

WORK EXPERIENCE

Software Consultant, Cypresslogic Systems, Inc., Burnaby BC

Aug 2000 – present

Consulting services in BizTalk, Commerce Server, SharePoint (MOSS 2007), SQL Server, ASP.NET, Ajax, and Javascript on mid to large scale Enterprise systems. Expertise in providing Business Intelligence for organizations using Service-Oriented Architecture (SOA). In-depth knowledge of the W3C standards such as XML, XSL, SOAP, WSDL, UDDI, etc.

Designed and developed ObjectView - a graphical programming tool that supports Enterprise Application Integration (EAI) by importing and orchestrating Web services into its unique drag and drop environment.

Created Business Plans and Marketing strategies. Wrote reports for IRAP and SR&ED funding. Familiar with all aspects of running a small business. Managed a team of offshore developers and QA. Extensive experience with consulting and a proven track record. Committed and long-term relationships with Clients.

SharePoint ShareFiles: Developed a source code control client on SharePoint document libraries using C# and integrated Bug database template. Familiar with extending SharePoint object model programmatically. Developed Web services to make SharePoint calls available to an external client.

SharePoint Contract Development, Ballard Power Systems, Burnaby, BC.

Oct 2007 - May 2008

SharePoint portal for Secret Documents Repository: Developed a custom site template that allows only specified user groups to have access to sensitive documents.

- Modified Master page, CAML (WEBTEMP*.XML, ONET.XML, SCHEMA.XML) to customize the site template.
- Modified SiteActions menu using security trimmings.
- Created C# ASP.NET custom pages to add/remove/modify document libraries, users and their access rights.
- Unique role assignments set by Project Managers using impersonation.
- Programmatically configured security requirements for users while maintaining their roles in the site hierarchy.
- Implemented a Web part to display site security information.
- Modified STSADM to automate site creation, and add navigation & quick launch links.
- Familiar with MOSS 2007 solution build and deployment.

SharePoint Workflows: Customizable Workflows for IT Change Requests and Cost Estimate Proposals using Windows Workflow Foundation (WWF) and ASP.NET forms.

- User-defined forms that can be easily customized and deployed.
- Isolated communication between SharePoint pages and Workflows using ExternalDataExchange.
- User-configurable states and activities in Sequential Workflows defined within a State Machine.
- Implemented customizable email notifications.
- Workflow persistence and tracking.

Commerce Server 2007 / Ajax Contract, Burntsand, Vancouver, BC.

Apr 2007 - Sep 2007

Implemented a distributed POS system for Panago pizza.

- Extended Commerce Server 2007 Starter Site to implement User Profiles, Business Profiles, Catalog System, and Orders System using C#, ASP.NET 2.0 and Ajax toolkit.
- Implemented User management and Store management pages.
- Analyzed the architecture for performance and scalability. Implemented an internal cache and tuned Commerce Server cache to improve performance.
- Redesigned the Orders page to cut down view state, and moved large parts of code to javascript to improve performance.
- Familiar with designing large-scale Enterprise systems with multiple Web servers and Report servers.

Community Server / Ajax Contract, Limeade, Bellevue, WA.

Aug 2007 - Feb 2008

Online medical assessment suite to help individual health care and well being developed using C#, ASP.NET and Ajax toolkit over SQL Server 2005. Used Community Server 2007 to provide a mechanism for people to manage and share their health information and interact with their healthcare providers. Familiar with writing stored procedures, caching, and scheduling email notifications. Override Community Server functionality to provide custom email notifications and branding.

XBRL Query Engine Contract, Business Objects, Vancouver, BC.

Feb 2005 - Apr 2005

Developed a reporting engine for XBRL (eXtensible Business Reporting Language) data provided by Edgar-Online's IMETRICS Web services. Responsible for driving Web services and integrating data into Business Objects' Data Integrator. Designed a SQL Server database that transposes the XBRL data and can perform queries in multiple dimensions.

Web-based Equipment Scheduler, Wayne State University, Detroit, MI.

Jul 2003 - Oct 2003

Designed and developed a C#/ASP.NET web application with SQL Server 2000 as database used for scheduling equipment in the Smart Sensors and Integrated Microsystems (SSIM) Clean Room.

Contract Software Development, enolij, Inc., Seattle, WA.

Aug 2000 - Mar 2001

Designed and developed Xerpts - a Personal Information Banking tool that allows users to drag and drop information from various sources such as Internet Browser, Word Processor etc. It lets the user or group of users to easily store, organize and share information. The information can then be synchronized with an online database. The following technologies were used: Visual C++ 6.1, MFC, MAPI, ADODB to connect to an MS Access database. Microsoft IIS 4.0 Web Server, HTML, ASP, ODBC, and database synchronization using ISAPI Filters, Extension DLLs and COM objects.

Software Developer, Hydrogenics (formerly Greenlight Power), Burnaby, BC.

Sep 2002 - Mar 2007

Designed and developed HMI / SCADA systems for testing fuel cell stacks.

HyWARE PLC: PLC based SCADA system using Siemens PLC S7-300. Moved all device drivers, Process Control algorithms, and logging engine onto Siemens Programmable Logic Controllers (PLCs) to support platform stability and long term testing.

- Siemens Step7 for programming the PLC using STL (Statement List) and Ladder Logic.
- Familiar with Data Blocks (DBs), Function Blocks (FBs), Function Calls (FCs) and User Defined Types (UDTs).
- Implemented complex routines such as PIDs, Pressure Lock and Crossover logic for multiple Mass Flow Controllers in STL and Ladder Logic.
- Used SIMATIC NET Step 7 API and TCP for communicating with Siemens S7 PLCs.
- Wrote OPC (OLE for Process Control) Client in C++ for PLC to LabVIEW GUI communication.
- Mapped the existing LabVIEW system to work with Siemens PLCs using C++ Memory Mapped Files and Virtual Memory.
- Support for multiple applications to share memory and to read/write tag values.

HyWARE II: Used LabVIEW for GUI and C++ for Device drivers. Wrote drivers for Beckhoff TwinCAT, Bronkhorst MFCs. Experienced with programming communication protocols such as RS-232, RS-485, Ethernet, Modbus, and Profibus.

FCAnalytics: Visual Studio .NET for Client and Execution Engine. Used .NET Remoting for connecting multiple clients to multiple servers. VB6 scripts. Used .NET scripts for Just-in-Time compile and debug. Wrote the interfaces for handling Alarms and devices.

Tools: Wrote the following tools in C# for Device Simulation, Testing, Configuration, and Data Logging:

- DataExplorer: Wrote a charting application in C#. Filters and charts data generated by the Test Stations. Polarization plots for voltage and current.
- Logging: Implemented Logging of over 500 tags at log rates of 100ms.
- ConfigTool: Wrote a C# application to create and manage files for configuring tags, alarms, PID and other parameters on the Test Station. Moved the application later to support configuration of Siemens PLCs.
- HyAL: HyWARE Automation Language - A simple script based interface to read and set tags on the Test Station. Supports runtime tracing and debugging.

Managed a team of Software Developers, Testers and Product Managers. Interacted with Marketing & Management.

The following projects were designed & developed from the concept level:

E-Chips – Organizes and customizes data for Internet.

Feb 2000 – Aug 2000

E-chips is a multimedia data package that uses Java Applets and Java Servlets. It is a convenient, user-friendly and customizable way of sharing and organizing information. Main features include: log-in capabilities, chat server, upload and download of multimedia data, sharing of data using e-mail and a host of other features.

ODYSEE – Drag and Drop Development Environment for Vision systems.

Apr 1998 – Feb 2000

ODYSEE Development Studio is a component-based development environment that allows for the rapid designing, testing and construction of PC based Machine Vision applications. It includes advanced features such as:

- Ability to create Graphical User Interface (GUI) with a rich selection of controls.
- Open-architecture that lets the user incorporate custom operations.
- Built-in profilers that can help identify performance bottlenecks.
- Over 3000 components including libraries of functions from 3rd party companies.

Worked on various projects in Microsoft including Internet Explorer and Visual SourceSafe. The following is a brief description of the projects.

Spice – 3D Web authoring tool.

Nov 1997 – Mar 1998

Spice is a 3D editing environment designed to deliver 3D objects and 3D animation to web sites (using Microsoft DirectX). Implemented tear-off tabs, 3-D list view controls and overall User Interface.

DirectAnimation – Sprite Control component of Microsoft's DirectX media.

Apr 1997 – Nov 1997

DirectAnimation provides rich animation of Web pages and strong integration with Dynamic HTML. Developed sprite animation control. Play, pause, seek, stop of sprite images. Support for frame-by-frame control over animation. Firing of events using frame markers and time markers. (Shipped with IE 4.0).

Zenith - 3D Web authoring tool.

Dec 1996 – Apr 1997

Used 3D objects provided by Direct3D extensions to Java to author web sites. Provided user-interface to manipulate 3D objects. Responsible for hosting the application in Visual Developer Studio.

Media Producer - Multimedia & Web authoring tool.

Jun 1996 – Dec 1996

Delivers multimedia content such as audio, video, text and animation to CD and Web pages. Integrated ActiveMovie's OLE/COM interface for video. Import of image objects and OLE automation.

Microsoft Picture It! - Digital imaging tool.

Aug 1995 - Apr 1996

Digital imaging tool uses New Image Format (NIF) to process image compositions. NIF images are stored as OLE structured storage and they save multiple resolutions of an image for an improved performance. They also store images in tiles thereby reducing the memory requirements.

Responsible for implementing the following:

- Importing foreign image formats: Implemented a browser to preview the images of foreign formats and display them to the user. The user can then pick and select the image before importing it. Loading and previewing is done by a worker thread and interacts with the UI thread during display.
- Exporting NIF format to other image formats. Shares code with Import UI.

Familiar with all aspects of OLE, MFC and multi-threading.

Microsoft Visual SourceSafe 4.0 – Source code control system.

Feb 1995 – Aug 1995

This is a project-oriented version control application for team software development. Visual SourceSafe tracks changes to files and stores the changes so that files, such as code modules, can easily and economically be reused.

Responsible for implementing the following:

SourceSafe Administrator: This works similar to User Manager (MUSRMgr.EXE) of Windows NT.

- Adds/deletes/edits users, maintains passwords and sets proper rights for each individual project.
- Drag and drop of files from File Manager to SourceSafe projects. This operation will add new files to a project. Or if the files are checked out, it will check-in.

- Drag and drop of files and projects within SourceSafe to facilitate sharing/moving/branching.
- Auto scrolling of project view during drag-and-drop.
- Toolbar. Customizing the Toolbar. Tool tips and fly-by hints.

Worked with other team members to implement the following:

- Overall functionality of the application (toolbars, list views etc.).
- Project tree browser (like the one in Explorer of Windows 95).
- Column Listbox representing the files and their properties.

Written in MFC for both 16-bit and 32-bit Windows. SourceSafe Version 5: Implemented OLE drag and drop to share files and projects in between 2 SourceSafe apps. All drag and drop from Explorer using OLE.

Software Engineer, Protosoft, Inc., Houston, TX

Jul 1990 – Feb 1995

Significant contribution in the design and development of Paradigm Plus CASE tool.

Paradigm Plus supports software development with analysis, design and code generation of C, C++, Ada, and other languages using object-oriented methodologies (**Rumbaugh/OMT, Booch/OOD, Coad-Yourdon/SASD, Schlaer-Mellor, EVB and FUSION**). This product is also marketed as Object Team by Cadre Technologies. The program is developed using Extended Virtual Toolkit (XVT) and Raima Data Manager for multiple platforms such as UNIX/X/Motif/Openlook, DOS/Windows, and OS2/PM.

Complete design and implementation of the following modules:

Diagram Editor: Graphically creates object and functional models to develop the OO paradigm. Responsible for overall development of diagram module in the following areas:

- Creation, placement and movement of objects, relations, text and geometric shapes.
- Tracking the movement of objects and auto-repositioning of their relations.
- Auto scrolling of the diagram window as the objects move/size.
- Client and Server data exchange using Object Linking & Embedding (OLE 1.0).
- Implementation of List items, N-Ary arcs and socket nodes to support OO Methodologies.
- Synchronization of objects in diagram with the data repository.
- Undo of previous actions. Hide/show of a class of objects on the diagram.
- Placement of labels and in-place editing. Individual fonts for each object.

Matrix Editor: Displays and modifies the object repository in a matrix form.

Import/Export: Used to port application to another platform or a different CASE tool.

Work Groups/Security: Provides password protection and access rights to repository.

Application porting utilities: Converts UNIX diagram files to DOS format and vice-versa.

Install: GUI based custom installation and registration of Paradigm Plus.

Torque Monitoring System: Project leader of PC based automation for real-time monitoring of pipe coupling in oil industry. Directly responsible for system design, functional and technical analysis, specifications, user interface, report layout, and programming A/D, D/A, multiplexers, sample/holds.

Call Processing and Messaging Systems: Developed a graphical editor, which displays the waveform of the voice message. Enables user to select portions of the waveform-using mouse and play it. Used MCI's Low-Level Audio Services. Developed a Fax print driver using Windows Universal Print Driver (UNIDRV.DLL) to save images in TIFF file format. Wrote programs to read and display TIFF files.

Research Assistant, CS Dept, Univ. of Houston-Clear Lake, TX

Aug 1989 - May 1991

Developed a Simulator for Antenna System on the Space Station using C Language Integrated Production Systems (CLIPS) as a research project for NASA.

Ported SPARC/Openlook programs to run under X windows in AIX.

EDUCATION, RESEARCH AND SKILLS

EDUCATION	M.S. Computer Science University of Houston - Clear Lake, TX. P.G. Diploma, Artificial Intelligence and Robotics University of Hyderabad, India. B.S. Electronics and Communications Engineering Osmania University, Hyderabad, India.	Jan 1988 - Aug 1990 Jul 1987 - Dec 1987 Graduated in July 1987
ACADEMIC HIGHLIGHTS	Advanced Operating Systems Artificial Intelligence Database Management Data Communication Systems Computer Vision Object Oriented Systems Analysis Object Oriented Modeling and Design	Computer Graphics Robotics and Intelligent Systems Distributed Database Systems Theory of Information & Coding Pattern Recognition, Image Processing Software Design & Specifications Software Project Management
PROJECTS	<p>Developed a utility to facilitate communication between a Windows application and DOS application running in the enhanced 386 mode of Microsoft Windows using DOS Protected Mode Interface (DPMI).</p> <p>Developed a graphics package for representing 2D and 3D objects with added capabilities for transformation, segmentation, windowing, clipping, shading and curve approximations.</p> <p>Designed and implemented an Expert System for tracking and managing spurious industrial chemical spills using CLIPS (C Language Integrated Production System) Expert System.</p> <p>Generic packages for managing linked lists, dynamic arrays, and for generating user interfaces such as menus, dialogs, pop-up help windows, chart/graph displays, parsers, etc.</p> <p>Code analysis utility to parse C code and build a functional model to graphically represent the calling structure.</p> <p>Programming of Asynchronous ports to communicate with another PC.</p> <p>Circuit design and manufacture of Switching Mode Power Supply for computer terminals.</p> <p>Developed a C++ application demonstrating the use of object-oriented methodologies to represent an Intensive Care Unit.</p> <p>Developed a utility for decoding and display of graphics files in PCX format.</p>	
RESEARCH REPORTS	<p>Systems Engineering and Integration, TMS Performance Analysis – Summary paper on the Torque Monitoring System for the Pipe-Coupling process.</p> <p>Implementation of Object-Oriented Paradigm-a study about using CASE tools in Software Engineering.</p> <p>Analysis of safety requirements for Mission and Safety Critical (MASC) systems.</p>	
SKILLS	<p>Languages: C#, C, C++, Java, Javascript, STL, SQL, LabVIEW, Ada, LISP, PROLOG, Pascal.</p> <p>API: .NET Framework, MFC, Windows API, ODBC, COM, and COM+.</p> <p>Web: ASP.NET, ADO.NET, Ajax, Web Services, XML, XSL, SOAP, WSDL, XBRL, ASP, EJB.</p> <p>Systems: All Microsoft Windows, Servers, MS-DOS, UNIX, AIX, and VAX/VMS.</p> <p>Servers: SharePoint 2007, Commerce Server 2007, BizTalk 2004, IIS, Apache AXIS.</p> <p>Databases: SQL Server 2000 & 2005, MySQL 4.1.</p> <p>Hardware: PC, PLC, FieldBus, Ethernet, Instrumentation Cards.</p>	
REFERENCES	References and further information available on request.	