

Shivendra Tiwari

Sr. Engineer, LBS R&D, HERE Maps (a former Nokia subsidiary business), Berlin, Berlin, Germany, Mobile: +49-15162813667
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PROFESSIONAL SUMMARY

- Passionate, responsible and committed engineer, with a get-it-done spirit.
- Over 12 of comprehensive experience of designing, and developing the software applications using C++, Java, and C#. It includes applications for different mobile platforms.
- Possessing a proven ability to lead the project teams to successfully deliver agreed upon solutions of the highest quality, often in complex and challenging customer environments.
- Experience in LBS application development, routing, geo-coding, reverse geo-coding, POI search, map tiles caching, map rendering, mobile navigation, and car based navigation.
- Provided leadership and solutions on NavTeq data usage, data compression for online/offline based hybrid maps for the low end devices.
- Experienced on dealing with international customers and working with distributed teams.
- Published several research papers in the international conferences and journals in the location based services (LBS) domain.

TECHNICAL SKILLS

- Programming Languages : C/C++, Java, C#
- Mobile platforms : Android , J2ME, Symbian C++, Windows Metro using C#
- Operating System : Windows 8, WinRT, QNX RTOS, Unix/Linux
- Development Environment : Android Studio, Visual C++, Eclipse, Netbeans, XCode
- Data base / Web Tools : MySQL, SQL / PHP, HTML, XML

WORK EXPERIENCE (12+ Years)

- **HERE Maps (a former Nokia subsidiary business), Berlin, Germany (April 2012 to Till Date) – Sr. R&D Engineer**
 - HERE Maps: design and development of Android maps application.
 - Finished developing HERE Maps application on Windows 8.1 platform using C#.
 - Design of the new features using C/C++ on UNIX development environment for Nokia S40 Asha full-touch maps.
 - Integration of the core LBS engine with the S40's limited resource environment.
- **GlobalLogic India Pvt. Ltd. Noida, India (Dec 2005 to Mar 2012) – Technical Architect**
 - Development of Daimler's SmartDrive iPhone app for Mercedes's Smart car.
 - WakuWaku car navigation system on QNX RTOS hardware for Denso using C/C++.
 - Location engine development and maintenance with maps, routing and navigation features.
 - Leadership of the data compression, map data compile and providing ready to render map.
 - Awarded with the "Quarterly Excellence Award 2007" award by GlobalLogic Noida, India
- **InterSolutions Noida, India (Mar-2005 to Nov-2005) - Member Technical Staff**
 - Development of the mobile games and applications on J2ME platform.
 - Awarded with "Excellent Performance Award 2005" by Inter Solutions Noida, India.
- **IIT Delhi, India (Nov-2004 to Mar-2005) - Research Associate**
 - Research in converting the plain text query to the SQL for multiple languages.
 - The fuzzy text and hedges were handled well. Implemented on PHP and MySQL.
- **Sentient InfoTech Gurgaon, India (Feb-2004 to Nov-2004) - Software Engineer**
 - Development of the mobile application and games development using J2ME.

ACADEMIC RECORD

- Ph.D. (CS) at CSE, IIT Delhi, New Delhi, India (thesis submitted in Sep-2015).
- M.Tech. (CS) – at AAI - DU (Deemed University), Allahabad, India (Jan 2005 – Dec 2007)
- MCA (CS) – at GGU, Bilaspur (C.G.), (2nd rank in the university) – (Jul 2001 – Jun 2004)
- B.Sc. (CS) – APS University, MP, India (2nd rank in the university) – (Jul 1998 – Jun 2001)

RESEARCH PUBLICATIONS

1. Popularity Estimation of Places and Geospatial Regions from the GPS Trajectory Databases using Fuzzy Inference System. In: Central European Journal of Computer Science, Springer Journals. In press for publication.
2. User Category Based Estimation of Location Popularity using the Road GPS Trajectory Databases. In: Geoinformatica - An International Journal (GIJ), Vol-4, Issue-2, pp. 20-31.
3. Modeling On-the-Spot Learning: Storage, Landmarks Weighting Heuristic and Annotation Algorithm. In: 4th International Conference on Computer Science and Its Applications (CIIA'13), 04-06 May, 2013, Saida (Algeria), Springer LNCS.
4. Scalable Method for k Optimal Meeting Points (k-OMP) Computation in the Road Network Databases. In: 8th International Workshop on Databases in Networked Information Systems (DNIS) 2013, Japan, Springer LNCS 7813, pp. 277–292, 2013.
5. Fusion of Navigation Technology and E-Learning Systems for On-the-spot Learning. In: Proc. of The IET International Conference on Wireless Communications and Applications (ICWCA) 2012, 8-10 Oct, Kuala Lumpur, Malaysia. **[Best Paper award]**
6. Boundary Points Detection Using Adjacent Grid Block Selection (AGBS) kNN-Join Method. In: Proc. of 9th International Conference on Machine Learning and Data Mining 2012, Berlin, Germany.
7. Extracting Region of Interest (ROI) Details using LBS Infrastructure and Web-databases. In: Proc. of 13th International Conference on Mobile Data Management (MDM) 2012, Bangalore, India.
8. A Survey on LBS: System Architecture, Trends and Broad Research Areas. In: Proc. of 7th International Workshop on Databases in Networked Information Systems (DNIS) 2011, Japan.
9. Using Middleware as a Certifying Authority in LBS Applications. In: Proc. of 7th International Workshop on Databases in Networked Information Systems (DNIS) 2011, Japan.
10. Reducing Dependency on Middleware for Pull Based Active Services in LBS Systems. In: ICWCA 2011, LNICST 72, pp. 90–106, 2011.
11. SVGTLib - SVG Tiny Library for a LBS Imaging Server and Non-SVG Mobile Devices. In: GlobalLogic White Paper Contest April 2009. **[Best Paper award]**
12. Web Based Tool for Accessing Distributed Relational Databases through Multilingual Fuzzy Interface. In: Proc. of Artificial Neural Networks in Engineering (ANNIE) 2007, Missouri, USA.
13. Answering FAQ: An Intelligent Approach for Extracting Answers for queries from Subject-Oriented Multi-documents. In: proceeding of International conference SILV-2005, IIT Kanpur, India.
14. Smart Planner: Divide & Conquer with soft computing approach. In: proceeding of International Conference ICCST Organized by IASST on Jan (1-3) 2004.

PROJECT WORK DETAILS

1. **HERE Maps Applications for NokiaX (Android) and Nokia Tablet Lumia 2025** (Sep 2012 – till date)

HERE Maps with Offline Navigation is just like satnav or GPS. It shows current location and gets accurate directions to the destination. It provides accurate driving, walking, and public transit

directions that work without an internet connection to keep the users from being lost even if cell signals are lost. It allows search for places and addresses, and navigate with turn-by-turn guidance. The online features include real-time traffic, ratings and reviews for places, and even private location sharing over Glympse. It also provides PUBLIC TRANSIT maps and directions, 3D INDOOR MAPS, TRAFFIC with REAL TIME INFORMATION.

Role: Sr. Software Engineer @ HERE Berlin, Germany
Technologies: Android, C# on Windows 8 tablet.

2. Location Engine Integration for Nokia Series 40 Devices (Apr 2012 – Aug 2012)

The Maps Operating Services (MOS) is a location engine providing a wide variety of services such as geocoding, reverse-geocoding, routing, maps rendering etc. The S40 platform is Nokia's proprietary operating system for the low end mobile devices. The integration of these two was required in order to allow the client (Java Midlet) application to provide the navigation feature in the phone. The Java Midlet application talks to the MOS engine through the socket APIs for the services.

Role: Sr. Software Engineer @ Nokia Gate5 GmbH, Berlin, Germany
Technologies: C, C++, Unix.

3. Daimler's SmartLive - An On-Board iPhone Navigation System (July 2010 to Mar 2012)

The basic version of the app shows the vehicle's position on a map of the area ("Follow-me maps") and enables points of interest to be found via both the on-board database and off-board using Microsoft's "Bing" search engine. The system later upgraded to turn it into a full navigation system with maps for Europe or the USA – enabling navigation without being online. A smart guides you to your destination on the display of your iPhone with big street name bubbles and traffic information.

Role: Sr. Lead Engineer @ GlobalLogic India Pvt. Ltd. Noida, UP, India.
Technologies: C++, Objective C, MAC OS

4. Denso's Wakuwaku - An On-Board Car Navigation System (Aug 2008 to June 2010)

WakuWaku is an On-board car navigation system on QNX RTOS using C++ as a programming tool. It reads KIWI data from the card memory to render maps on the device's screen. It handles basic in car turn by turn navigation. A core navigation module is responsible for route guidance and driving the Turn-By-Turn Flash UI. A map rendering component which will share the screen with the Flash HMI, and render the route and current location of the car on a perspective map created from KIWI map data.

Role: Lead Engineer @ GlobalLogic India Pvt. Ltd. Noida, UP, India.
Technologies: QNX, RTOS, QNX Momentics IDE, C/C++, VMWare, Flash UI.

5. Telecommunication System's "Kivera Location Services" (June 2007 to Jul 2008)

The Kivera Location Services (KLS) System is software that enables client applications to request, receive, and display location-based information. Kivera relies on others to record the physical world and then adds capabilities like: routing, geocoding, reverse-geocoding, map rendering, POI search etc.

Role: Lead Engineer @ GlobalLogic India Pvt. Ltd. Noida, UP, India.
Technologies: C/C++/Linux/LibGD Image Library

6. mPortal's Visual Voicemail & Address Book Synchronization (Dec 2006 to May 2007)

Hawaiian Telcom wanted to enable subscribers to access and maintain voice mail information on their handsets without having to dial into the carrier's voicemail system. To achieve this goal, voice mail headers will be stored on the phone and synched with the backend CallWave platform. This application enables wireless subscribers to synchronize their handset address book with their CallWave address book. Benefits of Address Book Sync include ability for subscribers to update

contacts on their phone or desktop and the ability for subscribers to easily transfer contacts stored in the CallWave address book to a new phone.

Role: Lead Engineer @ GlobalLogic India Pvt. Ltd. Noida, UP, India.
Technologies: J2ME, JSR 135, JSR 75 (PIM & File Connection)

7. SquareLoop's Mobile Alert Network (MAN) – (Dec 2005 to Jul 2006)

MAN is a client-server based application which provides location based alerts to the subscribed users. MAN provides a revolutionary new way to geographically target messages to mobile network devices such as phones, PDAs, and laptops. Key applications include public safety, content delivery, and mobile marketing. Messages are delivered based on location information that is already resident on the subscriber device. This approach maintains the subscriber's location privacy and reduces the overall network resources needed to deliver geographically targeted messages. The solution is independent of the location determination techniques.

Role: Sr Software Engineer @ GlobalLogic India Pvt. Ltd. Noida, UP, India.
Technologies: Symbian C++, J2ME for Nokia 6600, MOTO RAZR, IDEN N95cl devices

8. Web Based Multilingual Fuzzy Query System (Nov 2004 to Nov 2005)

The relational database systems use SQL, which has strict syntax and semantics defined precisely to retrieve data. But, sometimes, user may not be aware of SQL syntax and wants to use databases without any technical effort. We have implemented fuzzy query system for multiple human languages. It is an interface between the user on the web and the databases spread over distributed database servers. The system parses and converts the plain text queries into equivalent SQL after resolving various tables, attributes and fuzzy terms used in the query.

Role: Researcher & Developer @ IIT:Delhi
Technologies: PHP, MySQL, Tomcat Apache & Fuzzy Logic.

PERSONAL DETAILS

- Date of Birth / Gender : 02-Jan-1980 / Male
- Present Address : Kochhannstr. 35, 10249 Berlin, Germany
- Languages Known : English, Hindi, German (Beginner)

REFERENCES

1. Tamer Nassif, R&D Manager, HERE, Berlin, tamer.nassif@here.com, +491607175910 (M)
2. Prof (Dr.) Saroj Kaushik, IIT Delhi, India, saroj@cse.iitd.ac.in, saroj.kaushik@gmail.com, +91-8588867807(M), +91-9891967262(M), +91-11-26591292(O)