SREEDURGA G Software Engineer   
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Objective

* Intend to build a career in the areas of Systems Programming, Real Time Systems and Embedded Systems, which encourages growth and leadership opportunities, by utilizing my technical expertise, innovative abilities and interpersonal skills.

Summary

* Engineering Professional with 7 Years experience in Software Analysis, Design and Development & Testing in Embedded Systems.
* Undertaken technical training Diploma in embedded systems Design (DESD) from C-DAC, TRIVANDRUM for the period of 6 months.
* Good in developing iPhone mobile applications using Objective-C under iPhone OS 3.1.2 using Xcode OS 4.0 and simulator 3.2.1
* Good Knowledge of Software Development Life Cycle design.
* Good at issues on memory leaks, dangling pointer errors, structure packing & Tornado IDE
* Used Configuration Management tool VSS.
* Good Knowledge of Interrupt handling - Hardware Interrupt and through Signal handling.
* Strong in developing system applications using C under VxWorks platform for ICOP-6050(Intel based), ICOP-6150E boards.
* Good knowledge of multitasking application on VxWorks platform.
* Knowledge of Protocol implementation.
* Design and Developed proprietary protocol for communication between handheld unit and ACD (Anti Collision Device) Card on the base of sliding window protocol.

**Professional Experience**

* Currently working as **IT Analyst** for **Tata Consultancy Services**., Bangalore from 1st Dec ’10 to till date.
* Worked as **Software Engineer** for **Kernex Microsystems (I) Ltd**., Hyderabad from 19th June ’06 to 28th Nov.

**Academic Profile**

* **P.G DIPLOMA IN EMBEDDED SYSTEM** Passed with an Aggregate of 80.07% in Feb 2006 from *(CDAC-ACT), Trivandrum***.**
* **B.Tech in Electrical & Electronics** from J.N.T.U, Hyderabad with **73.01%** (Distinction) in May’05.
* **XII** from Board of Intermediate Education with **76.7%** in April 2000.
* **X** from Board of Secondary Education with **70.0%** in April 1998.

**Technical Skills**

**Programming Languages** : C, Data structure, Objective-C, C++

**Hardware** : ICOP-6050, ICOP-6150E

**RTOS** : VxWorks - 5.4

**OS** : iPhone OS 3.1.2**,** Linux

**Embedded Programming** : Kernel Programming, Device Drivers

**Tools** : GDB, VxWorks - Cross Wind Debugger, Memscope, VSS,

Xcode 3.2.1, iPhone Simulator 3.1.2, Interface Builder 3.2.1, Vi editor

**Communication Systems** : RS – 232

**Processor** : Intel I80386

**Project Summary**

**Project #1** : OMI MIGRATION

**Client** : Ericsson

**Language :** C, C++

**S/W Environment :** iPhone OS 3.1.2, Xcode 3.2.1, iPhone Simulator 3.1.2,

Interface Builder 3.2.1

**Organization :** Tata Consultancy Services, Bangalore

**Role**  **:** Analysis, Designing, Coding and Unit Testing

***Project Description:***

The OMI LDCL Framework consists of a generic CAL handler that interacts with generic infrastructure code in RCM to provide a transparent data path from COM to RDB – or all the way to the BE.

First, the OMI Managed Object (MO) is mapped to one or more Managed Resource (MR) objects by the OMI LDCL CAL handler based on a MO-specific mapping table.

Then, the MRs are sent to RCM, using LDCL, and operated on as one or more Database Record (DR)objects via MR-specific OMI LDCL callback functions.

Finally, if applicable, the DRs are converted back to MRs and sent to the BE, also using LDCL, where they are processed by MR-specific LDCL callback functions.

***Role and Contribution:***

* Developed Software Requirement Specification and design for the software.
* Tasks included Preparing & Writing Unit Test Cases.
* Unit and Functional Level testing
* Debugging for Memory protection and systems failures
* Analysis and fixing the bugs

**Project #2** : 21C(N&S)\_VMM\_NOAS\_OFF

**Client** : British Telecommunications plc.

**Language :** Objective-C

**S/W Environment :** iPhone OS 3.1.2, Xcode 3.2.1, iPhone Simulator 3.1.2,

Interface Builder 3.2.1

**Organization :** Tata Consultancy Services, Hyderabad

**Role**  **:** Analysis, Designing, Coding and Unit Testing

***Project Description:***

GIS Directory Search mobile application intents to provide a value added service to BT CCS customers by providing a mobile application that can be used to search and discover CCS customers and their Access Numbers. This application can be used by end users who wish to search for numbers for specific service providers. In addition to the customer and access number data available in the NOAS.

This application will also make additional data collected from CCS customers available for search. The additional data collected would help further categorize and enrich the data allowing more drilled down search. The mobile application will also allow end users to further 'tag' as well as associate custom numbers to the searched data. Numbers appearing in search results can be used to place calls.

***Role and Contribution:***

* Developed Software Requirement Specification and design for the software.
* Tasks included Preparing & Writing Unit Test Cases.
* Unit and Functional Level testing
* Debugging for Memory protection and systems failures
* Analysis and fixing the bugs

**Project #3 :** Anti Collision Device (ACD) or Raksha KavachTM

**Client :** Konkan Railway Corporation Ltd (KRCL).

**Language :** C

**S/W Environment :** VxWorks - 5.4

**H/W Environment :** ICOP-6050, 6150E

**Organization :** Kernex Micro Systems (India) Ltd, Hyderabad

**Role**  **:** Analysis, Designing, Coding and Unit Testing

***Project Description:***

ACD is an onboard control system integrating GPS, CPU, DIO cards and Radio Modem deployed in Konkan Railway and North Frontier Railway. It provides a safety shield to prevent collisions of moving trains and related accidents which can happen due to human errors.

Designed and implemented a real-time, multi tasking, collision avoidance software system on the ICOP x0386 boards running on VxWorks 5.4. Development environment was Tornado 2.0. The firmware was written in C Language.

***Role and Contribution:***

* Developed Software Requirement Specification and design for the software.
* Developed communication protocol for Radio modem through RS-232.
* Developed BSP for ICOP 6150E board.
* Tasks included Preparing & Writing Unit Test Cases.
* Unit and Functional Level testing
* Debugging for Memory protection and systems failures
* Event-log analysis and fixing the bugs

**Project #4 :** ACD Tunnel Repeater (ATR)

**Client :** Konkan Railway Corporation Ltd (KRCL).

**Language :** C

**S/W Environment :** VxWorks - 5.4

**H/W Environment :** ICOP-6050, 6150E

**Communication Protocol :** Proprietary Protocol

**Organization :** Kernex Micro Systems (India) Ltd, Hyderabad

**Role :** Requirement Study, Designing, Coding and Testing

***Project Description:***

ACD Tunnel repeater (ATR) is part of Anti collision device (ACD) is an onboard control system

on which onboard CPU and Radio Modem are integrated. It enables communication linkage between ACD units in ACD network inside the Tunnel. ACD detect and avoid collisions between two trains through inter-communication between them. ACD will communicate with other ACDs with in a radius of 3000mts.

ATR receives communication from one ACD and after passing through ATR network it will be communicated to other ACD which is inside or outside the Tunnel.

It is implemented in Konkan Railways where most of Railway route is through Tunnels.

***Role and Contribution:***

* Application & system programming development of Tunnel Repeater ACD
* Developed Software Requirement Specification and design for the software.
* Developed communication protocol for Radio modem through RS-232.
* Tasks included Preparing & Writing Unit Test Cases.
* Unit and Functional Level testing
* Testing for related problems through GPS simulator
* Debugging for Memory protection and systems failures
* Communication Test S/W is developed to test %Loss between two units inside the tunnel. So that field people identify the locations where to install the ATR
* Event-log analysis and fixing the bugs

**Project #5 :** Drivers for Hardware Abstraction for storage device

**Client :** Konkan Railway Corporation Ltd

**Language :** C

**S/W Environment :** VxWorks - 5.4

**H/W Environment :** ICOP-6050, 6150E

**Organization :** Kernex Micro Systems (India) Ltd, Hyderabad

**Role :** Designing, Coding and Testing

***Project Description:***

Drivers for the hardware abstraction for ATA and Disk on chip storage device are extracted to boot loader.

Common mount point for different storage device eliminates multiple definition of files based on the specific storage devices i.e. ***TFFS, ATA,*** etc., instead use ***acdfs*** for all different devices in the following manner e.g. ***acdfs0\<file name>***.

***Role and Contribution:***

* + Developed drivers for the hardware abstraction.
* Boot order settings for CPU board
* Developed BIOS change software for 6050 and 6150-E

**Project #6 :** Data transfer between ACD and HHU

**Client :** Konkan Railway Corporation Ltd (KRCL).

**Language :** C, Data Structures

**S/W Environment :** VxWorks - 5.4

**H/W Environment :** ICOP-6050, 6150E

**Communication Protocol :** Proprietary Protocol

**Organization :** Kernex Micro Systems (India) Ltd, Hyderabad

**Role :** Requirement Study, Designing, Coding and Testing

***Project Description:***

Wireless communication protocol is designed to communicate between master-server architecture, where master is HHU, responsible to initiate communication with dedicated linked slave device which is our ACD system. This communication is based on one-one mapping(Bluetooth frequency band).It is implemented in stop and wait protocol, Purpose to download ACD event log files , upload the VxWorks (build), upload and download CFG files and restart the ACD System with new build automatically. Communication with slave supports within a range of 100m to master.

***Role and Contribution:***

* Preparations of FDS for stop n wait protocol.
* Automatic configuration of WCS-232 master and WCS-232 Slave device.
* Automatic searching of surrounding WCS-232 Slave device IDS and establish connection between WCS-232 Master Device to a particular WCS-232 Slave Device.
* Preparing & Writing Unit Test Cases.

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