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Profile of Gopikrishnan CK

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| **PROFILE SUMMARY** |

* 6 years of rich experience in embedded software industry in the design, development and testing of various embedded systems.
* Experience in low level driver development in 8/16/32 bit microcontrollers
* Experience in Upper layer Bluetooth stack development
* Experience in communication stack development for IRDA.
* Extensive Knowledge in ECU diagnostic Standards ISO 14229, GGDS
* Extensive Knowledge in Integration of software modules and testing
* Extensive knowledge and experience in protocol CAN, I2C, RS232, SPI, and Bluetooth
* Experience in Test Plan Preparation as per SAE standards
* Experience in defect logging and tracking using Fogbuz
* Experience in configuration management tools like Clearcase , CVS, Klin
* Extensive knowledge in RTOS
* Knowledge in functional safety standard ISO 26262

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| **TOOLS/ SKILLSETS SUMMARY** | | |
| **Languages** | * C * Assembly * CAPL * Visual Basic * Shell Scripting |
| **Microcontrollers \ Microprocessors** | * ARM – TMS570LS3137, LPC2129 * PowerPC - MPC5676, MPC5566 * DSP – TMS320CX2812 * Infineon Tricore - TC1797 * PIC – PIC18F, PIC24F * 8051 – P89v51RD2 |
| **Embedded System Development & Testing Tools** | * IDE – Keil, MPLAB, CCS Studio, Code warrior, Tasking. * Debuggers – ICD2, Spectrum, PLS, Lauterbech Trace32, P&E Micro * CAN Tools – CAN Alyzer, CANoe, CANape |
| **EDUCATIONAL QUALICATION** | | |

* Bachelor of Technology in Electronics and communication

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| **PROJECTS DETAILS** |

**Project- Safe MPOS (Functional Safety ISO26262)** (Oct 2012 – Till date)

**Employer:** HCL Technologies Ltd

**Role:**  Lead Engineer

**Tools / Technology Used:**

Microcontrollers: TMS570LS3137, MPC5676

Software Tools**:** CCS Studio, Code Warrior

Hardware Tools**:** XDS100V2 , P&E Micro

Programming Language**:** C, Assembly

Configuration Management Tool**:** Nil

Brief description about the project:

Safe MPOS facilitates an environment that support coexistence of software components of different ASIL’s in a single controller as per ISO 26262 part 6, clause 7.4.1. MPOS support spatial and temporal partitioning. This can be used to ensure freedom from interference between software of different ASIL’s by placing these in individual partitions. Thus possibility of a lower or non ASIL application affecting a higher ASIL application can be eliminated. At least one partition for each of the ASIL level is recommended to achieve this objective.

**Project- Transmission Control Module (TCM)** (May '11 – Aug ‘12)

**Employer:** HCL Technologies Ltd

**Client**: Magna ECar Systems

**Role:**  Lead Engineer

**Tools / Technology Used:**

Microcontrollers: TMS320F2811

Software Tools**:** CCS Studio, Diagnostic Script Player, dSpace.

Hardware Tools**:** XDS 510 Debugger, CAN Alyzer, CAN Ape, MxV Dev, HIL, Load Box

Programming Language**:** Embedded C, CAPL Script

Configuration Management Tool**:** Kiln

Brief description about the project:

The TCM is one of the intelligent Electronic Control Units (ECU) of modern Electric Vehicle. It controls the vehicle movement direction and speed based on input of several electronic control units like Power Train control unit (PCM), Battery Energy Control Unit, Body Control unit, Brake System Control Unit & Thermal Control Unit. All these control units are connected via CAN protocol Network. The TCM (Transmission control module) controls the Traction motor. Available motoring and regen torque values are calculated and broadcasted on the CAN network. The torque and regen calculations consider the motor speed and efficiencies, Motor/TCM internal temperatures, voltage and power limits. PCM (Power Train control module) as the master Transmission controller sends positive or negative request to the TCM and TCM is controls the vehicle movement direction and speed.

**Project- DAVE (Oct '10 – May '11**)

**Employer:** HCL Technologies Ltd

**Client**: Infineon Technologies

**Role:**  Project Engineer

**Tools / Technology Used:**

Microcontrollers: TC1767, TC 1797, XC2287M, XC866

Software Tools**:** Tasking viper, Hi-tech GNU compiler

Hardware Tools**:** PLS debugger

Programming Language**:** Embedded C, Visual Basic

Configuration Management Tool**:** Clear case

Brief description about the project: DAVE stands for Digital Application Virtual Engineer and is Infineon Technologies' code generator for their range of 8-, 16- and 32-Bit Microcontrollers. It provides initialization, configuration and driver code to ease programming for beginners as well as experts. It provides a GUI which displays the different modules of the controller, and on exploring each module the user can configure and generate the code.

**Project- Mingle Station**  (**May 10 – Sep '10**)

**Employer:** Si2Microsystems Pvt Ltd

**Role:**  Software Engineer

**Tools / Technology Used:**

Microcontrollers: PIC 24FJ256GB106, BC5 Bluetooth module

Software Tools**:** C30 Compiler, MPLAB IDE

Hardware Tools**:** MPLAB ICD2, Logic Analyzer

Programming Language**:** Embedded C

Configuration Management Tool**:** CVS

Mingle station is an electronic device which can exchange a unique ID with a device having mingle utility. The exchange of data can be using IRDA or Bluetooth. The device acts as a server that can be discovered by any Bluetooth device and can indulge in mingling. The mingling will be initiated by the client. On successful exchange of data the user is indicated by blinking the LEDs. The received mingle data is then stored in a persistent store and later uploaded to the server through the USB interface.

**Project- Mingle Stick (Jul 09 – Apr '10**)

**Employer**: Si2Microsystems

**Role:**  Software Engineer

**Tools / Technology Used:**

Microcontrollers: PIC 24FJ256GB106, PIC 24FJ256GB106, PIC 24LC1025

Software Tools**:** C30 Compiler, MPLAB IDE

Hardware Tools**:** MPLAB ICD2, Logic analyzer, USB Analyzer

Programming Language**:** Embedded C

Configuration Management Tool**:** CVS

Mingle stick is a battery operated device that exchanges a mingle data (64 byte) through IRDA interface. Mingling is done when both parties press the button on their respective devices almost simultaneously, keeping the devices in line of sight. The received mingle data is then stored in a Persistent storage which is later uploaded to the PC using USB. A host application communicates with the device through USB and uploads the mingle data to the mingle server.

**Project- Automated event ticketing system (AETS)** (**Feb 09 – May '09**)

**Employer**: Globe Winner Technologies (TAP UTL Technologies)

**Role:**  Software Engineer

**Tools / Technology Used:**

Microcontrollers: PIC18F452

Software Tools**:** C18 Compiler, MPLAB IDE

Hardware Tools**:** MPLAB ICD2

Programming Language**:** Embedded C, Assembly

Configuration Management Tool**:** Nil

Mingle stick is a battery operated device that exchanges a mingle data (64 byte) through IRDA interface. Mingling is done when both parties press the button on their respective devices almost simultaneously, keeping the devices in line of sight. The received mingle data is then stored in a Persistent storage which is later uploaded to the PC using USB. A host application communicates with the device through USB and uploads the mingle data to the mingle server.

**Project- Vehicle tracking system (Jun 08 – Jan '09**)

**Employer**: Globe Winner Technologies (TAP UTL Technologies)

**Role:**  Software Engineer

**Tools / Technology Used:**

Microcontrollers: P89V51RD2

Software Tools**:** Keil IDE

Hardware Tools**:** Flash programmer, Logic Analyzer, Oscilloscope, Signal generator

Programming Language**:** Embedded C, Assembly

Configuration Management Tool**:** Nil

This device is used to Track a vehicle and check its route. The tracking device consists of a GPS unit and a GSM module. The device collects the information about the vehicle's position, speed, distance travelled and duration of each halt. This data is send to the central station using GSM network.

**Project- Data acquisition and control system** (**Dec 07 – May '08**)

**Employer**: Globe Winner Technologies (TAP UTL Technologies)

**Role:**  Software Engineer

**Tools / Technology Used:**

Microcontrollers: P89V51RD2, LPC2129, MCP2515

Software Tools**:** Keil IDE

Hardware Tools**:** Flash programmer, Logic Analyzer, Oscilloscope

Programming Language**:** Embedded C, Assembly

Configuration Management Tool**:** Nil

This device is used to Track a vehicle and check its route. The tracking device consists of a GPS unit and a GSM module. The device collects the information about the vehicle's position, speed, distance travelled and duration of each halt. This data is send to the central station using GSM network.

**Project- Automated control panel for distribution board** (**Dec 06 – May** '07)

**Employer**: Pentasoft Technologies

**Role:**  Software Engineer

**Tools / Technology Used:**

Microcontrollers: P89v51RD2, ICAD7755

Software Tools**:** Keil IDE

Hardware Tools**:** Flash programmer, Logic Analyzer, Oscilloscope, Signal generator

Programming Language**:** Embedded C, Assembly

Configuration Management Tool**:** Nil

Automated control panel for distribution board is used to automate the power monitoring and controlling of different power points. The device displays the total power consumed on daily basis and stores it for power usage analysis. The controlling of the nodes can be done either by mobile phone or with a wireless control. The controlling task includes setting up of on/off time and force switch off.