ENGINEERING MANAGER

Summary
To design, develop and manage products in the field of consumer electronics devices, networking protocols, internet applications and connected devices. Vision to create personalized experiences based on machine learning.

Highlights

- Linux, Unix, RTOSs - OS 9 & VxWorks, DOS, MS- Windows,
- Socs related to media players and set tops -- Broadcom, Intel, STMicro, Sigma DesignÂ
- Microprocessors/micro controllers -- ARM, MIPS, 8088, 8087, 8031, 8051
- Digital and analog hardware
- Streaming, playback, Live, VOD, HLS, MP4
- HTML5 MSE. EME, Video tag, MHP, OCAP, Blu-ray, BD-J, java security framework. XML
- C, C++, Visual C++, Visual Basic, Assembly, Java , J2ME (CDC, PBP), JVM , ODBC, DAVID
- JSON RPC, REST and SOAP.
- NASC, Linux containers Â - LXC
- Control theory
- Familiarity with machine learning techniques - logistic regression, Neural networks
- Familiarity with Machine learning packages Tensorflow, DL4J openCV
- Familiarity with CUDA and computer vision
- Matlab, Octave

Complete Life cycle development of products of mass deploymentsÂ
Middleware, applications, Device Drivers, Hardware,multimedia streaming and playback, consumer electronics, cable, industrial and power plant automation.
Advanced knowledge of embedded systems
Interface design and implementation
Advanced knowledge of content protection systems
Architect consumer electronics products related to multimedia and networking. Porting embedded web browser based systems.
Agile Development process
Contributing in specification groups.
Managing open source code and associated licensing rules.
Master's thesis in adaptive control, penchant for machine learning
Managing cross functional - cross vendor development, interfacing with customers,Building teams, mentoring team members. Managing offshore teams.Â

Accomplishments

Instrumental in building first generation Blu-ray players. Led development of BD-J stack, which was one of the most complex piece of software in Blu-ray player.

Led architecture and development of platform software for Nucleus middleware for Seachange, managed large teams spanning multiple projects.
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Helped architect and develop high performance software for set-top platform on a very tight deadline.

Responsible for representing Pioneer technically as a CE industry member in OCAP specification group and suggesting fundamental changes to spec to satisfy needs of CE industries in cable market.

Developed excitation control system for alternators, built complete hardware and software for the product.

Experience

Engineering Manager
November 2010 to May 2016 Company Name ¼ City , State

- Managing multiple work streams and teams related to platform software development for set-top boxes. Interacting with customers, vendors and multiple cross functional groups. Managing product development and supporting deployment of products.Â
- Evangelized and led development of new middleware solution for OTT and othermultimedia playback on set-tops. The middleware is being designed for a very responsive user experience, minimum copy transfer of buffers along playback/record pipelines, high performance playback of multiple contents in several video windows and content security. The middleware was driven by of JSON APIs routed from from a mini web server.
- Led a team for developing cutting edge platform software solution for set-top box for MSOs.The software has several features like HTML5 UI with webkit/QT, homenetworking, DVR, content protection, DRM and playback on 2nd screenslike iPads etc. Software is deployed on a Broadcom SoC with Liberty Global inPoland and Czech republic. Worked on EOS flavor of this productwhich is going to be deployed in some countries in Europe by end of this year. Worked on optimizing the stack for low latency wrt resource management and channel changes. Also worked on leading a team of developers towards development ofsoftware components for headless gateway product for home networking with new Intel Chipsets.Â The middleware was driven by of JSON APIs routed from from a mini web server.
- Led a group towards porting of Comcast RDK platform on ST Micro SoCs forset-tops. Led a group towards porting/development of software for RDK platform for RNG150 Comcast platforms.

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Engineering Manager, Architect
January 2004 to November 2010 Company Name ¼ City , State

- Worked on development of technologies in the field of consumer electronics.
- Led a team of engineers towards development of BD-J stack for Blu-ray Players. Wrote initial code for some core modules like file system and application management, led the development of other modules for the stack - security framework, JMF and Java TV subsystem, interactive audio, graphics subsystem (based on AWT, HAVi and DVB extensions) and all other BDJ specific modules. Led the efforts on all certifications required for BD-J (JAVA, BD+, BD-J APIs). Worked on supporting the product in market after shipment.
- Played critical role in development and architecture of OCAP middleware, the technology was later sold to a third party. Contributed to

specification group for OCAP. Worked on architecture of application framework, security framework and file system and some other modules, architected and wrote the code for most complex component of OCAP - DSM-CC file system.

- Development of Advanced Media Player, this media player had a Blu-ray player at its core and other network enhanced functionality for video playback, music, photo management for local and remote content, this had music recommendation features on client device with the help of remote server in cloud. Also worked on architecture for making closed and open source code co-exist within the same system. Â The media player was modeled as being driven by Restful JSON APIs.

Senior Software Engineer
April 2000 to January 2004 Company Name ï¼ City , State

- Worked towards development of various technologies related to interactive TV set-top boxes for different markets.
- DTV4.0(Sheep) compact client development for Comcast on PACE Daytona Box on GI headend. Dynamic Internet Protocol Interface (DIPI) client for DTV Navigator to support Inband IP data transfer to set-top via IP Gateway. Various types of IP access options viz Force Tuning, Channel tracking were developed. IP Gateway development, I worked on basic DSM-CC session protocol implementation to provision continuous feed sessions for inband pipe with the Scientific Atlanta DNCS(Digital Network Control System) and also provisioning Power TV DIPI clients on this CFSs.
- Micro 1.0 and Micro 2.0 clients featuring Java based TVGuide, VOD, microbrowser and TVTicker. My responsibility in this was to develop Tuner, MPEG Java APIs, porting of VOD client, TVGuide-CA java layer TVGuide integration, enhancement to data service and other integration and bug fixes. Worked on feature of displaying MPEG I/P frames on a dynamically updated carousel content from a Liberate server. Other part of my responsibility in the project was to write glue layer at micro JAVA virtual machine for applications using a Multicast File System protocol to tune to data/video channels and I/P frames.

Education
M.Tech : Control Systems , 1988 Indian Institute of Technology ï¼ City , India Control Systems
B.E : Electrical Engineering , 87 Devi Ahilya University ï¼ City , India Electrical Engineering
Course : Machine learning , 2016 Coursera - Stanford USA
Skills
Lead Development, build teams, mentor, interface with customers and vendors, architect end to end. Develop products in consumer electronics, digital TV, industrial automation, control systems
C, C++, JAVA, JVM, Embedded Linux, LXC, Device Drivers
Â Working with Socs, RTOS - OS9, VXWorks
DVB, MPEG, H.264, HLS, MP4
JSON, REST, SOAP, XML,SNMP,TR069
Microcontrollers, hardware
Matlab, Octave
Mathematical modeling.
Integrating content protection systems
Agile Methodologies, Scrum, SDLC, project planning and management, leadership