## SidharthPriyadarshan

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#### SUMMARY

**Over 10yearsof experience in System Software,Validation andDebugging.**

* Programming skills in C and PYTHON. Skills acquired in GraphicsSoftware Engineering and GPU validation and Simulation.
* Knowledge in Pixel, Vertex and Geometry Shader Development using CG, 3DSMax and NVIDIA FXComposer, System Validation, Windows, Embedded Linux Validation& Debugging.
* Extensively worked in creating automation suites in **PYTHON**.
* Presently working on **Intel Haswell/Broadwell ULT**Automation, validation and Debug.
* Willingness to learn new technologies and the ability to put them into practice.
* Published Technical papers inside outside of parent organization on CPU, GPU and NPU validation and Tests.

# PROFESSIONAL EXPERIENCE

* Currently working as a **Graphics Software Engineer** at**Intel Technology India Pvt Ltd**from feb 06 till date.
* Worked as a **CE Engineer**with **WYSE Technology**, Bangalore. From Jan’2005 to feb17th,2006.
* Worked as a **Software Engineer** for **VXL Instruments**, Bangalore. From Sept’ 03 to Dec’ 04.

**SKILL SET**

* **Languages** : **C& PYTHON**.
* **OS** : Windows 8.1.
* **Tools**  : **Source Insight**.
* **Issue Tracking System** : Team Track, Tibbet, HSD.
* **Version Control System**:Perforce (P4V).
* **Technologies** : **Multimedia,DirectX, USB & WUSB**.
* **Debugger** : Microsoft Kernel Debugger (WinDBG), GDB.
* **Processor** : Intel Atom, ARM PB11MP, ARM v4.
* **GPU** :**SGX seriesPowerVR**, Broadcom GPU, Intel HaswellGPU.

# EDUCATIONAL QUALIFICATIONS

* Bachelor of Engineering in E&CE - 2003 from **SMIT** under **BPUT**, Orissa.
* Driver Development Training by T. Roy form Code Machines California USA.
* DirectX Game Development from Game Institute. (Online)

**PROJECTS INVOLVED**

# Project#1

## Project : CloverTrail Windows 8 Tablet.

**Client** : End User.

**Team Size** : 16.

**Role**  : Sr. Tech Lead Direct3DValidationand Debug.

**Duration** : Jan’ 11to till date.

**Environment** : Windows 8 and Windows Blue.

**Language : C& PYTHON**.

**Description:**Currently working with Visual and Parallel Computing Graphics Software Development and ValidationGroup, on PowerVR SGX 545 Graphics Core. Primary Activities involves ownership of Development and validation ofDirectX (UMD and KMD layers) and OpenGLInstallable Client Driver software. Authored High Level Design and verificationplans for DirectX and OpenGL components of Graphics which includes DirectX9/10, OpenGL 2.1, conceptualized execution strategy, within organization and managed offshore Development and validation execution, Created synchronous Issue Tracking along with other platform teams.Co-ordinated with other developers, architect&internal validation Customer to streamline the Graphics Software Engineering activities for Development and debug. I was also a part of Pre-Silicon Verification Environment and used Graphics Software Simulator to verify the prerelease driver for clovertrail. Worked with Microsoft internally on the issue filed by their team on inbox Windows 8 Driver for Display and minimal SW accelerated D3D.

Coded compliance application for OpenGL Device Driver.

Coded Portrait mode display driver for Clovertrail cost reduced version Tab.

I have also published several papers for modern Gfx computing both on Intel and Non Intel platforms. And on many other non Graphics related topics e.g. System characterization (Software Technique), Validation methodologies to name a few.

**Responsibilities:**

* Responsible for theD3D and OpenGLGraphics Driver software.
* Ownership of performance evaluation on multiple D3D/OpenGL and related components.
* Responsible for implementingautomation using PYTHON.
* Responsible for creating check in validation suite and regression validation suite for teams across different sites, used mostlyWHQL/DTM tests using PYTHON.
* Responsible for debugging all customer related issues, Platform Integration issues, which includes touch and censors.

# Project#2

## Project : CedarTrail Windows 7 Nettop and Netbook(IGD).

**Client** : End User.

**Team Size** : 22.

**Role**  : Tech Lead Direct3D Validationand Debug.

**Duration** : Jul’ 09to Dec 2011.

**Environment** : Windows 7.

**Language :**  C& PYTHON.

**Description:**Worked with Ultra mobile Platform software Development and Validation Group, on PowerVR SGX 545 Graphics Core, with Intel Graphics Memory Controller Hub version4.5 (Display controller). Primary Activities involves ownership of Development and debug ofDirectX (UMD and KMD layers) and OpenGLInstallable Client Driver, Authored High Level Design plans for most of the components of Graphics which includes DirectX9, OpenGL2.1, conceptualized execution strategy within organization and managed offshore development and validation execution, Created synchronous Issue Tracking along with other platform teams.Co-ordinated with Imagination Technologyat the vendor location &internal development and validation to streamline the Graphics Software Engineering activities for Development and debug. Worked with Microsoft internally on the issue filed by their team on inbox Windows 7 Driver for Display and minimal SW accelerated D3D. Worked with Platform Integration and validation to narrow down Graphics issues and helped them create their test suite. Worked with customers onsite to address their issue on their form factor design. Participated in many Plugfest organized by Intel and addressed Gfx issues. Worked on project postmortem to identify gaps in current validation and updated validation plan accordingly.

**Responsibilities:**

* Responsible for the Developmet of D3D and OpenGL up to 2.1Graphics Driver software stacks and Compliance Application for OpenGL.
* Ownership of performance evolution on multiple D3D and related components.
* Responsible for Creation new validation plan on windows 7.
* Also responsible for an overlapping OaktrailGfx project based on PowerVR SGX 535 GPU, targeted for convertible netbook.
* Responsible for creating check in validation suite and regression validation suite for development, used WHQL/DTM tests using PYTHON.
* Responsible for implementingautomation using PYTHON.

# Project#3

## Project : IP for CE Device Development withMoCA on ARM.

**Client** : Internal, never productized.

**Team Size** : 3.

**Role**  : Software Engineer.

**Duration** : Nov’08to June’ 09.

**Environment** : Linux (embedded) kernel 2.6.28 (ARM), UBOOT, CRAMFS.

**Language :**  C& PYTHON.

**Description:**Primary Activities involves MoCA (Multimedia Over Coax Alliance ) Characterization.

Written kernel driver module for MoCAcharacterization on Linux kernel version 2.6.28, this includes measuring context switching time measurements, Provided complete report for semaphore, Mutex, Interrupt, tasklet/Bottom half creation measurements on Real time Linux environment with ARM PB11MP Board as target. Coordinated with ODC(Offshore Development Center) for development. Written and distributed results with appropriate documentation of the code with teams across geos. Worked in modifying Linux Kernel to perform close to real time capabilities. Digested the complete requirements from all the teams within the group and Delivered all assigned modules much before the expected deadline. Project got cancelled before starting the MoCA1.0 protocol implementation.

**Responsibilities:**

* Responsible for the Development ofMoCA software stack and driver.
* Responsible to create target development environment with Linux for ARM PB11MP board.
* Created multiple Drivers for verifying the overall system performance.

# Project#5

## Project : Ultra Wide Band Networking(Wireless USB 1.0 &WiMedia).

**Client** : End User.

**Team Size** : 10.

**Role**  : System Validation.

**Duration** : February’06 to Dec ‘08.

**Environment** : Windows XP SP2, VISTA, Fedora Kernel 2.4.

**Language :**  C& PYTHON.

**Description:**Primary Activities involves Development &Validation for WUSB and IP.

Validated MAC F/W, Developed the Drivers, Middleware Control Application, Spec Level verification, WHQL Compliance, NDIS, Radio Control and Vendor Specific Command implementations. Actively participated and completed validation from ALPHA release to RC for WUSB and IP.

Completed Spec level test for compliance.

Completed testing NDIS with NDIS/HCTtest tool and WHQL (Windows Hardware Quality labs) test on Host Ware Adapter.

Participated in UWB Linux bring up and validation, also completed cross-Platform validation which includes Windows and Linux clients communication with IP (Linux) and IP+WUSB (Windows). Also documented and made test machines available over INTEL network for Demo purposes for some point of time.

**Responsibilities:**

* Responsible for the Firmware compliance,Device Driver, Middleware Control Application.
* Involved in Firmware Verification and Hardware Compatibility Test and Test bed preparation.
* Responsible for implementingautomation using PYTHON.

**Project#6**

**Project** : x86 based ROM BIOS Loader

**Client** : Corporate Customer.

**Team Size** : 3

**Role** : Platform Software Development and Validation.

**Duration** : 2 months

**Environment** : Windows CE, InControl 2.1(Network Management System).

**Description:**

In this project my primary work was to test the OEM start up code, Timer ISRs. Incompatibility with other OEMs for 4 Product lines which was typically in Assembly Language and also tested the Ethernet Port I/O code and also Conducted tested the DMA Transfer rates for Different Page sizes, Company Logo authentication test with a progress bar. Also tested for signed Binaries. I have also used HyperTerminal to debug the boot loader. Also used In-Circuit Emulator (ICE) to test the functionality of the Boot Loader before porting it to the VIA x86 based Board

**Responsibilities:**

Involved in Development, porting and System Software Testing.

Involved in Network Testing, Network Setup and Client Management, Test bed preparation.

**Project#7**

**Project:** ITONA CE Thin Client Configuration.

**Client** : Corporate Customer.

**Team Size:** 4.

**Role:** Platform Software Development and Validation.

**Duration:** On Going Product.

**Environment:** Windows CE 5.0, Platform Builder, WIN2K Adv. Server.

**Description:**

ITONA CE is a Windows CE based Thin Client Configuration which includes customized configuration of Global ICA 8.0 (Citrix) Settings ,RDP general settings & has a unique support for XServers like SOLARIS & LINUX through Terminal Emulation by third party Software Pericom. My statement of work is to set up Network infrastructure for this project in which I have worked in Network Load Balancing of RDP and ICA .I have also prepared the test bed and test design and also I have worked in the module integration.I have also involved in setting up the Certificate Server Environment for secured Authontification of Client terminals in the Ethernet Network. This project includes 3 releases for different versions if ICA and Pericom Terminal Emulations.

**Responsibilities:**

Responsible for the testing 802.11b/g protocol, OS Development.

Involved in Unit Testing and OS Porting.

Involved in interacting with various Clients.

(SidharthPriyadarshan)