CURRICULUM VITAE

Name : *Kiran Venugopal*

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Total Experience : *3 years*

OBJECTIVE:

To work in challenging frontiers that provides opportunity to learn key technology areas, be an effective team player in developing innovative projects and to be an asset for the organization by delivering to the best of my capabilities.

EDUCATIONAL DETAILS:

COURSE	INSTITUTION	BOARD/ UNIVERSITY	YEAR OF PASSING	%age OF MARKS OBTAINED
ENGINEERING (B.E Information Science/ Technology)	Dayananda Sagar College Of Engineering, Bangalore	Visvesvaraya Technological University, Karnataka	2007	82.75
PUC(12^{TH})	Rural PU College, Kanakapura	Pre University Board, Karnataka	2005	91.67
SSLC(10^{TH})	RMPHS, Kanakapura	State Board, Karnataka	2003	80.32

ACADEMIC PROJECT:

Project Name	WIRELESS REMOTE ACCESSING SYSTEM
Platform	WINDOWS/LINUX
Language	JAVA
Duration	6 MONTHS
Team Size	4

Description:- Wireless remote accessing system focuses on a server managing many clients in a network using the Wi-Fi medium. Here the server detects the active client nodes in the network and performs various remote operations on these client nodes of the network through RMI (Remote Method Invocation) without any human intervention at the client side. The Wi-Fi router is used as a backbone for the communication between the server and various client nodes. The RMI registry serves as a connector between the server and clients**.**

The modules in this project are:-

- Adding new nodes
- Analyzing the network
- Remote task execution
- Remote Java properties
- Remote file sharing
- Checking remote platform
- Shutdown remote node

TECHNICAL SKILLS SET:

Operating Systems	Ubuntu, Embedded Linux, QNX,ThreadX
Languages	C, C++,Java
Databases	SQLite, DB2
Subject knowledge	Software engineering, Data structures and Algorithms, Operating systems, Computer networks, Theory of Computation, Computer Architecture, Embedded Systems.
Technologies	UPnP, DLNA, MirrorLink, VNC, RTP, TCP/IP , XML , HTTP,Airplay.
Tools	Visual Studio, Eclipse, FreeScale's LTIB tool, WireShark, Git, SVN, Makefiles,LauterBach's TRACE32 Debugger.
Industry experience	3 years+ experience in Embedded Systems 2 years+ experience in Automotive Infotainment 1 year+ experience in Semiconductors/Consumer Electronics

Key Skills	Best experience in Product Design & Development. Hands-on experience with Middleware SDKs Design & Development, Multi-threading, Multi-process creation & communication, Synchronization, Socket Programming, Database design & query, Board bring-up, Porting libraries & SDKs into new hardware, ARM Debugging ,Full SDLC experience.

Professional Experience:

Current Employer: ***MicroChip Technology India Pvt Ltd***
Designation: ***Software Engineer -1***

Project :- Implementation of DLNA TrickMode and support of JukeBlox Platform.

JukeBlox is an RTOS(ThreadX) based comprehensive Networked Audio Player SDK.
The various features of this SDK are: USB/MTP Playback, iPod/iPhone/iPad Playback, Internet Radio Streaming, UPnP/DLNA Streaming(ie, DMR), Apple AirPlay streaming, Music Services(Pandora,Last.fm, Rhapsody,Napster,Sirius), FM/AM, Whole Home Audio etc.

Role:-

- Porting open source Apple Airplay SDK into Jukeblox platform.
- Supporting critical customer issues related to JukeBlox SDK.
- Implementation of 'DLNA Trickmode guidelines 2014' for DMR & DMP.
- Porting of UPnP/DLNA Stack over IPv6
- Currently working on

Previous Employer: ***AllGo Embedded Systems Pvt Ltd***
Designation: ***Software Engineer***

Project 1:- MARS (Multimedia Automotive Reference Software)

MARS (Multimedia Automotive Reference Software) is a Linux based car radio reference software. The various features of this Middleware platform is as follows:- Audio/Video Playback of compressed and uncompressed content, Audio Post Processing , Multichannel Audio Playback, Image Decode of compressed and uncompressed Image content,Device connection support, Play Control etc.

Role:-

- Developed XML formatter.
- Written test cases for the MMF(multimedia framework) component.

Project 2:- AllGo Vision (Security Surveillance System)

AllGoVision is an Advanced Video Analytics product unit of AllGo Systems, a proven solution provider for Automotive, Consumer and Security segments.

AllGoVision is a Video Analytics software product for actionable intelligence in security installations. The product provides excellent return on investment for a wide range of applications, including City surveillance, Building surveillance, business intelligence, factory automation, loss prevention, public liability assessments,training, and consumer behavior analysis, monitoring traffic flow, Sea surveillance,Power station surveillance, Oil field surveillance and many more.

Role:-

- Implementation of Guid(Global Unique id) generator for cameras.
- Implementation of Video stitching - getting video frames from a set of n cameras and stitching it together. This involved multi-threaded operation & synchronization.
- Written Boot up script to start the video analytics application (which typically get frames from the camera and send it to the server) automatically on start up of the plug computer which has Debain OS running.

Project 3:- Porting of Media player app and Nokia Terminal mode app onto Freescale's imx53 ard board

Media player app is developed using Qt on top of MARS SDK.

The Terminal Mode solution allows seamless and safe connectivity of Smartphones with In-Vehicle Infotainment (IVI) systems. The Terminal Mode provides a concept for integrating the mobile device and the vehicle head-unit.
In a Terminal Mode context, the control and interaction of applications and services running on the mobile device will be replicated into the car environment. Diverting display and audio output to the car head-unit come together with receiving key and voice control input from it are the main interaction streams.

Role:-

- Ported open source Qt Library and GStreamer Library onto FreeScale's imx53 board running Embedded Linux.
- Ported the media player app & Nokia terminal mode app to FreeScale's imx53 development board running Embedded Linux.

Project 4:- GM Advance Development Work: MirrorLink Serial Protocol Design

MirrorLink™ (previously known as Terminal Mode) has been developed with the objective to provide a technology, offering seamless connectivity between a smart phone and the in-vehicle infotainment(IVI) system.

MirrorLink™ is specified around a set of well established, non-proprietary standards like TCP/IP, Bluetooth,UPnP,VNC,RTP etc.

Role:-

Done the design of following protocols. The protocols are based on various technologies/standards like USB-CDC/ACM,USB-CDC/NCM(USB Driver Classes),PPP(Point-to-Point protocol),TCP/IP,UPnP(Universal Plug n Play),VNC(Virtual Network Computing),RFB(Remote Framebuffer protocol),DHCP,CSS,HDMI etc.

- Technical approach document:- A document that describes the approaches that can be used to design a serial protocol extension to the MirrorLink standard.
- MirrorLink serial protocol :- The serial protocol extension to the MirrorLink standard. Its based on the Terminal mode Common Data Bus(CDB) architecture.
- Style sheet protocol:- A protocol that describes the data object for the MirrorLink standard that supports style sheets. The goal of this protocol is to add a new extension to the MirrorLink protocol to send style sheet information from the vehicle to the device. This style sheet information will include style parameters such as font type, font style, font color, background color, button style, widget1 color, widget1 text color, widget1 border color, widget2 color, widget2 text color, and widget2 border color etc. The protocol will also support both day and night mode variations of the parameters.
- Hardwire video authentication protocol:- This protocol is an extension to the MirrorLink standard. The goal of this protocol is to create a mechanism that the vehicle can use to authenticate a device that is using a hardwire video connection to project graphics to the vehicle screen. MirrorLink currently uses the VNC

protocol to project video, but future releases of MirrorLink will include hardware video options to replace VNC.

Project 5:- RACE (Robust Automotive Connectivity and Entertainment) DLNA DMP SDK Development on Embedded Linux Platform.

Robust Automotive Connectivity and Entertainment (RACE) IVI software suite has been developed for the Connected Car of the future. This media and connectivity solution for the future cars has key components like Multimedia Engine (MME), Smartphone connectivity (MirrorLink and AllGoConnect™) and Cloud connectivity.

The DLNA-DMP(Digital Media Player) module discovers the DMSs(Digital Media Servers) available in the network and allows the user to browse through the contents of the server(supports both File-System and Meta-data based browsing). The user can play them locally. The module supports various play controls like play, pause , next/prev track and also features like album art support,dynamic playlist,play folder,play folder with subfolders etc.

Role:-

Added DLNA-DMP(Digital Living Network Alliance-Digital Media Player) functionality to the RACE SDK

- Done the design, implementation and testing of the DLNA DMP(Digital Media Player) module of the RACE.
- This involved creation of the new process,usage of message queues for interprocess communication,usage of threads,usage of mutexes for synchronization,creation of the database etc.
- Ported the RACE DLNA DMP SDK onto Freescale's imx53 ard board,Freescale's imx53 SMD Tablet and onto Fresscale's imx6x sabre-auto board.

Project 6:- RACE (Robust Automotive Connectivity and Entertainment) DLNA DMC SDK Development on Embedded Linux Platform.

Robust Automotive Connectivity and Entertainment (RACE) IVI software suite has been developed for the Connected Car of the future. This media and connectivity solution for the future cars has key components like Multimedia Engine (MME), Smartphone connectivity (MirrorLink and AllGoConnect™) and Cloud connectivity.

The DLNA-DMC(Digital Media Controller) module discovers the DMSs(Digital

Media Servers) and DMRs(Digital Media Renderers) available in the network and allows the user to browse through the contents of the server(supports both File-System and Meta-data based browsing). The user can play the media files locally and also can render them to a remote DMR(Digital Media Renderer) on the network. The module supports various play controls like play, pause , next/prev track and also features like album art support,dynamic playlist,play folder,play folder with subfolders etc.

Role:-

- Done the design, implementation of the DLNA DMC(Digital Media Controller) module of the RACE.
- This involved creation of the new process, usage of message queues for interprocess communication, usage of threads, usage of mutexes for synchronization,creation of the database etc.
- Ported the RACE DLNA DMC SDK onto Freescale's imx53 ard board,Freescale's imx53 SMD Tablet and onto Fresscale's imx6x sabre-auto board.

Project 7:- AllGo MirrorLink Client SDK Development on Embedded Linux & Porting onto QNX Platform

MirrorLink™ (previously known as Terminal Mode) provides seamless connectivity between a smartphone and the car infotainment system. The MirrorLink technology is developed by CCC(Car Connectivity Consortium).The consumer merely gets into the car , connects the phone with a cable , and immediately gains access to phone applications through car controls such as the navigation screen and steering wheel buttons.

MirrorLink™ is specified around a set of well established, non-proprietary standards like TCP/IP, USB,Bluetooth,WiFi,UPnP,VNC,RTP etc.

Role:-

- Done the design & implementation of entire VNC Client module. Virtual Network Computing (VNC™) is used to replicate the phone's display on the navigation screen and communicate user inputs back to the phone.
- Done the implementation of the Upnp module. Universal Plug and Play (UPnP™) is used for controlled access to applications.
- Done the design & implementation of RTP Client module.

CERTIFICATIONS:

- IBM DB2 fundamentals
- Dynamic skills integrated program : conducted by CIL(Centre for Innovation & Leadership)

KEY STRENGTHS:

- An optimistic and relatively cool-headed person by nature.
- Takes matters in right stride.
- An enthusiastic, dedicated and hard working person.

PERSONAL INFORMATION:

Father's Name	:	Venugopal A R
Mother's Name	:	Ramarathna S
Date of Birth	:	11th APR 1989
Sex	:	Male
Marital Status	:	Single
Nationality	:	Indian
Languages known	:	English, Kannada & Hindi
Phone	:	+919538554844
E-mail	:	vkiran_1989@rediffmail.com / vkiran.11041989@gmail.com

DECLARATION:

I hereby declare that the above written particulars are true to the best of my knowledge and belief. Certificates will be provided on demand.

Place: Bangalore **(Kiran V)**