

**PHIL VAN LE**  
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**SAN JOSE, CA 95111**  
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**OBJECTIVE:**

Embedded Firmware/System Engineer.  
Embedded Firmware Validation Engineer.  
Hardware/Firmware Bring-up Engineer  
Diagnostic Development Engineer.

**SKILLS:**

Strong background in develop Board Support Package, Bringup and Porting **RTOS** (**Vxworks**, **IOS**, **PSOS**, **THREADX**, **LINUX**, **RTEMS** and **FreeRtos**) Different processors **ARM**, **Intel Xcale**, **PowerPC**, **MIPS**, **Sun MicroSpark**, **8051**, **Atmel**, **PIC**, **STmicro** , **XA49**, **CSR**, **Freescale** and **Nordic** .

Including the following areas:

- MCU Firmware Development, BSP Firmware Development, Device Driver, Hardware Bring-up Diagnostic, Custom ASIC Drivers, System On The Chip (SOC), Diagnostic software, Power consumption firmware development.
- Familiar with SPI, I2C, **USB**, I2S and HID busses.
- Logic Analyzer, Scope, Bus Analyzer (SPI, I2C, **USB**, I2C..), DVM, **Bluetooth** and WIFI sniffer
- Low power device Characterization.
- Read Schematic, Board Layout and develop custom test fixture.

**EXPERIENCE:**

**May/2010 – Present**

**Jawbone SF, CA**

**Senior Embedded Firmware/System Engineer.**

Responsible develop and validate firmware for **audio** and wearable products including:

- Review Hardware Schematic, bring-up new platform, validate SOC new H/W product, measure and debug power consumption, developing and prototype new Hardware.
- Develop Firmware for **audio** and wearable product including: I2C, SPI, **USB**, I2S, BT and power consumption
- Develop special test fixture to emulate step counter, Power consumption testing and validation.
- Develop building test instruments to measure and validate battery and charging system.
- Develop testing firmware for production.

**Apr/2008 – Apr/2010 (contractor)**

**Corvelent Inc. Morgan Hills CA**

- Develop low level firmware and Bring-up the automotive product use the Freescale Processor, Microchip PIC32 and TI TMS430 Microcontroller to control the Digital Radio, Digital Power Amplifier, Digital mixer, CAN bus, **Bluetooth** transport layer and all Digital sound chips and performs data accusation for all the sensors including thermal, fan control and all the engine sensors.

- The firmware include the following function:

- o Using PIC controller to control the rotary tuner for the HD radio.
- o Using PIC controller to control all the sound chip mixer function.
- o The Auto smart computer include the X86 board running XP
- o **Embedded** Real Time operating system
- o Freescale processor to interface with CAN transport layer and stack to diagnostic the automotive and all the feature control of the car.

Develop I2C Driver, SPI Driver, **USB**, Serial communication driver, Timer, DAC and CAN Bus interface driver.

Development under Linux, C, Assembly Language, Microsoft Driver

Development tools, COMICS IDE and IAR tools chain.

Bring-up custom FPGA system controller including modify the hardware.

**Jun/2007 – March/2008 (contractor)**

**Consentry Networks – San Jose CA**

- Develop diagnostic and bootup code for custom deep inspection packet for Consentry networks processor. (The custom processor that contains 128 MIPS32 core processors).
- Maintain the Uboot Bootloader for host controller Board base on PowerPC processors to boot Linux OS and Power on Diagnostic.
- Porting UBOOT bootloader to Consentry networks Switch platform.
- Develop Board Support Packet (BSP) and Power on self test for Consentry Platform.
- Develop HAL under Linux kernel, Flash Driver, Compact Flash Driver, I2C driver, Porting Broadcom MAC and PHY.
- Develop Diagnostic for Consentry Switch product including.
  - o Standalone Diagnostic
  - o System Diagnostic under Linux OS.

**Dec/2006 – Jun/2007 (Contractor)**

**Ikanos Inc – FREMONT CA**

Bring-up Ikanos Network Processor (SOC) MIPS 24KC base RISC host processor. Using FS2 emulator for initial bring-up,  
Develop and porting boot loader U-boot to the SoC.  
Porting RTEMS, Linux **RTOS** including tool chain, GCC compiler and build chain. Using Mips assembly, C programming, develop under Linux host and Cygwin window host.

**Dec/2005 – Feb/2007 (contractor)**

**PalmOne Inc – Milpitas CA**

- Develop **Bluetooth** UART Transport firmware Broadcom **Bluetooth** Chip set under Palm OS.
- Bring-up and develop Transport for CSR **Bluetooth** Chips
- Develop and Bring-up Palm Handheld product including write device driver, boot loader and **Bluetooth** device driver under Palm and Linux OS.
- Bring-up new hardware with Intel Xscale processor.
- Fix software bug on the ESI **Bluetooth** stack.
- Lead Debug and Bring-up new BSP for new platform for different OS.
- Linux **RTOS** development BSP and low level layer, Boot code, boot loader, U-Boot. Linux, Pocket PC and Palm OS.

**Dec/2003 – Dec/2005**

**SMART MODULAR TECHNOLOGIES**

**FREMONT CA**

- Develop customized firmware for wireless **Bluetooth embedded** solution for OEM customer including: Medical **Bluetooth** Product, **USB** dongle, Serial Port Cable Replacement, Stereo Head set and **USB Bluetooth** Printer adapter. Provide totally **embedded** solution with CSR BC02 **Bluetooth** processor, ARM7, Zeevo, Philip XA-49 and 8051 under Bluelab VM, uClinux and eCos.
- Develop RF test and functional test all **Bluetooth** product using Microsoft C/C++ and Labview to control Agilent **Bluetooth** tester
- Bring-up new hardware, develop DVT radio test suite, design test fixture, customize production test, develop comparable test suite on Widcom Stack, Blue opal and Microsoft XP **Bluetooth** stack and support customer software and hardware issues.

**Sept/1999 – Jun/2003 – Brecis Communication**

- Leading the software group to develop **Board Support Package For Vxworks, Linux and Threadx RTOS** to run on the Brecis Network Processor (system on the chip), Develop Bring-up Diagnostic to bring-up hardware include the following : **MIPS R4KM processor, 2 LSI logic ZSP Logic Digital Signal Processor, 8051 Power controller, System controller, RS232, 2 Ethernet MAC, Security engine, Peripheral Block include SCC, MPI, SPI, IC2, GPIO and JTAG port.**
- Develop all the tool chain including compiler, loader and diagnostic monitor for bring-up hardware and compiler the BSP. Bring-up the JTAG tool for R4KC MIPS32.
- Setup Debug equipment including: Scope and logic analyzers
- Porting PMON (Hardware debugger) to Brecis SOC product to provide hardware and loader for Linux **RTOS**.
- **Develop 8051 microcontroller micro code to monitor all the power stage for the System on the chips Power controller to maintain the power for the analog circuit, maintain the system stage when chips go to sleep mode.**
- **Develop LSI ZSP logic Digital Signal Processor Elf converter, Elf loader to load ZSP microcode from the HOST to the LSI ZSP DSP.**

#### **Sept/1998 – Apr-2001 BrigeWave Communication (Contractor)**

- Develop Board Support Package for VxWorks and ThreadX **RTOS** for Receiver and transceiver Wireless board for the wireless product of Brigewave Communication including PowerPC MPC860/850 with SCC Ethernet Driver and Brigewave Custom ASIC.
- Develop Hardware Diagnostic Monitor to support Hardware Bring-up Group.
- Setup Debug equipment including: Scope and logic analyzers
- Develop 8051 micro code to maintain the wireless power analog circuit to monitor the power level change.

#### **June/1997 – Apr/1998 – Set Engineering (Contractor)**

- Leading Software Group to develop Bring-up Diagnostic for ADSL cable modem including ARM Processor, PowerQuick MPC860, **USB** driver, Ethernet Interface, MPI, I2C and DOSCIS interfacing ASIC.
- Develop Board Support Package for PSOS **RTOS** to support above target.
- Develop Quick-Turn tool using the 8051 to setup the configuration in the emulation mode for early development.

#### **Feb/1997 – Feb/1998 – Euphonix (Contractor)**

- Develop Boot and diagnostic code for Intel 386EX **embedded** processor in the real mode and protected mode using the Microsoft C 16 bits version with the dynamic linker for R1 Euphonix **Audio** Hard disk recorder product.
- Develop 80286 processor system controller code to monitor the I/O including display, power supply and **audio** matrix switch using the real mode with Microsoft C 16 bits version.
- Develop boot up code for 1394 firewire using the IDT Mips processor to interface with host PC to interface with the GUI include the Galileo system controller and the TI Lynx PCI controller.

#### **June/1995 – June/1997 – Sun Microsystems**

- Develop Board Support Package for VxWorks, Chorus **RTOS** for Set Top box product including ARM processor, PowerPC MPC860, MPC8240 and Sun Micro Spark, PLX 9080 System controller, Windbond PCI brige and Sun Custom JAVA ASIC.
- Develop Diagnostic Monitor for support hardware group and Tools to support EST JTAG tools for debug Monitor.

#### **March 1992 - June/1995 E.O Inc.**

As a first Diagnostic **engineer** to design and implementation of hardware debug strategy for EO's Pen base Computer ASIC, board and system include the following functions:

- Develop power-up code for Pen base computer under AT&T HOBBIT Base microprocessor.
- Support micro-code group to develop power controller firm ware test suites.
- Bring-up the first prototype product with hardware design **engineer**.
- Develop FLASH Programmer on the PC to Program 8 and 4 megabyte Flash ROM.
- Develop DTMF drive, **Audio** drive, printer drive, PCMCIA drive for diagnostic monitors.
- Develop Debug monitor for hardware engineering.
- Develop characterize diagnostic program to perform characterization on the EO Penbase computer.

- Develop Functional diagnostic for board and system Level including the following Test: Pen Test, IDE test, PCMCIA test, Memory Test, interrupt logic test, Codec audio record and Playback test, Power management test, Modem Test, Cellphone test, UART test, MMU test, CPU test, LCD test, Keyboard test, SCSI test, Suspend and resume test, CRC checksum test.
- Develop dynamic burn-in software to burn-in board in production.
- Develop all test procedure and instruction new product to production to test house.

**Dec 1989- Mar- 1992      Nexgen Microsystems . Diagnostic Development Engineer.**  
**2202 North First street**  
**San Jose CA 95122.**

As a startup firm with the following responsibility:

- Develop software tools for IMS tester including :  
 Develop convert program from Valid ASCII format to IMS binary format using C language.  
 Develop characterization software to measure and analyze AC and DC characteristics for Nexgen chips set.  
 Develop menu driven for IMS tester to load test vector file size more than tester memory.  
 Develop scan test for Nexgen chip set.  
 Develop Custom Test Fixture and test software to bring-up Nexgen CPU board on the ESIA bus and Micro Channel bus using 80x86 assembly and Turbo C.  
 Develop program to control IEEE logic Recoder to compare the output capture from logic Recorder with simulation output.
- Develop CAD tools :  
 Develop convert program to convert Verilog output to IMS tester format.  
 Develop program to generate IMS ester channel mapping with chip pinouts.  
 Develop binary file header to generate checksum to checksum the down load program.

**May-1987      Sun Microsystem    Diagnostic Test Engineer**  
**Oct 1989      1340 california Circle**  
**Milpitas, CA 95035**

- Develop software functional diagnostic for SPARC product including: board functional diagnostic, Unit and system level to support production areas. Using C and assembly language.
- System manager for Mircovax under VMS O/S. Maintain system accounts. Develop special tools to convert diagnostic test execute file to test vector format to perform functional test on ATE functional testers.
- Develop test vectors for ASICs run under LSIM simulator software generated test vectors for ASICs.
- Working in new product development including the following areas : Review designs for testability, Develop diagnostic scope loop to bring-up new product and characterization system perform at board and system level.
- Train production test to debug board and system level.
- Analyze hardware and software bugs at board level and systems level.

**SEP-1984      Genrad Corp.    Diagnostic Engineer**  
**MAY- 1987      510 CottonWood Drive**  
**Miplitas, CA 95035**

- Develop software diagnostic for Vibration Controller System at board and system level using C and Assembly language.
- Develop boot code for microcontroller Hd64180 including : Boot up code, debug monitor, Interrupt handler, Protocol logic between Qbus and HD64180 bus and power-up diagnostic.
- Develop power-up diagnostic for MDSP board. Functional of this board is handling the calculation sampler data from DSP TMS320 the main CPU for this board is NS32016. The DSP TMS320 generated all FFT and DFT data to process the analog input from the sensor. Using 32016 assembly language.
- Develop System perform diagnostic using C language under RSX-11 OS for the following task: frequency cutoff, channel crosstalk, AC and DC offset, Setup and hold time, channel to channel match.

-Develop System calibration software to calibration different A/D and D/A circuits of the different AC data table to be used by the OS as a boot configuration.

**SEP - 1981      Amdahl Corp.      Diagnosctic Test Development Engineer**  
**SEP - 1984      1345 Arques Drive**  
**Sunnyvale, CA 94948**

-Develop diagnostic software for in-house tester base on MC68000.  
-Develop power-up diagnostic software custom in-house tester.  
-Develop functional test program on the DTS70 board test system using Pascal Language.

**Dec-1979      Gould Biomation      Diagnostic Test Engineer**  
**SEP -1981      3560 Lakeside Drive**  
**Santa Clara CA 95050**

-Develop board functional test fixture and diagnostic Test program to test logic recorder product using IEEE equipments.  
-Develop test fixture and test program for board level on the Genrad 179x functional tester.

#### **EDUCATION :**

June 1980      Heald Institute of Technology  
SF , CA  
B.S.E.T  
JUN-1983      San Jose City College  
San Jose CA  
Music and Audio Technology.  
OCT-1987      UC Extension  
Software Engineering Technology.

#### **HOBBIES:**

-Electronic Musician, Computer Music Programmer, Compose Music Via MIDI,  
Develop program for music via Midi, Audio engineer.

#### **REFERENCES:**

Available upon requests.

# PHIL VAN LE

- San Jose, CA, US

## Contact Information

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- 4087996032

## Work History

**Total Work Experience: 44 years**

- **Senior Embedded Firmware/System Engineer** Jawbone SF  
May 01, 2010
- **Contractor**  
Jun 01, 2007
- **Contractor Ikanos Inc Â FREMONT CA**  
Dec 01, 2006
- **Contractor Palmone Inc**  
Dec 01, 2005
- **SMART MODULAR TECHONLOGIES**  
Dec 01, 2003
- **Brecis Communication**  
Sep 01, 1999
- **Brigewave Communication**  
Sep 01, 1998

- **Euphonix**  
Feb 01, 1997
- **E.O Inc**  
Mar 01, 1992
- **Diagnostic Development Engineer Nexgen Microsystems**  
Dec 01, 1989
- **California Circle**  
Oct 01, 1989
- **Test Engineer Sun Microsystem Diagnostic**  
May 01, 1987
- **Gould Biomation Diagnostic Test Engineer**  
Dec 01, 1979
- **Develop I2C Driver, SPI Driver**
- **Flash Driver, Compact Flash Driver Consetry Networks**
- **I2C Driver**
- **Diagnostic Engineer 1984 Genrad Corp**
- **Diagnosctic Test Development Engineer 1981 Amdahl Corp**

## **Skills**

- **hardware** - 22 years
- **debugging** - 20 years
- **qa** - 18 years

- **rtos** - 16 years
- **production** - 13 years
- **consulting** - 12 years
- **audio** - 11 years
- **i2c** - 11 years
- **microcontrollers** - 11 years
- **soc** - 11 years
- **spi** - 11 years
- **usb** - 11 years
- **bluetooth** - 10 years
- **computer** - 10 years
- **controls** - 10 years
- **embedded systems** - 10 years
- **firmware** - 10 years
- **radio** - 9 years
- **software** - 17 years
- **engineering** - 9 years

## Work Preferences

- Likely to Switch: False
- Willing to Relocate: False
- Work Authorization:
  - US
- Work Documents:
  - US Citizen
- Security Clearance: False
- Third Party: False
- Employment Type:
  - Full-time
  - Contract - Independent
  - Contract - W2
  - Contract to Hire - Independent
  - Contract to Hire - W2

## Profile Sources

- Dice:
  - <https://www.dice.com/employer/talent/profile/90d4b96d5d2d012d357bf3e0fc7654b0>