DUC MINH NGUYENINFOMATION:

Date of birth: Aug 26 1990

Gender: Male

Nationality: Vietnam

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SUMMARY:

Experienced in Linux embedded system with C/C++ and Java programming. Have knowledge in micro-controller (PIC, ARM Cortex M3 – M4, ARM v7). Strong knowledge of software programming, algorithms and data structures. Can work with programming platform such as Windows, Linux.
Knowledge in other programming languages: Python.
Strong knowledge in Unit process, memory management, multi-threading, GNU Debug Tool (GDB) and shell script.
Fair in English.

Expertise includes

- Debug Tool: GDB
- Micro-Services Based
- C/C++, Java, Python
- Linux, Docker, Rest API
- Qt5 framework

CAREER HISTORY AND EXPERIENCE:

Jan. 2020 – Now:	***Senior Developer***
Media Management: KMS Technology	**Backend software developer** This project develops C++ back-end on Ubuntu based system. We use Qt5 framework to build multiple RESTful API services for media management. Clip/Video is stored in many kind of storage such as SMB, NFS, Amazon S3, Wasabi, etc. MySQL is used for database service. RabbitMQ provides message system to communication between services. MainConcept is used for video processing. ***Responsibilities:*** ✓ Enhancement existing RESTful API ✓ Implement new RESTful API for new features. ✓ Design or update database scheme. ***Technologies used in project*** • Qt5 framework • C++ programming language • RESTful API ***Achievements:*** • Qt framework to build application/service

Sept. 2019 – Dec. 2019:	***Senior Developer (Module owner)***

Automotive Company: FPT Software Vietnam	**AUTOSAR basic software developer** This project develop AUTOSAR basic software in automotive industry based on latest AUTOSAR version 4.4.0. ***Responsibilities:*** ✓ Implement static code for CanIf 4.4.0 base on CanIf 4.0.3 ✓ Write quality test cases ***Technologies used in project*** • Classic AUTOSAR 4.4.0 • C programming language ***Achievements:*** • AUTOSAR architecture and design

Dec. 2017 – Jun. 2019:	***Senior Developer (Agile team member)***

Embedded System

Company:
Global CyberSoft – Hitachi Consulting Vietnam

Relocation from Vietnam to US, working onsite as contractor of AT&T

Working in agile scrum team as developer for embedded system

The project focuses on Set-top-box (STB) software software development and testing.

Responsibilities:

1. ACE (most recent project)
    - Designed and implemented Spring Boot micro service which received set top box requests for advertising metadata. Supported 2500 transactions per second during peak run times.
    - Designed and implemented Kafka consumers processing personal profile updates for account holders. Leveraged Kubernetes custom scaling component to startup and shutdown consumer instances based on topic lag.
    - Designed and implemented Kafka producers which parsed and aggregated events prior to message creation in order to minimize network overhead of downstream consumers.
    - Designed and configured key value store in Couchbase holding all advertising meta data for each DTV satellite customer account. Implemented Nickle queries to fetch account metadata used for profile updates and set top box requests
2. GEO (Genie Enable Osprey): Support to watch recording of satellite STB on Android STB.
    - Provide HTTP API to get recording meta data by JSON format on satellite STB.
    - Implement HTTP request with digest authorization to get recording meta data on Android STB from satellite STB.
    - Use Android UI framework to show recording carousal and recording list with poster, title, description,…
3. Autobot: This is the name of automation testing framework which support both Linux and window platform. This framework use to write automation test case for satellite STB (Linux based) and Android STB
    - Provide architecture design and implement core framework.
    - Build RESTful server on satellite STB to receive test request from test framework.
    - Use ADB (support by Android platform) to build Android wrapper API for Android STB testing.
    - Design and build user interface base on web interface to allow DevTest develop and run automation test cases on web browse.

Technologies used in project

- Docker, Kafka
- Python, Java, C/C++
- Spring framework
- Android (AOSP)
- Shell script
- HTTP/S protocol

Achievements:

- Experience in programming Java, Python.
- Experience in micro services, Spring framework, docker
- Experience in AOSP

Oct. 2014 – Nov. 2017: ***Developer***

Embedded System

Company:
Global CyberSoft – Hitachi Consulting Vietnam

Maintenance Linux Embedded System

The project focuses on maintenance the STB software stack, improves the system performance & stability, fixes detected issues, reviews task and implements some new features.

Feature of STB includes:

- UI screens (User interface): enhance and fix any problem relate to UI screen such as program information/description, left menu which contain the list of user action for each screen. Design and implement menu/settings screens.
- Tuning channel: Support user tune to TV channel by channel number. The action require channel information from database about video/audio SCID, current airing program information, authorization for channel/program.
- Guide screen: Build Guide gird to show the list of channels, schedule for each channel in current time window and possible to show two weeks guide schedule. All guide channels/schedule are stored in database.
- Recording: enhance the feature to allow user record current airing program or book to record future program and store TV program in hard disk.
- Playback recording: Allow user play recording in hard disk.
- Parental control: This feature allow parent can protect their children by block some TV program by rating such as adult content.
- TV app: Support to play webkit application on TV
- VOD (Video On Demand): Build VOD home page on connected STB, allow user buy, download and play VOD.

Responsibilities

- Fix bugs, especially, critical bugs (crash, deadlock) reported by tester, watchdog, stress-test.
- Maintain, improve performance and stability of STB
- Research and improve new tools (Dmalloc and DUMA) to integrate into the system in order to improve stability of system. Using these tools to detect run-time and critical issues such as memory leak and memory corruption.

Technologies used in project

- Makefile, gcc/g++, GDB, Dmalloc, valgrind, DUMA, buildroot.
- Java, C/C++, JNI, STL.

Achievements:

- Experience in programming Java, C/C++ and STL in Linux (gcc/g++, makefile, shell scripts…), Java Unit Test (Mockito).
- Experience in Linux environment.
- Experience in using GDB debugging, Dmalloc, DUMA tools that detect memory leak and memory corruption dynamically.

Sept. 2014 – Jan. 2015: ***Developer***

Embedded System (student project)

Motorbike Secure

Develop the secure component for motorbike via protecting the starting of the motorbike. It can be controlled via mobile application using Bluetooth low energy, designed with CC2540/CC2541

Responsibilities

- Design the communication components
- Implement BLE commutation on CC2540
- Developing Android application to connection to the Bluetooth v4.0 module.
- Unit testing.

Technologies used in project

- Bluetooth low energy
- Android

Achievements:

- Developing Bluetooth application
- Developing mobile apps (Android) experience

Sept. 2013 – Jan. 2014: ***Developer***

Embedded System (student project)

Home Automation

Adding new protocol (Zigbee) in OpenRemote (an open source automation platform - http://www.openremote.org), porting OpenRemote to Raspberry Pi with Raspbian OS (Linux) and PC with Windows OS.

Responsibilities

- Investigating OpenRemote (features, design, source code)
- Installing Rasbian OS on Rasberry.
- Porting OpenRemote on PC and Rasberry.
- Implement demonstration features.

Technologies used in project

- C, Java
- Raspbian, Linux

Jan. 2013 – Jun. 2013: ***Developer***

Embedded System (student project)

Mp3 Player

Using LM3S6965 board (ARM cortex M3, develop by Texas Instruments) and mp3 decoder VS1011e implement mp3 player machine; data stored in micro SD card.

Responsibilities

- Read SD card
- Implement user interface (button and display).

Technologies used in project

- SPI (MCU – SD Card, MCU – Display, MCU – VS1011e);
- Scan button, UART, timer.

Achievements:

- Implement program with state machine.
- Developing embedded program with microcontroller.
- Shared resource (one SPI for 3 IO).
- Use RT OS.

TECHNICAL AND PROCESS SKILLS:

Skill names	Level of skill	Months of experience

Operating Systems		
Linux	4	52
Languages		
C	4	24
C++	4	24
Java	4	24
Shell Script	4	36
Python	3	6
Database		
Couchbase	**3**	6
Software Tools		
GNU debug tool: GDB	4	24
Web/Internet		
Spring framework	3	6
Communication		
Wireless	1	3
Version Control		
CVS	2	6
Mercurial	3	24
Git	3	18

OTHER SKILLS:

- Project management.
- Performance evaluation system.

LANGUAGES:

- Fluent in English and Vietnamese

EDUCATION:

2009 – 2015: Ho Chi Minh City University of Technology
Computer Engineering

CERTIFICATE

SAFe for Team Course (4.5)
Issued Aug 2018
Credential ID 25366549-6723