**Rohith.kalva**

**Mail id: rohithkalva07@gmail.com**

**Contact; +1 206-705-5509.**

**SUMMARY:**

* Over 9+ years of experience in designing, implementing and adapting technically sophisticated application using C/C++ programming in Windows & Linux Platform
* Having 6.5 + years of experience in working in an onsite client environment
* Expertise in designing, developing efficient, reusable, and reliable backend software in C and C++, multithreading in UNIX and Linux platform using Boost library and STLs such as sets, maps, list, stacks and queues, data structures and algorithms.
* Expertise in writing shell, bash and python scripts for automation testing and unit testing of the software.
* Good knowledge on UNIX Inter Process Communication like Pipes, Message queues.
* Experience in debugging and troubleshooting complex issues using debugging tools like GDB,GNU and DBX
* Experience in network programming with TCP/IP protocol and multithreading
* Experience in implementing software on singleton, factory, observer and façade design pattern.
* Experience in developing C++ Class test framework using CppTest, GoogleGmock testing framework and Boost Unit Test.
* Experience in automation testing of the software implemented using shell scripting.
* Good Exposure in tools like MUTT, pMax, JIRA, Clarity, Panther GUI, Eclipse - C/C++
* Experience in SQL query handling in DB2.
* Experience with C++ and Python SDK
* Experience in all phase of software development life cycle - requirements gathering, requirements analysis, design, test cases creation, development, unit testing and maintainence
* Worked in Agile and Waterfall methodology.
* Experience in handling hotline calls (24\*7 production call support) troubleshooting issues in production environment and providing temporary/permanent solutions
* Experience with source code version control systems such as GIT, SVN, CVS
* Experience in guiding, mentoring and training junior engineers as well as conducting review meetings.
* Strong business analysis skills in creating new business rules and variables for fraud prevention and detection - and defining functional requirements for digital wallet payment initiatives and customer facing applications
* Experience of working with multiple teams and in an independent environment
* Very clear and direct in written and oral communication
* Well versed in all phases of the software development life cycle with a strong working knowledge of algorithms and data structure
* Knowledgeable in HTML5, CSS3, Javascript and AngularJS framework
* Knowledgeable in Core Java programming.
* Familiar on Google Test Framework
* Possess strong technical and analytical skills and effectively uses it to resolve issues/bugs.
* Always open for learning new technologies to meet project requirements
* Ability to learn quickly and be productive in new areas.

**TECHNICAL SKILLS:**

**Programming Languages & Scripts:** C, C++, Python, Core Java, shell, JavaScript, JDBC, Servlet, JSP, JSTL

**Operating Systems:** Sun Solaris, IBM AIX, Red Hat Enterprise Linux, Ubuntu.

**OOAD:** UML, Design Patterns

**Protocols:** TCP/IP, UDP, CAN, SNMP, KWP2000, LIN, RS 232, GMLAN, KWP

**Databases:** Oracle, Microsoft SQL Server, IBM DB2, SQLite and MongoDB

**Libraries & Frameworks:** STL, BDE, IPC, multithreading, sockets, heap allocators, Google Mock signals/event handling, SOAP web services, Software Design, Quick FIX, OOP/OOD, Design Patterns, Google TestBuild Tools: Bitbake, Yocto, Jenkins, cppCheck, Coverity, Make, ANT

**Tools:** emacs, eclipse, UML tools, MS-Office, Splunk, Jira, Open Grok

**Simulation Tools:** Verifix, Labview, Cadence, Pspice, Hspice, Synopsys, Xilinx, dSPACE HIL

**Configuration Management tools:** GIT/GitHub, SVN, CVS

**XML Parsing tool:** Xerces

**Development Packages and SDKs:** Universal Windows Platform/Windows Runtime, WinInet, .NET Framework, MFC Library, MS DDK, MS Native SDK, MS Win32 SDK, ATL and STL

**PROFESSIONAL EXPERIENCE:**

**Ford motors, Michigan**  **July 2022 – Till date**

**Sr. C++ Developer**

**Responsibilities:**

* Design, develop, and test embedded software applications using C/C++ programming languages.
* Implement software solutions for various automotive modules, such as engine control, transmission control, infotainment, advanced driver assistance systems (ADAS), etc.
* Participate in defining the software architecture of embedded systems, including communication protocols, data flows, and interfaces.
* Collaborate with system architects to ensure efficient integration and communication between different embedded modules.
* Develop and optimize device drivers for various hardware components, sensors, actuators, and communication interfaces.
* Ensure efficient and reliable interaction between software and hardware.
* Develop software that meets real-time requirements, ensuring timely execution of tasks and critical functions.
* Implement scheduling algorithms and manage task priorities for time-sensitive applications.
* Implement safety-critical software features in compliance with industry safety standards (ISO 26262 for automotive).
* Integrate software modules into the embedded system and perform integration testing.
* Develop and execute unit tests, integration tests, and system-level tests to ensure software functionality and reliability.
* Optimize code for memory and processing efficiency to meet the constraints of embedded systems.
* Profile and analyze software performance to identify bottlenecks and improve overall system responsiveness.
* Implement CAN protocol to make communication b/w components with car.
* Participate in code reviews to ensure code quality, adherence to coding standards, and proper software practices.
* Collaborate with cross-functional teams, including hardware engineers, testers, system engineers, and product managers.
* Work closely with vehicle manufacturers to align software with hardware requirements.

Environment**:** C++11, C, Design Patterns, Python, Sublime Text, Jira, GitHub, PyCharm, Microsoft Visual Code, Linux, Bash/Shell Scripting, JIRA, Boost, Dlib, POSIX threads, OOAD, gdb

**United Airlines, New Jersey Dec 2021 – June 2022**

**Sr. C++ Developer**

**Responsibilities:**

* Involved in requirement analysis, design, coding, and implementation.
* Design and software coding using C, C++, multi-threading, and data structures.
* Algorithms in different OS environments like WINDOWS, LINUX.
* Lead the 2-member team to develop the features and helped team members in resolving technical issues.
* Participated in the scrum meetings give status of tasks, schedule and update the status.
* Handled multiple modules, areas, and modes (GUI, CLI, iCLI and configuration file mode) of HPSUM Application.
* Handling Linux and Windows Server deployment issues alone. Implement features like Firewall in stl
* /windows, Command line support, heart beat mechanism and product optimization etc.
* Implemented Identify command in C\C++ on Linux 32 bit and 64-bit environment to identify the devices and hardware.
* Supported C++ testing framework to improve automated testing.
* Worked with developers to design tests to test new functionality and replicate bugs to improve automated test scripts.
* Programming and Changing UI screens using C++/QT, Used multi-threading and thread synchronization extensively.
* Documented testing framework and worked with international team to expand framework to provide functionality which was not yet implemented.
* Code reviewed changes and created JIRA entries to track and resolve issues.
* Fixing Quick issues and tracking the Issue management tool.

**Environment:** C, C++ (Vdersion-11), Java, STL, SQL, Perl, Windows, REST, Shell Script, Clear case, Linux, Clear Quest, KDevelop, Doors, Agile Scrum

**Amgen, Fremont, CA Jun 2020 – Nov 2021**

**C++ Developer**

**Responsibilities:**

* Test Stand (Front-End tool to verify and validate different models of automotive ECUs). Developed in VC++ using MFC and Win32 APIs on Windows XP, the application provides a UI, which controls electro and electro-mechanical activities of ECU, initiates and controls the CAN, K-Line and LIN communications with ECU. Provides a platform for Test Team to validate ECU lot.
* Designed and implemented exceptionally effective calculation to ascertain information to send crosswise over radios from car to connected vehicles/gear.
* Developing the LIN communication module and LIN's interaction with related CAN commands using VC++
* Developed parsing of ECU commands, captured in xls document, using VC++.
* Designed LIN module class diagrams using Rational Rose.
* Interaction with Test team at plant and supporting them in testing with the tool.
* Debugging Test Stand application directly in plant.
* Capturing ECU measurement data with Vector Canapé software and verifying measurement data under different scenarios simulated from ECU load box.
* Creating and modifying ECU command sequences in xls documents that are given as input to Test Stand tool technologies
* Windows XP, VC++, MFC, CAN and LIN protocols, Vector Canalyzer.
* Software design and development of advanced embedded HMI and abstraction layer for GM Sync 3.2. V2 infotainment system.
* Involved in Software design, development and maintenance, Perform design and code reviews.
* Translating automotive infotainment designs from Python into implementations in C++ and QML using QT 5 and Linux
* Designed Coded and Tested conversion of advanced embedded touch screen software for an infotainment system written in python to QT 5 /C++ using QT Data Models and custom QML views.
* Worked with Technologies: Python, QT, QML, C++, QNX and UML.
* Development of high level driver interfaces for miscellaneous analog and digital I/O in C on a UNIX platform utilizing the ClearCase CM tool suite and GNU compiler.
* Debugging driver interfaces utilizing Lauterbach tool suite.
* Development of CAN TX and RX interface software in Vector DaVinci.
* Analyze and edit CAN signals and message lists using Vector CAN db++.
* Maintaining requirements and message lists in VSEM/Team center
* Develop OpenXC applications in Java and C#
* Design, develop, integrate, and test HMI software in a GM car.
* Fixed hard bugs in HMI software
* Technologies used include: C++, QT, QML, JavaScript and JSON
* Extensively used the repositories like Github and SVN.
* Worked with automated configuration management/code management systems or application life cycle management system such as Microsoft Visual Studio ALM.
* QNX audio drivers (TDM interface, S/W decoder), system drivers (SPI, I2C, I2S, HMI interface) development
* Leading end to end execution of project involving review of Shell/Perl/Awk scripts to automate systems.
* Involved in performing code reviews in C++, Python and Shell scripting languages for moving into development on various UNIX, LINUX operating systems.

**Environment:** C, C++, OOAD, STL, CAN, VC++ Integrated Development Environment and Debug Tools and Windbg. Windows, Windows CE,Win32 API, Freescale Code Warrior IDE, JDGUI SUITE, Xoreax IncrediBuild Mercurial HG,Python, Microsoft Visual Studio 2005, Ultra Edit, PC Lint, ISG Lab SIM 4.0, Google Test, Code Collaborator, Rally and DeereVPN.

**Motion Auto, New York, NY Sep 2019 – Jun 2020**

**C++ Developer**

**Responsibilities:**

* Worked with design and development of a Group of Trading applications used by Security Finance division. The applications handle the securities lending activities of Capital Markets including security borrows, loans, and REPO trading. These applications are developed on 3-tier architecture (Client, Server, and Database) using C++, STL, Rogue Wave, Oracle, MQ, log4cpp on Solaris and Red Hat Linux (RHEL 5) which work in tandem with SunGard's Martini platform which is an industry standard for Securities lending and REPO applications. Responsibilities include working with business users and back office team in understanding requirements, design, development, testing, deployment and production support.
* Designed, developed, tested and deployed a position loader for loading settled positions into the database. Utilized C++, BDE, STL, and thread pool to achieve optimal design efficiency.
* Designed and developed a Mark-to-Market application to mark the securities with market prices to evaluate the collateral margin exposure. Utilized C++ templates, OO Design Patterns. Developed new locate modules (to match short sell trades) using C++, Oracle on Solaris and Linux.
* Developed a Real-Time application that transmits the trading activities to settlement systems using FIX, to back office vendors which are eventually sent to DTCC for clearance. Utilized C++, STL containers, BOOST and algorithms for achieving an abstracted design. Designed and coded a settlement reconciler that generates a list of unsettled and partially settled trades to downstream settlement systems for reconciliation.
* Designed and developed new C++ modules for sending open contracts to Equalled for reaching price agreement with counterparties.
* Designed and developed C++ programs for borrowing shares from fully Paid customer positions.
* Python Scripts were designed and developed for Data Import/Export and Conversions.
* Used Test driven approach for developing the application and Implemented the unit tests using Python Unit test framework.
* Designed a Web Interfaces for test application using Java that validates the results in web version.
* Enhanced the exposure reports that explain in detail the exposure involved at various levels in a trade(security, counterparty, currency etc.)
* Utilized C++ and Oracle. git was used as the Source Control tool.

**Environment:** Embedded C, C++, Python, Java, Singleton design pattern, Observer pattern, FIX protocol, MQ, Solaris, Linux, STL, BOOST, Thread Pool, TCP/IP, SOAP services, caching data and IPC.

**Novo, Cary, NC Jan 2017 – Aug 2019**

**C++ Developer**

**Responsibilities:**

* Initiated a comprehensive issue tracking process that improved communication and issue resolution for cross - functional teams and senior management.
* Shared the ideas to meet the future market demands for the existing and new products. And, created the open platform discussions within the organizations for ideas sharing and brainstorming.
* Reviewed codes in Shell Script, Pearl, Python, AWK, C++, PL/SQL & T-SQL; created subprograms, procedures and functions, DB triggers, cursors and optimization techniques for T-SQL.
* Worked on Embedded environment using QT-QNX interfaces.
* Led the migration of historical data to client; fine-tuned SQL & database, generated reports for management, etc.
* Designed and developed solutions using C, C++, Multi-Threaded, Shell Scripting.
* Using PVCS Version Manager as code repository and PVCS Tracker as Defect management system. Using Oracle SQL Developer for Database Activities.
* Developed and executed Perl, Python shell scripting programs
* Peer reviews of the Design and Source Code (C, C++, and Shell Scripts).
* Develop and Execute the Module Test Cases on Unit and Integration Testing environments.
* Support System Testing, Acceptance (UAT) Testing and Production changes. Debugging and Troubleshooting production issues.
* Responsible for Development/Enhancement, bug fixing as well as Production Support.
* Involved in writing PL/SQL part depends upon user requirements.
* Analyzing, designing and implementing change requests for the C/C++.
* Analyzing the Dependencies of Web Sphere Systems on Mq-Series Qmgrs.
* Responsible for Administration of Q mgrs in MQ-Series.
* Involved in writing optimization techniques for more accuracy of Macros in C/C++, C and C++ routines and Oracle SQL, PL/SQL.
* Developed communication protocols such as TCP/IP, SSL/TLS, HTTP for Financial Applications
* Wrote Shell/Perl/AWK scripts for Production Systems. Used Oracle and Sybase as the backend databases.
* Provided support for internal business process and responsible for communicating detailed technical information and providing technical assistance to customers, systems, and management and external sources.
* Provided on Call Support for Critical Production Problems.
* Coordinating with End Users with version releases.
* Experience in Continuous Integration, Test Driven Development, Jenkins, PTC Integrity, SVN
* Involved in customer query resolution and maintenance of the messaging products like MQ series.
* Responsible for project lifecycle documentation and day to day status reports.
* Maintaining Quality measures as per the agreement policy.

**Environment:** C, C++ (Vdersion-11),Python, Java, Unix, STL, SQL, Perl, PRO \* C, REST, Shell Script, Clear case, Linux,CORBA, Win32 SDK Clear Quest, KDevelop, Doors, Agile Scrum, Solaris,Sybase-TSQL, Oracle, Sun Studio 7 (Forte -Cross Environment), MQ series, UNIX, Linux, SQL-Loader, Toad, C++.

**Standalone IT, India Jan 2014 – May 2016**

**Software Engineer**

**Responsibilities:**

* Assist in developing automation script for our various platforms (Web, MWeb).
* Responsible for web logic administration, maintenance and performance tuning using Java
* Wrote Firmware/Fcode drivers in C for various SCSI and Gigabit-Ethernet hardware products Firmware for a bootable serial ATA device, which uses Sil 3112A chip.
* Work as a product client team developer on a variety of platforms including Windows, UNIX and Linux distribution using C/C++.
* Worked with a team of developers to analyze project requirements and add functionality to existing C/C++ applications and SQL databases, such as reading in claims in different formats from different sources, checking for errors, and converting them into a standard format.
* Created Proxy for Client Application using SvcUtil tools and used as Service Reference.
* Designed and developed DCA software for D400 product in C/C++ using TCP/IP and UDP programming whose primary function is polling and provision of information from several Intelligent Electronic Devices installed in the substation.
* Developed device management software in C/C++ using TCP/IP and UDP programming that provides potential issues with set points of configured devices and to identifies if protection elements and fault diagnostic reports are enabled for selected devices.
* Managing the configuration and controlling the code version using subversion.
* Designed many UML diagrams in Magic Draw for generating C++ code on the fly.
* Used Embedded Coder for translating models into model source code and executable in QNX Real Time Operating System(RTOS) single-tasking mode.
* Writing the assembly language program and debugging