

Curriculum Vitae



Babu T

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Total Employment Overview

- ✧ Working as Assistant Professor (Teaching Experience) in Arts and Science college(Rajapalayam Rajus' College) from 22-6-2015 to till date.
- ✧ As Lecturer (Teaching Experience) in National Engineering college, Kovilpatti MCA Department for 1 Year 3 months.
- ✧ Total IT industrial experience of having 10 years 7months in Taiwan, Republic of China & around 2.4+ years in India.
- ✧ Good knowledge in Apple iPhone operating system, Android, Network domain, Embedded systems, wi-fi, wimax and application fields.

Employment individual breakeven

- ✧ Currently working as a Assistant Professor in PG Department of Commerce With Computer Application, Rajapalayam Rajus' College from 22/6/2015 to Till Date
- ✧ 3 years(1/6/2011 to 31/5/2014) as senior software engineer in Jazz Hipster Corporation, New Taipei city. Taiwan. Republic of china.
- ✧ 2 years(Total ACCTON & AWB 25/12/2006 to 31/5/2011) as a senior engineer in AWB (**ACCTON Wireless Broadband**) Technology corporation, Hsinchu, Taiwan.
- ✧ 2 years 5months as an engineer in ACCTON Technology, Hsinchu, Taiwan
- ✧ Around 2 years 3months(12/10/2004 to 31/12/2006) as a Senior software engineer in AscenVision Technology Inc., Taipei, Taiwan
- ✧ Around 1 year (17/9/2003 to 19/8/2004) worked as an embedded software engineer in Monta vista linux in Mototech Inc., Hsinchu, Taiwan.
- ✧ Around 1 year 3months (27/5/2002 to 21/8/2003) Worked as a Lecturer in M.C.A department, National Engineering College, Kovilpatti, TamilNadu.
- ✧ Around 2 years 4months (2/1/2000 to 8/5/2002) worked in Indian Institute of Science, Bangalore, India as programmer in linux and vc++

EDUCATIONAL PROFILE**ACADEMIC QUALIFICATIONS**

Examination	Board/University/College	Year of passing	Percentage/ Grade
Subject: Computer Science & Applications	UGC NET Qualified as Assistant Professor	June 2024	--
M.Phil., (Regular) Computer Applications	Madurai Kamaraj University Evening College. Tamil Nadu. India	3 rd October 2019	78.2%
M.C.A., (Regular) (Master of Computer Application)	Alagappa University, Karaikudi, Tamil Nadu. India	1999	72.5%
B.Sc. (Regular) (Computer Science)	Rajapalayam Raju's College. Madurai Kamaraj University Tamil Nadu. India	1996	79.4% (University 8 th rank)
Business Professional Programmer [“O” Level]	Department of Electronics & Accreditation of Computer Courses, (DOEACC) NewDelhi.	1996	“B” Grade
H.S.C	Board of higher secondary education, Tamil Nadu. India.	1993	80%
S.S.L.C	Board of secondary education, TamilNadu. India	1991	84.4%

TEACHING PROFILE

#	Name of the Institution	Designation & Department	From	To	Total Years
1.	Rajapalayam Rajus' College, Rajapalayam	Assistant Professor in PG Department of Commerce with Computer Application	22-6-2015	Till date	10 years 2 months
2.	National Engineering College, Kovilpatti	Lecturer in MCA Department	27-5-2002	21-8-2003	1 Year 3 months
Total Teaching Experience:					11 years 5 months

PARTICIPATION IN EXAMINERSHIP / QUESTIONPAPER SETTING / VALUATION

1. Act as an external examiner for B.Com(CA)/(IT) valuation(July 2022) in SRNM college, Sattur.
2. EVS Valuation in Madurai Kamaraj University, Madurai
- 3.B.Sc (computer science/IT)/BCA first year board valuation in Madurai Kamaraj University, Madurai.
4. Participate in external university exam invigilation for both UG and PG courses
5. Last 7 years act as an additional examiner for B.Com(CA) third year board valuation(recent May 2025) in Madurai Kamaraj University, Madurai.

LIST OF BOOKS/BOOK CHAPTERS PUBLISHED

S.No.,	Book Title	ISBN	Year
1	Programming in C++ A Simple Guide To Learn C++	978-93-5967-283-0	2023
2	Introduction to Data Science	978-93-3416-611-8	2024

Attended FDP / Workshop in National / State Level:

S.No.	Programme	Organised by	Date	Level
1	Five days FDP on “Android Application Development”	TamilNadu Skill Development Corporation (Naan Mudhalvan) at Madurai Kamaraj University	30-1-2023 to 3-2-2023	State
2	Five days Faculty Development Programme on ‘Professional Ethics and Classroom Managerial Skills’	IQAC, Rajapalayam Rajus’ College,	19.06.2023-23.06.2023	State
3	Mastering the Art of Research Methodology: Empowering the Faculty for Excellence”	Research cell, Dr.D.Regupathy Raja Memorial Library, Rajapalayam Rajus’ College, In Association with Society for the Advancement of Library and Information Science	30.10.2023 to 3.11.2023	National Level FDP
4	NAAC Sponsored Two Days Workshop On “Outcome Based Education”	P.S.R.Engineering College, Sivakasi	27.10.2023 to 28.10.2023	National Level Workshop

5	One day workshop on “Enterprise Resource Planning”	IQAC, Rajapalayam Rajus’ College	1-Feb-2024	State
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CONFERENCES PARTICIPATED & PAPERS PUBLISHED IN PROCEEDINGS

#	International / National / State / Regional Level	Title of the Conference	Organized by / Sponsoring agency	Title of the paper presented	Date	ISBN (if any)
1.	International	Data Science & Information EcoSystem21 (ICDIE’21)	MGNMRS College for Women (CS Department) and MKU (CS Department)	Identification of User Pattern Using Web Mining	4 th June 2021 and 5 th June 2021	978-93-80686-04-2

Paper Presented in workshop, seminars, symposia

#	Name of the Programme	Participated/ Attended At	Presented paper (Title of the paper)	Place & Date
1	State Level Seminar	Rajapalayam Rajus’ college	Presented a paper on “iPhone Application”	Rajapalayam, 18-3-2017
2	State Level Seminar	Rajapalayam Rajus’ college	Presented a paper on “A Study in cyber security issues in implementation of Digital India”	Rajapalayam, 23-9-2017
3	National Seminar	Rajapalayam Rajus’ college	Presented a paper on “A Study on Electronic payment systems: Basics & Security concerns”	Rajapalayam, 28-9-2018

Participation in Workshop /Conferences/Seminar:

S.No	Topic	Organized by	Venue	Date
1	Participated a Two days workshop on “Cyber Security”	Cyber Forensics Research Laboratory(National Cyber Defence Research Centre) & Department of Computer Application	Kalasalingam University	30 th & 31 st December 2016.
2	2 day International Conference on “Data science & Information Ecosystem’21”	MGNMRS College for Women (CS Department) and MKU (CS Department)	MGNMRS College for Women, Madurai	4 th and 5 th June 2021

3	One day workshop participation on “AI Application Development using IBM Cloud”	Chalapathi Institute of Engineering & Technology, and IBM India Private Limited	Guntur , Andhra Pradesh,India	9 th June 2021
4	Skill Enhancement Seminar	REDHAT LINUX CERTIFICATION by ADVANTAGE PRO IT Training Division of Vectra Technosoft Pvt. Ltd., Chennai	Rajus’ college, Rajapalayam.	30-8-2022.

Other Activities:

- 1) Become an additional Controller of Examination from Dec 2021 to Dec 2023.
- 2) Acted as a Resource Person Deliver Guest Lecture on “**Innovative Techniques in Digital Skills**” in Capacity Building Programme organised by PG Department of English, Rajapalayam Rajus’ College on 13.10.2023.

Technical Knowledge

- ✧ Worked on Apple iOS7.1 Apps for Bluetooth & Airplay.
- ✧ Worked on google’s Android1.6 OS based M70003 series tablet pc.
- ✧ Worked on Atheros AR5008 & AR7100 wi-fi based chipset, Beceem’s Mobile subscriber station(CPE) BCS200 & BCS5200 chipset, Sequans sqn1130 & sqn1210 wimax CPE based chipset. Worked on PowerPC processor MPC8313, MPC8272/MPC8248. Broadcom BCM56304, BCM53262M, BCM5482s chipsets based switches. Also ARM9, ARM11 processor, MIPS32 and MIPS64 processor.
- ✧ Network Domain knowledge, U-boot, RedBoot, Linux kernel-2.6.21, Debian-sarge, Hardware/Software bypass knowledge, Vmware workstation Virtualbox working knowledge, CVS, SVN, git version control working knowledge, NSIS205(Null Soft Installer Script) packaging simple usage.
- ✧ Having good skill in SNMP, TR069, Vxworks(RTOS), Trace32, BDI2000 etc.,
- ✧ Familiarity with objective C, C, C++ and php

Industrial Experience

Project #1 : iK5BT2, iK5BTL Apps development

Product : Kicker apps controlled speakers, Stillwater, Oklahoma, US

Environment : Apple iOS(iPhone Operating System)7.1, Xcode5.1, Mac OS X V10.9.2(Mavericks), Appstore app name : kickstart

Language : Objective C and Coco framework

Description :

Port all ios6.0 apps code to ios7 by redesign/remodify some of the interface builder design files. iPhone Apps develop to control various functions of our speaker dock(external accessory). Apps develop for iPod, iPhone 4,4s,5,5c,5s iPad, iPad2, New iPad whose iOS version greater than 6.0. After power on dock & iphone, the dock can be switched to lightning mode/Bluetooth/Auxiliary/USB mode. The iPhone should be connected to dock lightning cable/Bluetooth pairing connection/auxiliary/USB port of the speaker dock. Now the protocol should be verified between dock and iPhone, after the authentication between these 2 devices are success. Once protocol verification is success treble/bass/Equalization slider selection of user from Apps values would be send to the dock. Dock use to play the current song with the

user appsettings.

Apps also have firmware update function to update Bluetooth only dock(iK5BT2) and lightning, USB, Bluetooth combined dock(iK5BTL) new dock firmware into the dock from apple store. It has also a factory reset function to sync the flash into factory firmware. Some other features are user selected iPod song as alarm ringtone feature, facebook post function feature to post the currently playing user song into his facebook wall, so that his friends can see it. Nightmode feature to reduce the volume automatically to half, when user select his nightmode start and end time. App auto launch feature to automatically open the apps when connect to dock.

This app has developed for both USB, Bluetooth & lightning port environment with ios6 and above, which has a seperate design for ios7 and above.

Project #2 : Moshi Apps library development

Product : Moshi monde, san Francisco, California, US

Environment : Apple iOS(iPhone Operating System)6.0, 7.0, Xcode5.1, 5.0, Bonjour service, Mac OS X V10.8(Mountain lion), SMSC/Microchip CX870 airplay module

Language : Objective C, C and Coco framework

Description :

Develop a library for communication between apps and airplay device. This library acts as an interface between device and upper layer using socket. Remote app use bonjour browser to detect the airplay devices in the current network domain. Depends on the user selection this device IP will establish a socket connection to device using the particular port via the developed library. Once connection established the app can use library to send or receive data from airplay CX870(bridgecode/SMSC/Microchip) module, Where CX870 module is a slave for the MCU. The data received by module will be written to a register, which will inform to MCU. The MCU will parse the register data to do appropriate action like LED on/off, airplay speaker device volume/treble/bass increase/decrease, change audio DSP equalization values, firmware update triggering, device name change etc.

All data transmission send via wi-fi network tunneling. The device module runs with Juke Box SDK 3.1 firmware MR9.

Project #3 : SB701(Sound Bar 701) IOS Apps development

Product : Jazz hipster branded app controlled soundbar speakers, Taipei, Taiwan

Environment : Apple iOS(iPhone Operating System)6.0, Xcode5.0, Mac OS X V10.7.0(Lion)

Language : Objective C and Coco framework

Description :

This app develop for our own branded Bluetooth sound bar speaker. This app has a feature to switch sound bar speaker to play from different input mode devices. The sound bar should be connected to SPDIF1(can be DVD/VCD player..),SPDIF2(can be DVD/VCD player..),auxiliary(can be apple iPod/iPhone/iPad..), Bluetooth(can be apple iPod/iPhone/iPad..) input which are currently playing some songs. Using your iPhone/iPad connect to the sound bar Bluetooth, once connected use app to switch between different input devices to play to the sound bar from SPDIF1/2/auxi/BT devices songs at the same time. Also this app support facebook, DSP EQ controls of sound bar etc.

Project #4 : iK5, iK5BT Apps development

Product : Kicker apps controlled speakers, Stillwater, Oklahoma, US

Environment : Apple iOS(iPhone Operating System)4.2, 5.0, Xcode4.02, 4.2, Mac OS X V10.6.8(Snow leopard), Appstore app name : kickstart

Language : Objective C and Coco framework

Description :

iPhone Apps develop to control various functions of our speaker dock(external accessory). Apps develop for iPod, iPhone 3g, 3gs, iPhone4, 4s, iPad, iPad2, New iPad whose iOS version greater than 4.2.

After power on dock & iphone, the iPhone should be connected to the 30pin UART port of the speaker dock. Now the protocol should be verified between dock and iPhone, after the authentication between these 2 devices are success. Once protocol is verification is success treble/bass/Equalization slider selection of user from Apps values would be send to the dock. Dock use to play the current song with the user apps settings.

The Bluetooth tab page in app prioritize the iphones/iPads which were already connected and disconnected now list. Based on the list the user can change the priority of this list to make the dock connect to different iPhone/iPads in the list by press the disconnect function in app. Also can autoplay a song from iphone/iPad library using the selection/disselection in this page. Plus enable or disable Bluetooth connection to the current phone.

Apps also has firmware update function to update new dock firmware into the dock from apple store. It has also a factory reset function to sync the flash into factory firmware. Some other features are user selected iPod song as alarm ringtone feature, facebook post function feature to post the currently playing user song into his facebook wall, so that his friends can see it. Nightmode feature to reduce the volume automatically to half, when user select his nightmode start and end time. App auto launch feature to automatically open the apps when connect to dock.

This apps has developed for both UART and Bluetooth environment with ios4.2 and ios5.0.

Project #5 : Wimax driver porting for google Android1.6 OS

Product : USB211(BCSM250 dongle), M70003 series tablet pc

Environment : Google Android 1.6, Wubi-9.04, linux-2.26.29, CPU-VIA WM8505

Language : C, shell script

Description :

Our tablet pc cpu is of 300MHz, 128MB RAM, NAND flash:2GB, also have Builtin wifi:2.4GHz 802.11b/g.

Purpose of this project is to use Wimax connection for internet access via USB211 dongle connected M70003 series tablet PC(same as IPAD). For this product port our USB wimax driver to Android1.6 OS & linux-x86 platform. Reflash the target from release mode to debug mode version of Android1.6, for backdoor entry to device. Port beceem chipset related libraries for BeceemWiMaxApp using gcc_4.2.1 to Android 1.6 platform. Port CSCM (Client Server Connection Manager) of Beceem to target platform for wimax connectivity. Also work with adb(Android Debug Bridge) for upload/download android application “apk” files from/to the target.

Project #6 : TR069 implementation for wimax platform

Product : RG212

Environment : u-boot1.1.3, linux2.6.21, sqn1210, Ralink(ASIC 3052_MP2)

Language : C

Description :

This product runs with ralink SOC(ASIC 3052_MP2) mainboard(AP SDK 3.3.0.0) with buildin wifi, external slot for sequans1210 wimax chipset(runs ecos/vxworks firmware).

Implement the full features of TR(Technical Report)069 for remote management of our residential wimax gateway device for firmware upgrade, configuration download/upload, device status etc.

Also maintenance of webpage of RG212 device using HTML, CGI script, Jscript etc., using goahead webserver in the device.

Project #7 : SNMP implementation for wimax platform
Product : RG211
Environment : Vxworks-6.5 running under linux2.6.21, ARM9, sqn1130
Language : C
Description :

Implement SNMP features in vxworks for our private mib. Private mib handles for firmware download, configuration download or upload remotely as well as locally. Also implements some of the standard mibs.

Project #8 : Connection Manager for Wimax
Product : RG231(Residential Gateway,CPE)
Environment : Ubuntu-linux, ARM11 processor, Beceem BCS5200
Language : C
Description :

To make the connection between different base station with the cpe is the main function of the connection manager in WiMax environment. This product setup some of the configurations related to connection manager.

Project #9 : Ethernet driver development for Hewlett Packard diagnostics
Product : ES3528BH corona switch
Environment : U-boot-1.1.6, MPC8313(Motorola PowerPC) CPU, BCM53262 MAC
Language : C
Description :

The U-boot command for SPI bus driver is implemented in this project. In Corona switch Hardware control spi bus was used for the spi flash and software control spi bus was used for the BCM Ethernet chip. The spi driver will initialize the soft spi bus by enabling the BCM chip, and MPC cpu will send the MOSI signal to the chip. Depends on the command request send, the BCM chip will reply the MISO signal output to the MPC cpu as command. This signal will read as the command output display in console. Using the command all the Ethernet port status, speed, duplex can be verified and changed by the end user. Also read/write all other broadcom chip registers for Giga Ethernet and Fast Ethernet ports.

Project #10 : I2c bus driver development for HP diagnostics
Product : ES3528BH corona switch
Environment : U-boot-1.1.6, Mpc8313(Motorola PowerPC) CPU, BCM53262 MAC
Language : C
Description :

The u-boot command for I2C bus driver is implemented in this project. In corona I2C bus is used to control one of the 2 miniGBIC port. The I2C bus selection is based on the EPLD system and status register. In order to verify the working of I2C bus the SFP(Small Form factor Pluggable) Transceiver module is plugged into the miniGBIC port and read the contents of the SFP.

Initially the I2C bus will probe the connected SFP using the I2C bus driver; later another command will display the contents of the SFP vendor name, part number, serial number, manufacturing date code, vendor specific date etc.

Project #11 : EAP8526A Diagnostics
Product : Enterprise Access point wi-fi product diagnostics
Environment : Ecos, redboot, Atheros AR5008, AR7100, MIPS
Language : C, redboot
Description :

As per the requirement by the siemens customer, the following diagnostics features

have implemented. The EAP's different hardware components can be verified for its working using this diagnostics. The redboot diagnostics code will load into DRAM of the target and verify 1) Different LED's (power, Ethernet (10/100/1000mbps), mini pci etc.). 2) To check whether the mini PCI socket of the target to mini pci card is working properly.

3) DRAM mounting to target is working properly or not, by charge or discharge DRAM cells using different patterns and verifies it.

4) Target mounted flash is able to read/write/erase properly or not by diagnostics command.

5) Push (reset) button verification.

6) Network connectivity verification (ping, NIC speed).

7) PLL register values to convert into clock speed in MHZ of the processor verification.

The Siemens bootloader uses u-boot and kept in flash, so the redboot start to run from DRAM load through u-boot tftp. Once verify all the above functionality there won't be any redboot codes in the final product.

Project #12 : Led Function for Diagnostics

Product : ES4650M switch

Environment : Vxworks, PowerPC 8267

Language : C, shell script

Description :

In order to help hardware engineer to verify the different LEDS (power LED's, Network led's, system LED's) this project is implemented. The led's can verify in odd/even, led on/off, blink, On/off all etc. Also to enable/disable green/amber LED's at different network ports. The diagnostics LED command can also select a particular port to turn on/off, green/amber led on.

Also during the manufacturing process, the manufacturer can use this command to verify the different target boards LED's mounted to target correctly.

Project #13: Wimax loopback wirespeed

Product : RGW-230(Residential Gateway-230)

Environment : U-boot-1.1.5, Infineon CPU

Language : C

Description :

This project is request by the automated testing team as per the request of their customer to verify the different Ethernet ports. The command line code of u-boot need to generate VLAN packets from the cpu port to Ethernet ports 0-4. These packets should use the maximum speed of the Ethernet port (ie., wirespeed(100Mbps). The transmitting and receiving packets should be in loop back mode.

This uses Infineon CPU, with tantos-0g(PSB6970) Ethernet switch controller version 1.2. CPU connected to port 5, and ethernet ports from 0 to 4. Twinpass switch is the driver for the switch device. Changing the MII registers of Ethernet ports to loopback mode, with port based VLAN registers enable or disable to send/receive packets to verify the performance for wire speed.

Project #14 : JTAG scripting

Product : Business service gateway 12

Environment : Linux, chameleon debugger, ARM9/11 processor

Language : JTAG scripting

Description :

Using signum systems InCircuit Emulator to debug some of our hardware components of our target develop some JTAG scripts/macros. In-Circuit Emulator enables a programmer to access an on-chip debug module which is integrated into the CPU via the JTAG interface

JTAG scripts are designed to verify target board specific hardware components test. The

scripts used here were written for verifying various functions of the APP2xx/3xx and APP2K/3K ARM based network processor. Also to run on LSI's Doral board (APP2xx/3xx)(BSG12 board) and LSI's Spyglass board(APP2K/3K)(Robin board).The Tests scripts were written to run with Signum Systems JTAG debugger utilizing their Chameleon Software.

The scripts utilize many but not all C operators to perform various functions and use Chameleon specific Macro calls.

Some of the hardware components are HP's Gort's Leg main board LED, Wireless Interface Card(WIC) LED, DRAM test, EPLD register read/write test,I2C bus test, UART transmit receive test etc.,.

Project #15 : Debug tools(Trace32, BDI2000)

Product : RGW's and Switch device

Environment : u-boot, Linux, MIPS, PPC

Language : CMM scripts

Description :

Implement many cmm scripts to read/write flash devices, debug u-boot or kernel using Trace32. Also able to use BDI2000 config files related to target board for crashed flash recovery or dump the flash content to file to verify the contents etc.

Project #16 : Copy-protected DOM(Disk On Module) image construction

Product : AscenFlow

Environment : Debian-sarge, Linux kernel 2.4.31

Language : C, shell script

Description :

To separate the product (Ascenflow) code with the copy protection code to make the product code more secure.

Copy protection means the product code cannot be copied/ hacked by others. For that product code will be mounted safely as encrypted and readonly.

The below loop-AES-v3.0d, util-linux-2.12q, AROFS (Ascenvision Read Only File System), initial ramdisk, lomount-key-2.12h utilities are used for this. These utilities will patch appropriate encryption codes to original product code to make the product code more secure.

Loop-AES-v3.0d utility uses an AES128 encryption for the loop back device to generate a loop module. Util-linux-2.12q utility used to generate "losetup" tool for setup and control loop devices. That is to attach/detach/query the status of a loop device. AROFS is an encrypted filesystem designed to be used in initial RAM disk (initrd) at boot time. Its keys are hard coded. It encrypts with blowfish algorithm using 3, 448-bit keys. Since it's a read-only file system, a file system image must be created before. Its done by genarofs program. Initial ramdisk contains some binaries and libraries to load release kernel and its modules (ext2, ext3, jbd, loop). lomount-key-2.12h help to avoid using password while mounting partition automatically.

Project #17 : NFS supported polygraph building

Product : For QA

Environment : Linux-2.4.31, debian sarge(3.1)

Tools used : polygraph-2.8.1 package

Description :

Purpose : Using this method multiple polygraph machines can be booted with a single upto date stable version of the polygraph. Only the nfs-server needs to update with the latest polygraph binaries.

NFS server:

Using debian sarge as base system build a NFS-server using portmap and nfs-common packages along with the necessary settings for nfs mount(/etc/exports). Use the current stable polygraph source code to make necessary polygraph binaries. Copy those binaries to the nfs-client mount point of the nfs-server.

NFS client:

Made a client image using scripts with necessary debian packages, 2.4.31 kernel support, initial ram disk option. The above scripts construct a 64MB DOM firmware image with nfs-client support to mount the polygraph binaries at boot time. Also made some scripts to setup the ipalias for sending polygraph traffic from different server ips and client ips.

Project # 18 : Platform dependent firmware check

Product : AscenFlow

Environment : Linux-2.4.31

Language : php-4.3.10 script

Description :

Purpose: To improve the performance of Ascenflow by making different platform firmwares.

Ascenflow product initially have P0(3 NIC,512MB RAM,P3 celeron), P1(5 NIC, 1GB RAM,P4 processor), P2(5 NIC, 1GB RAM, Dual CPU) hardware platforms. That is it uses different hardware specs with high performance. Initially all hardwares use the same firmware image. Once it was in customer hand thought of implementing different platform firmwares by using different kernel configurations to improve the performance.

For separation made a fix firmware image which contains some script for existing customers. Later releases made validation check during compile time itself in the update firmware and in the production firmware. Also there is some firmware check for wrong firmware update to another platform. That is P0 firmware cannot be updated to a P1/P2 hardware and vice versa. Later also made P3(9 NIC, 1GB RAM, Dual cpu) hardware with/without fiber option firmware without any problem.

Project # 19 : DOM(Disk On Module) firmware activation for production

Product : AscenFlow

Environment : Windows, using php-4.3.10 and apache-1.3.31

Language : php script

Description :

Purpose : To initiate the hardware using software installed DOM with particular model, serial number and region.

Client side:

Install apache, php in windows machine and configure apache for php scripts as index file. Write a php script along with html tags for selection of device model, serial numbers, region of the device, target DOM's ip and copy to windows machine. Start apache in windows machine, run IE with the above production php script. After select and enter all details, it will send request to server(DOM) using DOM ip. The entered details will be checked with the DOM, if it match the hardware then it activate the DOM with the entered model, serial number and region. Otherwise it won't activate and display the reason for not activation.

If the DOM gets activated then the hardware information's like serial number, MAC-id, model number, build string, date and time of activation will be stored in a file for future reference for the production engineer.

Server side:

DOM installs product software also contains php script related to this activation. This code will send the number of NIC's, its mac address, DOM build(Software) date details to client if the send details are match with hardware. If client request for 2nd time with the already activated DOM then server will send machine already activated information to client.

Project # 20 : License upgradation function for flow

Product : AscenFlow

Environment : Windows, using php-4.3.10 and apache-1.3.31

Language : php script

Description :

Purpose: To upgrade the model of the QOS device (Ascenflow) product.

Some of the models of Ascenflow can be upgraded to a higher model. For this apache, php needs to be installed in a windows machine as in the above project. Run IE with license upgrade php script. This contains serial number and model number as input. Once the information entered it will generate a license key using some predefined algorithm. The same key function has implemented in the DOM(software). In the WebUI under license upgrade, copy and paste this key will upgrade the model to higher one, once rebooted. If the license key is wrong then the WebUI will pop up an error message.

Project #21 : SpamAside log generator toolProduct : SpamAside!

Environment : Debian-sarge(3.1), Linux kernel-2.4.31

Language : C

Description :

Purpose: To simulate logs of 1 month for the SpamAside product to test its quality

SpamAside is a mail spammer device to filter spam mails. Using date & time, sender, receiver email id, sender ip, action, size, hits and name of the file as fields to generate mail logs. Formats for generating mail log patterns are.

1)Action=rejected

*{time}, {clientname}, {clientip}, {from}, {to}, action={type}, reason={reason}

*sample:

*2005/07/26 19:45:19, unknown, 219.134.31.186, gdsagdsagdsagdsagdsa@aol.com,

*popogigi1975@yahoo.com.tw, action=rejected, reason=Relay access denied

2)Action=passed

* {time}, {clientname}, {clientip}, {from}, {to}, action={type}, size={size}, hits={hits}

* sample:

* 2005/07/26 19:43:41, ms23.hinet.net, 66.28.44.140, owlgoowkwhbrst@warpbreach.com,

* ysyang@spam53.green-computing.com, action=passed, size=9520, hits=7.14

3) Action=not-delivered

* {time}, {clientname}, {clientip}, {from}, {to}, action={type}, size={size}, hits={hits},

file=\${\$r_msg}{file}

* sample:

* 2005/07/26 19:59:09, ms23.hinet.net, 211.20.186.32, 1323_2347_109922565@rtmail.ctinews.com,

* ysyang@spam53.green-computing.com, action=not-delivered, size=39185, hits=17.608,

* file=spam-71f03bd414d08d1f676256b2257b2db5-20050726-195907-96608-03

4)Action=infected

* {time}, {clientname}, {clientip}, {from}, {to}, action={type}, size={size}, hits={hits},

* virus={virus_name}, file=\${\$r_msg}{file}

* sample:

* 2005/07/26 04:38:07, smtp7.tom.com, 202.108.252.137,?@smtp7.tom.com, king@cc.ntnu.edu.tw,

* action=infected, size=43104, virus=Worm.SomeFool.P, file=virus-20050726-043805-41163-01-55

Project #22 : Flow log generator and parser

Product : Flow Report

Environment : Windows-2003, using php-4.3.10, 5.0.3 and apache-1.3.31

Language : Php script

Description :

Purpose : To check the performance of the flow report handling bandwidth logs. And the performance of the parser parsing logs to database.

To simulate different Bandwidth Management system logs for the flow report log receiver and parser for a given time. Install apache and php as in project #4. Here log generator

script will be copied under php script root directory of a windows machine. Once it start running enter some patterns like src, dst ips, protocol value, sport, dport values, inclass, outclass name, application name, user name and the flow report ip to send the traffic. Here the duration is fixed to 1 minute. For the rate of 500 req/sec, needs a P3, 1 GHz machine. There is another script in which the duration can be changed.

The Flow traffic parser utility should copy under flow report directory. This was used to parse the received logs to the stored database value. Using this its easy to find out any missing send logs or not parsed logs in database for mismatch format or data.

Project #23 : CVS server backup

Environment : Linux-2.4.18

Tools used : Rsync package

Description :

Purpose : For RD to make the backup of the Ascenflow product source code.

Setup and maintenance of cvs code server backup using Rsync package of linux.

Extract Rsync package in the rsync client(backup) machine. Set appropriate settings in the client and cvs code server machine for backup the code daily. Here crontab utility used for backup daily night time.

Project #24 : AOS develop and release

Product : AscenLink

Environment : LFS-6.0(Linux From Scratch)

Tools used : All necessary LFS packages

Description :

Purpose : To make a base environment for AscenLink code to work.

Build an AOS developer environment by following the LFS manual, using vmware with Debian OS. Once complete all necessary packages, made a tar file along with AOS sources for developer environment. For AOS release write a script to remove unwanted binaries, libraries, compiler, debugger related files etc.. to shrink the package size to fit in a 64MB DOM.

From the beginning of this product usage, there is a problem of ssh. That is the user login of ssh has problem where as root login has no problem. So debug the ssh package of AOS and find the problem is caused by the /dev/tty permission. And this problem has solved by making/extracting the tar of AOS packages using “p” option.

Project #25 : MAC spoofing API

Client's Name : Motorola, Horsham,US

Product : MS1000

Environment : MontaVista Linux 3.0 (embedded linux)

Language : C

Description : In order to attain the MAC spoofing concept of the Media Station 1000, this project is helpful. This device has 1 WAN port(eth0) and 1 LAN port(eth1). After manufacturing of this board there is no LAN port MAC setting in the YAMON(boot loader). Once it was in the hands of customer Motorola thinks of implementing this MAC spoofing through remotely running API. This API will check for the presence of the LAN MAC id. If its not it will set a new LAN MAC id which is reliable to WAN MAC and it will set new WAN MAC id to the device.

Project #26 : Remotely image load validation

Client's Name : Motorola, Horsham, US

Product : MS1000

Environment : MontaVista Linux 3.0 (embedded linux)

Language : C

Description : In order to avoid from hackers to change the OS code or boot code remotely, we have a mechanism in this project. The YAMON(boot code) will check the parameters of the loading OS header to match with the board's default configuration. If it matches then it will load the OS into the board otherwise it will reject the OS. Here the header has some significant format to match with the bootcode of the board.

Project #27 : Wireless throughput performance

Client's Name: Motorola, Horsham, US

Product : SBG940 Cable Modem

Environment : Microsoft windows 2000

Language : VC++ 6.0 (MFC)

Description : In order to manufacture our cable modem product's wireless performance the project has been implemented. This SBG940 cable modem has 2 antennas for receiving and sending the wireless signal from the client station. The cable modem is act as an access point. In the manufacturing factory using this software the operator has to read the serial number and HFC MAC address using card reader. These values will be check with the Product MIB using SNMP. If this match the client will request the server to send packets of particular size and duration. Within that duration the overall throughput for particular channel will be calculated and result will be displayed.

Project #28 : Various API tools

Client's Name: Motorola, Horsham,US

Product : MS1000

Environment : MontaVista Linux 3.0 (embedded linux)

Language : C

Description : The different API's used here are

- 1) control block – To swap between 2 different OS, if one of the OS got corrupt this api can swap with the other
- 2) load os – To load the portion of the corrupted OS flash area with the new OS code
- 3) led_ctl – To check the functionality of the different leds according to the application running
- 4) wmaccfg – To set the default MAC address for the board.
- 5) Sysinfo - To know some of the board parameters like serialnumber,hardware version, software version etc...
- 6) reset - To reset the board

Apart from the above various manufacturing api's also designed.

Project #29 : YAMON (Yet Another MONitor (bootloader))

Client's Name: Motorola, Horsham, US

Product : MS1000

Environment : MontaVista Linux 3.0 (embedded linux)

Language : C

Description : To run the Media station 1000 gateway it needs a bootloader with default parameters. Some of these parameters has been developed and included in the bootloader to load the filesystem, kernel properly from the flash. With active and alternative OS, the starting address has been identified and informed to the bootloader code in case of the compressed or uncompressed binary image of the kernel.

Project #30 : Tools Designing in Linux**Client's Name : Indian Institute of Science****Environment : Red Hat Linux 7.1****Language : C & C++**

Description : Using various IPC calls different types of tools has been developed and implemented for further testing. One such tool that is useful for monitoring the performance and status of various resources. This is wide openly helping in the process of system administration. And one more tool is useful for knowing the number of semaphores presented in the application etc., Designing of the procedures followed to automate the system administration. And test for the same. Developing the code for those procedures in c++.

- Checking for the status of processes.
- Generating time slices for knowing resource utilization.
- Current number of semaphores for all application etc.

Project #31 : Linux firewall**Client's Name : Indian Institute of Science****Environment : Red Hat Linux 7.1****Language : C & C++**

Description : The aim of the project is to set the firewall to deny forwarding services to clients by default. i.e. a packet filter may decide to deny the packet, accept the packet (or) reject the packet. This project involve in collecting the various circuit level switching details, free ports available in the server, ip chaining, packet filtering details and routing details. Also coding details for the above.

Project #32 : Intranet Administration**Client's Name : Indian Institute of Science****Environment : Red Hat Linux 7.1****Language : C & C++**

Description : This project involved various utilities like file tracer, file transfer, screen capture and system utility. Analysis, coding and implementation of the above details are done by me.

Project #33 : Geographical Information System (GIS)**Client's Name : Indian Institute of Science****Environment : Microsoft windows'98****Language : VC++ 5.0 (MFC 4.2)**

Description : The aim of the project is to analyze the Karnataka census information and to design a database for the same. This holds all information of this state upto village level. A GIS package is designed and the census database is attached with this package to show all the details in the map format. The query of the end user is shown in the map with distinct color and it can also generate reports for that query.

I involved in analyzing, designing and preparing the census database. Designing of tools for GIS package. Testing of the maps with taluk level, integration of taluk level map to district level map, district to state level map etc. Generation of queries from query builder attached with the database also involved in my role.

Also worked on Bentley GIS software & Spinfotech software for GIS.

Project #34 : **Management Information System**
Client's Name : **Sangam Chemicals Ltd., Trichy, Tamil Nadu**
Environment : Ms-DOS 5.0
Language : C & C++
Description : The project was aimed at automating the management information system of this organization. The project involved the automation of inventory keeping like product availability details, invoice bill details, raw material and stock maintenance details etc., employee details like salary info, personal info, grade etc., and other accounts.

Testing Experience:

Performed testing for the following products:

- **AscenLink** (WAN load Balancer) products some of the features like Firmware upgradation, Configuration update, Persistent routing, Auto routing, Tunnel routing, Multihoming, Firewall setting etc.
- **Ascenflow** (QOS(Traffic management) device) products some of the features like Traffic shaping, Connection limit, Quota setting, Authentication etc.
- **Flowreport** and **Linkreport** (Reporting series of AscenFlow and AscenLink) features like hardware statistics, Bandwidth Utilization by class, service, source IP, Destination IP, Time, User, Service Utilization Query, Host Utilization query for inbound/outbound traffic.
Daily, weekly, monthly schedule report (html/Csv format) of the network usage on particular time will send to an email. Backup/Restore database/log features from the above report series.
- **Motorola's SBG940** cable modem for software download, SNMP functionality and delegation related tests.
- **Texa's Instrument** and **Motorola's** collaborated VOIP cable modem **SBV5120** for SNMP functionality and software download related tests.

PERSONAL DATA

Nationality : Indian
Languages Known : Tamil, English, Hindi (can able to speak/understand 30%)

Achievements

- 1) Secured University 8th rank among the various colleges in Madurai Kamaraj University in B.Sc. Computer Science. Out of 20 ranks I'm the only one male student and 19 other ranks are female students.
- 2) English Typewriting lower examination passed and got certificate.
- 3) One of the Hockey team Player in School Level super senior category. And got Runners UP in Mini Division match and got District Winners.

Technical Exposure

Languages : Python, Objective C, C++, C, COBOL, pascal, FORTRAN 77, BASIC

Script : php-4.3.10, php-5.0.3, Linux shell script.

Packages : LFS-packages, debian-sarge packages, MS Word, Dbase III plus, Lotus 123, Auto CAD 2000, Wordstar.

Operating Systems: Apple iPhone Operating System(iOS4.2,6.0,7.1), Mac OSX 10.6.8~10.9.2(Mavericks), Google Android1.6, Debian-sarge(3.1), Montavista Linux-3.0, MS-DOS, Unix, Red Hat Linux, Ubuntu, Fedoracore, Windows '95, '98, 2000, XP,2003, 7 & 10

RDBMS : MongoDB,Mysql-4.1, Oracle 8.0

GUI : Visual C++ 5.0 (MFC 4.2), Visual Basic 6.0

References

- 1) Mr.Jazz/Ms.Elizabeth, CEO/Chairman, Mr.Eric_Chen/ Mr.Jacky Manager, Jazz Hipster Corporation, New Taipei city, Taiwan.
- 2) Mr.Gary_ko , Director, Accton Technology Inc., Hsinchu. Taiwan
- 3) Mr.J.Y.Chang, Engineering Director, AscenVision Technology Inc., Taipei. Taiwan.
- 4) Mr.Jimmy, Section Engineer, Mototech Inc., Hsinchu. Taiwan
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I assure you that the particulars furnished above are true to the best of my knowledge and belief.

Station: Rajapalayam

Date : 8-09-2025

Yours Sincerely,

T.BABU