# MAYANK SHARMA

*ENTREPRENEUR AND SOLUTIONS ARCHITECT*

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## Profile

Over 16 years of experience in designing, building and delivering software products with varied complexities. I have engineered solutions for mobile phone applications, wearable embedded devices, consumer and enterprise web applications. I am a hands on technologist, self starter and a problem solver.

## Skills

### Technical Architect

I have architected software products using various technologies. I have experience in Networking protocols, Embedded engineering, Mobile applications, Web Applications and Cloud technologies. I have designed distributed, multi tenant and scalable solutions.

### Project Management

I have experience in hiring, coaching, mentoring teams for a project. I have defined development and testing processes for smooth development and delivery of products. I follow agile principles for product development.

### Passionate Programmer

I love to open VIM and start writing code anyday. I keep solving and small complex problems by churning out quick code. I keep learning new languages and platforms. Elixr being the latest.

## Technologies

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|---|---|---|
| Ruby on Rails | C/C++ | Databases |
| Python | Linux Kernel | Broadcast Media |
| NodeJS | Embedded Programming | Location Services |
| HTML5/JS | ARM SoC | Bluetooth |

## Education

**Indian Institute of Technology - Delhi, 2000**
Computer Science & Engineering — **7.43 CGPA**

**Kendriya Vidhyalaya, Uppal - Hyderabad, 1996**
Higher Secondary School — **95%**

**Kendriya Vidhyalaya, Uppal - Hyderabad, 1994**
Secondary School — **92%**

**Machine Learning on Coursera by Andrew NG**
https://www.coursera.org/account/accomplishments/verify/UGB3F8YF55A8

## Experience

**Amagi Media Labs Private Ltd.**
Systems Architect, CLOUDPORT

Oct 2012 - Til Date

https://www.youtube.com/watch?v=dW-Ior75Lio

Amagi provides cloud based infrastructure to manage and run a complete 24/7 TV channel. This infrastucture is named CLOUDPORT. Amagi started this project in 2012 with just me in the team. Over the 4 years I have built a team of 30 passionate engineers to develop and enhance this product. During this time we added 15 customers and 30 channels are running using this solution across the globe.

I have played various roles at different times during the development of this product. Started as a solo developer and took roles of product management, product evangelist, customer support and technical architect. I travelled to various customer locations across the globe for product evangelizing, demo and customer on boarding.

The core infrastructure is a Ruby on Rails application and peripheral applications written in Python and NodeJS consuming the REST API exposed by the core component. The Web application is created using Angular JS. It has a real time log analysis engine to determine the health and playout status of more than 100 playout servers streaming their logs.

The application manages terabytes of customer content. It moves them from customer premises to the cloud and then to edge playout servers using WAN accelerated transfer. Ensures content integrity, security and storage reliability. It

dynamically uses spot instances to process the content in the cloud for Quality checks, proxy video creation etc..

The application allows customer to upload, edit or create a playout schedule from scratch. It monitors the playout of the edge servers as per the schedule and generates alerts on aberrations. Customer can see in real time on the dashboard the playout status from various edge locations.

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## ONZE Technologies Pvt. Ltd.
### Co-Founder and Director of Engineering
Oct 2010 - Sep 2012

ONZE's flagship product Latlong provides direction on SMS. It solves multiple challenges such as (a) providing directions which are India specific, (b) packaging it in just the right way for consuming on SMS and (c) Unambiguously determining user intent inspite of spelling mistakes.

I joined ONZE as a co-founder to head the engineering. My responsibilities were to take the Latlong platform forward, productize it and scale it for a much wider and multi-channel use cases.

- In its initial form Latlong was a C++ application daemon. Multiple such daemons were being run and incoming SMS requests were handled by a self designed queue and multiplexed to available daemon. I designed a **new architecture** using nginx, beanstalkd and Ruby on Rails as front-end and converting C++ daemon to a ruby native library.The new architecture drastically increased the service uptime and reduced the flakiness of the system. We also were able to reduce latency and run the same application on an affordable server.

- I designed a **SaaS solution for Latlong's business customer** using which they could track how end consumers are using our platform for locating their nearest stores. They could also use this platform as a Route Guide to their customers.

- I conceptualized and developed an offering called **Latlong 360** over the existing platform. This helped business customers to use our service not only on SMS, but also as a Website plugin (Online Store Locator), Facebook widget (Facebook Store Locator) and a branded mobile application for locating nearest store.

- I developed a location aware form called **GeoForm**, which uses HTML5 browser location or GeoIP to determine users location and reduce ambiguity in providing location in online lead generation forms.

- As part of marketing initiative, wrote and maintained company's blog, newsletters to customers and created a brief product pitch to customers by getting the design outsourced.

- Spearheaded ONZE's request to **TRAI (Indian Government)** in granting Latlong exemption from the draconian NCPR guidelines against unsolicited SMS. This required constant follow-up with the TRAI advisor and meeting the government officials in New Delhi 3 times in a span of 4 months.

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## Various Startups
### Solo Entrepreneur
Oct 2009 - Sep 2010

During this phase I experimented with a lot of Mobile based solutions which could enhance a consumer experience. Each one of these ideas was designed and developed on the lines of a Lean Startup. I single handedly developed the entire product. In some cases I also signed up businesses for a pilot. Met and demonstrated the product to a lot of Angel investors and VC's. For different reasons, mainly business wise, had to conclude these ventures to their logical end.

- **SmsTweet** - Tweet your status by a single SMS to a non-premium mobile number. I created this application on Google App-engine and using Smsgupshup to host the virtual number. This was launched around the same time as Twitter announced its partnership with Airtel and brining in the same use case in India albeit on a short code and only for Airtel customers.

- **Mobile Classifieds** - Publish your classifieds along with public information in newspaper as usual but with a unique code. Readers can download the classified along with some private information for example your mobile number, price etc.. by texting the unique code. This lets consumer track how many people are interested in their listing and can switch it off as and when the sale is made. Talked to Admag, DNA, Times Group as potential partner. Ran a pilot with Dainik Jagaran's hyper-local weekly called City Plus for 4 months.

- **mCoupons** - A convenient way to carry any discount coupon or a gift voucher securely on your mobile phone. Redeem it partially or re-gift to someone else. Talked to Shopper's Stop for possible partnership.

- **mLoyalty** - Replacing card based loyalty programs to a very simple, no nonsense and flexible mobile loyalty system. Convenient to both businesses as well as consumers. Talked to Metro and couple of multi store outlet for running a pilot.

- **Revu.in** - Allows a business to let its customer share their experiences with a simple SMS. The SMS could directly update the users Twitter/Facebook status and help the business get a word of mouth buzz on social media. Piloted with Egg Factory, Oye Amritsar, Tibbs Frankie etc...

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## Zebu Consulting Pvt. Ltd.
### Partner and Lead Engineer
Apr 2009 - Sep 2009

Zebu was started on the lines of Small Giants where we would work on stuff that we enjoy the most. This marked my switch from Embedded Engineering to Consumer (web) applications.

We created Dog-Earz http://dog-earz.com to create content rich newsletters in under 30 minutes. A single application where you could discover new content/news, Shape it the way you want to, Share it with your contact list and analyze what your audience is reading. This is when I learnt Ruby on Rails.

I used Twitter API, storing tweets with links and determining trending news around your circle of influence. Experimented with something called Twitter Rank on the same lines as Google Page Rank to establish the popularity of a Twitter User.

## SiRF Technologies Pvt. Ltd.
Staff Engineer

Jan 2006 - Mar 2009

SiRF acquired Impulsesoft in Dec 2005 to add Bluetooth to their portfolio. SiRF was a market leader in providing GPS chips and was developing a single chip solution for GPS and Bluetooth. I got an opportunity of writing low level Linux drivers, Optimizing core functionalities of the application by leveraging the underlying hardware and an opportunity to work with a team spread across geographies.

- Designed a ROM program for SiRF SoC which would help the processor boot in various hardware configurations. This program had to be 100% bug free as it could not be changed once the chip's were fabricated.
- Developed Linux BSP for ARM based SiRF SoC which would be used by customers to develop Navigation devices. This was a heterogeneous SoC with ARM9 as the main application processor and two ARM7 running GPS and Bluetooth stack on them.
- Developed a **Inter Processor Communication** (Not Unix IPC) for the application processor of the SoC to interact with the GPS and Bluetooth processors.
- Ported Gstreamer framework to SiRF SoC to utilise the on board ImgTech multimedia processor to decode audio and videos in real time. This enabled the usual Linux multimedia applications to run without any changes seamlessly without loading the main processor.
- Designed the low level framebuffer driver for SiRF SoC to seamlessly display content either from the main application processor, or the multimedia processor or the 3D graphics engine, along with translucency and over layering.
- Participated in the Bluetooth SIG for spec'ing one of Bluetooth low power profiles.

## Impulsesoft Technologies Pvt. Ltd.
Tech Lead

Sep 2002 - Dec 2005

My first brush with startup culture where I got to learn about programming and entrepreneurship the most. We ported Linux kernel on multiple embedded hardware that we designed (we called them Personal Access System). We ran our Bluetooth stack iBTStack on various devices with varying memory and CPU restrictions. We were market leader in providing an efficient Bluetooth stereo solution. Most of the early Bluetooth headset in the market were either designed by us, or were running our Bluetooth stack on them.

- Hacking Linux kernel and porting it to an ARM based device.
- Creating Board Support Package (BSP) for these new devices.
- Familiarity with Bluetooth Protocol and participating in spec'ing couple of profiles.
- Running complete Bluetooth stack on an embedded device with no OS.
- Designed a **Bluetooth Watch**, which gets paired to your mobile phone and alerts you on incoming call or SMS. This was a fully functional watch in the same form factor as a regular wrist watch.
- Developing rudimentary UI application on Linux as well as Windows mobile phone to display capabilities of iBTStack and Stereo application.
- Working with teams across geographies. Israel, Japan, Korea and Taiwan for example.
- Fixing bugs in a hybrid usecase. The craziest being a Windows mobile phone streaming compressed music to a Bluetooth stereo headset running at a clock frequency different from the other.

## Mindtree Consulting
Senior Software Engineer

Sep 2000 - Aug 2002

I started my career at Mindtree working on Voice over IP and Telecom protocols. GMCP and SIP were still in the RFC stage when we developed a Voice over IP application merging both these protocols. On 3G side, I worked on RRC layer for a client which later got acquired by Cisco.

- Implemented a VoIP client using both GMCP and SIP.
- Learnt Java and Design Patterns by Group of Four.
- Demonstrated ownership by developing an automated unit testing framework in Perl on which most of RRC commands could be tested in a jiffy.

## Achievements

- Scored 134 Rank in IIT JEE, 1996
- Qualified for state level Physics Olympiad, 1996
- Awarded best incoming fresher at Kumaon Hostel, IITD - 1997
- Awarded Spot Award in Mindtree for creating an innovative solution for testing and reducing many man-weeks to couple of hours, 2001
- Featured in City & Citizen section of Times of India for "Helping you find your way through SMS", 2012

## Hobbies & Interests

- Sharing opinions and knowledge on my personal Blog - http://mayanks.me.
- Consulting friends and others running startups in an informal way.
- Reading and following Technologies and Startups.
- Traveling, Reading, Watching Plays and Movies.

## Personal Information

### Date of Birth

13'th Jun 1978

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