Prerak Sheth

Personal Data

Date of Birth	29th October 1970
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Education

ME (Electrical Engg) M S University Of Vadodara 1995	Specialization in Microprocessor Applications Stood 2nd in class (75%)
BE (Electronics and Communication) M S University OfVadodata 1992	Stood 2nd in class (72%)
H S C (Gujarat Board) 1988	All Gujarat rank 18 (91%)
S S C (Gujarat Board) 1986	

Experience Summary

Entrepreneur	Since 2009, working as entrepreneur in the filed of Automation, IoT and Industrial Software
	Worked in various domains as • Infrastructure • Defence • Electrical Distribution Automation • Power Systems • Domestic • Chromatography • Statistical Process Control
	Expertise in fields of • PLC • IoT • User Interface Software • Modelling Software • Interfacing and Communication • Controls and Visualization
Software Development and Management - Banking	From 1999-2009, worked in various banking and financial institutes as follows • Deutsche Bank Singapore (1998-2000) • Merrill Lynch New York (2000-2007) • Standard Chartered Chennai (2007-2009)
	Worked in various domains as • Cash Management • Risk Management • Operations • FX Management • Compliance
	Expertise in fields of • Software Development • RDBMS Development • Project and Portfolio management • IBM Net.Data • Oracle
Software Development and Analysis	From 1995-1999, worked in multiple domains as software developer, analyst and project lead • SEEPZ Mumbai (1995-1997) • UBS Tokyo (1995) • AMUL Anand (1997-1998)
	Worked in various domains as • Human Resource Management • Commercial • Sales and Sales Accounting • Advertising
	Expertise in fields of • Oracle Designer and Developer • SQL Plus

Summary of projects carried out

Automated Vehicle Classification And Counting (AVCC)

Location: Various toll booth sites in India

Period: 2013-

Project Description

Toll booths raise toll tickets, and the governing bodies or the toll authorities need to ensure correct ticketing. AVCC provides a post-ticketing automated tool to identify the type of vehicle that has just passed through the toll gate and match with the actual ticket generated.

The AVCC project is implemented in multiple ways

- Using simple axle sensors only
- Using axle sensors and height sensors
- Using axle sensors and height sensing array
- Using Laser scanning sensors and profiling for vehicles

My role

I designed the solutions completely from scratch and implementing at toll booths using

- 270 degree Laser scanner
- Microcontroller based sensing
- PLC based axle and height sensing
- Interfacing with front end tolling systems
- Though-beam sensors
- RF Sensors

The system is successfully implemented at many locations across India

- Chhindawada, MP
- Balaghat, MP
- Jhalawad, Rajasthan
- Tuttukodi, TN
- Fatehpur Sikri, UP
- Manor, MH

Xtreme Test Engine (XTE)

Location: ABB, Integra, Vadodara

Period: 2014-

Project Description

XTE is a test framework which involves PLC based hardware and a PC based integrated framework for production testing of primarily electrical devices with following features

- Custom driver extension framework for integrating any communicable devices
- Reporting and certificate generation

- Database logging of test results
- Statistical process control
- Electronic signal conditioning
- Statistical dashboards

My role

Apart from overseeing the project framework and architecture, I designed the software part of the framework. That includes

- Ethernet, USB, CAN and UART communication
- RDBMS integration
- REST based web services
- Android application for visualization

IoT Projects Summary

- GSM Based Alert system (For Integra Engg, Halol)
- Water tank level control system (Retail product)
- Generic Timer (Retail product)
- Power protection system (Retail product)
- X Ray controller (General Electronics)
- Welding controller (Kriton Welding)
- Pipe measurement (Athena)
- Temperature control SCADA (IntelliSAW)

ELT (Equity Linked Technology) Client Services back end

Location: Merrill Lynch, New York, NY, USA

Period: Apr 2002 – Dec 2007

Environment

ELT (Equity Linked Technology) has a central database for equity trading called RAM (Risk Assessment and Management System). The functionality for the system include the complete trade life cycle, which includes booking, confirmation, validation, corporate actions, accruals, settlements, payments, reconciliation, resets, regulatory reporting etc.

Project Description

The project comprises of various batch processes for day closing, month ending, accruals and settlements. It also includes sending out various batch feeds to a large number of downstream systems, and real time feeds for settlements, reconciliation and confirmation.

The team is made up of onsite and offshore members. The development and maintenance occurs from offshore location, while analysis, delivery and problem resolution occur onsite. Total team size at peak was 12 members, and the current size is 6 members offshore and one onsite.

It includes the technology of Java, Oracle, Perl, Shell scripts, Tcl/Tk and the front end in Microsoft VC++ and ASP.NET. The back end batches JDBC queries in Oracle using Java. The batch feeds are written in Java, Perl and using a middleware using network socket connection/ The file transfer is carried out using ftp, sftp, mainframe ftp or MQ. The real time feed is written using Java and transferred using IBM MQ.

The batch processes run using a framework, which abstracts the functionality of configuration, connection pooling, file reading, thread management and formatting. They are planned to be migrated to use Tibco BusinessWorks as the platform

My role

My primary role in the project is as an offshore project manager, business analyst and strategic planner for the project. My responsibilities include getting and analyzing requirements, documenting functional and technical specifications, communicating with the development team and tracking progress and locating and resolving problems related to program, process or people. I also designed the framework for the feed. In this role, I have to interact with client management, users, development team, support groups and infrastructure groups.

My secondary responsibilities include analyzing the business process, and suggest improvements from strategic perspective. In this role, I work with various strategic groups to plan on the strategic decisions for the architecture of the future state of the system. I have also worked on a design for reengineering the feeds using Tibco, and a data warehouse

Problem resolution and strategic planning

- Performance issues in feed processing
- Framework for feeds
- Database design and defining flows for Global Position Keeping
- Resolving problems due to special feed processing requirements at month end
- Planning for efficiency in configuration management
- Feed testing tools design
- Data warehouse planning
- Resolve problems related to multithreaded deadlocks
- Resolve problems related to transport layer socket communication

Month End Reengineering

Location: Merrill Lynch, New York, NY, USA

Period: Feb 2001 – Mar 2002

Environment

Merrill Lynch is one of the top five financial institutes in most of the financial services. The Equity Linked Products has a system RAM (Risk Assessment and Management). Since the derivatives are equity linked, their accounting is dependent on the market prices and theoretical prices of the

underlying instruments. The trading occurs as large number of individual trades, which may not be necessary in the database after settlement. The profit and loss also need to be booked each month.

Project Description

The month end process is a combination of financial processes for closing the month, as well as database housekeeping jobs. The process was originally like a black box before reengineering, running as a one long 9 hour process, with no fail-recovery and no tracking to trace the progress. The project was to improve the performance of the process, improve the manageability of the process, and allow for an easy and efficient rerun and dividing the process into multiple components. All the objectives were successfully achieved using Java and parameterized Oracle queries using multithreaded architectures with process tracking.

The project was using Oracle as database, Java as the programming language, AutoSys for scheduling, Sun as the application server.

My role

My first task was to study the existing process, both from programming perspective (which was written in Tcl/Tk) and from functional perspective (using user meetings and documenting the functionality). The next task was to document the complete process and agree with the users. After that I designed the process, splitting the project into multiple sub processes. I also lead the implementation of the process and did initial trouble shooting.

The project undergoes regular changes due to the change in business functionality as well as increase in the volumes. I interact with the users to understand the changes, do an impact analysis and document the technical specification for the changes.

Problem resolution and strategic planning

- Split the single process into multiple components
- Plan for the month end process to work with increasing volumes without adverse impact on the performance.
- Plan and design for porting the process to stored procedure
- Design for making the process multithreaded, rerunnable and traceable

Electronics Bill Presentment and Payment

Location: Deutsche Bank, Singapore

Duration: Nov 1999 – Nov 2000

Environment

Deutsche Bank is one of the top financial institutes in the world, and the Singapore office works as a Head Office for Asia Pacific region. The eServices division works in web-banking applications.

Project Description

The EBPP (Electronic Bill Presentment and Payment) was one of the pilot projects for electronic payment for a target group of customers. The system acted as an interface between airlines and cargo agents. Airlines would post their bills over the web to present to the cargo agents, and cargo agents would validate the bill. Once the bill is validated using smart cards, cargo agent's account is debited to credit airlines account. The system also allows managing disputes for the billing amount.

The highlighting feature for the system was the use of 128 bit encryption for customer verification. It also used the e-banking interface using the Singapore inter-banking protocol, called GIRO.

Various technologies were involved in the project – IBM AIX server, IBM Websphere, IBM Net.Data, VeriSign certification interface, and Java.

My role
My role in the project was to work as DBA, primary backend developer, development lead for IBM Net.Data based web pages, and leading production support. I was acting as an interface between internal teams and external consultants (IBM)

Problem resolution and strategic planning
- Designed the approach for authorization and authentication modules

Global Billing System

Location: Deutsche Bank, Singapore

Duration: Apr 1999 – Nov 1999

Environment
Deutsche Bank is one of the top five financial institutes in the world. Singapore office works as an Asia Pacific Head Office. Many different financial services are offered by DB Singapore to the Asia Pacific region, including private client, institutional investment, derivatives, FX trading and more.

Project description
DB offers many financial services to the client. As a result, there are multiple point of charge for the client. To avoid sending multiple charge statements and to provide business specific rate structure, the project was initiated to bring in transactions from multiple systems and charge periodically based on type of business, type of client, type of transaction, volume of business and so on. In another way, it was also meant to serve as a warehouse of transaction information, providing analytical data.

It was designed using Oracle Designer, with Oracle as database and power builder as the front end. The peak project team size was 6 members.

My role
I joined the team as a consultant Oracle analyst/developer. Then my role was expanded as a lead backend designer, business analyst, DBA and Oracle PLSQL developer. I was also specifying the requirements for front end and the ETL part of the data gathering. I used to attend the business meetings for requirement analysis.

Problem resolution and strategic planning
- Implemented a multi-layer criteria approach for rate calculation
- Innovative methods for rate calculation, suggested to and agreed by the client
- Designed the backup and recovery approach for the database, implementing archive log hot standby feature using scripts, when Oracle did not have any automation approach for the same.

Enterprise Integrated Application System

Location: GCMMF (Amul), Anand, India

Duration: Nov 1996 – Nov 1998

Environment

Amul is one of the largest cooperative dairies in Asia. It was established in 50's and now is a Rs 2000 million industry. GCMMF is the umbrella organization for all the cooperative dairies in GujaratState, and dairy specific manufacturing units. While milk collection and dairy product manufacturing is handled by the member dairies, rest of all the activities for marketing, selling and distribution is handled by GCMMF

Project description

GCMMF wanted to automate and computerize most of its functionality. The project was to design, develop and implement all the activities for the organization. It included three major categories of functionality – marketing, financial and others. The marketing functionalities included marketing, commercial, sales and support, distribution, advertising and stock management. The financial functionalities covered general ledger, AR, AP and payroll. Other functionalities included admin, HR and Export.

The overall team size of 40-50 team-members. The team operated from multiple locations. My involvement was primarily with the marketing functionalities. This included operating from the head office as well as a zonal office for the organization.

The project initially used Novell Servers, and later migrated to Sun. Oracle was used as database, and Oracle Designer as the designing tool. Oracle Forms and Oracle Reports from Developer 2000 were used for user interface.

My role

I was leading the development for marketing related functionalities, and lead a site team at a zonal office (of about 10 members) for about 6 months. For the rest of the time, I was leading the marketing module development from the head office. It included business requirement analysis, documenting specification, designing schema for the database, designing UI requirements and tracking and monitoring development activities for Sales and Sales Accounting, Stock Management, Distribution, Commercial and Advertising. I also was overseeing the PLSQL development for backend programs, and utility programs using PLSQL and Shell scripts.

Other projects

Human Resources Information System (Mar 1996 – Nov 1996)

Company	Union Bank of Switzerland (UBS) – Tokyo, Japan
Operating System	Microsoft Windows 95
	HP server
Primary Network	TCP/IP
Business Area	Human resource management

	Accounting
	Training
	Bonus and performance evolution system
Software Engineering	Requirement collection
	Team leading
	Analysis and Design
	Development
	Implementation
Front End	Visual Basic 4.0
Back End	Sybase 10.0
	DBA
	Transact SQL Programming
Tools	
Team Size	8
My Role	• Initial study for bringing the project from Japan to India for off-shore development • Project leader • Client interaction • Backend development lead

Global Activity Tracking System (Mar 1995 – Feb 1996)

Company	General Electric (GE – Plastics), Pittsfield, USA
Operating System	Microsoft Windows 95
	Windows NT
Primary Network	Net BEUI
Business Area	Global Project Management
Software Engineering	Development
Front End	Microsoft Access 2.0
Back End	Sybase 10.0
Tools	Microsoft Access 2.0
Team Size	10
My Role	• Development of Reports in MS Access 2.0

- Development and Implementation of Security strategy
- Development and Implementation of concurrent access strategy

Projects undertaken as a freelance consultant (Jan 1992 – Mar 1995)

EasyCAM

A complete CAD/CAM solution for Milling machine for Alfa Systems, Vadodara, India

An integrated system with following features

- Gerber Code Interpreter
- On Line continuos execution display
- Path viewer to pre-view the machining path
- Add-in features for additional G-Codes
- Conversion from AutoCAD IGES files to G-Code files
- Menu driven user friendly operation

My Role

- Complete design and development
- Used C/C++ in DOS for the system

DAC

Data Acquisition Card – a general purpose data acquisition card and related software for industrial control systems

A protocol based PC interface card based on the 8751 microcontroller

- 16 bit ADC
- 8 channels Analog, 16 channels digital input
- Interface to customize operations

My Role

- Complete design and development
- Used C++, 8751 Assembly Language

Automatic Yarn Clearing Card Test

I did this project as a part of my graduation curriculum along with two of my colleagues.

Features

- Yarn Clearer PCB testing
- Automatic changing of resistors and capacitors
- Continuos monitoring for correct value

My role

- Complete software for the project

Professional Qualification

Business Area	Equities and Derivatives
	Cash Management Products
	Receivables Management
	Introductory SWIFT knowledge
	Introductory GIRO knowledge
	Distribution and Network Planning
	Marketing Management
	Pricing Management
	Dispatch Control
	Payroll
	Sales Order and Invoicing
	Human Resources Management
	Billing
	Advertisement
	Manufacturing Automation
	Stock Control and Inventory Management
	Tibco BusinessWorks
Software Engineering	Analysis and Design of Application Systems
	CAD/CAM
	Project Management
	Version control and Release management
	Requirement Collection
	Presentations
	Object Oriented Methodology
	Web presentation technologies
	Preliminary web administration
Backend Technologies	Developing in Oracle 7.x, 8.x, Oracle8I
	Database Administration for Oracle 7.x, Oracle8I

	(Cleared DBA certification exam for Oracle 7.3)
	Managing Distributed Databases
	Designing the Database Objects
	Developing in Sybase 10.x
	PL/SQL Programming
Front End Technologies	IBM Net.Data web presentation Macros
	Developer 2000
	Designer 2000
	Visual Basic 3.0, 4.0, 5.0
	Microsoft Access 2.0
Operating systems	Sun Sparc
	AIX
	Microsoft Windows 95
	Microsoft Windows NT
Network	Novell Netware
	Microsoft NT
	Unix TCP/IP networks
Programming Languages	Java
	C ++
	C
Java and Internet	Java Servlets
	Java RMI
	IBM Net.Data Macro Language
	Java Applications and Applets
Other	Visual C++
	Turbo C++
	Mercator
	Protocol based systems for control applications