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OBJECTIVE

To contribute to the growing trends in Full-Stack Software Development, Web Design, Networking, Wireless, Security and Software technologies globally.

WORK EXPERIENCE (14+ years in IT industry) & SUMMARY

FREELANCER JAVASCRIPT- MEAN/MERN FULL-STACK DEVELOPER, BLR (~4 YEARS) - OCT 2016- TILL DATE

- ❖ Video Consulting feature developed with Jitsi Video/remote calling functionality on ReactJS web app
- ❖ Mobile App Development for iOS/Android Apps using React Native for BLE glucose meter
- ❖ Develop, Maintain healthcare App over MEAN stack; Upgrade AngularJs code to Angular2+ code; Authentication, Authorization, Forms, Cart, Admin/Patient/Doctor/Staff Modules Addition
- ❖ Upgrade/maintain sports App over MEAN+MERN stack; Integrating Paypal payments
- ❖ Shopping-Cart/e-comm-Sports-App developed with Angular and Firebase (backend-realtimeDB+Hosting)
- ❖ MERN apps for airport services, DHIS, and other services developed, maintained

TECH LEAD, HONEYWELL TECHNOLOGY SOLUTIONS (HTS), BLR – 10TH AUG 2015 TILL 30TH SEPT 2016

- ❖ Remote Procedure Calls (RPC, based on sockets) replacement with FIFO for IPC; Onsite Stuttgart, Germany
- ❖ RPC replacement with message Queue, including fragmentation and reassembly
- ❖ Integration of packages as php, cgi, iptables, openssl, tftp server, etc, to Eagle controller
- ❖ Web development over PHP and HTML for Eagle Controller web-pages

TECH LEAD, ALTEN CALSOFT LABS, BLR – 2ND DEC 2014 TILL 10TH MARCH 2015

- ❖ Support events received via netlink sockets in user space, specifically with respect to link up/down, route add/delete, ip address modification/add, arp entry addition/deletion

TECH LEAD, GLOBAL EDGE, BLR – 3RD APRIL 2014 TILL 28TH NOV 2014

- ❖ Implementation and support of RRM (802.11k) for Atheros-based (ath_9k) Netlink WNIC card, CAPWAP, Hotspot (802.11u), Dynamic Frequency Selection (802.11h); Beagle bone black bring-up with Android Jelly-bean (rowboat)

TECH LEAD, INTSEMI TECHNOLOGIES, BLR, 26TH AUGUST 2013 TILL 14TH MARCH 2014

- ❖ Generation of RPM packages for OpenJDK, PHP, Xorg, Vulnerability Investigation
- ❖ Patching linux Xenomai kernel for Graphics-patches, Board bring up for Beagle-board

SR. SW ENGINEER, ARICENT GROUP, 5TH APRIL 2010 TILL 2ND AUGUST 2013

- ❖ Wireless LAN - Bug fixes and enhancements for Meru Maintenance team. Issues including access point kernel crash, controller driver/firmware bugs
- ❖ Wireless Network Controller Porting - Board bring-up for P2020-RDB, Integration and porting of Cent-OS linux kernel with FreeScale patches, cross-compiled using Linux Target Image Builder (LTIB)

SR. SW ENGINEER AT HONEYWELL (HTS), BLR, 6TH SEPTEMBER 2006 TILL 29TH MARCH 2010

- ❖ Design and develop new functionality/features of FMS (flight-planning and IO teams) using C/C++/Java; design of important functionalities of Core flight planning (heart of FMS)

DIPLOMA IN EMBEDDED SYSTEM DESIGN (DESD), FROM ADVANCED COMPUTING TRAINING SCHOOL (ACTS), C-DAC, BLR - MAR 2006 - AUG 2006

- ❖ Project on Washing machine functionality using 8051 microcontroller

TEACHING IN ENGINEERING COLLEGES, MATHURA INDIA, JULY 2001 - FEB 2006

- ❖ Lecturer at CSE, GLA Institute of Tech & Mgmt, Mathura 1st Jan, 2004 - 22nd Feb 2006
- ❖ Lecturer at CSE, B.S.A. College of Engg. & Tech, Mathura 23rd July, 2001 - 31st Dec 2003
- ❖ Subject/lab handled: Design and Analysis of Algorithms (Cormen), Data Structures, Graph Theory, C, C++, etc

SPECIALIZATION

Full Stack JS Development with MEAN/ MERN Stack	**MongoDB** (CRUD, noSQL), Mongoose, **Express Server (v5+), Angular8 (Angular2+), React (v16.13), NodeJs (v12+), DevOps/Cloud/Virtual Computing environments:** Firebase, AngularFire, Heroku, AWS, EC2, Elasitic Beanstalk, EBS, S3, DynamoDB, Docker/ Kubernetes, Git/GitHub/GitHubPages, BitBucket
Embedded Systems	❖ Embedded C, C++ with openGL, 8051, ARM ❖ Device Driver, Firmware, BSP using C over Linux, Linux/RT-Linux system programming in C ❖ Board bring up with ARM, PPC and x86 based boards using uboot, openWRT

TECHNICAL SKILLS/COMPETENCIES

Full Stack Javascript Development over MEAN/ MERN Stack (MongoDB, Express, Angular/ React, Node, GoLang)	**Angular8** (Angular 2+) - DI/Services (Dependency Injection), Forms, Service Workers/PWAs, HTTP client, CRUD+ Optimistic/ Pessimistic Updates, HTTP-interceptors, Fake Backend, Angular in-memory-web-api, Routing, Navigation, Dynamic Component- Advertisement, Structural and Attribute directives, Pipes, Forms - Reactive and Template-driven forms, Validation and Dynamic Forms, Template Syntax, LifecycleHooks, Component Interaction, Component Styles, Angular Elements/Animations, Angular Material, Angular-bootstrap(ng-bootstrap), Redux with Angular, Integration with Firebase for Database/Authentication, AngularFire, Authentication/ Authorization - Auth Guards, Handling Expected and Unexpected Errors, Universal: SSR-server-side rendering, RxJS/Observables, Animations,
	Node/Express - Routing, Middleware (error-handling), Lightship/GoDaddy-Terminus - health-checks/graceful-shutdown, PM- Strongloop/Forever/PM2, gzip, Browserify, Grunt, Minify, Uglify, SSL/TLS - Lets Encrypt, HTTPS, filesystem, regex, encryption/decryption (bcrypt), socketio, streams, zlib, callbacks, query-string, timers, buffers, string-decoder, child-ps, clusters, getting-tweets, upload-files-dropbox, cron-jobs, error-handling (async-await, Promises) Template/View Engines - ejs, pug/jade, mustache, Load Balancer and reverse-proxy -- HAProxy, nginx,
	MongoDB (CRUD ops, noSQL), **Mongoose**, async-await, Verification/Validation (with built-in and custom validators), Authentication/Authorization (Hashing passwords, Protecting Routes, jwt/ JSON-web-tokens, Storing Secrets in env(config), Setting Response Headers with jwt), Schemas, Models, Saving/Querying/Counting/Pagination, Updating a Doc (Query First, Update First), Removing docs, Population, Data Models, Model Relationships between document (Referencing documents/Normalization, Embedding documents/de-Normalization, Aggregation-pipeline, map-reduce, Transactions/atomic-operations/two-phase-commits/fawn), Indexes(Single, Compound, Multikey, etc), Handling and Logging Errors, Bulk Writes, Retryable-Writes, Views, Replication, Sharding/Clusters, ACID/BASE, CAP theorem,
	React (with React-Redux)- Components (Controlled, Uncontrolled - Forms), Refs and the Dom, Props, States, Stateless-Function-Components(SFCs), Hooks(v16.8 onwards)- State Hook, Effect Hook, Rendering Elements, LifecycleHooks (Mounting/Update/Unmounting Phase), Component Interaction, Event-Handling, Conditional Rendering, Lists, Keys, Updating/Lifting the State, Filtering, Pagination, Sorting, Routing/Navigation (react-router-dom, query-string), Authentication/ Authorization, Forwarding Refs, Fragments, JSX, Portals, Higher-Order Component, Render Props, HTTP Client, Axios/jQuery-AJAX/Fetch-API, CRUD+ Optimistic vs Pessimistic Updates, Handling Errors, Toast Notifications(react-toastify), PWAs, Responsive Web Apps, Gatsby, ContextAPI,
	Next.js- SSR, HotReload, AutoCode split, Prefetch, AutoRouting, Single-file components/styled-jsx
	Testing Framework-Supertest, Mocha, Chai, Cheerio, Jasmine, Karma, Jest, Enzyme, TDD/BDD,
	Tools/Utilities/Libraries - Postman/curl, Joi (Joi-Objectid), VS Code, Visual Studio, MongoDB-Compass, express-async-errors, Winston/Morgan/Sentry (error handling-logging), fawn, Hapi.js, Koa.js, Lodash/Underscore, config, body-parser, Helmet, cookie-parser/express-session, cookie-session, CORS, csrf/csurf, path-match/path-to-regexp, passport (OAuth), JWT(JSON Web Tokens), Twitter Bootstrap4, SASS/LESS, CSS3, HTML5, Canvas, ejs/pug/mustache, jQuery, D3.js,, AJAX, RESTful Services (HTML, XML, JSON, plain-text) -- Post/Get/Put/Delete (CRUD), WebSockets, nodemailer/mailjet/sendgrid, GraphQL/Apollo, Redis, Regex (Regular Expressions), npm, Immutable.js, RabbitMQ, AMQP, Zeplin,
	Microservices vs Monolithic (Architecture), REST, Design Patterns (SOLID, GRASP- General Responsibility Assignment Software Patterns - Creator, Information Expert, Low Coupling, High Cohesion, Controller, Polymorphism, Pure Fabrication), Factory, Prototype, Singleton, Event-Emitter/Publisher-Subscriber, Observer, Chain of Responsibility/Middleware, MVC/Simplicity, Proxy/Interceptor, Decorator, Composition, Mixins, Adapter/Strategy/Interface/Wrapper,
	Mobile App Development for iOS and Android using React Native and NativeScript
	DevOps/Cloud/Virtual Computing environments - Firebase (Hosting, DB/noSQL-cloud, Authentication), MongoDB Atlas, Amazon Web Services (AWS), EC2, ECS/EC, S3, DynamoDB, Elastic Beanstalk, Heroku (PAAS), Docker/Kubernetes, Git/GitHub/GitHubPages, BitBucket, JIRA, basic know-how of Jenkins/CI/CD

High Level languages/ Services for Web Development	**JavaScript/TypeScript/ES5 -** Primitive-Types, Reference-Types (Functions, Objects, Arrays), Dynamic Typing, IIFE, Currying, use strict, , CommonJS/ES6-modules, Babel, Webpack, callback/ Promise/async-await, readonly/const, value vs Reference types, Equality Check (strict/deep equal vs loose equal), Type Assertion, Type Alias, Type Guard (and Literal Type Guard), Type Inference, Type Compatibility, Never Type, Declaration Space (Type, Variable), Generics, Readonly, Freshness-strict object literal checking, Discriminated Union, Exhaustive Checks, Index Signatures, Moving Types (typeof, keyof - capture type/value/key), Lazy Object Literal Initialization (via Interfaces, any), JSON support (parse, stringify), Date methods (now, valueOf), getters/ setters, Object.defineProperty - change value/property, mutable/immutable types, Array Methods/operations (isArray, forEach, map, filter, reduce, reduceRight, every, some, indexOf, lastIndexOf, find, findIndex, push, pop shift, unshift, splice- add/remove, concat, spread, slice, split, join, sort, reverse, includes), dot/bracket-notation, Windows/Global/Browser Object - BOM, Document Object - DOM, Math, String, Date Objects, Objects (Dynamic nature- add/remove members on the fly, Closures, public-private-protected, factory-fn, constructor, Prototypes/Prototypical Inheritance, Instance Members/Prototype, Polymorphism, Composition/Mixins, ES6-classes, Static, Abstract Classes, try-catch, Overloading, OverRiding, super, call, apply, bind, Properties/Methods (keys/entries, assign, create, defineProperty, getOwnPropertySymbols, hasOwnProperty, getPrototypeOf, isPrototypeOf) Enumerating Properties/Iterating/Iterables (for-of/for-in/forEach/for, Object.keys/entries), **ES6 -** Destructuring Array/Object/Tuple, Spread, Rest operators, Arrow/Lambda Functions, Interfaces (Structural Sub-typing/ Duck Typing), Hoisting, let/const, for-of, default-parameters, Template Literals/Back-tick, Promises, Classes, Modules/Namespaces, Generators, Iterators, Symbols, Maps/Sets/WeakMaps/WeakSets, **ES7 -** Exponential Operator (**), includes, **ES8 -** string **(**Padstart, Padend), async-await, Object.entries - key/value, Trailing Commas, Object.getOwnPropertyDescriptors, Object.values, **ES9 -** async iteration (for-await-of),
Other High Level Languages	❖ GoLang - Arrays, Slice, Channels, Http-Servers, Maps, Maps-In-Maps, Pointers, Routines, Strings, FileIO, Exception-Handling-defer/recover/panic, Structs, Interfaces, Accepting-Inputs, Casting, Variadic Function/Spread-Fn, IIFE, ❖ C (including Embedded C) and C++ (including exception handling, RTTI, containers, templates/STL, smart pointers), JAVA, System Programming in C over Linux/RT-Linux, scripting, Perl, Assembly Programming with 8051 Microcontroller and ARM processor
Tools / HW / Architecture/ OS Platforms	❖ Development Tools: MS Visual Studio 6.0/.NET 2003/2010, Eclipse and NetBeans IDE for Java/XML, Citrix, Cygwin, BeyondCompare, VI/VIM, make/automake/autoconf in Linux ❖ Networking tools: Wireshark/tshark, sniffer/Air-pcap, iperf ❖ Debugging Tools: GDB, printk/traces, ctags, cscope, IBM Rational Purify and Valgrind (mem-debug) ❖ Configuration Management Tools: ClearCase, GIT, PVCS, CM21, CMSuite, Perforce ❖ Code Review Tools: Code Collaborator; Bug-raising Tools: Bugzilla ❖ Hardware Boards based-on: ATCA, 8051, x86, Power-PC and ARM ❖ Architecture: i386, 8051, ARM, ppc; Board bring up using uboot; Cross-compiler: KEIL for 8051 ❖ Other tools: MiniSTE, TeraTerm, Quality Centre (QC), HIT tool, VEGA, MAIA light, PC-Box, TTCN ❖ Testing Tools (HTS): Spirent Simulator, PCSIM, TIU tools, MMT, PC-FMS, CASH ❖ Unix/Linux/RT-Linux/QNX/DICOS, Windows 9x/NT/XP/7P, MacOS ❖ Linux Distros as CentOS/Ubuntu/Fedora/RedHat
Quality / Concepts	❖ Complete Software Development Life Cycle (Waterfall / AGILE) ❖ Data Structures, Algorithms, Operating System Concepts, Design Patterns

ACADEMICS

Mar-Sept 2006	Diploma in Embedded System Design (DESD), from Advanced Computing Training School (ACTS), C-DAC, BANGALORE, with 69.6%
2003-2005	M.Tech.(IT) from Allahabad Agricultural Institute Deemed University, Allahabad with 80.2%, as a distance programme
1997-2001	B.E. (CSE) from F.E.T., R.B.S. College, Dr. B. R. Ambedkar University, Agra, with 69.5%
1993-1995	Passed 10+2 from C.B.S.E. Board, Delhi Public School, Mathura with 71.0% marks
1992-1993	Passed 10th from I.C.S.E. Board, Sacred Heart Convent School, Mathura with 81.3% marks

DETAILED DESCRIPTION OF JOB PROFILE / PROJECTS ACCOMPLISHED

Project Title: HealthCare App; Freelancer-Consultant for myMediSquare Tech, Singapore

Description	Design, Develop, Maintain, Upgrade HealthCare App (http://mymedisquare.com/)
Duration	Oct 2016 till Feb 2019
My Contribution	❖ Designed & implemented modules in the app for Admin, Doctor's-Profile, Doctor's Schedule Management and Notifications, Storing Patient details in DB, Notify-Patients on upcoming schedule/treatment, Emergency Treatment via Remote-Chat, Integrating Paypal payments; ❖ Implemented Authentication, Authorization with Passport-OAuth Providers (Google, Facebook, Twitter) for Patients, Signup/Sign-in for Doctors/Admins using Passport-JWT. ❖ Fixing TRs on React front-end for marketplace app for advertising/marketing medi-products. ❖ Deployed to AWS using EC2 instance and Elastic BeanStalk; mapping domain name to launched instance, Deployed to Heroku ❖ Mobile App Upgrade for iOS App using NativeScript for integrating said modules ❖ Upgrade AngularJs code to Angular2+ code; Synchronisation with team sitting in Singapore
Technology/ Skills/Tools	MEAN/MERN stack, JS/TS, HTML5, CSS3/Sass/Less, jQuery, D3.js , Bootstrap, socket.io, JWT, Amazon Web Services (AWS), Heroku, Git/GitHub/Bitbucket/JIRA

Project Title: Sports App; Freelancer-Consultant for Believe to Achieve (B2A), BLR

Description	Design, Develop, Sports App over MEAN/MERN stack
Duration	Aug 2018 till date
My Contribution	❖ Designed, implemented modules in the app for Coach/Parent/Child Interface/Forms, Storing user-details in DB, Notify-Parents/Children on upcoming schedule, ground availability etc; Modules for Auth, Admin with Passport-JWT; Shopping Cart for users; Training Juniors in team ❖ Shopping cart/e-comm-Sports-App developed with Firebase (DB/Authentication) and Angular
Technology/ Skills/Tools	MEAN/MERN stack, React Native, Angular+Firebase, JS, TS, HTML5, CSS3/Sass/Less, Bootstrap DevOps/Cloud/Virtual Computing environments as:: Firebase (backend-realtimeDB+Hosting, Auth), AngularFire, Bitbucket/JIRA/GitHub

Project Title: Freelancer-Consultant for Autolligent, BLR (http://autolligent.com/)

Description	DHIS2 (District Health Information System - is a free and open source health management data platform used by multiple organizations, including the European Union (EU), and governments worldwide. A total of 54 countries are deploying DHIS2 on a national scale.
Duration	Jan 2019 till date
My Contribution	❖ MERN app maintenance for Airport systems over login, registration, employee details, monthly salary slip, employee leave, etc; Implementing modules using React-Redux framework ❖ Involved in the bidding process with partner companies for DHIS2 (District Health Information System) based projects as HIV-clinic, others - MERN app ❖ Design, Implement basic connect app as prototype to propose business plan to hire/train and complete project (2-3 years) for HIV clinic, along with covering scope of work; RFCs
Technology	MERN stack, JS, Typescript, HTML5, CSS3/Sass/Less, Bootstrap, Bitbucket/JIRA

Project Title: Freelancer for other clients incl. PhableCare, BLR (Jan-May 2020) as Engineering Manager

Description	PhableCare is a healthcare service provider company, impacting and improving the quality of life of those affected by long-term ailments
Duration	Oct 2016 till date
My Contribution	❖ Implement e-prescription module using React-Redux framework ❖ Created React Native Apps for iOS/Android for BLE support/read data of Glucose reading device (Accu-Check Instant) ❖ Video Consulting feature developed with Jitsi Video/remote calling functionality on ReactJS web app; fixing TRs with Angular Admin app, doctor React app, and backend Nodejs. ❖ Deep linking, Integration with branch.io for redirection to ios/Android/web app ❖ Fix TRs as signin, signup, auth, admin, multi-user handling, react hooks, blogging with Redux, DB updates with MongoDB, Less/Sass/bootstrap/styles updates to the app ❖ Training Juniors in team
Technology	MEAN/MERN stack, React Native Apps with iOS/Android, JS, TS, HTML5, CSS3/Sass, Redux

Project Title: Eagle Controller; Honeywell Technology Solutions (HTS), BLR

Description	RPC replacement, Integration of various packages to Eagle Controller
Duration/Team	Aug 2015 till Sept 2016; Team size: 20
My Contribution	❖ Remote Procedure Calls (RPC, based on socket communication) replacement with FIFO for interprocess communication in linux-based Eagle Controller. ❖ RPC replacement with message Queue, including fragmentation and reassembly. ❖ Integration of various packages as php, cgi, iptables, openssl, tftp server, etc, to Eagle ❖ Web development over php, html for Eagle Controller pages. ❖ Onsite to Stuttgart, Germany for 3 weeks
Technology	C over Linux, Linux Kernel (version 2.6, 3.12), Github, JIRA (bug tracking), PHP, Html5, JS

Project Title: Universal Gateway 6.5; Client: Lantiq, Bangalore

Description	Support events received via netlink sockets in user space, specifically with respect to link up/ down, route add/delete, ip address modification/add, arp entry addition/deletion
Duration/Team	December 2014 till Feb 2015; **Team size: 7**
My Contribution	Support events received via netlink sockets in user space, specifically with respect to link up/ down, route add/delete, ip address modification/add, arp entry addition/deletion
Technology/ Skills/Tools	❖ C over Linux, Linux Kernel (kernel version 2.6, 3.12), openWRT ❖ Hardware: Universal Gateway

Project Title: Wireless LAN at Global Edge Software Ltd, Bangalore; Client: In-house

Description	**Wireless LAN** consists of a network of Controller, Access points, Stations, where IEEE 802.11-1999 is the basic standard governing wireless LANs.
Duration/Team	3rd Apr 2014 till Nov 2014; ; **Team size: 10**
My Contribution	❖ Implementation and support of Radio Resource Measurement (802.11k) for Atheros-based (ath_9k) Netlink WNIC card, Enhancement to openCAPWAP for SET/GET with hostapd ❖ Hotspot (802.11u), Dynamic Frequency Selection (802.11h), mesh networks ❖ Beagle bone black bring-up with Android Jelly-bean (rowboat) for WLAN
Technology/ Skills/Tools	❖ C over Linux, Linux Kernel (kernel version 3.12, 3.14), Firmware, Device Driver, openWRT ❖ Hardware: TP-LINK TL-WDN4800 450 Mbps Wireless N Dual Band PCI Express Adapter Nic

Project Title: CELP (Canon Embedded Linux Platform) at Canon India, Bangalore; Client: Canon, Bangalore

Description	**CELP (Canon Embedded Linux Platform)** is a platform provided by Canon for embedded development of linux applications; **Xenomai** is a real-time development framework cooperating with the Linux kernel, in order to provide a pervasive, interface-agnostic, hard real-time support to user-space applications, seamlessly integrated into the GNU/Linux environment.
Duration/Team	August 2013 till 10th Feb 2014; **Team size: 7**
My Contribution	❖ Generation of RPM (RedHat Package Manager) packages for OpenJDK, PHP, Xorg, including 20-30 sub-packages as GTK, Pango, Cairo, GLIB, CUPS, etc ❖ Board bring up for ARM Cortex-A8 processor based Beagle-board ❖ Vulnerability Investigation based on patch-fixes in RedHat bugzilla, NVD, other sites
Technology/ Skills/Tools	**CELP (Canon Embedded Linux Platform)** ❖ C over Linux (kernel version 2.6.35), Linux Kernel, Firmware, scripting ❖ Hardware: ARM Cortex-A8 processor based Beagle-board

Project: Wireless LAN (802.11) Maintenance and WNC Porting at Aricent ; Client: Meru Networks, Bangalore

Description	**Wireless LAN** - IEEE 802.11-1999 is the basic standard governing wireless LANs. **Wireless N/w Controller Porting-** aimed to provide wireless connectivity to users on airplane
Duration	July 2012 till August 2013; ; **Team size: 10**
My Contribution	❖ **Wireless LAN** - Bug fixes and Enhancements for Meru Maintenance team including access point kernel crash analysis, debug for syslog messages, GUI corrections, etc. ❖ **Wireless Network Controller Porting -** Integration and porting of Cent-OS linux kernel with FreeScale patches over P2020-RDB dev board, involving cross-compilation using LTIB.
Technology/ Skills/Tools	**Wireless LAN** ❖ C/C++ over Linux (CentOS), Linux Kernel v,2.6.32, Java, xml, scripting, Perl, TCP/IP, VLAN, Multicasting, IGMP snooping, IPv4, IPv6, Minicom/Picocom -Serial port access of controllers/ access-point, Wireshark, sniffer/Air-pcap; Code Collaborator for Reviewing code, Perforce-Configuration/code management; Bugzilla- view/edit raised bugs; Hardware: Controllers (MC1500/3200/4200, Access Points (AP1000/300/400 series that of Broadcom/Atheros), Stations, D-link Switches, PoEs (Power over Ethernet) **Wireless Network Controller Porting** ❖ P2020-RDB development board, BSP; Porting to P2020-RDB board using uboot/uImage ❖ FreeScale LTIB (Linux Target Image Builder) to cross-compile CentOS Kernel with FS patches ❖ Hardware: 5 FS P2020 dual core CPUs running at 1GHz with 2GB Ram and 32 MB NOR flash

Project Title: Charging Control Node (CCN) at Aricent, Bangalore; Client: Ericsson, Chennai

Description	Develop product customizations and trouble reports-fixing for prepaid-charging/Intelligent Networks (IN) based on Diameter Credit Control (DCC)/ Camel Application Protocol (CAPv1/2/3)
Duration	July 2011 till July-2012; ; **Team size: 20+**
My Contribution	❖ Fixing of Trouble Reports (TRs) - Dump analysis ❖ Code changes related to Charging Data Record (CDRs), functionality updates and configuration-parameters via C++ code, DSF (dynamic service framework) in XML ❖ Modification to JAVA files for update to open-object limit, others
Tech/Tools	❖ C++, Xml/DSF, Java, Linux, Clearcase, GIT, CITRIX, DiCOS (RTOS platform), LDAP

Project Title: HiS700 v8E at Aricent, Gurgaon; Client: Nokia Siemens Network (NSN), Germany

Description	HiS700 product line is logically split into two parallel development lines: *Classic* line where development on existing hardware continues. *Evolution* line where migration of HiS700 product to ATCA based HW using virtualization infrastructure is done
Duration/Team	7 months, December 2010 till July 2011 (project closed prematurely); ; **Team size: 30+**
My Contribution	❖ Modification for PCIe and Ethernet/network driver to support Evolution line/virtualization ❖ Modification to design and code for Hardware Maintenance sub-group ❖ Hardware maintenance including configuration, fault processing, routing, diagnostics, etc
Technology/ Skills/Tools	❖ QEMU (Quick EMUlator) / KVM (Kernel based Virtual Machine) / Virtual-Linux, VirtIO ❖ C, CHILL over Linux, Linux Device Driver, MED programming editor (for CHILL based development) and SWS4, ATCA board, CMSuite & Clearcase (For CM), Quality Centre (QC)

Project Title: TRS Host SW in FSM3b (Flexi System Module) at Aricent, Gurgaon; Client: NSN, Germany

Description	FSM3b based BTS is a multi-carrier/multi-mode BTS wherein multiple techs. like GSM/EDGE, WCDMA, LTE are supported using common modules as system module, Radio module, etc.
Duration/Team	8 months, April 2010 - November 2010 (project closed prematurely); **Team size: 20+**
My Contribution	❖ For TRS-host team, modified Makefiles and APIs of QNX with related APIs of Linux (platform change) ❖ Developed automation scripts in HIT (similar to C) ~10k lines of code for PAoTDM ❖ Fixing of SPRs (problem reports) for PAoTDM (Packet Abis over TDM) and TOP (Timing over Packet), PPP/ML-PPP/MC-PPP (LCP, IPCP, PAP, CHAP) - layer 2 & 3 protocols
Technology/ Skills/Tools	❖ C, C++, Linux, QNX, GSM/WCDMA ❖ MiniSTE, Wireshark, TeraTerm, Clearcase (For CM), Cygwin, Quality Centre (QC)

Project Title: Airbus A380 for Honeywell, Bangalore; Client: Airbus, US

Description	FMS (Flight Management System) provides a 4D guidance solution; 2D lateral, vertical and time as well as integrated performance predictions. It is designed in accordance with ARINC-702A with the flexibility to incorporate new and emerging technologies.
Duration/Team	14 months, Feb 2009 - March 2010; ; **Team size: 40+**
My Contribution	❖ Driver in C/C++ to support CORE functional area of Flight Planning (CORE-FP) component-level testing
Skills/Tools	❖ C, C++, Linux/Windows, Valgrind, CM21 (for Configuration management)

Project Title: KSN770 Flight Management System (FMS), Bangalore; Client: Honeywell International, Olathe

Description	KSN770 is designed to mark the first WAAS GPS/NAV/Communication with full MFD (multi-function display) capabilities including weather radar. Some of the standard features include: ❖ FMS feel and functionality, including Graphical flight planning ❖ Advanced controls: intuitive menus, line select keys and cursor control device (CCD)
Duration/Team	30 months, Sept 2006- Feb 2009; ; **Team size: 40+**
My Contribution	❖ Implement new functionality/key features for flight planning group of FMS, including and not limited to, "Retention of sequenced waypoints", "OBS (Omni-Bearing Selector)/FROM navigation", "SBAS (Satellite Based Augmentation System)", "ESA/MSA (Enroute/Minimum Safe Altitude)/ GRID MORA (Minimum Off-Route Altitude", "temperature compensation". ❖ Design of Web pages with Displays team using HTML/JS with Java. ❖ Design of "White papers" and "Approach papers" as part of development
Technology/ Skills/Tools	❖ C, C++, Java, Linux (Platform for Cross-compilation of builds), HTML, CSS, Javascript ❖ Platform: Nucleus RTOS over MPC 5200 / ARM, Diab (cross compiler for target) ❖ VC++ 7.1 (for simulator), Understanding C++, Cygwin, PVCS, Clearcase (for Config management), Spirent Simulator PCSIM, PC-FMS, Beyond Compare, IBM Rational Purify

Project Title: Washing machine functionality using 8051 microcontroller for CDAC, Bangalore

Description	This project was built as part of the DESD curriculum using 8051 microcontroller assembly programming. The project involved the use of LCD display, keyboard interface, and stepper motor functionality to take input from the user(using keyboard) in the form of time(for which the machine is to be kept on), and then finally off the machine using stepper motor when the time goes off.

Project Title: LZW data-compression implementation in C for FET, RBS, Agra

Description	The project was part of curriculum at engineering final semester and was designed using C programming. The compression algorithm is used to zip/compress and unzip/uncompress data files using LZW data compression technique. LZW compression replaces strings of characters with single codes. The project took approximately 5 months period.

PERSONAL ACHIEVEMENTS

- Avionics phase-I trained with 96% marks at HTS, Bangalore as on January 2009.
- DO178B trained at HTS, Bangalore as on October 2009.
- DFSS Green Belt Certified as on December 2007 at HTS, Bangalore.
- Awarded an amount of INR 20K in December 2009 for outstanding performance and customer commitment.
- Quarterly Team Innovation Award won for the last quarter of 2007 at HTS, Bangalore.
- Won two Team Excellence Awards at HTS, Bangalore for timely and efficient implementation of the core new features for KSN770 FMS.
- Won five Spot Awards at HTS, Bangalore for various categories ranging from design-development of the new functionalities to sustained maintenance of FMS lab infrastructure and providing effective team support.
- GATE SCORE 2006: 385 (Rank 1617 out of 22393 candidates) → approx. 93 percentile.

PERSONAL PROFILE

Languages known : Hindi and English
Nationality : Indian
Passport No. : Z6024986 (expiry 04/Aug/2030)

PLACE: Bangalore (BLR)

I hereby declare that all the particulars furnished above are true to the best of my knowledge.

NISHANT AGRAWAL