RESUME

Personal Information

Name	Pratap Vikram Singh.
Date of birth	31st January 1974.

Educational Background

College	1992-1996 *Bachelor of Computer Engineering,* Maharashtra Institute of Technology, Pune. 73%(Distinction).
High School	1988-1992 Mayo College, Ajmer.

Work Experience

Company
Joined Wipro Systems in 1996 as a Systems Engineer.

Current Position
Senior Systems Engineer in Wipro Systems working for Xerox corporation, El Segundo, USA.

Domain Knowledge
- High speed printing systems.
- Remote/Network printing.
- Distributed computing using CORBA.
- GUI design. Object oriented programming.
- UNIX operating system.
- Enabling client/server applications on the Web.

Languages
C, C++, Java.

Development platform
Solaris on Sun Sparc/UltraSparc stations.

Packages used
- Rational Rose 4.0 for OO design.
- NEO 2.0 object framework for CORBA.
- Sun WorkShop 4.0 for C++ development.
- ClearCase for code management.
- Purify and PureCoverage for C++ testing.
- JavaStar for Java GUI testing.
- JavaSpec and JavaScope for Java testing.
- Visual Studio 97 for MFC and ActiveX.

Familiar with other concepts
- Multithreaded programming in using Solaris threads.
- Network socket programming using TCP/IP.
- Solaris internals like file system, scheduling, synchronization.
- Component technology using ActiveX and JavaBeans.

Other Information

1. Member of the training faculty for teaching CORBA to new employees in our group.
2. Given talks on various technical topics like:
   - Multithreaded programming on Solaris.
   - TCP/IP concepts and Socket programming.
   - Process scheduling in SVR4.
   - Distributed computing concepts and CORBA.
   - Internet security using SSL and Digital Certificates.
   - SGML, DHTML, XML and the future of the Web.
3. Involved in system administration and network file management.
4. Familiarity with SEI CMM quality norms.

References

Senthil Nayagam
Consultant
Wipro Xerox Development Center, Wipro Systems, Bangalore.
Experience: 10 years.
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Ruchir Asthana
Consultant
Wipro Xerox Development Center, Wipro Systems, Bangalore.
Experience: 9 years.
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Awards

1. Award for excellence in quality and hard work given by Xerox Corporation, USA.
2. Award for completing the project well before the deadlines given by Xerox Corporation, USA.
3. Runners up in the programming contest held by Wipro Systems, India.

Extra Curricular Activities

- Achieved the Silver and Bronze category in the Duke of Edinburgh service.
- Got the "A" certificate in the National Cadet Corps as part of the Airforce group.

Current Mailing Address

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Projects undertaken during work

Line Printer Daemon

Aim	To implement a gateway for the high speed printer that takes data input from a network socket and passes it to the printer.
Environment	C++ on Solaris and the NEO Object Framework, Purify, PureCoverage, Rational Rose.
Design and Concept	Fully Object Oriented Design. The architecture was based on distributed objects using CORBA. The daemon accepted data using the BSD printing protocol. The daemon was also a concurrent server, which was implemented using Solaris threads.
Duration	4 months.

Prototype client/server application for the web

Aim	To develop a prototype for a Galaxy client/server application using ActiveX and MFC.
Environment	Windows 95, ActiveX, MFC, IE 4.0, Visual Studio 97.
Design and Concept	The application was developed in MFC and was wrapped as an ActiveX control, which was embedded in a web page. The application used ActiveX components to show the feasibility of component technology. Database connectivity was provided for a Sybase server running on a Unix machine using the Sybase CTLIB API. This prototype was required to show the advantage of using the web to develop, deploy and maintain applications.
Duration	2 months.

Printer GUI Front-end

Aim	To port a Galaxy GUI front-end of a high-speed printer to Java.
Environment	Java, Swing 1.1, JavaStar, JavaSpec and JavaScope.
Design and Concept	Fully Object oriented design. The porting required the mapping of all the Galaxy components to Java. The GUI followed the MVC architecture and used a number of design patterns like the *Observer, Template and the Singleton*. It also required a good understanding of a user interface design. A communication channel was set up for message passing between the different module of the front-end.
Duration	4 months.

SCSI Tape driver

Aim	To implement a device driver for a SCSI tape drive.
Environment	C on Solaris, Solaris Common SCSI Interface, Tandberg TD-4000 2.1 GB Tape Drive.
Design and Concept	This project was done using the SCSA interfaces provided by the Solaris operating system for writing device drivers. The driver took care of many limitations of the Solaris Tape driver, which improved the performance of the data transfer from the tape.
Duration	4 months.

Millennium Tape File System

Aim	To implement a gateway for the high speed printer that takes data input from a magnetic tape of proprietary format and passes it to the printer.
Environment	C++ on Solaris and the NEO Object Framework, Purify, PureCoverage, Rational Rose.
Design and Concept	A new tape file system had to be designed. The file system had to support multiple files to be stored in multiple tape volumes. A master directory structure was implemented to store the information of all the files in all the tape volumes. All the files needed to have extensible attributes, which were stored as, file headers.
Duration	4 months.

Legacy Tape File System

Aim	To implement a gateway for the high speed printer that takes data input from a legacy tape file system and passes it to the printer.
Environment	C++ on Solaris and the NEO Object Framework, Purify, PureCoverage, Rational Rose.
Design and Concept	Fully Object Oriented Design. The architecture was based on distributed objects using CORBA. It required the porting of two legacy file systems from DEC/Alpha machines to Solaris. Byte ordering had to be taken care of while the transfer of the tape file data.
Duration	4 months.

Unix File Printing

Aim	To implement a gateway for the high speed printer that takes data input from the local file system and passes it to the printer.
Environment	C++ on Solaris and the NEO Object Framework, Purify, PureCoverage, Rational Rose.
Design and Concept	Fully Object Oriented Design. The architecture was based on distributed objects using CORBA. The main printer GUI interacted with this component to show the listing and printing of the local files.
Duration	3 months.

Dynamic Disk Interface

Aim	To implement a file system to share a SCSI disk between two host computers of different architectures, VMS and UNIX, for efficient data transfer used for high-speed printing. The file system was tested on a shared SCSI disk using two SPARC stations. The two machines used a Post Office Protocol to transfer the data to and from the shared disk.
Environment	C++ on Solaris, Motif, Rational Rose.
Design and Concept	Fully Object oriented design. The File system was implemented by extending the Binary Buddy algorithm for splitting and allocation of file blocks. It was based on the UNIX file system. The hosts behaved as client/server machines. The client/server interface was done in Motif.
Duration	2 months.

System Administration and Information Tool

Aim	To design a system administration and info tool for networked machines.
Environment	Java, Swing 0.5 and Solaris system calls.
Design and Concept	The system followed a client/server model with the client front-end and the server implemented in Java. The server used to run on all the machines on a dedicated port. The client front-end queried each machine's server to find out the information and do system administration. The server used native calls to find out information of the machine and transmit it to the client over the network using a standard protocol. The client front-end used the Swing classes of the Java Foundation Classes to build the user interface. The client used Java threads for better performance of the GUI.
Duration	4 months.

Development and Integration

Aim	To put together and test various distributed components. Testing and verification of component interactions.
Environment	NEO Object implementation framework, Galaxy GUI, Purify, PureCoverage.
Design and Concept	The testing was going on a 24-hour basis around the world in all the Xerox development centers. The team in Bangalore was responsible for handling end to end testing, narrowing down problems and reporting them to the component developers.
Duration	2 months.