Devender Nath Sawhney

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**Devender Nath Sawhney**

**IT Professional with 9+ Years of experience as a C/C++ and Embedded System Developer**

### **Profile**

* Accomplished technical professional with 9+ years of experience working through various software development phases, from requirements gathering and analysis to design, development, testing, implementation and support.
* Leverages Computer Science background and problem solving capabilities to develop application solutions.
* Holds experience in automotive domain and Embedded Systems working on QNX real time operating system.
* Have good knowledge of C++ object oriented concepts and methodologies and have been implementing the same in the project.
* Proposed various optimization solutions to issues faced within the project.
* Good knowledge and understanding of micro kernel based Real Time Operating System QNX.
* Successful in delivering high quality products within proposed Schedule and Budget.
* Have followed project methodologies to strengthen test driven development, validation and change management activities.
* Proficient in analysis of issues and provide suitable solutions and appreciated by the Client for the same.
* Have strong communication, good interpersonal skills and an amicable team player.

### **Technical Proficiency**

**Operating System** : UNIX, QNX (RTOS), Linux, KC2.2

**Programming Languages** : C, C++, Python, OOPS Concepts,UNIX Shell Script

**Protocols** : TCP/IP, UDP, basic knowledge of CAN.

**Frameworks** : Object eXecution Framework (OXF), Resource Manager Framework, Photon, Adaptive Partitioning, High Availability Manager

**Software Tools**:

Requirement Management: IBM Rational DOORS

Model Development and Design: IBM Rational Rhapsody 7.5.

Development IDE: IBM Rational Rhapsody 7.5., Eclipse, QNX Momentics, Photon Appbuilder, Phindows

Unit Testing: ParaSoft C++ Test Tool

Traceability: IBM Rational Gateway

Test Tools: CANalyzer.

Configuration Management: VSS, IBM Change Tool, IBM Synergy, GIT,

### **Education**

* Bachelor’s in Technology in Computer Science - 2008, India

### **Professional Experience**

Mar 2017 – TILL DATE: Jaguar Land Rover, Pune , India

Leading team for designing and developing features for next generation infotainment system for Jaguar Land Rover automobiles.

**Role:** Technical Lead

**Responsibilities:**

* Driving system architecture decisions and lead a team of 6 associates for designing and development of Future infotainment features to JLR automobiles
* Trained and mentored junior programmers in programming methodologies and best practices.
* Lead to the production & certification of 2 features before the time lines provided by the client.
* Worked on Process Improvement projects to add to the value of the customer.
* Handled communication between multiple suppliers and Offshore-Onsite coordination.
* Designed & presented multiple proposals for new features and methodologies to improve performance and reliability.

**Environment:** Linux, KC2.2, C, C++, IBM Rational Rhapsody, git, jira.

Sep 2016 – Mar 2017: Jaguar Land Rover, Portland, OR USA

Designing and developing proof of concepts for future infotainment technologies and integrating them with the current Jaguar Land Rover ecosystem.

**Role:** Software Architect

**Responsibilities: Confidential**

**Environment: Confidential**

Mar 2014 – Sep 2016: DIALS, Electro-Motive Diesels, Lagrange, IL, USA.

The project revolves around implementing EMD rail-road electronics into Indian Railways. This project involved gathering requirements from Indian railways to proposing the design and development of application to suit the needs of the customer. New hardware and electrical systems have also been manufactured inside EMD for the same.

**Role:** Technical Lead

**Responsibilities:**

* Worked on understanding the requirements gathered from Indian railways and determined its compatibility with EMD Locomotive Systems.
* Working on the structural frameworks of requirement management in DOORS.
* Started with design and development of various applications using Rational Rhapsody.
* Undertaking training on Agile Methodology to implement within the project.
* Automated processes to resolve business challenges using Unix shell scripts.
* Working on HMI development on LCD based display system.
* Working on Application design and System design.
* Proposed the design for proactive restart and fault recovery mechanisms.

**Environment**: C++,QNX,Shell Scripting,IPC,Photon Applications,HMI development. Rhapsody Modeling tools, Rational DOORS.

Nov 2013 – Feb 2014: Next Generation Control System (NGCS, Electro-Motive Diesels, Lagrange, IL, USA.

The project involved development and migration of the FIRE software over the next generation control system being developed for future rail road electronics at EMD. This involved development of new applications and protocols to support the new hardware platform.

**Role:** Technical Lead

**Responsibilities:**

* Drove system architecture decisions and lead projects from concept through the release process.
* Trained and mentored junior programmers in programming methodologies and best practices.
* Lead to the production of over 50 Applications before the time lines provided by the client.
* Worked on Process Improvement projects to add to the value of the customer.
* Handled communication between multiple stakeholders and Offshore-Onsite coordination.
* Conducted project presentations for the client and to bring new business.

**Environment**: C++,QNX,Shell Scripting,IPC,Photon Applications,HMI development. Rhapsody Modeling tools, Rational DOORS.

Mar 2012 – Oct 2013: UP Railroad, Electro-Motive Diesels, Lagrange, IL, USA.

The project involved development of over 1000 change requests to the FIRE software to satisfy the requirements of specific customers. The project life cycle included requirement analysis, design, development, testing and deployment in various phases.

**Role:** Senior Developer

**Responsibilities:**

* Worked on requirement understanding and management in IBM Rational DOORS
* Worked on Design and Development of various CRs.
* Worked on Code Reviews and development of MISRA Compliant code.
* Mentored team and other group members regarding the design procedures and development activities for functional modules.
* Worked on Performance tuning of drivers and applications based on protocols as RS232,CAN and USB.
* Worked on optimizations of GUI based applications.
* Implemented a pdf reader application for QNX operating system.
* Received client appreciation for the memory usage tool developed and deployed.

**Environment**: C,C++,QNX,Shell Scripting,MISRA C,IPC,CAN,Serial Controllers design and testing, Photon ,PHAB,XML,Middleware, High Availability Management,Adaptive Partitioning and Memory profiling.

**Mar 2009 – Feb 2012: Functionally Integrated Railroad Electronics Migration – OS Upgrade, Electro-Motive Diesels, Lagrange, IL, USA.**

The project involved the analysis and porting of FIRE software from Windows to QNX operating system.

FIRE is an Operator Console for Locomotive Operator, extensive GUI integrated with supporting modules dedicated for specific functionality. The GUI developed for this system has the most advanced HMI in all Locomotive systems.

Functionality includes communication with different Locomotive Subsystems on CAN, Lon works, RS422, RS232, TCP/IP, UDP and WLAN. Communication between modules is based on Publisher-Subscriber pattern handled using a Middleware.

**Role:** Developer

**Responsibilities:**

* Understood the client specifications and wrote requirements for the new system
* Worked rigorously on creating Business Applications, Controllers and HMI for the new system
* Worked on using XML as the database for the control system.
* Have diagnosed system faults for deadlocks, Real Time priority scenarios, data recovery and performance deadlocks.
* Was involved in Unit testing and functional testing of various modules.
* Worked on Serial communication based Simulator development to test the hardware control applications.
* Worked on the Integration of various modules within the system
* Delivered demos to clients and internal training sessions to team members.
* Worked on Code Reviews and development of MISRA Compliant code.
* Mentored team and other group members regarding the design procedures and development activities for functional modules.
* Worked on Performance tuning of drivers and applications.
* Resolved various memory leaks and CPU utilization issues that came up during system integration.
* Worked on GUI performance on legacy control systems.
* Writing test applications for Device Drivers.

**Environmen**t:C++,QNX,Shell Scripting,MISRA C,IPC,CAN,Serial Controllers design,development and testing using simulator development,System Design,Application Design and Development,Photon and Phab Application development,Requirement management,Release management.

### **Personal Details**

**Date of Birth** 25 July, 1986  
**Sex**  Male  
**Nationality**  Indian  
**Marital Status** Single  
**Location**  Pune, Maharashtra, India