Vikrant Singh

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Summary: Software developer with 15+ years of experience in web backend & desktop application development.

Key Skills:

Languages	Scala, Go, C++
DB/Tools/Frameworks	Grpc, Postgres, Ebean ORM, Play Framework, Nginx, Zookeeper, Curator, Typesafe, SBT, git, svn, bugzilla, jira

Qualification:

Executive General Management Program from IIM, Bangalore (In cooperation with Yahoo!, Inc.)
B.E. (Computer Science) from REC Jaipur (National Institute of Technology, Jaipur).

Experience Details:

Meta Platforms Inc, MenloPark CA

April 2019 to till date
Technology used: C++, Python, Thrift

Node API Team
Node API (current team), is meta's privacy aware ORM, used by various products (like instagram) & services (like payment).As these services and product are implemented in various languages, Node API supports them via a polyglot code generation system. I worked as a tech lead for Native Rules initiative. Privacy in NodeAPI (& meta) is expressed in terms of schema, rules and policies. Native rules is an initiative to implement these rules in nodeapi project, (instead of customer product). Project involved implementing a native rule evaluation mechanism, providing an easy to use interface to product developers and onboarding the first few customers.
I am also working on Plug and Play storage adapters , which is an initiative to simplify onboarding new storages on Node API.
Along with the above two I envisioned,planned, launched and ran an initiative called "Investigation Demo" to help the team increase operational excellence.

RP Audio Team
RP (Remote Presence) Audio team(my first team in meta) is a messenger client team responsible for maintaining good audio quality for messenger audio video calls. Messenger Clients (iOS/Android/Web) uses webrtc to enable audio/video calls. Webrtc is an open source library , and messenger uses a customized version of webrtc.
I worked as a tech lead for No Audio investigations. These are the complaints where customer reports missing audio in a call. I played an instrumental role in identifying the scope of the problem and then narrowing down various problematic parts (like signaling, ios call kit, stall etc). I also helped in identifying one critical problem in signaling which was causing a No Audio problem. Before moving to the Node API team I was able to create a core XFNgroup of engineers (from different parts of RP org) to help them in setting up a road map of No Audio investigation.

KeepTruckin, San Francisco
April 2019 to till Jul 2020

Technology used: Scala, Go, Grpc ,Postgres, Ebean, Sbt, Play, Microservices, RoR etc

Working as a Senior S/W Engineer for Freight Backend Team for projects like Freight Management System(FMS), Smart Load Board (SLB), Freight Load Tracking(FLT).

I joined KT for a project named FMS, which is Freight Mgmt System. It was written in Scala with a playframe work project. I joined them as the first Scala expert. When I joined them the team was working on this project but was not writing true scala style code. So after working on

my own tasks , I spend a lot of cycles on the grooming team to write better scala code . Later in the cycle I did the first integration for this project. This was really satisfying work for me as I had to do a lot of investigation and testing under tight timelines. There were challenges because of Play Framework and some hard coded dependencies between grpc setup for java.

Later I worked on a Project named FLT - where I implemented a microservice in Golang. This microservice was used as a template for other golang based services. This implementation is being used as a template for other services within the team.

At present I am working on SmartLoadBoard. I am playing more of a tech lead role there. 70-75% of my time goes in coding, while rest of my time goes with Customer Meeting (this is an external facing service) and negotiating & fixing API contracts, Design Documentation etc.

Chutney Config Server (personal project)

Dec 2019 to till date
ChutneyConfigServer - https://github.com/tuachotu/ChutneyConfigServer
(**Technology used**: Scala, Grpc, curator, zookeeper)
A Highly Available Config Server.
"Chutney" is a config server which provides following features
- Stores Config for its client (BE & FE) in key value pair
- Exposes GRPC interface to set/read configs. Can be used by FE/BE in same way.
- Can push config updates to clients
- Super Fast Reads- configs cached in memory, access is only a grpc call away
- Read and Write are separated to avoid accidental modifications
- Very lightweight (MVP < 400 lines of code)
- Modular Data Store can be replaced others*

Yahoo, Inc., Sunnyvale

January 2015 to April 2019
Technology used: Scala, Sbt, Zookeeper, Nginx, Mysql, Microservices, Message Brokers, rpc etc

Worked as Tech Lead for messenger backend. I handled components like Provisioning & Service Discovery, Reverse Proxy, Dynamic Application Config, Dynamic User Routing, GDPR and Deploy CI/CD etc.

I was transferred from Yahoo India to Yahoo US in 2015. Yahoo was working on a new platform for messenger and I was moved to help in that effort. New platform was being developed in Scala. So that's the time I moved from C++ to Scala. New platform was suppose to replace an old platform which was active in production serving a very successful product (messenger) . We were a small team of 8 engineers, so we took ownership of a few components. I got Service Discovery , Reverse Proxy, and ZkMaster (a component which provides maximum uptime guarantee for the platform). I enjoyed working on them. I am proud to say that it turned out to be one of the most stable components of the overall platform. We used Zookeeper, Nginx to build this, while the programming language was Scala. After going live.. I also took care of enhancing this system to support Dynamic User Routing & Config Mgmt.

Later I worked on GDPR, ASC, etc which involved integration with Yahoo's message broker CMS, (outsourced as Pulsar). Lastly I also contributes significantly on how to set up local and production dev env. It was the simplest setup for an env I have worked on.

Yahoo, Inc., Bangalore

(August, 2010 to January,2015)
(**Technology used**: C++ LAMP)
Worked on Messenger Backend & Small Business hosting Backend. Some of the features Include Group Text Conference (GTC) Implementation, Sherpa Service for Messenger Backend, Bug Fixing & Colo migration etc.

Yahoo Messenger Backend.
Group Text Conference (GTC) Implementation for Messenger Backend. GTC is Yahoo Messenger next generation conference feature. I was leading this effort, and participated from design, prototyping to launch.
Sherpa Service for Messenger Backend. Developed a service Interface which will be used to store business critical data on Sherpa for Yahoo Messenger
Messenger COLO Migration - Migrating Messenger platforms from one data center to another, without disturbing live traffic.

Yahoo! Small Business

Yahoo! Small Business provides services such as Yahoo! Domains, Yahoo! Web Hosting, Yahoo! Merchant Solutions, Yahoo! Business Email and Yahoo! Store to small business owners and professionals allowing them to build their own online stores using Yahoo!'s tools.

Following are the APIs I have developed for hosting-
- Counterstat API for Merchant Dashboard
- Downgrade/Upgrade API for Platforms Team
- Hosting Limits API
- Dashboard provisioning status API

Wordpress Upgrade for Yahoo Small Business - Yahoo Small Business Hosting product provides a feature of one click installer for Yahoo Web Hosting Customer. To keep customer updated with the latest version of wordpress blog, the hosting team needs to keep upgrading the new installer, themes & plugins.

Site Builder Security Issue - Site Builder is Free Downloadable Web Site building tool. Site Builder runs on desktop, and interacts with servelet running on Site Builder box. It is a Fixing Site Builder Security Issue involving a local fix in tomcat binary. As code for this fix was not available we have to decompile the code, and reintroduced it in new tomcat.

RHEL Migration For Hosting, Geo Cities End Of Life

HP ISO, Bangalore
April 2009 to August 2010

Technology used: C++   : Worked on the HP Openview Current Product Engineering team and was incharge Log file Encapsulator component.

HPOM (HP Operation Manager)
HPOM (HP Operation Manager) is a distributed client-server software solution that helps system administrators detect, solve, and prevent problems occurring in networks, systems, and applications in any enterprise. HPOM is a scalable and flexible solution. The HPOM management concept is based on communication between a management server and managed nodes. Management server processes running on the central management server communicate with HPOM agent processes running on managed nodes throughout the environment. On the managed node side there is different software available in HPOM family which can be used depending on the customer requirement. Some of them are like PA, EA, RTM, RTMA & Glance.
Here EA stands for Event Action Agent which monitors the node on the basis of the event occurring on the node.

Logfile Encapsulator Windows Event Channel
Logfile Encapsulator is one of the components of HP EA. It is used to monitor a log file (Can be an application log file, system log file etc) and if there is a change in the log file it takes necessary action. Using this we can also monitor windows Event Logs. From windows vista…Microsoft has changed the way we deal with event log. They have introduced the concept of Event Channels and an altogether new framework to read information from them. My task was to add the support of win2k8 event channels in the Log file Encapsulator Component. I was working as an individual contributor for this.

HP Agent One (Version 11, NEO) Licensing Framework
Till Version 8.x of EA Agent customer has to buy different licenses to use different components out of the choices available. With these licenses he gets the installer of particular components. This makes the entire process a bit troublesome for customers (which involves different upgrading scenarios which involves dependency among the licenses) .Version 11.0 of the Agent is an effort to remove this issue. Along with the other features in this release, it also packages all components together which are controlled by a licensing framework. At customer end one or more or these components are activated depending on the licenses bought by customer.I am participating in the development of this Licensing Framework.

HP EAAgent Current Project Engineering (Agent 8.X)
HP EAAgent Version 8.6 is already in market and as a member of the Current Product Engineering Team my responsibility is to resolve the issues being faced by customers in a timely manner with a quality fix. I was responsible for the log file encapsulator module of EaAgt.

AMD, Bangalore

January 2007 to April 2009
Technology used: C++ :I worked with the application and device driver team and developed applications like AMD Smart Bob 2, AMD Http Dump, AMD CpuInfo etc.

I was working in the Application and Device Driver Team (ADD) of AMD's Software Team. This team's job was to develop and maintain software required by testing, profiling and verifying flows. Customers for these tools were both AMD (inhouse) and Other OEMs with whom AMD shared NDA agreement.

AMD Smart Bob II

Every processor stores some data in it which is confidential in nature and used for various different purposes (testing, validation & configuration). This information is called Fuses; the place where this information is stored is called Fuse Array/Fuse Chain.Smart BOB II is a tool to read and display these fuse chains. Entire setup contains one H/W unit and One S/W. H/W unit contains a Controller Board, Socket Board and Power Supply. S/W runs on a host computer which is connected to the H/W unit through a USB interface. For every processor release by AMd this tool is required to be updated. s/w and socket board needs to be updated according to new processor features.

AMD HttDmp

This tool provides facility to store data going in/out from the Processor and also provides functionality to analyze this data according to different criteria. This tool has two different components known as HTCapturer and HTDecoder. HTCapturer was responsible to put CPU in the trace mode and dump traffic (binary data) on Hyper Transport links in a binary file. HTDecoder works on this binary file and provides functionality to analyze this data.Development for this project was done simultaneously in the US and India development center. US team (2 engineers) was implementing HTDecoder and India Team (1 Engineer) was implementing HTCapturer. I was an Individual Contributor for HTCapturer and handled Requirement Analysis, Design & Implementation. As this tool was having Command Line interface, I also wrote a test framework for this tool using Shell Script and Batch Scripts.

AMD CPUInfo

AMD CPUInfo displays processor and system information for computers using authentic AMD processors on Microsoft® Windows® XP/ 2000/Vista & Linux. S/W supports both Graphical and Command Line Interface.

Quark Media House , Mohali, India

March 2004 to January 2007
Technology used: C++ : I was part of the Xpress Passport and Xpress Copy Desk Team. Major participation was in Unicode Support, Keyboard Shortcuts Management and RTF & XTag Extension.

XPress 7.0

XPress Passport is the leading layout and design software for publishers worldwide. Its advanced features provide support throughout the publishing process, from detailed page layout and graphic design through pre-press and production. It is the premier tool for all those involved in the publishing process.
XPress 7.0 is latest upgrade of the product which is launched in April 2006. It is one of the most significant upgrades the application has ever seen in its history.I was part of XPress Text Engine Team. As a team our responsibility was to make XPress Text Engine Unicode Compliant and improving its performance. My major responsibilities included making typing process unicode compliant, adding and maintenance of all keyboard event handling related issues, keeping XPress performance up to date on different languages keyboard layout on Macintosh and Windows.I also participated in Re factoring of XPress Text Engine.I also worked on various XTensions shipped with XPress like RTF Filter, XTag & No File IO.

Quark Copy Desk 4.0

QuarkCopyDesk is the text editor built for publishing environment. It is an ideal tool for writers, Editors and others who contribute to publishing workflow. Power of Quark Copydesk lies in its complete Compatibility with Quark Press® software. Layouts created in QuarkXPress can be exported to QuarkCopyDesk easily. When writers or editors open an article in QuarkCopyDesk, they will be able to see the layout and write or edit to fit precisely within the established design. Time-consuming text reflow is virtually eliminated
Every new release of Quark Xpress is followed by a release of its equivalent Quark Copy Desk.
Quark Copy Desk is built on Quark Xpress Only.Our team was responsible of overall development of Quark Copy Desk 4.0. At the initial stage of the project I participated in the feasibility analysis for the requirement suggested by project management. In the development phase I participated in Implementation of Copy Desk View functionality which provides copy desk its powerful full "Galley View", "Full Screen" and "WYSIWYG" View.

Skasham Infotech, Gurgaon, India

Aug 2002 to March 2004
Technology used: C++
Worked on products like Graphic Illustrator & Remote Blast
Saksham was a startup based in Gurgaon, There products were small tolls targeted towards Universities and Education Institutes. There products were targeted toward Computer Science students, and helpful understanding algorithms and other concepts.

Graphics Illustrator
It is software which is a simulator and used for demonstrating basic graphics operation to user. Software uses a basic illustration object, which is cube. All of the concepts are explained in both 2-D & 3-D viewing plane.

Remote Blast
Blast is a File System Search Tool used in the project at Saksham Infotech. File System used was an indexed one. File system is used to store various DNA Sample(s/w was developed for an biotech firm) as strings of characters.

References : Available on Request.