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Mob:- 6363648870

**Objective:**

To work on the latest technologies in software field and use my inherent skills to meet organizational goals and target. To adapt to the present competitive scenario in the industry and emerge as a quality analyst.

## Experience Summary:

* Overall **6+ years** of experience in **Avionics/Aerospace Domain** Development and Testing (Verification & Validation) engineer.
* Currently working in **Creast Aerospace,Bangalore**
* Good programming experience in **C, C++, Scripting Languages (Shell, Python).**
* Exposure in **Linux**/**Unix** and **Windows Family (XP/NT/** Windows 7 SP1**)** environment.
* Good understanding of Embedded Software **IVV** activities (Software Unit testing, **SSIT/HSIT**) in **Avionics** Domain (SATCOM, A400M – FMS (**HMI**), Cockpit and Cabin Lighting System (**CLS**).
* Experience in Software **Verification** (Requirements, Unit Testing, Code Reviews) and **Validation** (Unit Integration & system Testing) using **DO – 178B/C (Level A-D).**
* Extensive Experience in Requirement Based Testing, Hardware – Software Integration Testing and Unit testing in Avionics Domain.
* Strong Testing Experience in **Manual** and **Automation** testing for embedded software.
* Good Knowledge in debugging and problem solving skills and Bug fixing.
* Good Working knowledge of Safety critical Embedded Software development process **DO-178B/C** and Microcontroller ARM 32 bits Cortex – M3 (**NXP LPC 1758**)
* Hand on Experience in **RTRT, DOORS, SCADE, SVN and ARNIC429, AFDX, A485.**
* Good understanding of Software Development Life Cycle (**SDLC**) and **STLC** of process.
* Good working Experience in **Agile methodology (SCRUM and XP)** and **V** Model.
* Having **6 months** Onsite experience in **THALES** **Avionics Ltd.,UK(London)**

# Skill Summary:

Programming Language : C, EMBEDDED C, C++, C++11

Operating Systems : LINUX / UNIX, Windows Family (XP/NT/2000)

Avionics (Communication) protocols : ARINC 429,664(AFDX), ARNIC 661, ARINC 485, RS-232,

UART

Scripting Language : UNIX Shell Scripting, PYTHON.

Networking concept : Socket Programming, IPC, TCP/IP, Multithreading (POSIX)

Software Tools : clearCase/ClearQuest,Tortise SVN,DOORS, RTRT ,WindRiver Workbench (VxWorks),Understand C/C++,Lauterbanch Trace 32

Methodologies : Agile, Scrum, OOAD concept, Design Patterns, UML

**Professional Experience:**

Employer #1 : **Crest Aerospace, Bangalore**

Title :Software Engineer

Date of Employment : Dec.2016 - Present

Employer #2 : **THALES Software India Pvt.Ltd. Chennai**

Title :Software Verification Engineer

Date of Employment :May 2008 – Nov.2016

**Project Details:**

**#Project – 1 : MC – 21 Cabin Lighting Systems (CLS)**

Skills : C, Microcontroller NXP Cortex-M3 (LPC 1758)

Protocol : ARINC 485

Tolls : RTRT (V.8.0.1), Trace 32, Tortise SVN

Duration : Dec.2016 – present

Organization : Crest Aerospace

Team Size : 12 members

Client : ZODIAC AEROSPACE, Hamburg, Germany

Project Overview:

Irkut MC-21 is a Russian single –aisle twinjet airliner, developed by Yakovlev Design Bureau and produced by Irkut, both within United Aircraft Corporation.

The family of Light Control Interfaces is the communication basis for the MC21 Cabin Lighting System. It provides the interface between the A/C and the cabin lights.

The Light Control Interface - Main controller (LCI MAIN) acts as a single control interface between the A/C and the CLS. It communicates as a slave device with the A/C Cabin Management System (CMS), and as a bus master with multiple Light Control Interface 2CHNs (LCI 2CHN) connected on its two output channels. It is responsible for BITE functionality for the whole system.

The LCI 2CHN is a sub device of the CLS. It communicates as a slave device with the LCI MAIN and as a bus master with multiple Light Units connected on each of its two output channels. It is possible to connect discrete controlled Light Units that are installed in Lavatories to the LCI 2CHN.

**Responsibilities:**

* Software requirement document (SRD) study, analysis and implementation using tool DOORS.
* Reverse Engineering into Low Level Design.
* SDD analysis, Review and update.
* Code Evaluation as per ZCC coding standards.
* SVCP analysis, review and update.
* Writing Test Cases, Test Scripts for component Testing and System Testing using RTRT and executing Target system.
* Analysis of the test results and software verification report update.
* Review the test cases and test procedures using Peer-Reviews.

**#Project – 2 : A400M (FMS – HMI)**

Skills : C++

Tools : RTRT, DOORS, Understand C/C++

Duration : 36 months

Organization : THALES

Team Size : 15 members

Client : Airbus

Project Overview :

Human machine interface is the software, which acts as interface between machine (i.e. the plane) and Human being (Pilot). Here, in this project we develop the interface where the user can get and manipulate data accordingly for meeting the requirements at that particular instance of time. This is similar to web pages where you have got some selection buttons, drag down lists and etc. But the difference is we are doing this for a aircraft and there will be many interlinked pages with lot of data. And this is Level-B software (DO-178B). This will be much more complex than normal web pages. The interface is CDS (cockpit display system), and our pages will be displayed on Display Unit (DU), which is a subsystem of CDS.

**Responsibilities:**

* System requirement study, analysis and implementation using tool DOORS.
* Reverse Engineering into Low Level Design.
* Prepared Software Verification Plan for A400M FMS Unit Testing.
* Involved in planning & Estimation in V & V activities, Prepared Verification reports, Coverage reports.
* Involved in Page verification of various FMD pages such as PERF & WIND pages.
* Unit testing (Test Development, Peer review, Execution) of Low Level Design.
* Code Evaluation as per company standards.
* Analysis of the test results and software verification report update.
* Review the test cases and test procedures using Peer-Reviews.

**#Project – 3 : CIS – IOP**

Skills : Ada 95, C

Tools : RTRT, DOORS, Understand C/C++

Duration : 24 months

Organization : THALES Software, Chennai

Team Size : 22 members

Client : Thales Avionics System, France

Project Overview :

The aim of this project CIS – IOP (Cockpit Information System – Input/output Process) is to modernize the Input output-processing unit and make it more efficient and reliable. It collects the information from different sub-systems and displays their status on the display screen. IOP sub-system is composed of 2 identical IFC (Integrated Flight Cabinet) that sit in the avionics bay of C295/CN235/PG/P3 aircrafts.

The IOM module (one in each IFC) is a slave of the IOP module and performs the discrete and analog Inputs/Outputs. The software is loaded in the IOP modules. These modules (one in each IFC) ensure communication through Avionics buses (1553 and A429) and perform the Data Concentration Functions by interfacing with other systems. Each IOP is composed of 2 CSCI: DCF (Data Concentration Function) and CDS (Centralized Diagnostic system).

The DCF (DO-178B Level B software) performs acquisition of different data from avionics equipment (aircraft sensors, switches, radio etc). It concentrates and processes these data to provide information for other equipments.

The CDS (DO-178B Level D software) performs maintenance function and also acts as the central warehouse for all the failures. It receives information from the Avionics System Core (ASC) and from the Set of Equipment (SOE).

**Responsibilities:**

* Reverse Engineering into Low Level Design.
* Unit testing (Test Development, Peer review, Execution) of Low Level Design.
* Code Evaluation and Review Test result report.
* Working on significant document for the clients like, CAD (Coverage Analysis Documents), Indicator updates and PR (Defect Sheet) update on the daily basis.

**#Project – 4 : TOP FLIGHT SATCOM**

Skills : C

Tolls : DOORS, ClearCase/ClearQueast, Wind River (VxWorks) Workbench

Protocol : ARINC 429, AFDX (A664), ARNIC 781

Hardware : Satellite Data Unit (SDU), JC Air 429EX.

Duration : 6 months

Organization : THALES Avionics Ltd., UK (London)

Team Size : 12 members

Clients : Airbus, Boeing, Embraer

Project Overview :

Top Flight SATCOM (TFS) is a next generation SATCOM system offering voice and data services for cabin and cockpit applications for communication with ground networks over the Inmarsat satellites.TFS will be suitable for use with Inmarsat classic Aero, Swift 64 (also known as GAN) and SwiftBroadband (also known as BGAN).

The TFS SDU(Satellite Data Unit) is expected to be used for a variety of applications including:”cabin use”,”cabin & cockpit use”,”cockpit use”.

“Cabin use” equipment is expected to support either one or two SwiftBroadband/Swift 64 changes and have limited I/O capacity.

“Cabin & cockpit use” is expected to support both SwiftBroadband/Swift 64 and Classic aero services and have extension I/O capability.

“Cockpit use” is expected to support Classic aero services with growth for SwiftBroadband and have extensive I/P capability.

The TFS SDU will communicate via standard interfaces such as ARINC 429 and well as future AFDX ARINC 664 interfaces. TFS will interface with new aircraft systems.(In particular to picocell and Wi-Fi services) as well as to network services as per as ARINC 763.

**Responsibilities:**

* System requirement study, analysis and implementation using tool DOORS.
* Development Change Note (DCNs) fixing and QFN analysis.
* Identifies and analyzes issues that require more attention and works towards fixing defects.
* Analyze requirements, preparing scenarios for test procedures, test cases and test harness.
* Developing test procedures based on scenarios.
* Executes and debugs test procedures on the target by manual.
* Review the test cases and test procedures using Peer-Reviews.

### Academic Qualification:

Master in Computer Application (**MCA**) from INDIRA GANDHI INSTITUTE OF TECHNOLOGY **(IGIT**), **BPUT**, Orissa with 70%.

**Relevant Studies:**

Standards Refer – RTCA (DO-178B/C),DO-254,DO-248B, ARP–4754,ARINC, MISRA C/C++ .

**Personality Traits:**

* Excellent work ethics, dependable and responsible.
* Imaginative, motivated and able to work effectively under pressure.
* Strong logical and creative problem solving skills, good oral and written communication skills, and excellent analytical skills.
* Willingness and ability to learn from others, shares ideas with others and participate in a team atmosphere.

**Personal Details:**

Father’s Name : Mr. Balakrishna Mohanty

Passport No : **G5096220**

PAN card No. **: ALPPM8753Q**

Marital Status : Male/Single

Languages known : English, Hindi, Oriya

Place: Bhubaneswar

Date: (Manoj Kumar Mohanty)