

SANJIB DUTTA

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Hardware Design and Development Professional with 12+ years of experience in Telecom, Automotive and Medical industries

Hardware Design • Product Development • Program Management Design / Project Review • Team Leadership • Technical Talent Development

Proven credentials in analog and digital circuits design related to embedded systems, wireless modem & receiver, automotive electronics, power electronics and sensors. Knowledge in design for manufacturability, assembly and testing including full design life cycle projects, product cost mitigation, technical report generation, documentation and progress reporting.

Objective: Seeking to be Project Manager /Technical Leader with a well established and reputed organization in Telecom / Automotive / Medical sector

PROFILE SUMMARY

- ✓ Expertise in design input specification, analysis, implementation, prototyping, validation and testing.
 - ✓ Acquired ability in converting System Requirements to Architecture / Design concepts and specifications and mapping user requirements to business requirements, use cases and project priorities.
 - ✓ Proficient in discrete and mixed signal circuit design using micro controllers, microprocessors and modems.
 - ✓ Skilled in delivering application and firmware development assistance based on software & hardware requirements.
 - ✓ Experienced in leading cross-functional teams and motivating team to attain organizational objectives.
 - ✓ An articulate communicator with interpersonal, problem solving and leadership capabilities.
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CORE COMPETENCIES

- Analog and mixed circuit design using ORCAD, CADSTAR designer and Pspice, TINA PRO simulation tools.
 - Digital and mixed signal multi-layer board design using CAD tool from ORCAD and CADSTAR.
 - Power supply design using linear and switching type as per requirement; battery power management.
 - Various wireless modules like GSM/GPRS Trans Receivers, GPS Receivers and Zigbee.
 - Micro Controller (8/16/32 bit) and DSP based hardware design using ROM/SDRAM/ Flash.
 - Serial and parallel bus protocols, technology and interfacing using (RS 232, SPI, I²C, CAN, USB and OBD).
 - Wireless modem and GPS receiver from QUALCOMM, Sierra, Cinterion, u- Blox and eRide.
 - Vehicle bus interface (OBD), Call Box (CMU200), Network Analyser, GPS Simulator and DFMEA.
 - Knowledge in EMI and EMC conformance issues including GSM/CDMA Carrier and product certifications.
 - Knowledge in Programming Language assembly, C and IDE using, MPLAB, IAR Workbench.
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PROFESSIONAL EXPERIENCE

Team Leader (Jun 2009 – Nov 2013)

Digi M2M Solutions India Pvt. Ltd., Bangalore (*Digi International is M2M Expert, combining products and services as end-to-end solutions to drive business efficiencies. Digi delivers a wide range of wireless products, a cloud computing platform for devices and development services*)

Key Profile: Product development (Mobile Assets) and program management

→ **Projects: Digi X-Trak3 and Digi X-Trak2**

Outline:

Digi X-Trak 2: Design of a battery based asset tracker using state-of-the-art telematic technologies for the market comprised of simple, high value commercial mobile and nomadic assets.

Digi X-Trak 3: Design of a compact tracking and telematics gateway for monitoring mobile assets and in-vehicle parameters thru OBD.

The project scope included hardware design feasibility study, design of circuit schematics, component selection, PCB design and bill of material creation using EDA tools, prototyping and testing. The design involved power supply design, interface of memory devices with micro controller and DSP, interfaces with GSM and RF modules, analogue circuits, PCB layout verification, support and firmware implementation for device driver, board test and

production test set-up before production trail. The design goal was to meet the specification for power management at various stages with EMI and EMC compatibility using 2G and 3G GSM modems. The overall product design involved stringent tests like OTA, PTCRB confirming GSM/CDMA carrier certification.

Responsibilities:

- Product design, hardware design, system requirements to Architecture/design concept and specification.
- Interacted with the cross functional & cross regional teams to execute daily project activities.
- Conducted design reviews & project reviews off site/onsite and developed documents to support review.

Team Leader (Sep 2004 - Jun 2009)

Mobi Applitech India Pvt. Ltd., Bangalore (MNC organization involved in manufacturing of vehicle tracking instruments in various areas both in terrestrial and satellite mode. MobiApps™ is a leading provider of hybrid terrestrial and satellite technologies for commercial communications)

Key Profile: Hardware design, product development, support and firmware implementation

→ **Projects: m-Trak75E (TMT), Seakey (VOLVO PENTA), SPC (Container tracking), m-Trak 275**

Outline: The scope included hardware design, feasibility study, component selection, circuit schematics design, PCB design, bill of material creation using EDA tools, prototyping and testing. The design involved power supply design, interface of memory devices with micro controller and DSP, interfaces with GSM and RF modules, analogue circuits including PCB layout verification for board test and production test set-up before production trail.

Senior Engineer (Apr 2001 – Sep 2004)

Siemens VDO Automotive Ltd., Bangalore (ISO 9002 and QS 9000 Certified and Siemens Automotive Group Company, a leading manufacturer of instrumentation for automobiles like automotive electronics, speedometer, fuel gauge, engine management system, on board navigation systems and car audio systems)

Key Profile: Hardware design and development, mapping user requirements to use cases and design concepts.

→ **Project: Cluster Development (Indica V2, Swift, Bajaj caliber and other vehicles)**

Outline: The project scope included concept, feasibility & circuit design, component selection, firmware assistance, implementation, prototyping and testing, design validation and release for production of different models of Electronic Dashboard Instruments Cluster for two wheeler and four wheeler light and heavy vehicles.

Development Engineer (Mar 1997 - Mar 2001)

Panacea Medical Technologies Pvt. Ltd., Bangalore (Leading inventor and implementer of latest and best leading technologies for design of advanced medical equipment for radiotherapy and radiology)

Key Profile: Design and development of hardware systems

→ **Project: Remote After Loader**

Outline: The project scope included the design and development of Remote After Loader Cancer Treatment Equipment, controlled by a remote personal computer including design of hardware and software sections of the entire system. The hardware section included design and implementation of various analog and digital circuits. The software section included design of the signal flow processes of the control system for ensuring seamless system operations. The project also included design and development of database, having overall system information.

PROFESSIONAL QUALIFICATION

- Honors Diploma in Software Management, Aptech Computer Education, Bangalore (1996)

ACADEMICS

- Bachelor of Engineering (Electronics), Bangalore (1995)
- B.S.C (Honours in Physics) (1991)

PERSONAL PARTICULARS

- Date of Birth: 22nd November 1970
- Languages Known: English, Hindi, Bengali and Kannada
- Address: #301, ARR Comforts, 4/1, 6th Cross, Kodihalli, Bangalore - 560008
- Passport No.: L2718436 (valid upto 4/6/2023)
- Preferred Location: Bangalore / Kolkata / Hyderabad