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Lead Embedded Software System Engineer with over 15 years of hands-on experience designing, developing, and implementing Embedded systems and Internet of Things applications using various technologies and programming language tools. My experience spans academia and Industry, especially in application areas relating to security, home automation, energy management systems and precision agriculture.

Skills Summary

- Solid organisational skills with high attention to detail, quality, and accuracy
- Strong time management skills, self-tasking, and prioritisation
- A quick learner, eager to solve problems the right way

Embedded Systems / Wireless Network

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| Embedded Hardware | Microchip (PIC32 & PIC18), Atmel AVR (8-bit); ARM Cortex-M0+ (32-bit); ARM Cortex-M3 (32-bit) |
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| Microcontroller IDE design/development tools | MPLABX, Visual Studio Code, Proteus Design Suite |
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| Programming Languages: | Embedded System - Embedded C, C++, FreeRTOS, Nodejs |
| | FullStack - PHP, HTML, CSS, JavaScript, React, Nodejs |

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| OS and RTOS Systems: | Linux (Ubuntu), FreeRtos, Windows 10 |
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| Cloud Computing : | Amazon Web Services (AWS), Heroku |
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| Databases: | MySQL MariaDB, SQLite |
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| Technologies | Internet of Things (IoT), Wireless Sensor Networks (WSN) RESTful API, JASON, Git and GitHub |
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Education and Credentials

Master of Science [MSc] in Internet of Things with Cyber Security, in view (Sept. 2023- to Date),
Bournemouth University, Fern Barrow, Poole, Dorset, BH12 5BB, United Kingdom

Doctor of Philosophy [PhD] in Computer Engineering, 2015
Federal University of Technology, Minna, Niger State.

Master of Science [M.SC (Eng.)] in Electrical and Electronic Engineering with Emphasis on
Telecommunication, 2004
University of Lagos, Akoka, Lagos

Bachelor of Engineering [B. ENG.] in Electrical and Computer Engineering (Second Class Honours- Upper
Division), **1998**
Federal University of Technology, Minna, Niger State.

Professional Experience

Lead Embedded Software System Engineer [Consulting | Solution Provider]

Ejosy Tech Consult Ltd, Plot A14, Midhill Estate, Kurudu, AMAC, FCT.
April 2008 – To Date.

Experience Highlights:

- Over fifteen years of experience developing, debugging and maintaining embedded systems-based applications.
- Experienced developer creating commercial and industrial connected things platform and desktop apps that integrate with hardware sensors, home devices, and cloud services using embedded C, Nodejs and FreeRTOS.
- Over ten years of experience developing, debugging and maintaining Fullstack applications using PHP, and MySQL.
- Full Stack Software Developer: Develop, maintain and support application programs for Web and mobile systems using PHP, React, Nodejs, MySQL MariaDB, and related Web Technologies frameworks and Libraries (HTML, JavaScript, CSS, etc.).
- Experience developing device drivers, control systems, and communications protocols (CAN, SPI, I2C, RS-232, 802.11x, and TCP/IP protocols.
- Experience in the use of advanced laboratory equipment (Logic analyser, oscilloscopes, frequency response analyser) for validating and debugging firmware.
- Analyses code for system testing and debugging; creates test transactions to identify issues.
- Full Stack Software Developer: Develop, maintain and support application programs for Web and mobile systems using PHP, React, Nodejs, MySQL MariaDB, and related Web Technologies frameworks and Libraries(HTML, JavaScript, CSS, etc.).
- Developed new procedures for requirements gathering, needs analysis, testing, scripting and documentation to strengthen the quality and functionality of business-critical applications.
- Trained and mentored junior programmers in programming methodologies and best practices.

- Reengineered multiple systems that fueled global business operations' productivity, efficiency, uptime, and accuracy improvements.

Associate Professor [Academia | Research & Development]

University of Abuja, Abuja, Faculty of Engineering
Dept. of Electrical/Elect. Engineering, Nigeria.
2008 to Present

Experience Highlights:

- Supervised research projects spanning the following research interests:
 - Internet of Things
 - Wireless Sensor Networks
 - Spectrum Management
 - Digital Education
 - Wireless Communication
- Selected Courses Taught:
 - Computer Programming
 - Microprocessor and Microcomputer Systems
 - Low-level and High-level Programming Languages
 - Digital Signal Processing
 - Advance Wireless Networks and Protocols
 - System Integration
- Administration | Management:
 - Coordinator, Computer Engineering Dept.
 - Head, Embedded System & IoT Research Group
 - Chairman, Faculty of Engineering's Committee on ICT

Junior Software Engineer

Infosol Software & Systems Limited, I C & T Group Limited
Wuse II, FCT.
April, 2005 – Oct, 2008.

Experience Highlights:

- Develop, maintain and support application programs for Web and mobile systems using HTML, CSS, and JavaScript.
- Deployed, installed and maintained networked systems running on Windows and Linux operating systems.
- Isolated faults and resolved electrical system malfunctions of varying degrees of complexity.
- Demonstrated competencies in the upkeep, diagnosis and repair of electrical circuits and wiring.

Representative Selected Projects Accomplishments

Secured Identity Issuance Management System (SIIM)

[September 2016 – Date]

Developed and maintained secure identity solutions based on near field communication (NFC) that deliver exceptional security and fraud prevention for Government agencies and Institution ID card programmes. The solutions involve Access control IDs (examination venue, library), secure IDs, healthcare IDs, e-government applications and electronic polling management:

- Designed and built a desktop application for NFC-related identity card encoding, verification, and printing using C#. Target devices are for ACS Secure Bluetooth® NFC Reader (ACR1255U-J1)
- Designed and built firmware for the ACR89U-A2 Mobile Verifier. The ACR89U-A2 is a handheld smart card reader used to access ISO 7816 MCU cards, ISO 14443 Type A & B contactless cards, and MIFARE. The device embeds a Microchip 32-bit microcontroller that runs the embedded FreeRTOS.
- Implements a backend solution using PHP and MySQL MariaDB that stores and manages captured biometric data.

Community-based Emergency Alert System (CBEAS)

[Jan 2018 – Date]

The system/product enables residents in a community to alert themselves and appropriate government agencies (the police, medical establishment, and the fire service) in the eventuality of an emergency (robbery, burglary, health challenges, fire incidence, etc.) in real-time at relatively affordable cost.

- The Solution is built around the Emergency Alert Receptive and Relay Unit. The unit is implemented using an ARM Cortex-M3 (32-bit) based microcontroller, and the firmware is developed using Embedded C. Communication channel is cellular-based (3G,4G, and 5G).
- An ongoing updated version utilises Nodejs running on Linux OS.
- The Users' web Interactive (UI) component's frontend and Backend are implemented using PHP and MySQL MariaDB database.
- The UI Incorporates a real-time online payment that uses RESTful APIs to connect to a third-party endpoint, enabling subscribers to pay for the services online.

Related Work Experience

High-Impact Training Workshops/Programmes

- Developed and Conducted a training of Trainers (ToT) course on Electronics repairs for selected members of the electronic repairers association in Bida Akwanga, Minna, New Bussa, Niger State, Nigeria.
Clients/Sponsor: Deutsche Gesellschaft for Technische Zusammenarbeit (GTZ), Asokoro, Abuja.
- Trained technical staff of CAT in the Use of Small Device C – Compiler (SDCC) in designing and developing Embedded Systems applications using 89XX51 class of Micro-controllers.
Clients/Sponsor: Centre for Adaptation of Technology (CAT), Awka, Anambra State

Invited Lectures and Panels

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| 2022 | Paper Presentation: “Consumer Requirements, Regulation & Challenges in the IoT Ecosystem”, Stakeholder’s Consultative Forum on Emerging Technologies with the theme: Regulatory Roadmap for IoT Ecosystem in Nigeria, Sheraton Hotels, Lagos, Facilitator: Nigerian Communication Commission (NCC), https://www.ncc.gov.ng/ |
| 2022 | Panel Discussion: “IoT Regulate or not to Regulate” Panellist, Facilitator: Nigerian Communication Commission (NCC). https://www.ncc.gov.ng/ |
| 2018 | Paper Presentation: “Electrical Fires in Private and Public Buildings: Causes, Effects, & Remedies” Workshop on Prevention, Mitigation & Control of Fire in Public Places and Buildings: The Role of Engineers, Architects, Building Contractors, and Fire Professionals. Organised by The Nigerian Institution of Civil Engineers, Abuja Chapter., FCDA Site Office, Garki II, Abuja. |

Professional Certifications

Certificate of Achievement of Training for Experts in Digital Education

Issuing organization: **EPFL (École polytechnique fédérale de Lausanne)**
Écublens (near Lausanne), Canton of Vaud, Switzerland

Nov 2022

Learn JavaScript Course

Issuing organisation: Codecademy (<https://www.codecademy.com/>)

August 2022

Learn Node.js Course

Issuing organisation: Codecademy (<https://www.codecademy.com/>)

August 2022

Issuing organisation: Tianjin -Sin German University of Applied Science (TSGUAS), Tianjin, China.

Description: A two-week training programme at Tianjin Sino-German University of Applied Sciences (TSGUAS), Tianjin, China. The training program is both knowledge-based and hands-on. The training covers core design and implementation of the 5G wireless communication technologies and Internal of Things (IoT) related applications.

Languages

English - Level of Proficiency (Fluent and Advanced.)



22/09/2023

Signature