# Pankaj Kumar

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## **Personal Summary**

I am a passionate technologist with over 18 years of software development experience in roles as an Architect, Team Lead, and Developer. I have a wide breadth of knowledge of both current and emerging technologies allowing me to identify innovative technical solutions for customer needs. My strengths are my diversity and depth of experience, perseverance, ability to learn new technologies quickly, and organizational skills.

My main areas of interest include application architecture, data architecture as well as technical architecture both backend and frontend, no-sql, Hadoop, Service Oriented Architecture(SOA), Web application performance, Security, OAuth, OpenID, SAML. Conversant with **TOGAF** architecture framework's ADM (Architecture Development Methods). Currently pursuing **TOGAF** certification.

Strong business and technical skills that enabling engagement with cross functional teams. Ability to translate a department's business functions and requirements into terms that are meaningful to software developers.

# Professional Experience

## **Wells Fargo (Architect/Designer) Oct 2013 – Current**

**Capital Market Credit Risk**

**Minneapolis, MN**

**My Role:**

### **Project 1:**

* Setup governance process, templates and governance polices for storing architect artifacts, solution and architect building blocks in the shareable architecture repository.
* Involved in configuring software Enterprise Architect (EA) with TOGAF Ad-In as a shared architect repository to store architecture and project artifacts.

### **Project 2:**

* Architected and created high level design a responsive questionnaire with behavioral constraint and severity constraint.
* Interoperability with other applications and services.
* Design meet non-functional requirement, auditability, usability, reusability, integrity.
* Produced technical feasibility by proof of concept, covering all non-functional requirements
* Created System Architecture Document and Functional Specification Document
* Participated in designing inputs to the data-model
* Created requirement based use-cases and test strategies.
* Established solution frame-work considering layered architecture and right design patterns focusing on key architectural objectives of open-closed, decoupled, reusable and extendable solution.
* Created Technology Roadmap

**Technologies Used:** Enterprise Architecture, Visio, Oracle, SOAP/REST, Spring, JQuery, MQ, Axis-2

### **Project 3:**

Capital Market Eligibility Decision System: Replacing existing legacy system rules/decisions/business logic in the database with new application using Drools based rule engine, DECISION from Sapiens. A batch process that runs every night with loans determines salability of each loan.

**Non-functional requirement:** Auditability, rollback, scalability, performance, reliability, vendor software SLA, availability, reusability, robustness and efficiency.

* Responsible for performance, monitoring and robustness
* Designed multi-threaded design for batch processing
* Created performance and load test strategies
* Configured tomcat (concurrent threads, stackSize for each thread, HeapSize, permSize, # of JVMs on each server, JVM tuning,
* POC on testing with different server configurations.
* POC testing the performance and storage requirements of Lucene based payload search solution
* Involved with DBA in database tuning (query tuning, table partitioning, buffers)

**Technologies Used:** CAIntroscope 8.x**,** Sapiens Drools based rule engine, MQ, SOAP and REST, JQuery, Oracle, MS Project, Enterprise Architecture.

## **Prime Therapeutics Nov 2012 – Oct 2013**

**Guided Health**

**Eagan MN**

* Part of development team, responsible for improving the batch performance.
* Participated in re-architecting, re-designing to make it an open, and scalable robust, efficient and high performance application.
* Identifying bottle neck and do POCs and comparison and evaluation.
* Upgrading from Axis 1.4 to Axis 2.0 on Corticon server.
* POC on changing SOAP to Rest call and comparing performance with production data.
* POC on loading Corticon in memory instead of loading Corticon on a separate a server as a web service comparing performance with production data
* Created load and performance test plan
* Involved in new architect event driven system an alternate of batch process, part of POC comparing effectiveness and performance

**Skills Used:** Visio, SOAP, REST, Maven, Axis-1.x, 2.x, Confluence, Crucible, Fisheye, IBM RAD, WAS 7.5

## **Cigna June 2012 – Nov 2012**

**Team Lead**

**Minneapolis MN**

* Lead a team of 6 developers
* Gathering functional requirements from business.
* Functional Specification Document (FSD)
* Collaborating and finalizing design.
* Design reviews along with Enterprise Architects
* Technologies actively used Spring MVC, Batch, Mockito, Ehcache, Oracle, Maven, and Jenkin.

**Skills Used:** J2EE, iBatis, MQ JMS, Oracle 11g, Drools, JSTL, Flex , MVP, Maven,, Rally.

## **Carlson Wagonlit Technologies Feb 2012 – June 2012**

**Java Architect**

**Minneapolis MN**

Re-architecting existing legacy application from DOS, C, .Net to Java, Drools, JBPM.

* Created Software Design Document with functional and non functional requirements, components, interfaces, dependencies etc.
* Created conceptual diagram, component diagram
* Created technical specifications document (detail design)
* POC feasibility of open source Drools to capture Identify potential bottlenecks
* Main emphasis is on performance and vertical and horizontal scalability.
* Making sure PCI Compliant along with Enterprise policy
* Helped in setting up of development environment, that includes Weblogic Server, Oracle database, Hudson for Continuous Integration, SVN for version control, and Nexus for maven repositories.
* Working with Project manager in release planning and prioritizing stories.
* Coordinating between Team Leads, QA, IT Ops and other teams,

**Skills Used:** J2EE, Hibernate, MQ JMS, distributed EhCache, Oracle 11g, Oracle AQ, Drools, jBPM,

**McKesson Technology Solutions Sept 2011 – Feb 2012**

**Minneapolis MN**

Integration of two applications; ‘Horizon Quality Monitor (HQM)’ and ‘Horizon Enterprise Visibility(HEV)’. Designed and development of various modules of that involves JMS, Web Services, Spring, Junit etc using a Test-Driven Development (TDD) approach.

* + Analyzed exiting product and designed solution for integrations.
  + Gathering and identify the requirements and propose the solution.
  + Designed, developed and documented technical specifications.
  + Based on requirement finalize the schema. Finalize queries using hibernate to fetch the data needed to converted to XML and sent to queue.
  + Support pages using Spring controllers, tags and JSTL for sending to queue based on various criteria.
  + Introduced JMock for the testing and for coverage Eclemma

**Skills Used:** J2EE, JUnit, Hibernate, Spring, Oracle 11g, Oracle AQ, Maven, StarTeam, Rally.

## **Royal Bank of Canada April 2011 – Sept. 2011**

**Application Architect**

**Minneapolis MN**

Responsible for two main projects:

Designed and architecture new project; documenting the technical details including UML and use cases. Setup a process and guidelines to be followed by local and outsourced developers. That included setting up framework and environment.

1. Annuity and Insurance (AANDI)
   * PowerBuilder internal application a rule-based record keeping system for tracking the processing, transfer and commission regulations of Annuity transaction.
   * Identified right technologies from the existing available choices and enterprise polices
   * Created Software Architecture Document showing the description of software architecture, including major software components and their integration.
   * Designed n-layer interacting with mainframe, JMS, two databases and external clients.
   * Created a POC.
2. Reorganization One and Done (ROAD)

* Developed plan to upgrade from Java 1.4 to Java 1.6.
* Plan to upgrade from WAS 6.0 to WAS 7.5
* test strategies, functionality and performance testing.

**Skills Used:** J2EE, JUNIT, Hibernate, Spring, MQ JMS, DB2, MSSQL, WAS 7.0, RSA, SOAP and REST Web Services, AJAX, CVS.

## **Wells Fargo WMG Oct 2009 – April 2011**

**Sr. Application Developer**

**Minneapolis MN**

Working on an Enterprise Bus Services, it is a service-oriented integration platform. It is an interface to client applications, insulating the impact of technical and enterprise changes.

I led the design and development of various web services using a Test-Driven Development (TDD) approach. Development methodology used was the SCRUM Agile methodology. Process included iterative development, 2-week sprints, and daily stand-up meetings, and customer managed backlog.

* Participated in story jams, business requirements and design discussions.
* Designed and developed web services using SOAP, Axis, xml-beans.
* Involved in schema design and schema reviews.
* AGILE methodology with around 30 to 40 developers.
* Developed Mock Object tests, Integration tests (Meddler).
* Regular code peer review and business review

**Skills Used:** Agile, Scrum, J2EE, JSP, JUNIT, Hibernate, Spring IOC, MVC, Oracle 10g, WebLogic 9.2, Tangosol/Oracle Coherence, JAX-WS SOAP, Axis-2, Ivy, Crucible, SVN (Tortoise)

## **Comcast, Mt. Laurel, NJ July 2009 – Oct 2009**

**Sr. Application Consultant**

**Workbench Application**

This is J2EE application, which assists the Comcast agents to create a lead for a given opportunity and then complete the work process to convert the opportunity to a contract.

**Responsibilities:**

* Architecture and designing of the application using Spring-DWR, Struts, AJAX, SOAP web services.
* Involved in both front end (Spring-DWR, Velocity Templates, Trimpath) and backend.
* Agile methodology, with four weeks iteration, having two stand-ups morning and evening.
* Developed business layer and presentation showing Scheduled Time and Slot for customer installation of the Comcast products.
* Design of Cellback Haul task pages, used by sales person to convert opportunity to tasks. Accept Service Order to final contract. (24 tasks).

**Skills Used:** Weblogic 10.0, Eclipse, CVS, Java, J2EE, JSP, JUNIT, Anthill, Hibernate 3.1, Spring IOC, Spring DWR, AJAX, Swing, applet, JavaScript, Taglibs, Portlets, Oracle 10g, Aqualogic BPM.

## **US Bank, MN Sept. 2005 – June 2009**

**Team Lead**

### **Multi Service Aviation WEBPOS (MSA-WEBPOS):**.

* Collaborating with Business analyst and various teams involved
* Migrating whole project and team from WebSphere Application Server(WAS) 5.1 to and WebSphere Application Server(WAS) 6.1 and GUI from RAD 6.0 to RAD 7.1 and from Java 1.4 to Java 1.5
* Web application profiling, using JProbe.
* Login/logout/forget password, security questions module integration with WebGate/NetPoint.
* Receipt generation/printing with iText.

**Result:** Other than successful migration, successfully implemented new enhancements, new features (Receipt printing as PDF) and transition from WAS 6.0 to WAS 6.1.

### **VOYAGER Fleet Systems:**

* Architect/Design of Gas Station locator module, where Voyager Card is accepted, showing latest gas price. Used Microsoft MapPoint Web services (SOAP) to display location on the map.
* Mass card creation modules, where client can request more than one credit card (up to 99) for his fleet/drivers.

**Result:** Successfully implementation to production and edge over competitors & helped in winning contract.

### **Access Online (AXOL):**

* Helped in new enhancements and code refactoring.
* Worked in TIBCO BW5 and Java to creating Web Services (REST) so that end user can submit new card creation/maintenance through their own website using our Web Service.

**Result:** Successfully implemented various enhancements and code improvements

**Skills Used:** WAS 6.1, RAD 7.1, SVN, AD, Jasper Reports, iText, JUNIT, MQ, Hibernate, Spring, ClearCase, ClearQuest Oracle 9i, In Concert 6.2.1 and BW 5.4, WS-BPEL, JMS/EMS, Web Services

## **3M, MN Feb. 2001 – Sept. 2005**

**Architect/Team Lead**

**Multimedia Conferencing Service:** A web based quick and easy way to manage conferencing database. This system allows the page author to login and change (edits/insert/deletes) page contents.

* Gathering user requirements, drafting business use-cases based on the requirements.
* Created System Architectural Document(SAD) and Functional Specification Document(FSD).
* Class diagrams, object-level use cases, communication/sequence.
* Design used web services for subscription process and data cleanup on vendor end.
* Coordinated with Global Crossing Team in development, testing to production deployment

**Cellular Service Website:** A web application to process all kinds of work orders. (New cellular phone, replace existing phone, transfers to corporate account, add accessories, add or remove features and cancellations).

* **Architect, designed application, testing prototype for design and evaluation.**
* Gathering user requirements, business use-cases based on the requirements.
* Responsible for Functional Specification Document, Component diagram, Activity diagrams

**CAVS (Client Access Viewing System) :** A web based **Active Directory** search engine. Search can be by user pin to check their account information or can be by a group name to find out who are the members of that group.

## **EIDRepository API:** An API to connect to 3M HR database for frequently needed fixed and dynamic queries.

* Gathering requirements, generated use cases/
* Designing, developing, testing and deploying.
* Java API (jar files) that various applications can use to fetch data from HR db.
* Later converted that API to a **Web service**

**Skills Used:** WebSphere Studio Application Developer, Java, J2EE and Web Service (SOAP).

## **3M, MN Feb. 1999 – Jan 2001**

**Technical Consultant**

**Telecommunication and Order Processing System**

* Maintained and enhanced PowerBuilder application later implemented few modules to the tomcat.
* Clean the database side for unwanted tables, store procedures and triggers etc
* Designed and developed phases to incorporate new changes and fixes without disrupting and changing the normal flow in the application.

**Skills Used:** Powerbuilder,WSAD, Java, J2EE, JSP, Servlets, Java, Sybase, Lotus Notes, HP UNIX, PB.

## **Southwestern Bell, MO Aug. 1998 - Feb. 1999**

**Technical Consultant**

Migration from SQL Server 6.5 databases to Oracle 7.3.3

## **Security Link, Ameritech, IL Mar 1998 - Aug. 1998**

**Technical Consultant**

Duplication & Cancellation Detection Application:

## **Punjabi University, India Oct. 1992 - Jan. 1998**

### **Lecturer**

Teaching computer science subjects (Database, Computer Networks, Programming Languages etc.) to undergraduates and Graduates. I was also responsible for few in university projects.

### **Library Information System:** A Simple Library Information System for issuing & return of library books and for keeping the stock of the departmental libraries. Software to use was Oracle and PowerBuilder.

### **TIFF file interpretation for Result Processing**: This S/W was made in C++, its main function was to read the tiff files generated by Scanner and convert it into textual form and append to the final data file.

### **On-Line Information Processing Software for Indian Science Congress (ISCA**): For on-line registration of delegates, reporting state-wise, subject-wise list of delegates, accommodation details & reservation.

## **Himachal Pradesh University, Lecturer, Simla Jan. 1991 - Sept. 1992**

**Thapar University (TIET) , Patiala, India, Programmer/Systems Analyst Oct. 1989 - Dec 1990**

## **Christian Medical College & Hospital, India, Programmer Jan 1989 - Sept 1989**

## **Technical Skills**

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| **Programming** | Java, J2EE, EJB 3.x, Servlets, Web Services, Struts, JSP/JSF, JDBC, XML, XSLT, XSD, XPATH, Swing, Log4j, Ant, AJAX, GWT, JQuery, JUnit, JMS, Python, Ruby on Rails, PHP, C, C++, C#,.VB.Net, |
| **Other APIs/ Frameworks** | Hibernate, Spring (MVC, AOP, WebFlow et. al.), Struts, Tiles, JMS, MQ, Cobertura, ANT, JMock, Mockito, JSF, TIBCO In-Concert, Business Works 5, Introscope, SOA, SOAP and RESTful Web Services (JAX-RS) |
| **Methodologies** | SDLC, Waterfall, AGILE, Scrum, TDD. |
| **RDBMS/Database Related** | Oracle 9i/10g/11, PL/SQL, DB2, SQL Express 2005, SQL, MySQL, Sybase, HQL, Couchbase, MongoDB, Hadoop, HBase, Hive. |
| **Web/Application Servers** | WebSphere Application Server,Tomcat , Jetty, WebLogic, JBoss AS, IIS, Apache Httpd. |
| **Development and Build Tools** | IBM RAD 7.1, WebLogic 11.x, JDeveloper, Eclipse, NetBeans, TIBCO, Dreamweaver, Oracle Apps , Lotus Notes, Ant, Maven, Gradle,Ivy, Hudson, Anthill. |
| **Object Oriented** | UML, Design Patterns, Use cases, RUP, Enterprise Architecture |
| **Version Control** | SVN, Git, IVY, CVS, PVCS, Rational Clearcase |
| **Web Technologies** | HTML5, DHTML, XML, XSLT, XPATH, Java Script, CSS3, JQuery Mobile, Angular JS, Backbone, Bootstrap. |

## **Education:**

* Master of Computer Application: Thapar Institute of Engineering & Technology (1989), Patiala, India.
* Bachelor of Sciences: Punjab University, Chandigarh, India
* **Project Management Professional** (PMP, # 306617), 2005.

## **Interests:**

* Toastmaster
* Volunteering in Allina Hospice
* Volunteering in Spiritual Meditation Centers
* Meditation, Yoga