

# KISHOR LALA

Genesis Apartment, B4-308, Ibalur, Bangalore-560102

LinkedIn profile: <http://lnkd.in/USJ8jP> Cell: [9741633722](tel:9741633722) Email: [krish24in@gmail.com](mailto:krish24in@gmail.com)

## Professional Experience Summary

- Rich work experience in working with complex SoC platforms viz. Ericsson's LTE Modem (M7XXX), ST-Ericsson's ARM based dual core chip ModApp(NovaThor), STMicroelectronics's (Nomadik) and Qualcomm (MSM 5100)
- Vast experience in mobile software development which includes hardware abstraction layers, Middleware, Firmware, UI, Application and Protocol Stack
- Solid experience in Modem adaptation software development on APE and Modem side which includes Android Telephony HAL development, AT Commands and Android Modem Adaptation libraries
- Specialist in Modem integration, supporting different Android APE-Modem interfaces like Samsung's IPC, Renesas's ISI and AT-Commands
- Well familiar with Android architecture, framework (Telephony, Multimedia Framework: Stage Fright, Audio Flinger, Audio Sink and Audio Source module) and Android HALs (Telephony, Audio etc.)
- Worked on Audio Multimedia Middleware Integration, Audio Network Design, Audio Firmware Validation and Audio Firmware Tuning for STM Nomadik AP SoC
- Good exposure to Agile and Waterfall methods of project management
- Demonstrated strong leadership skills with experience in handling a large size project team, ability to form cohesive team environments, ability to set goals and plan towards their successful execution
- Project and program management exposure with good understanding of project execution stages including Requirements, Specification, GAP analysis, Effort estimation, Architecture, Design, Implementation, Prototyping, Unit testing, Production support and Maintenance
- Solid experience in research, development, product commercialization and customer support
- Expertise in customer support, deliveries, driving solutions and working with multi-cultural team
- Versatile team player with ability to work at all levels of software development life cycle

## Education Qualification

- Bachelor of Engineering in Computer Science from LNCT, Bhopal Barkatullah University
- YSM (Young Software Manager) certification from Globsyn Technologies, Kolkata

## Professional Experience Summary

- Senior Technical Lead, **Ericsson**, August 2013 (Transfer from ST- Ericsson)
- Specialist, **ST- Ericsson**, Bangalore April 2011 – July 2013
- Technical Leader, **ST- Ericsson**, Bangalore June 2009- March 2011 (Transfer from STMicro)
- Senior Software Engineer, **STMicroelectronics**, Bangalore Dec 2006– May 2009
- Software Engineer, **STMicroelectronics**, Bangalore April 2004– Nov 2006
- Software Engineer, **L & T InfoTech**, Bangalore Nov 2002 – April 2004
- Software Engineer Trainee, **L & T InfoTech** – Mumbai, Oct 2001 – Oct 2002

## Technical Profile

Programming Languages	C, C++
Operating System	Android, Embedded Linux, Symbian, NOS, Nucleus, REX
Telephony	Android HAL Telephony, AT Commands, 3GPP Specification knowledge for SMS and Cell Broadcast, Network, Packet Data Transfer, ISI, Samsung IPC
Debugger and Test Tools	Anritsu, Agilent, Ntrace, Latte, MMDSP debugger, GDB, MS VC++ debugger, ADS, FIDO, TRACE32, GCOV, Valgrind
Configuration Management Tools	IBM Clearcase, Git, MS Visual SourceSafe

## Major Projects

### ➤ LTE Modem: Telephony Services/Servers Software Development & Maintenance

The goal of the project is to develop and maintain the OEM Modem Adaptation Layer, Telephony SW Backplane Services/Servers (SMS, Dial, Voice Control, CIQ, OPA and SIM) running on LTE Modem.

**Organization:** Ericsson India Pvt. Ltd, Bangalore

**Skills, Hardware and Tools:** C, Git, Anritsu network simulator, M7450

**Responsibilities:**

- ✓ Contributed in Modem Adaptation Layer (OEM Layer for Samsung IPC Commands) development for SMS, CB, NET and other modules
- ✓ Designed and developed 3GPP2 SMS Over IMS feature and provided support for Verizon test case certification
- ✓ Involved in CIQ Translator Code (Metrics mapping correction) update to get ADAPT CIQ certificate

### ➤ High End Android Smart Phone: Modem Adaptation Software Development & Maintenance

Projects involved in designing and developing modem adaptation software, CRs (Change Request from Customer) and fix the issues in modem adaptation framework. Modem Adaptation software was implemented on both APE(Android) and Modem side for the customers using ST-Ericsson's Dual Core SoC platform U8XXX.

**Organization:** ST-Ericsson India Pvt. Ltd, Bangalore

**Skills, Hardware and Tools:** C, Latte, Ntrace, GDB, Git, U8xxx (ARM Cortex A9 SMP Integrated Platform), Anritsu network simulator

**Responsibilities:**

- ✓ Worked as Customer Technical Lead (CTL) of 12 member team, dedicated for ST-Ericsson Telephony/Modem integration and customer support for the various products
- ✓ Responsible for providing the technical assistance to a team dedicated for resolving modem adaptation software issues on various modules (AT Commands, RIL, Telephony Servers, SMS, CB, Call, SAT/SIM etc.) on both Android APE(STELP : ST Ericsson Linux Platform) and Modem side (Samsung IPC)
- ✓ Responsible for OEM software execution and deliveries to customer
- ✓ Customer reported error handling, change request analysis management and development support to the team
- ✓ Responsible for design review and approval of the telephony patches (Gerrit approver)
- ✓ Led the 6 member team responsible for implementing the Cell Broadcast and SMS OEM modules
- ✓ Involved in requirement analysis, design, implementation and unit testing for the Cell broadcast and SMS features
- ✓ Attended in initial integration camp at Suwon (South Korea) and involved in providing the quick solutions for the design and integration issues
- ✓ Platform had great success and ended with commercialization of many phones in the market viz. Sony Xperia Series Phones, Samsung Galaxy S Advance, Samsung Galaxy Ace 2, Samsung Galaxy Beam, Samsung Galaxy S III Mini and some others US based products

### ➤ HTC specific AT Commands implementation at STELP level to access modem functionality

Customer RIL uses the AT Command interface to interact with the Modem. AP module AT Core (Android user space program) provides AT command support to internal and external clients. Project was to implement the customer specific AT Commands to access modem functionality.

**Organization:** ST-Ericsson India Pvt. Ltd, Bangalore

**Skills, Hardware and Tools:** C, Latte, Ntrace, GDB, Git, U8xxx (ARM Cortex A9 SMP Integrated

Platform), Anritsu network simulator

### **Responsibilities:**

- ✓ Led the five member inexperienced team and trained them on telephony architecture, development and debugging methods
- ✓ Technical team lead and also contributed individually in AT commands implementation
- ✓ Acted as technical interface between the multisite and team
- ✓ Promoted to MKR (Module Key Responsible) for AT Core module which involved review and approval of patches submitted from other sites

### ➤ **Android HAL Layer Implementation : A Generic Modem Adaptation Library Implementation for U8500 SoC dual core STE flagship single chip solution**

Objective of the project was to implement a Modem Adaptation Layer based on Nokia WG2.5 modem specification at STELP (ST-Ericsson Linux Platform) level which takes care of providing the necessary adaptations and customizations to the Android Telephony framework.

**Organization:** ST-Ericsson India Pvt. Ltd, Bangalore

**Skills, Hardware and Tools:** C, Latte, Ntrace, GDB, Git, U8xxx (ARM Cortex A9 SMP Integrated Platform), Anritsu network simulator

### **Responsibilities:**

- ✓ Involved in the project right from defining the telephony architectural phase
- ✓ Involved in requirement analysis, design, implementation and unit testing for the feature related to SMS and Cell Broadcast Modules
- ✓ Involved in solving the lab issues and field issues and with regard to this analyzed various logs like APE and Modem logs

### ➤ **NAEC Audio Firmware tuning for Portable Navigation Device**

The NAEC (Noise and Acoustic Echo Control) firmware running on SAA (Audio DSP) firmware combines AEC, ENH and AES effects. In order to increase the effectiveness of AEC, NAEC tuning was performed for Siemens, targeting Nomadik (STn8810) as application processor for a portable navigation product with handsfree Car telephony.

**Organization:** STMicroelectronics Pvt. Ltd, Bangalore

**Skills, Hardware and Tools:** C, STn8810 APE (ARM9+MMDSP), MMDSP tool chain, Cygwin, AXD Debugger, ST MicroConnect, MultiIce

### **Responsibilities:**

- ✓ Involved in writing HCL applications involving various audio network components like DMA, NAEC, Splitter, Sampling Rate Converter etc.
- ✓ Measured the system delay (delay observed between reference and primary signals due to the network elements especially DMA buffers length. Delay taken care by using the pre delay feature in AEC component.

### ➤ **Portable Media Player Development on Nomadik Platform**

Project dealt with changes in SAA Audio MMDSP WMA audio firmware to support the WMA playback of the elementary bitstreams.

**Organization:** STMicroelectronics Pvt. Ltd, Bangalore

**Skills, Hardware and Tools:** C, STn8810 APE (ARM9+MMDSP), MMDSP tool chain, Cygwin, AXD Debugger, ST MicroConnect, MultiICE

### **Responsibilities:**

- ✓ WMA firmware modification to support the elementary bitstreams playback which doesn't contain the pre-defined header
- ✓ Onsite development and provided the fixed firmware release in quick time

- ✓ Involved in debugging the firmware code by using STMicroConnect (STMC), MultiICE and CTE (Common Test Environment) scripts. CTE code runs on Nomadik(ARM side) on top of HCL(Hardware Control layer) and includes a command interpreter which decodes the command triggered from scripts on host side

#### ➤ **Beatnik Audio Player Integration on Nomadik Platform**

Project involves the integration of the software based Audio System "MobileBAE Beatnik Audio Engine" library with the Symbian 7.0s Multimedia Framework and showcases the audio playback functionality on Nomadik using SAA.

**Organization:** STMicroelectronics Pvt. Ltd, Bangalore

**Skills, Hardware and Tools:** C++, Symbian, Nomadik Reference Kit

**Responsibilities:**

- ✓ Build the Beatnik library and understand the reference implementation
- ✓ Modification of the MobileBAE's PAL(Platform Abstraction Layer) module to interface with the DevSound (Symbian MDF component)
- ✓ Modification of the Symbian MDF component's i.e. DevSound to integrate it with HW Device Plugin

#### ➤ **Graphical MMI implementation for China Unicom Handset using Qualcomm 5100 ASIC chip**

The project scope involved in design, development, integration and testing of MMI tree of mobile.

**Organization:** L&T InfoTech Pvt. Ltd, Bangalore

**Skills, Hardware and Tools:** C, REX, ADS, MSM5100 ASIC

**Responsibilities:**

- ✓ Integrated Audio 40Polyphonic Yamaha Y762 chip middleware software and third party games with the MMI
- ✓ Involved in designing and implementation of MMI for Sound, Volume Control, Browser and Game Menu
- ✓ Involved in live CDMA2000 network testing at customer premises (Korea)

#### ➤ **CDMA2000 Protocol Stack Development and Testing**

Goal of the project was to design & development of Layer 2 of CDMA2000 protocol stack i.e. LAC, MAC & RLP. It also involved the implementation of SMS Stack for UMTS & CDMA 2000.

**Organization:** L&T InfoTech Pvt. Ltd, Bangalore

**Skills, Hardware and Tools:** C, VC++, Nucleus

**Responsibilities:**

- ✓ Actively contributed in the requirement analysis and designing of LAC sub layer procedures
- ✓ Contributed in writing main Handlers and supervisory functions for common and dedicated channel transmission.
- ✓ Involved in writing RACH State handlers and packing-unpacking of L3 Layer messages
- ✓ Performed testing of LAC Sublayer common channel transmission

### **PERSONAL DETAILS**

Date of Birth	:	1st July, 1979
Gender	:	Male
Languages	:	English, Hindi, Sindhi
Nationality	:	Indian
Marital Status	:	Married