

David M. Ball

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Mission

To assist organizations desiring to increase profits by minimizing operating costs. My core strengths are both in the understanding of your business and the implementation of a cost cutting solution. I will understand your organization's goals, processes, and reasons for each process. I will then assess where those processes can be automated cost effectively and within an acceptable payback period. I will deliver a turnkey software solution that will reduce your operating costs, improve your customer service, and have a measurable payback.

Skills / Experience

Highlighted Products, Projects, and Solutions

Windows Automotive Application (Details confidential) (Architect / Developer)	<ul style="list-style-type: none">• Removed the cost of gathering data for internal and external use.• Automated the creation of documents required by customers such as GM, Ford, ...• Made data instantly available to all organization members while restricting access to sensitive data from other departments (with same function) and other roles.• Minimized cost of maintaining data through normalization, efficient interfaces, communicating with other business systems, and automating business rules.• Windows application built for International Deployment communicating asynchronously with a single SQL Server database using Remoting and IIS• Automatic redeployment• Global Report Writer• Crystal Reports• Generates Complex Excel Reports• 70 User interface forms• Enterprise Navigation System• No duplicate data entry• Data warehouse• Horizontal Security (Read/Write per division)• Vertical Security (Read/Write per job desc.)• Security at form, record, and column level• Exchanges data with ERP and Design databases• Written to exactly match companies business practices• Supports all different roles in the business.
Tablet PC Data Collection Tool (Lead Architect / Lead Developer)	<ul style="list-style-type: none">• Turnkey Windows Forms data collection software targeting the Tablet PC.• Allows researchers to perform Computer Assisted Personal Interviewing without developer assistance from concept to data analysis.• Required understanding of the Tablet PC API, multi threaded programming, XML, Win 32 API, cryptography, mathematics, object oriented development techniques, C#, C++, database programming, Graphics programming, etc.
ASP.NET Enterprise Management (Lead Architect / Lead Developer)	<ul style="list-style-type: none">• Lead Architect/Lead Developer of customizable ASP.NET application• Provided document management and archiving.• Provided Enterprise wide task management• Provided shopping cart type communications to automate all interactions with customers.• Central repository for all data.
Laboratory Tops System (Lead Architect / Lead Developer)	<ul style="list-style-type: none">• Cross between data entry system and CAD/CAM system for creating laboratory tops.• Contained all made to order parts for \$30 million laboratory tops manufacturing firm.• Six users each created 800 custom CAD drawings per week using this streamlined data entry system.• Responsible for generating shop floor drawings and NC required to manufacture each custom part.• Analyzes all aspects of each drawing to automate invoicing.
Pattern Cutting / Optimizing System (Lead Architect / Lead Developer)	<ul style="list-style-type: none">• Imported data directly from enterprise databases and Pattern Systems optimization output.• Allowed operator to modify patterns quickly to improve cutting performance and quality based on unique properties of materials.• Generated cutting plans and all NC to drive two different models of custom saws.

NURBS Modeler (Senior Developer)	<p>\$80,000 / license premier design / visualization package. Customers included Ford, Chrysler, General Motors, Honda, Boeing, ...</p> <p>The following are some of the project I personally completed:</p> <ul style="list-style-type: none"> • 3D Modeling Projects: Inter curve continuity, surface networks, face surface creation, system picking tools, system transform tools • Visualization Projects: Re-wrote the quick rendering tools to be able to shade all polygonal meshes while adding environment mapping, bump mapping, and texture mapping of all material property components. In addition, implemented mapping techniques such as ornaments and path-mapping. Re-wrote the environment mapping and texture mapping user interfaces to clean up old logic problems and to take advantage of the new capabilities provided by the enhanced quick mapping algorithms. • Reverse Engineering: Designed and wrote the curve extraction from a cloud of points, hand digitizer interfaces to a Pixsys, Faro, Optotrak, and MicroScribe. Wrote many of the routines for breaking up the point clouds, wrote the curve fitting interface and implemented Least Square Fit curve fitting routines.
Service Notifier (Architect / Developer)	<p>Tied scheduling/customer database together with Crystal Reports Viewer, Map Point mapping software, and SMTP mail library to create a fully customizable notification system. Notifications are sent out in batches and use a document queue.</p> <ul style="list-style-type: none"> • Instant notifications are sent out with a few keystrokes and the send button. • Daily notifications are sent out or printed in batches using a single button or by selecting sub lists from the grid and printing or emailing individual reports. • Provided document management for job related information and notification. • Rewrote Crystal Reports Generated HTML for proper viewing in Web Mail applications. • Reports in Crystal Reports included Maps that were generated and disposed of before and after the reports ran. • Clients have ability to change reports, mapping options (# of maps / area covered by maps). • Fully developed in C#.
Telephone Logging System (Architect / Developer)	<p>Created a full telephone reporting system.</p> <ul style="list-style-type: none"> • Fully Developed in C# • RS-232 port listener logged phone system activity in SQL Server Database • Full Reporting capability using VS 2005 Reporting Services filtering interfaces.

Languages

C#	<ul style="list-style-type: none"> • 4 Years experience (Language of choice) • Lead Architect/Lead Developer for turnkey Windows Forms data collection software targeting the Tablet PC. • Lead Architect/Lead Developer for customizable ASP.NET enterprise management system. • Lead Architect for customer feedback system responsible for all automated outbound communications (fax/email) with customers. Pulled data from multiple databases on a regular schedule and from triggered events.
C++	<ul style="list-style-type: none"> • Lead Architect/Lead Developer of GUI CAM system used to adjust pattern layouts, interact with enterprise databases, optimize product quality and cutting patterns, and generate NC for 8-axis 6 head saw. • Developed .NET Managed Extensions Libraries
VB.NET	<ul style="list-style-type: none"> • Developed automotive application with approximately 20 assemblies completely in VB.NET.
VB6.0	<ul style="list-style-type: none"> • Lead Architect/Lead Developer for CAD / CAM data entry system.
VBA	<ul style="list-style-type: none"> • Lead Architect/Lead Developer on several Microsoft Access databases either using Jet or SQL Server as back end data store. • Automated business processes of multiple organizations by automating Microsoft Excel and Microsoft Word
JavaScript,	<ul style="list-style-type: none"> • Developed libraries of JavaScript code for client side of ASP.NET enterprise

HTML	<p>management system.</p> <ul style="list-style-type: none"> • Developed JavaScript menu systems for multiple web sites. • Competent with raw HTML development, CSS, and Client Side Scripting.
C	<ul style="list-style-type: none"> • Senior Developer for 5 years (91-96) creating one of the first NURBS CAD systems.
XML, XSLT, XPATH	<ul style="list-style-type: none"> • Read and Write XML from .NET code using XML DOM, XmlWriter, XmlReader, and XPath. • Used XML, XSLT, and XPATH to automate the creation of HTML files.
Other Scripting	<ul style="list-style-type: none"> • Quickly learned and automated proprietary CAD/CAM scripting languages to automate common tasks in CAD systems.

Databases / Database Technologies

SQL Server	<ul style="list-style-type: none"> • Developed 60 Table backend for automotive application. Includes records for users, groups, horizontal security, vertical security, global report generator, etc. Allows each department to tack on their department specific data to global items. • Developed tools that assist and automate deploying new versions of databases with a new software rollout. Merges user data from production DB with application data from development database to create a new production DB. • Developed / Maintained 80 Table normalized database and all client applications for fabricated parts for \$30 million / year client. Created custom replication to an Access database on each client for rarely changing tables using triggers. • Developed and Deployed several databases using MSDE. Created control panel system deployed at client sites responsible for installing, backing up, restoring, and performing regular maintenance on MSDE installations. • Competent creating normalized databases, tables, constraints, triggers, and stored procedures to contain business and manufacturing data. • As part of ASP.NET enterprise management system, developed code that analyzed database schema and created the database driven definition of the user interface screens that was then further customizable. • Developed Sawing Database responsible for holding detailed shop floor instructions for cutting slabs. Used to run all cutting in \$30 million operation.
Microsoft Access	<ul style="list-style-type: none"> • Created / Maintained several Client Applications using Access. Some used SQL Server as the data store, others used Jet. • Created Full Project management system with time tracking components that a five person company has used for six years to track all projects and every minute of work. Used for invoicing and all aspects of the business. • Created system for tracking clients, specialists, and hours for a company specializing in relocation. System used to flag trouble accounts as well as pay specialists (consultants). • Developed applications in VB 6.0 and C# that used Jet as the data store.
BASIS, Legacy Databases	<ul style="list-style-type: none"> • Created several applications that interact with legacy databases through ODBC. • Tasks varied from reporting to synchronization of data with newer systems.
ADO.NET, ADO, RDO, DAO	<ul style="list-style-type: none"> • Developed applications that access both legacy databases and modern databases such as SQL Server and Access using ADO.NET, ADO, RDO, and DAO.
Crystal Reports	<ul style="list-style-type: none"> • Developed reports with data sources of SQL Server and .NET Typed Datasets • Developed reporting infrastructure to handle reporting on data that may be incomplete or with many choices as to what data is displayed on the final report to maximize user productivity. • Integrated with Windows Forms application, ASP.NET application, and a “document shopping cart” application.

Technologies / Specialty Areas

.NET	<ul style="list-style-type: none"> • Used full time from 2002 to present. • Windows Forms Applications • ASP.NET Web Pages • ASP.NET Web Services • Remoting 	<ul style="list-style-type: none"> • Interop with Win32/COM • Database Applications • Graphics Applications • Multithreading Applications
COM	<ul style="list-style-type: none"> • Developed Application in VB 6.0 and Visual C++ 6.0 that were both COM clients and COM servers. • Used extensively throughout a manufacturing environment and in conjunction with 	

	.NET to allow multiple applications installed on a client computer to interact.
CAD / CAM	<ul style="list-style-type: none"> • 5 Years as a senior developer developing NURBS Modeler. (See above.) • Lead Architect / Lead Developer for custom Laboratory Tops System. (See above.) • Lead Architect / Lead Developer for Pattern and Sawing System (See above.) • Automated all common tasks at inspection services company dealing with point clouds, model/part comparisons, NURBS surface reverse engineering, etc. • Developed interfaces (GUI & communications) to capture 3D point data from devices from four different manufacturers.
Business Solutions	<ul style="list-style-type: none"> • Lead Architect / Lead Developer for ASP.NET Enterprise Application (see below). • Lead Architect for customer notification system responsible for all automated outbound communications. Pulled data from multiple databases and generated e-mail and faxed documents. • Lead Architect / Lead Developer for Systems that automated complete departments.
Data Collection / Forms Automation	<ul style="list-style-type: none"> • Developed multiple applications responsible for automating forms development. Applications automated web forms, windows forms, and forms targeting the Tablet PC.

Positions

Lead Architect/Lead Developer Knight Software of Michigan, Inc. 1997 - Present	Responsible for all aspects of the business including managing and training other employees and consultants. Primary responsibility was interacting with the customer, understanding needs, designing solutions, implementing solutions independently or with staff, and providing support for deployed solutions. http://www.knightsoft.com contains samples of my work.
Specialist G.K.S. Inspection Services 1996-1997	Automated inspection processes, troubleshot problems with existing jobs, performed reverse engineering of point clouds into NURBS models, provided demonstrations of software and inspection technology to customers.
Senior Software Developer Computer Design Inc. 1991-1996	Developed Design Concept 3D, a NURBS (non-uniform rational b-spline) based CAD/CAM modeler that specializes in reverse engineering, flat pattern engineering, and visualization. This development was in a UNIX environment using the GL library provided by Silicon Graphics.

Education: Lake Superior State University (GPA 3.07)	
BS in Computer and Mathematical Sciences	1991
AD in Electrical Engineering Technology	1989
AD in Computer Engineering Technology	1989

Reference

Craig Fry The Durcon Company cfry@durcon.com 734 737-2840	From 1997 to 2005, Craig was our internal contact at Durcon who was responsible for all projects created and deployed by Knight Software of Michigan, Inc. into Durcon.
David Warbington Faurecia Automotive dwarbington2@troy.faurecia.com 248 655-1547 (Office) 248 396-4524 (Cell)	In 2005, Mr. Warbington and I were given three months to create a system that could house all part information within the entire organization, protect data from other divisions and roles, create documents required for customers, and make all other data accessible. Mr. Warbington quickly educated me on the Automotive Industry from design to manufacturing and worked with me to layout an efficient system that minimized data entry. We delivered a system that maximized user productivity, communicated with both Engineering and ERP databases, provided instant information to the staff, replaced spreadsheets, and automated many tasks that previously had significant costs.