Srinadh

**Executive Summary**

* **6 Years and 1 Months** of experience in design and development of applications and middleware for embedded system in **C and C++.**
* Proficiency in automotive in-vehicle network protocols like **CAN**.
* Hands on experience with scripting language like **CAPL** and **Perl**.
* Strong knowledge in **Data structures and algorithms**.
* Hands on experience on **Linux internals**.
* Expertise in **RTOS system programming:** IPC mechanisms, synchronization, Multithreading, process Management, memory management, file management and Socket Programming.
* Strong experience in writing **Make** files.
* Having excellent Debugging skills by using **GDB** tool.
* Familiar with tools like **CANalyser5.4**, **Canapé**, **canoe**, code composer studio, codewarrier used extensively in development of Automotive embedded applications.
* Good experience in integrating **open source** components on to target hardware.
* Good experience on Entropic STB chip sets and Qualcomm SOC’s.
* Experience in Power Profiling and Optimization Qualcomm Chipsets.
* Worked through all phases of SDLC from Requirement Analysis, Design, Coding, Work breakdown & Time Estimation, Unit and Integration Testing.
* Quick to learn and adapt to new environments, methodologies and software.
* Practised agile methodologies like SCRUM for project management

**Technical Skills**

|  |  |
| --- | --- |
| **Languages** | C, C++, Core Java |
| **OS** | Linux, Android, QNX |
| **SCM** | GIT, SVN, CVS. |
| **Compiler** | GCC |
| **Cross Compiler** | ARM cross compiler |
| **Debugger** | GDB, Valgrind, Strace |
| **Tools** | Eclipse IDE, Android Studio, Qtcreator, Glade-2.0, Ctags, Cscope, Source Insight, adb, JIRA, GERRIT, Mantis, Microsoft Visual Studio.NET 2003, Microsoft Visual C++ 6.0, Power Measurement tools (XERXES,KRATOS),UML. |
| **Utilities** | Make |
| **Processors** | Entropic STB SOC’s , Qualcomm Chipsets |
| **Others** | Linux Shell Scripting |
| **Concepts** | OOPS, UML, Linux system programming and Linux Char device drivers. Linux kernel module programming, Multi-threading using POSIX threads and synchronization, IPC and RTOS concepts. |

**Project Details**

**#1.Instrument Panel Cluster**

**Client:** Valeo – Hampton, VA

**Duration**: May-2015 to Till Date

Instrument Panel Cluster (IPC) is a hybrid cluster, it contains the electronics and software necessary to display driver information, infotainment data and provide control relative to the operation of the vehicle and infotainment system in the vehicle. The cluster subsystem consists of the cluster, steering wheel controls.

**Responsibilities:**

* Developed “Functional Units” (Speech, Telephone, Center Stack HMIetc).
* Implemented MOST interfaces to read data (different data formats) from MOST and supply data to the HMI (notify) to display in LCD.
* Generating K2L code using K2L MAG Tool for the given Function Catalog.
* Integrating auto generated K2L code with FU code.
* Integrating HMI interfaces (FIL) with the FU code.
* Testing using the following tools: CANoe, MOCCA Tool, K2L viewer, GM ACS simulation, GM RestBus Manager,
* Fixing the SCRs (Software Change Request).
* Used Mini Cube debugger with MULTI to fix issues.
* Performed Build Manager role
* Involved in Code Reviews.
* Code Optimization
* Triaging and Fixing the bugs related to Phone app, Audio APP.

**Tools and Technologies:**

C, C++, OSEK (RTOS), GHS Compiler, CM Synergy, Change Synergy, CANoe, MOST, K2L MOCCA, K2L Viewer, K2L MAG Tool, GM ACS simulation, GM RestBus Manager, .

**2. Infotainment – Gstreamer Multimedia Framework**

**Client:** Valeo – Hampton, VA

**Duration**: March-2014 to April-2015

This project aims at the development of rich features on HMI in Linux environment and Android environment by using Gstreamer Multimedia framework to demonstrate the capabilities of Entropic’s SOC for STB.

**Responsibilities:**

* Integrating & Porting Gstreamer on to Set Top Box in Linux and Android(ICS) environment.
* Design and implementation of Gstplayer middle module.
* implementation of Multilingual audio support for TS files(multi track switching support)
* Design and Implementation of the closed caption feature via Gstreameraqnd OMX.
* Worked on OBIGO browser playback related issues
* Have added the SRC/Destination scaling, HLS and Neon Https rc features onto STB by using Gtsreamer Framework.
* Added the audio/video renderer properties like interlace, audio mute/video mute, content frame rate, audio output port configuration(HDMI/SPDIf --- passthrough and decode mode)
* Supporting of MP3 audio and wave playback
* Involved in pre-rolling support and customizing the GstOMX forTunnelling.
* Customizing GST playbin2 plugin and fixed the related issues
* Bug fixing and maintenance support
* Supporting RDK media player framework applications and fixing the issues.

**Tools and Technologies:**

C/C++, Linux, Gstreamer, OMX IL, Gst-Openmax , Make, GCC, GDB, SVN,Entropic SOC’s, Android.

**3. SYSTEM INDICATOR**

**Client:** Sasken Technologies – India.

**Duration**: Feb-2013 to Jan-2014

The System Indicator (SI) is designed and developed for industrial environment conditions with highly integrated communication facilities like Ethernet, USB, and RS232/RS485. SI is equipped with advanced features, a high degree of flexible configurations and ability to be customizable at the installation site to the specific requirements of customers. The main objective of the device is to provide automation which suits various applications like data acquisition, dynamic check weighing, shipper weighing etc.

**Responsibilities:**

* Design and development of firmware to interface microcontroller with external load cell to get the weight data.
* Design and development of firmware to interface microcontroller with LM6800 Graphical LCD.
* Design and development of firmware to interface microcontroller with VINCULUM device for serial to USB conversion to store logged records in Pen drive.
* Design and development of firmware for generating various reports.
* Design and development of firmware for driving various peripherals.
* Testing and debugging.
* Following SCRUM process.
* Assign the task to the team.

**Tools and Technologies:**

C/C++, Windows XP, ARM-7 based LPC2378, KEIL IDE

**4. Media player on MeeGo**

**Client:** Sasken Technologies – India.

**Duration**: Jan-2012 to Jan-2013

The application involves the development of two major components, user interface engine and application engine. The User Interface Engine included the man machine interaction components and modules that enhanced the Look and Feel of the application. The Application Engine interacts with the Audio/Video Utilities provided by the MeeGo OS Multi Media Frame Work. The application features are:

* Basic player operations like Play, Pause stop and next.
* Video/audio recording.
* Seek operation on the playing media file.
* Playlist creation and most played recently played lists.
* Streaming Video Support

**Responsibilities:**

* Prepared the PRD
* Involved in the Design of Sasken Media Player
* Design and Development of Playback module
* Integration of the application.
* Involved in Code Reviews
* Prepared the test cases.
* Setup of MeeGo 1.1 environment on Ubuntu 10.04.

**Tools and Technologies:**

C++, Linux, Qt, Qtcreator, Make, GCC, GDB, SVN, MeeGo.

**5.Telemedicine Platform**

**Client:** Mindtree Technologies, India

**Duration**: June-2010 to Dec-2011

The telemedicine platform is based on TI Digital Media SoC DM6446.

Use case scenario of the platform is: This can be used as a Set Top Box kind of device, used in a rural area, assisting the rural people to consult the specialist over the Network. In this regard this box helps in registering a patient, creating a case sheet for the patient, capture the medical data such as ECG, BP, heartbeat, blood oxygen content etc. Such device can be interfaced with the box to collect the vitals and can be attached to the patient case sheet. Application also provides transferred the live ECG data to specialist doctor while video conference going ON. This box also provides the video conference scheduling with the specialist and acts as a video conference box. Video conference happens over TCP/IP network. Application is developed using TI DVEVM evaluation board. Custom board is also developed based on this and the software is ported on it.

**Responsibilities:**

* Prepared the GUI requirement document.
* Designed the GUI module, prepared HLD and LLD.
* Design and development of GUI module by using Gtk framework
* Developed EMR transfer module using libcurl framework.
* Implemented the session management for video conference between TCC and TSC.
* Developed Error module.
* Taken the Ownership of integrating the all modules like UI,EMR transfer, Videoconference, Medical device Interface and error module.
* Involved in Design reviews and Code reviews.
* 100% adherence of the SVN configuration management tool.
* Prepared the customized UI screens for the client.

**Tools and Technologies:**

C/C++, Linux, Gtk 2.0, Gstreamer 0.10.20, Curl 7.19.2, Make, GCC, GDB, SVN,

TI-Davinci DM6446 EVM.