

M V Shrish

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Senior Engineer – Blue Jeans Network, Media Team, Bangalore

Profile

Senior Engineer with 3.5 years of experience in developing rich multimedia applications and solutions. Experienced in complete product development, from proof of concept to consumer launch of Multimedia and VoIP based products on Android. Worked across multiple teams and technologies and familiar with agile development methods.

In short, **an engineer with a 'do whatever it takes' attitude.**

Technical Skills

- Proficient in C, C++ and Java
- Familiar in developing media and network based applications on Android based systems.
- Worked on the complete Android stack, ranging from Hardware and middle modifications to UI programming.
- Deep knowledge in audio programming on multiple Android platforms.
- Familiar with developing Android apps that uses Http client, Database management and Media rich content.
- Familiar with the tools such as IDE(Eclipse), Wireshark, Audacity, VIM, Xcode
- Active contributor in various tech sites and forums: [Github handle](#) [Stackoverflow handle](#)

Work Experience

Tribeway – Social Bonding App: (April 2013 – March 2015)

Was part of the core team that conceptualized, developed and launched “Tribeway” application – A social networking application on Android which enables users to share content, talk and interact with others – all in real time ([playstore link](#)).

Role and accomplishments:

Application prototyping:

Worked on the initial proof of concept and prototyping for multiple features which includes: music sharing over VoIP, interactive doodling during a video call, device screen sharing.

- Designed and developed the core framework modules like JNI layers, network layers, media engine layers and in the process gained knowledge about JNI, audio and video codecs, SIP, device discovery using ICE, STUN, data transmission using TCP/UDP, acoustic optimization and bandwidth adaptation

Music sharing:

- Developed an interactive music sharing feature on the app where participants of a session can add music files to a global playlist and stream music independent of their location.
- Helped achieve superior stereo audio even during poor network by Dynamic Bandwidth Adaptation.

Picture sharing:

- Developed picture sharing feature on Tribeway where participants in a session can share pictures from their devices and also talk and doodle on the image in real-time.
- Developed an image grabbing and rendering module using OpenGL on Android, which is the core part of the picture tribe. A unique way of transferring pictures using the video pipeline was developed and perfected.
- Instant transmission of image was achieved using multi-resolution and codec parameter tweaking.

Camera sharing:

- Developed live tribe feature for the app where participants in a session can snap and share images instantaneously while continuously having a conversation.
- Developed a custom camera application for the same which had a unique PIP feature along with touch to focus and rotation handling.
- Helped to achieve best voice and image quality in poor network and notifying the user of the current network condition.

Android Application Development:

- Was involved in the design and development of the Tribeway Android application, which included the state machine, http client module, database module and UI programming.
- Collaborated with multiple teams to achieve the desired UX in the most efficient manner.
- Developed story upload feature. Here the complete workflow of image selection, cropping, uploading and cacheing was designed and developed in a short time. A unique feature was that the images are stored in the users google drive account and the cost for having a database storage was eliminated.
- Was involved in critical bug fixes that ensured a stable release and updates to the google playstore.

Android and Multimedia: (July 2011 – April 2013):

Was part of the multimedia systems team, which provided platform and middleware support to various projects of Ittiam. Worked closely with video communications and acoustics teams for multiple projects and helped to achieve the desired quality and performance.

Senior
Engineer

Roles and accomplishments:

Abstraction layers for audio and video:

- Developed abstraction layer for audio and video (capture and play out) for Linux and Android based systems. This enabled smooth porting of multimedia application (VoIP based) into Linux based systems and multiple Android devices.
- Developed a platform independent audio and display driver using Android NDK and OpenSLES, which helped in making the applications truly portable across Android devices.

Low latency solutions on Android:

- Developed a low latency solution for audio capture and play out used for video communication application on a custom Android device, increasing the acoustic performance and lower latency. The solution was used in multiple projects and was one of the main USP for the video communication application on Android.
- Developed an Audio module that abstracts platforms and Echo cancellation algorithm, thereby providing 'clean audio'. This enabled a simpler design for the audio pipeline in VC application.

Audio beam forming solution:

- **Developed a custom audio abstraction layer on Android, for 4-channel, low latency audio capture and playout used for beam forming application, integrated with VoIP App for superior acoustics. The product was an ahead of market concept and was showcased at the CES show on January 2013.**

Broadcast systems BSP and platform support:

- Developed a solution for Booting DSP chip over PCIe link. Developed a data transfer queue between two processors (Shannon and Netra) over PCIe. Was showcased at NAB show 2012, leading to multiple design wins.
- Developed Memory interface driver and mechanism to transfer data between main board and audio transcode daughter board with DSP chip to FPGA.

Internship at Broadcom: (January 2011 – June 2011)

- Worked with the system testing team responsible for complete testing of network switch chipset (Katana DV).
- Learnt different aspects of design verification and testing in the process.

Awards and Achievements

Received multiple awards and recognitions through the course of my career:

- Presented a hack prototype for road quality mapping and was voted as one of the top ideas in a Hackathon conducted by In50Hrs (October 2014)
- Received the 'Spot Award' for contributions towards the successful beta release of Tribeway app (June 2014)
- Was selected as one of the top three product prototypes (FordAlert) in a hackathon conducted by Ford motors (December 2013)
- Was recognized as one of 'Key contributors' for enabling Ittiam achieve greater success (October 2013)
- Presented a tech-talk on "Design for audio beam forming on Android" in Ittiam. (February 2013)
- Received the 'Spot Award' for outstanding contributions towards achieving the desired quality of the acoustic beam forming solution demo at CES 2013 (January 2013)

Education



Pre University College (2005 - 2007)
St Aloysius P.U. College, Mangalore - Science 87%



Under Graduation (2007 - 2011)
PES University, Bangalore (formerly PESIT) – Bachelors in Electronics and Telecommunications – GPA - 8.4

Other certifications and courses:

- Completed a workshop on "iOS application development basics" conducted by Exilant Technologies Pvt Ltd.
- Attended software engineering training conducted by SWEBOK and IEEE
- Attended "Joy of Engineering and Design" (Jed-i) training conducted by IISc.
- Currently studying an online course on "Cloud programming for Android based systems" in Coursera
- Currently studying an online course on "Machine learning- Theory and coding" in Coursera

Interests

- Participating in Android meetups, hackathons, seminars, etc to be in synch with the developments in the industry
- Experimenting with various forms of creative art – from charcoal painting to graphic designing. (Received numerous prizes and recognition in various art competition throughout my schooling and engineering)
- Learning new skills – at the moment learning to surf , spoken German (Deutsch) and strumming the guitar