Srini Jagarla

Senior C++ Developer

srini.jagarla@gmail.com 7327620924

## Experience Summary

* Senior software developer with 7 years of experience in **Automotive embedded and Multimedia Domain**.
* Strong knowledge in **C++, OOPS concepts, Design principles & patterns**.
* Knowledge of advanced level programming in C++ including **shared pointers, thread synchronization multi threading, multi-processing, concurrency, and TCP/IP Socket Programming.**
* Good knowledge in **STL, data structures and algorithms**.
* **Strong knowledge in GUI& HMI libraries like Qt/QML, wxWidgets**.
* Experienced in **FFmpeg multimedia framework** for demuxing tracks from media container and decoding media data.
* Experienced in **Cryptopp library** for encrypting and decrypting of media data.
* Experienced in **PYTHON** for data manipulation, creating xlsx files, creating pdf documents.
* Experienced in **set top box** development.
* Working experience in **OpenGL**.
* **Mobile application development using Android SDK, Retrofit, Butter Knife, ExoPlayer, Json and JNI.**
* **Porting Qt Application on Andriod and Mac**.
* Configuring **Jenkins** for compilation issues checking, daily build to QA team and production release of application.
* **Experienced in writing scripting(shell or bash, batch, power shell)**
* Experienced in database programing using **SQL**.
* Participating in code reviews.
* Investigating and integrating third party libraries.
* Well experienced in maintaining a software product and bug fixing.
* Experienced in **Agile software development methodologies and Jira**.
* knowledge of .NET FRAMEWORKS and C#.

## Technical Skills

|  |  |
| --- | --- |
| Languages | C, C++, JAVA, PYTHON, OpenGL, UML |
| GUI Libraries | QT, QML, wxWidgets |
| Tools and Technologies | Microsoft Visual Studio, Eclipse, Android Studio, DotNet,  FFmpeg, Cryptopp, Boost, Electron, Xpdf, JNI, Aspera Sdk,  Jenkins, JIRA, Enterprise Architecture, Valgrind, Acronis |
| Database | Sql Server |
| Operating System | Windows, Linux, Mac, QNX |

**Professional Experience:**

**Prime Focus Technologies** **Oct 2015 – April 2017**

**New York**

**Sr C/C++ Consultant**

**Set Top Box Application Development**

Summary: This project is media ERP solution for media Production Houses which produce state of art multimedia content. This product enables them to analyze, maintain, edit and view their data on a 4k TV connected to a STB (set top box) using an HDMI port.

Responsibilities:

* Setting up an environment for embedded application using Intel NUC Kit and ubuntu server and some custom packages installation like x-server, pulse-audio.
* Configured startup services for launching application during machine is up or machine restart or application crash.
* Used acronis for creating ClearIMAGE for backup the data from setup box and restore in other boxes.
* Used Draw.io for designing of application diagram like use case diagrams, block diagram, high level diagram and low level diagrams.
* Login module which has standard login, multi factor authentication, forgot password, update password and look screen features.
* Auto upgradation of the applcation used for upgrading the application automatically instead of manual build replacement.
* Integrating XPDF library to extract images from pdf file and displaying in viewer using image viewer.
* Integrating ffmpeg library for demuxing of media container and decoding of media data.
* Integrating Cryptopp library for encrypting and decrypting of media content.
* Rendering video data using OpenGL.
* Download media content like audios, videos, playlist, images and documents using network manager.
* Managing offline data using SQL server.
* Porting application into windows, mac and android(configured android sdk and ndk to Qt for building application for android)
* Used C++ STL containers, algorithms in the application.
* Used C++11 concepts in the application.
* Used Singleton design pattern for sharing common data throughout the application.
* Used Factory method design pattern for offline of media data such as audios, videos, playlists, documents.
* Used facade design pattern for library integration into main application.
* Used mediator design pattern for communication between the objects.
* Used observer design pattern for communication between the objects which are present in with in the thread and different thread.
* Used composite design pattern for differentiate between video file and playlist container in media
* Used SVN for source code control, followed Agile and Scrum Methodologies.
* Worked on Performance Improvement &memory leakage.
* Used jenkins build setup for continuous integration and build manage for daily builds for QA, production release.
* Involved in bug fixing the issues that are identified.

Environment: C++11, Python, QT, QML, OpenGL, STL, SQL, JSON, BASH Scripting, Embedded, Cmake, SVN, Linux, Windows, Mac, Android

**Clear Android Application**

Summary: This project is media ERP solution for media Production Houses which produce state of art multimedia content. This product enables them to analyze, maintain, edit and view their data.

Responsibilities:

* Login module in android application.
* Exoplayer integration for playing media content like M3U8, MP4 and MP3.
* Secure HLS playback support in android application.
* NanoHttpd server integration for streaming local files.

Environment: JAVA, Android SDK, ExoPlayer, Retrofit, Butterknife, Linux.

**HCL Technologies Feb 2015 – Oct 2015**

**Bangalore**

**Sr C/C++ Consultant**

**In-Vehicle Infotainment (IVI)**

Summary: The aim of the project is to provide information and entertainment in the car, information is like navigation which make driver to act better and entertainment like playing songs videos ext.

Responsibilities:

* Implemented features like media player with 25 HMI different screens like tracks, artists, albums, Media home etc.
* Used UML for designing of application diagram like use case diagrams, block diagram, high level diagram and low level diagrams.
* Language translation in runtime using tr function and custom translation for specific text based on client requirement.
* Integration between QML and C++.
* Creating custom item and exposing to QML.
* Used C++ STL containers, algorithms in the application.
* Used SVN for source code control, followed Agile and Scrum Methodologies.
* Worked on Performance Improvement &memory leakage.
* Involved in bug fixing the issues that are identified.

Environment: C++, QT, QML, UML, STL, Automotive embedded, Linux, QNX

**DEP India Pvt. Ltd April 2012 – Feb 2015**

**Chennai**

**C/C++ Consultant**

**Meshworks Product Development**

Summary: It is a path breaking software that enables the user to rapidly change an existing FE / CFD Mesh into a new target shape without having to redraw it in CAD System. Mainly used by the automotive industries. It contains hundreds of functionalities to ease the tedious process related to FE / CFD.

Responsibilities:

* GUI development using Qt/Qml
* we have developed a GUI Engine, It will read the script file, and based on script data it will generate GUI.

It has following tasks.

1. Developing GUI Engine

2. Writing script files

* Communication between JAVA App & C++ App using JNI.

Wrapper class in C++ which will internally call’s java code.

Creating DLL project in C++.

Calling native methods in java using DLL.

* Automation Testing,This will help to automate the testing of the Meshworks functionalities, User record the Meshworks session which will create automation script file, we can use the script to play the session back automatically.
* Automation script is nothing but a step-by-step event performed by user.

There are many test automation tools already available in the market but the critical thing is those tools are unable to understand the openGL canvas which is the main interface for user inputs.

* Manpulate data using python scripts like Setting Unicode string throughout all CPP files, Modifying existing data with new data, Adding new line to all CPP files.
* Screen recording using GWAVI.
* Used C++ STL containers, algorithms in the application.
* Used WinCVS for source code control, followed Agile and Scrum Methodologies.
* Used Singleton design pattern for sharing common data throughout the application.
* Used Factory method design pattern for creation of meterials, properties, components and nodes.
* Used facade design pattern for library integration into main application.
* Used mediator design pattern for communication between the objects.
* Worked on Performance Improvement &memory leakage.
* Involved in bug fixing the issues that are identified.

Environment: VC++, Java, JNI, Python, QT, QML, STL, GWAVI, Automotive, Windows, Linux

**Designer FrameWork Development**

Summary: Created a designer framework like a dotnet, which help to create GUI using

Drag and drop options, binding controls to MeshWorks functions, defining process to controls.

The main objective of this project is sometimes need to execute series of functions frequently

In that case user has to go each and every specified function panel then setting dependencies and executing, instead of that user can create designer panel and bind to desired functions.

Responsibilities:

* Toolbox which contains list of supported controls.
* User panel which help to drag and drop the control from toolbox , and we can

Set the properties like name, label, map to function, define process for controls.

* Process Manager from which we can define process by selecting desired

Functions, we can set properties for function like input dependencies and output

Dependencies.

* Msf support for functions.
* Reading and writing functional dependencies in xml.
* Reading and writing designer info resource file.
* Designer panel from there we can read the designer resource file and Execute the functions.

Environment: VC++, QT, QML, STL, XML, Windows, Linux

**Data manipulation using python**

Summary: Developed python scripts for data modifying and adding data to existing data.

Responsibilities:

* Setting unicode string in the place normal string throughout all CPP files.
* Creating xlsx files using python.

Environment: Python, Windows

**Sixbase Technologies March 2010 – April 2012**

**Vizag**

**C/C++ Consultant**

**Communicator**

Summary: The aim of the project is to provides online text message and video chat services. Users may transmit both text and video messages and may exchange digital documents such as images, text, and video.

Responsibilities:

* Login module for login into the application.
* Displaying contacts list from web server and search for contact.
* Language translation in runtime using tr function and custom translation for specific text based on client requirement.
* Integration between QML and C++.
* Creating custom item and exposing to QML.
* Used C++ STL containers, algorithms in the application.
* Used SVN for source code control.
* Worked on Performance Improvement &memory leakage.
* Involved in bug fixing the issues that are identified.

Environment: C++, QT, QML, UML, STL, Windows

**EDUCATION**

Bachelor of Engineering in Electronics & Communication Engineering with 70%, Jawaharlal Nehru Technological University, Andhra Pradesh, India – 2011

XII in M.P.C with 89%, Sri Chaitanya College, Andhra Pradesh, India – 2007

X with 81%, Sri Venkateswara School, Andhra Pradesh, India – 2005