**Software Developer Sandeep Srivatsa**

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**Professional Summary:**

* 5 years of experience in SDLC including requirement Analysis, Design and Coding, Analytic programming, Application Implementation using **C++ and C**.
* Worked in development Application/Middleware in embedded environment with modern C++ concepts and best practices, with demonstrated fast adaptive ability in gigantic and modern code base.
* Developed as a multi-threaded, object-oriented, 3-tier client/server application.
* Use common data classes and component classes are shared between the Client and Server applications.
* Efficient in developing C++ applications on RTOS using **Constructors, Uniform utilization, Null pointer, R- value** expressions for keyword like auto, **STL** containers.
* Expertise in developing multithreaded network based client-server applications.
* Worked with IBM components like **IBM MQ,** **IBM visualizer, IBM DB2/2, IBM visual age C++ for OS/2**.
* Expertise of designing embedded systems with various micro-controllers **PIC, ARM, AVR** and exposed to different compilers, debuggers and IDE's like **Microchip MPLAB, Code warrior**.
* Used **Python** for Embedded boards with ARM processors and RAM (On Linux and VxWorks).
* Worked on embedded development using **QT interface** with **QNX** development area - QNX audio drivers (TDM interface, S/W decoder), system drivers (SPI, I2C, I2S, HMI interface) development.
* Worked extensively on multi-threaded codes using embedded **RTOS**.
* Handled different embedded communication buses **Canape, MODBUS, Canalyzer, Lin** module.
* Proficient in developing **Web Services**, related technologies & frame works**: SOAP, REST.**
* Experience in Debugging, Test Case Design and Defect Management.

**Technical Skills:**

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| **Programming Languages & Scripts**  | C++, C, Shell scripting , Python, HTML, CSS, JavaScript |
| **Operating Systems** | LINUX, UNIX, Windows |
| **OOAD**  | UML, C++ Design Patterns |
| **Protocols** | **TCP/IP, UDP, CAN, LIN, GMLAN, NTCIP, TLS, SSL** |
| **Databases & Data Formatting tools** | SQL, T-SQL, XML, JSON |
| **Libraries**  | STL, BDE, IPC, sockets, Seastar, Boost Libraries, QP, ETL, Distortos |
| **Build Tools & CI CD** | Jenkins, cppCheck, Dockers , Containers |
| **Tools** | MS-Office, Splunk, Jira, SOAP UI, Jmeter, Putty |
| **Simulation Tools** | LTspice, Matlab |
| **Version Control** | CVS, GIT/GitHub, SVN, TFS |
| **Cloud Technology** | AWS -EC2, S3, Elastic Load Balancer (ELB), API-Gateway. |
| **Architectures & Frameworks** | MVC, MicroKernal, Google Mock, .NET |
| **Web services** | SOAP, REST |

**Professional Experience:**

**Role: Application Developer Mar 2019 - Current**

**Client: UPS (United Parcel Service), Timonium, MD**

**Responsibilities:**

* Data to application includes customer orders that originate from many Customer Service Applications within UPS.
* Development with C++ coding on windows platform and involved in Software design and maintenance, perform code\ peer reviews.
* Making enhancements on **Data Shaping** (which belongs to SQL) using visual studio, SQL and Visual source safe.
* Development of legacy functionality into new strategic applications using C++ 11 and 14 which incorporate N-tier architecture and Database connectivity.
* Migrate the legacy code which will fetch Data in Flat Record Sets and then being processed in C++ to make it hierarchical as per requirement.
* Used **GUI** programming facility and **IBM DB2 embedded static SQL** precompiler.
* Developed OpenXC application for extension of few files relate to Legacy application used the repositories TFS and Azure DevOps.
* Worked with automated configuration management/code management systems or application life cycle management system such as Microsoft Visual Studio ALM.
* Used FTPS and SFTP to uploading to the server remotely over a secure and encrypted connection.
* By incorporate **SSH.NET** by executing the mentioned command in package manager console.
* Created an object of **Sftp** Client and provide connection information parameter in different overload that pass **host, port, username, password** directly into the constructor.
* Created and Verified Web services API requests, SOAP Protocols.
* Worked on creating SSL certificates for application and used for changing database connections from TLS1.0 to TLS 1.2.
* Used REST when basic integration is required over HTTP protocol and for existing W3C to configuration setup.
* Performed Web services testing using **Soap UI** and performance functional testing of REST APIs using **Jmeter.**
* Refactored existing monolithic application by identifying components that needs to be transformed to **Micro- services** architecture, with **REST** and **AWS API-Gateway** .

**Environment**: C++, .NET framework, SQL, Data Shaping, Java Script, FTPS and SFTP, Azure DevOps, Visual Studio, TLS, TFS, Micro services, Multithreading.

**Role: Embedded Software Developer Aug 2017 – Feb 2019**

**Client: General Motors, Atlanta, GA**

**Responsibilities:**

* Designed and implemented exceptionally effective calculation to ascertain information to send across the radios from car to connected vehicles/gear LIN module class diagrams using Rational Rose.
* Participating in discussions with ECU firmware development team and enhancing the tool accordingly.
* Implemented Python test scripts on Embedded X-scale processors run for a device called BusRadio.
* Communication and socket protocol **TCP/IP, UDP** working knowledge of **CAN and NTCIP.**
* Capturing ECU measurement data with Vector Canape software and verifying measurement data under different scenarios simulated from ECU load box.
* Used Python interpreter on VxWorks in order to make command line shell to execute Python scripts which uploaded to target flash.
* Software design and development of advanced embedded HMI and abstraction layer for GM Sync 3.2. V2 infotainment system.
* Development of high level driver interfaces for miscellaneous analog and digital I/O in C++ on a UNIX platform utilizing the Clear Case CM tool suite and GNU compiler.
* Worked on Embedded SQL with Pro\*C on Oracle system compiling by using of Oracle\_Home and LD\_Library\_Path and using Boost Libraries
* Standing a support for implicit buffering of a single unit INSERT statement for executing in loop and involved working in improve the performance of dynamic SQL statements.
* Analyze and edit CAN signals and message lists using Vector CAN.  Maintaining requirements and message lists in VSEM/Team center.

**Environment**: Embedded C++, OOAD, Linux, QT and QML with QNX, Inheritance, CAN, Free scale Code Warrior IDE, Ultra Edit, PC Lint, ISG Lab SIM 4.0, Google Test, and Code Collaborator.

**Softsol, Hyderabad, India Sept 2013 – June 2015**

**Role: Software Engineer**

**Responsibilities:**

* Development of SDLC system using C++ code with OOPS concept.
* Writing shell & Perl scripting to reduce hands-on administration.
* Designing multithreaded server that received and processed acknowledgement messages from downstream applications regarding event data pushes using C++, STL, multithreading, shell scripting and UNIX.
* For development of UI using JavaScript with event handlers and fetching data using SOAP web service.
* Used XML to create web based tools for transactions on SQL databases.
* Debug the web applications to rectify the errors that surface during the operations.
* Involved in shared memory management to store the advisor's data.
* Develop and Execute the Module Test Cases on Unit and Integration Testing environments.
* Participated in the development of a multithreaded publish/subscribe process which consisted of several subscriptions and push servers using C++, STL, multithreading, shell scripting and UNIX.

**Environment**: OOPS concept, C++, STL, Linux, multithreading, Python, Shell Scripting, SQL, SVN, event handlers, Observer Pattern, thread pools.

**Education**:

 **North Western Polytechnic University**

* Masters (United States) in Electrical engineering in December 2016.