Windows–NT–3.51	XML
VBx controls	Windows–NT–4.0	
PostScript	Perl5	

CyboRobots Mar 98 … Sep 98 Indianapolis, Indiana

CyboRobots was a designer and marketer of robots.

I was responsible for creating the software used to control a robot used for precision cutting of steel in shipyards. The robot used a plasma cutter for speed cutting steel up to four inches thick. It used oxy–acetylene to cut steel up to ten inches thick. It had an inkjet printer used to mark and label the steel. I was responsible for calibrating the software for accurate control of the printer and cutters. I designed and implemented robot database libraries and a parser to read the setup information for the

robot. I provided program documentation to allow later system enhancement. I Designed, Tested, and Implemented the documents for use on the company–wide IntraNET.

Industry Knowledge

Robotics	Web Page Design
Program Design	Precision Measurement
Program Implementation	

Technical Knowledge

C++	HTML
LynxOS	DHTML
Linux	awk

Lincoln National Re—   Jul 97 … Feb 98   Fort Wayne, Indiana

Lincoln National is a re–insurer.

Lincoln National depends on ready access to actuarial databases. I created the Functional and Implementation Specifications for enhancements to the databases. I Designed and Implemented the User Interface. I provided program documentation to allow later system enhancement.

Industry Knowledge

Graphical User–Interface Design	Implementation Specification
Database Programming	Program Design
Functional Specification	Program Implementation

Technical Knowledge

Visual C++ v–5.0
XVT
Windows–NT–3.51

The Friendship State Bank   Jun 96 … Nov 99   Friendship, Indiana

The Friendship State Bank is a chain of banks providing banking services to people in southeastern Indiana.

I provided programming support services. This included installing new software, moving data and programs from older computers to new computers, troubleshooting problems with existing systems, and installing new hardware.

Industry Knowledge

System Maintenance
Trouble Shooting
Computer Instruction

Technical Knowledge

Windows–3.1
Windows–95
Windows–98

Wolfscratch Communications, Inc.Mar 96 … Mar 00 Big Canoe, Georgia

Wolfscratch Communications is a content design company. They design the content and layout for documents used internally by companies such as Randstadt Professional Services, Cocoa–Cola, and The US Pentagon.

I designed the Company Logo for Wolfscratch. I designed and implemented their web page and provided consulting for a FileMaker database manager they were developing for an art gallery.

Industry Knowledge

Logo Design

Web Page Design

Database Programming

Technical Knowledge

HTML	PhotoShop
DHTML	FileMaker
JavaScript	awk

S.N.E. Systems, Inc. Dec 95 … Mar 97 Louisville, Kentucky

S.N.E. Systems is a company that designs and installs conveyers.

I designed and implemented conveyor control software for various conveyer systems. The software received information about the packages to be moved by the conveyer from the warehouse management system, photo eyes, barcode readers, and weight scales and used this data to send messages to the PLCs and control devices to route and track the packages through the system. I Designed and implemented client/server software to communicate with warehouse management systems and between various parts of the conveyor control system. I Designed software to talk directly to hardware installed on the conveyor control system. I provided program documentation to allow later system enhancement. Projects were completed for a wide range of customers including Fisher Scientific, Columbia Sportswear, National Cash Register, and American Greeting Card.

Industry Knowledge

Industrial Automation — Conveyers	Program Design
Client/Server Programming	Program Implementation
Y2K Compliance	

Technical Knowledge

Visual C++–4.0	Bourne–Shell	QNX
Visual C++–5.0	C–Shell	OS–9
C–Language	Java	awk
Windows–NT–3.51	DHTML	UNIX

NYNEX Information Resources (now Verizon)May 92 … Dec 95 Manhattan, New York

NYNEX Information Resources created and published the yellow pages for New York and New England.

I Designed and Implemented software to read images from ECRM scanners. The images were then used to create the display ads for the yellow pages. I Designed and Implemented software to clean up the images once they had been scanned. I was the project leader of task to convert Scanning and Graphics Editing software from SunView to Motif, from C to C++, and from SunOS to Solaris. Because of rapid turnover in NYNEX personnel, I performed some systems administration tasks. I

Wrote the device drivers for the ECRM scanners. I provided program documentation to allow later system enhancement.

Industry Knowledge

Functional Specification	Applied Mathematics
Implementation Specification	Program Design
Computer Graphics	Program Implementation
– Printing	Device Drivers
– Image Manipulation	Graphical User–Interface Design
– Image Generation	Systems Administration

Technical Knowledge

C–Language	PostScript	PhotoShop
C++	awk	Fractal–Design Painter
Bourne–Shell	Lex	Illustrator
C–Shell	yacc	Freehand
SunView	UNIX	Windows–3.1
Open–LOOK	HTML	Solaris
Motif	Framemaker	SunOS

Sheffield Measurement　　　　Oct 91 … Nov 91　　　　　　　　Dayton, Ohio

Sheffield Measurement designs and markets machines used for measuring parts to the nearest0.000001 inch.

I Designed the trajectory planner algorithms for measuring various shapes.

Industry Knowledge

Robotics

Applied Mathematics

Precision Measurement

Technical Knowledge

Algebra

Calculus

Analytic Geometry

TekElec, Ohio　　　　　　　May 91 … Sep 91　　　　　　　　Columbus, Ohio

TekElec Ohio designed and implemented software to test the systems used in GSM communications modules for European cell phone systems.

I Helped port the GSM testing system from MS–DOS based environment to SunOS. Designed and Implemented a parser to read ASN–1 configuration files. I provided program documentation to allow later system enhancement.

Industry Knowledge

Porting

Language Design

Program Implementation

Technical Knowledge

C–Language	SunOS	yacc
Bourne–Shell	UNIX	awk
C–Shell	Lex	Interleaf
SunView		

General Electric, Aircraft Engines Aug 89 … Dec 90   Cincinnati, Ohio

General Electric Aircraft Engines designs and markets jet engines for commercial and military aircraft.

I designed and implemented software to enhance the graphics programs used to design the engines. I Designed algorithms for polygon clipping, solid model rendering, and curve generation. I Designed fonts. I Designed User Interfaces for engineering design programs. I Designed and Implemented custom languages for creating turbine drawings. I provided program documentation to allow later system enhancement.

Industry Knowledge

Graphical User–Interface Design	Program Design
Computer Graphics	Program Implementation
Applied Mathematics	

Technical Knowledge

FORTRAN IV	awk
C–Language	UNIX
X–11	Interleaf
Motif	

General Electric, Medical Systems Mar 89 … Jul 89   Waukeshaw, Wisconsin

General Electric, Medical Systems designs and markets CT–Scanners and NMR–Scanners.

I designed and implemented software to display the output of the scanners in a 2D or 3D graphical image. I provided program documentation to allow later system enhancement.

Industry Knowledge

Computer Graphics
Program Design
Program Implementation

Technical Knowledge

Objective–C	Lex	SunTools
C–Language	awk	SunView
C–Shell	yacc	UNIX
Bourne–Shell	Interleaf	

United Nations   Nov 88 … Jan 89   Manhattan, New York

I consulted with the Bahá'í International Community Representative to the United Nations about setting up networks and databases. We discussed the needed capacities for such a system.

Industry Knowledge

Systems Analysis

IBM, Watson Research Center   Jan 88 … Jan 89   Yorktown Heights, New York

IBM Research does pure and applied research on the nature of the physical world.

I designed and implemented a graphical user interface for a robot with fourteen degrees of freedom. I designed and developed the trajectory planners, servos, and the device drivers for the robot. I helped to develop a real time concurrent operating system to run on a VME cage with nine MC–68020

micro–processors. This VME cage was the controller for the robot. I provided program documen-
tation to allow later system enhancement.

Industry Knowledge

Graphical User–Interface Design	Program Design
Robotics	Program Implementation
Applied Mathematics	Device Drivers
Scientific Research	

Technical Knowledge

C–Language	Bourne–Shell	UNIX
MC–68020 Assembler	Lex	OS/2
C++	yacc	AIX
C–Shell		

IBM, Research Triangle Park   Apr 87 … Nov 87   Durham, North Carolina

IBM Research does research on communication systems.

I wrote the Functional and Implementation Specifications for a program used to design communi-
cation software. I Implemented and Tested this design tool.

Industry Knowledge

Functional Specification	Program Implementation
Implementation Specification	Computer Aided Software Engineering Tools
Program Design	Device Drivers

Technical Knowledge

C–Language	MS–DOS	IBM–PC BIOS
Shell Scripts	OS/2	MS–DOS Internals
Rexx88		

Access Corporation   Jun 86 … Nov 86   Cincinnati, Ohio

Access Corporation Designed and Marketed Microfiche storage devices.

I Designed a CAD program, wrote the Functional and Implementation Specifications, and Imple-
mented it on a MassComp computer. I then wrote the UNIX drivers for an MC–68020 co–processor
running on an IBM–PC and ported the CAD program to the PC.

Industry Knowledge

Computer Graphics	Program Implementation
Applied Mathematics	Device Drivers
Program Design	GKS Graphics Standard

Technical Knowledge

C–Language	MC–68000 Assembler
UNIX	Intel 80286 Assembler

General Electric, Aircraft Engines Mar 86 … Jun 86   Cincinnati, Ohio

General Electric Aircraft Engines designs and markets jet engines for commercial and military aircraft.

I designed and implemented the user interface for a robot used to examine and clean the ventilation holes in turbine blades. I provided program documentation to allow later system enhancement.

Industry Knowledge

Robotics

Program Design

Program Implementation

Technical Knowledge

FORTRAN IV

RSX–11M–Plus

Shaw American Technologies   Oct 85 … Mar 86   Louisville, Kentucky

Shaw American Technologies was an insurance agency.

I designed and wrote libraries of primitives used in the creation of computer programs.

Industry Knowledge

Computer Aided Software Engineering Tools

Program Design

Program Implementation

Technical Knowledge

U.C.S.D. Pascal

C–Language

Cincinnati Milacron   Jun 85 … Sep 85   Cincinnati, Ohio

Cincinnati Milacron designed and marketed milling machines and injection molding machines.

I Designed the Hierarchical Graphical User–Interface to control a factory floor of robots and milling machines. The Hierarchical User–Interface allows employees to view and understand the status of the floors and machines. A user can zoom in or out to view the needed amount of information. The system was designed with levels of security to restrict access for certain users. I wrote the Functional and Implementation Specifications.

Industry Knowledge

Functional Specification	Program Design
Implementation Specification	Graphical User–Interface Design

Technical Knowledge

FORTRAN 77

C–Language

Dynalectron Corporation   Apr 85 … Jun 85   Cincinnati, Ohio

Dynalectron Corporation did software consulting for the Occupational Safety and Health Administration (OSHA) in Cincinnati.

I upgraded some of the statistical programs used to gather and evaluate occupational data by OSHA.

Industry Knowledge

Applied Mathematics

Program Maintenance

Technical Knowledge

FORTRAN IV

PL/I

SAS

Wilkes Publishing   Sep 84 … Jun 85   Irvine, California

Wilkes Publishing was a software and book publisher.

I designed and wrote calculator programs for them. I wrote a program that would graph any function entered. I also wrote a business calculator program and a scientific calculator program similar to the calculator you find on most modern PCs.

Industry Knowledge

Computer Graphics	Program Design
Applied Mathematics	Program Implementation

Technical Knowledge

U.C.S.D Pascal

C–Language

Jim Scheitweiler & Co.   Nov 84 … Dec 84   Irvine, California

Jim Scheitweiler was a small robotics firm. They produced a robotic arm that was an essential element of an ultra–sonic cleaning system.

They had a controller for the arm based on a Z–80 computer. They had lost the source code for the program and I create an assembly language listing of the program.

Industry Knowledge

Robotics

Disassembly

Reverse Engineering

Technical Knowledge

Z–80 Assembler

Aztek Corporation   Sep 83 … Nov 84   Laguna Hills, California

Aztek corporation produces a custom built Artists Workstation used to create 4000 line 35mm slides

I maintained the programs used to create the graphics on the Artists workstation. I wrote a Functional and Implementation Specification for a new product used to create Business Charts from VisiCalc spreadsheets. I helped to implement the program on an IBM–PC. I Designed and Implemented a

custom language for creating Business Charts. I provided program documentation to allow later system enhancement.

Industry Knowledge

Computer Graphics	Program Design
Functional Specification	Program Implementation
Implementation Specification	Program Maintenance

Technical Knowledge

C–Language	MS–DOS Internals
FORTRAN IV	Core Graphics Standard
IBM–PC BIOS	

CompuCorp   Jan 83 … Aug 83   Santa Monica, California

CompuCorp designed and marketed turnkey word processing systems.

I designed and implemented an e–mail system for them to sell with their word processor. I was the project leader of a project to port the word processor from a Z–80 based computer to an MC–68008.

Industry Knowledge

Functional Specification	Program Design
Implementation Specification	Program Implementation

Technical Knowledge

C–Language
UNIX

Hughes Aircraft   Dec 82 … Jan 83   Fullerton, California

The division of Hughes Aircraft I worked for designed and built printed circuit boards.

I worked on the graphics software used to design and layout the printed circuit boards.

Industry Knowledge

Program Implementation
Program Maintenance

Technical Knowledge

FORTRAN 77

The Byte Shop   Sep 81 … Jun 82   Fullerton, California

The Byte Shop sold Apple Computers.

I taught classes in U.C.S.D. Pascal

Industry Knowledge

Computer Instruction

Technical Knowledge

U.C.S.D. Pascal

California Computer Products, Inc.May 81 … Nov 82   Anaheim, California

CalComp is the oldest Graphics Company in the US. They design and market Plotters, Graphic Terminals Graphic Printers, and Graphic Tablets.

I ported the plotter software to the clients computers regardless of brand or operating system. I designed and implemented custom languages to allow the customers to control the plotters. I provided program documentation to allow later system enhancement.

Industry Knowledge

Computer Graphics	Program Implementation
Program Design	Program Maintenance

Technical Knowledge

FORTRAN IV	BAL
FORTRAN 77	JCL
PL/I	

United States Navy   Jul 71 … May 81

I designed and wrote computer programs to draw two and three dimensional graphs on Plotters, Programs to perform Regression Analysis, Programs for Meteorological Analysis, Programs to Access information in Databases. I ran the nuclear power plant on a submarine while in the Navy.

Industry Knowledge

Computer Graphics	Program Implementation
Database Programming	Language Design
Program Design	

Technical Knowledge

FORTRAN IV	ALGOL
PL/I	BAL
COBOL	

Education

Master of Arts in Computer Graphics (3.97 average) - New York Institute of Technology - 1995 … Bachelor of Science in Physics - University of Idaho - 1979, graduated with 40 additional hours because of courses in computer science, mathematics, and electrical engineering … 11 weeks Navy Data Processing School - 1977 … Naval Officer Candidate School - 1976 … One of 600 from Navy wide selection for Naval Enlisted Scientific Education Program (NESEP) - 1974 … Navy Nuclear Power School (second in class) - 1972.