Candidate Name	Poojitha K
Total Experience	1.5 Years
Relevant Experience	1.5 Years
Current Location	Hyderabad
Preferred Location	Hyderabad, Bengaluru, Chennai
Bench Profile	On bench
Current Company	Embinsys private limited
Current Client / Project	Dashpod (BLE-Enabled Athlete performance analysis)
Primary Skill (Hands on Experience)	**Programming Language :** C Language. **Linux system programming** : Process Management, File Management, Signals, Threads, Mutex, IPC mechanisms. **Kernel System Programming :** Make, CMake, Compilation and Configuration, Module creation, Character Driver(UART driver), Blocking I/O, Interrupt handling. **Wireless Technology :** BLE **Communication protocols**: UART, I2C, SPI **OS:** Windows, Linux, Zephyr RTOS, Android **Boards Worked on**: Nordic semiconductors(nRF52833 and nRF5340 SoCs), ESP32, MSP432E401y
Additional Skills	FreeRTOS, Bluetooth, Android Architecture, LTE
Debugging Tools	JLINK, JTAG, ADB, GDB, perf
Protocol Analyzer	Logic Analyzer, Wireshark
Education & Certification	B. Tech (Electronics and Communication)
Any additional Comments for candidate (Relevant exp within the industry)	NA

		Supplier Inputs		
Skills possessed by the candidate to perform the role efficiently	**Mandatory / Optional**	**Name of Projects in which the skills were used (add rows if necessary)**	**No: of months worked in each Project**	**Description of work done using the skills & Rating (0-5) (5 - High,0- - Low)**
Embedded C, Linux System Programming, Communication protocols (I2C, SPI, UART, I2S).	Mandatory	Dashpod (BLE Enabled Athletic Performance Analysis) (Client: Blazepod, India)	8 Months	4.5
C, Linux System Programming, AT+MQTT, AP mode, STA mode.	Mandatory	Commercial Grade RO(reverse osmosis) filter (Client: Paragon, USA)	4 Months	4.5
C, ZephyrRTOS, interrupt handling, device tree files, overlay files,make,cmake	Mandatory	Indoor/Outdoor tracking system	3 Months	4.5
Supplier Evaluation Comments	Skill set: C, Linux System Programming, Device drivers(make, cmake, compilation, configuration, module creation, blocking i/o, interrupt handlers, insmod, rmmod), UART Device Driver, Kernel debugging tools like printk, dmesg, perf, Zephyr RTOS, Python, I2C, UART, SPI, HTTP, MQTT, LTE, WLAN, Bluetooth Low Energy (BLE), Bluetooth, yocto, Logic Analyzer, Wireshark, Arduino IDE, Segger Embedded studio, Code composer Studio, Visual studio Code, Linux GCC, Jlink , JTAG, Putty, ESP32, Nordic nRF5340 and nRF52833 SoCs,ESP32, MSP432E401y.			

1. Each profile must be technically evaluated and must have the above sheet as a summary on top of each and every resumes
being submitted in Beeline
2. Profile without skills evaluation sheet will be rejected by the VMO
3.All the fields have to be filled completely by suppliers tech panel
4. Ratings have to be provided in the ratings box against each skills

Education:

Year	Degree	Major Subject	Institution	Full time/Part time
2024	B. Tech	Electronics and Communication	Srinivasa Institute Of Engineering And Technology	Full time
2020	Intermediate	Mathematics, Physics, Chemistry	Vidyanidhi Junior College	Full time
2018	SSC	Mathematics, Science	Government Girls High School	Full time

Professional Experience Summary
A Passionate and motivated Embedded Systems Engineer with one and half years of experience in building and improving embedded systems. Skilled in C and Data Structures, with hands-on experience in Linux system programming, microcontroller firmware development, and connecting hardware with software. Familiar with embedded Linux and different types of microcontrollers, with a strong focus on problem-solving and efficient system design.

Offering Area	Experience	Description
Embedded Software Engineer	1.5 Years	1.5 Years of experience in Embedded Software Engineer.

Technical Skills

Primary Skills	C, Linux System Programming, Communication Protocols, Networking Protocols and Kernel concepts, BLE, Bluetooth
Programming Languages	C, Embedded C, python.
Tools	Segger Embedded Studio, Putty, Code Composer Studio, NRF connect, JTAG, JLINK, ADB , Arduino, Git, GDB, Visual Studio Code, ESP-IDF

Project 1	• **DASHPOD (BLE-Enabled Athlete Performance Analysis) (Client: Blazepod, India)**
Role	• Developer
Responsibilities	• Worked on A111 and A121 Radar sensor for response on different ways and we validate the each movement of the object detections. • Verified transmission and reception of BLE packets, including advertising and data payloads, by performing packet-level analysis with Wireshark. • Prepared test plans, wrote and validated test cases, and documented results in Excel for embedded system testing. • Developing the sensor code to find accurate distance and improving detection speed. • Developed the radar sensor code for calculating the speed detected object • Testing the dashpod using DFU through air.
Project 2	• **Indoor/Outdoor tracking system**
Role	• Developer
Responsibilities	• Developed and tested a custom driver for the AS7058 bio-sensor in Zephyr RTOS to extract heart rate, SpO2, and respiration rate. • Interfaced the sensor over I2C and handled AGC configuration, FIFO data handling, and signal routing. • Integrated the sensor into Zephyr using Device Tree bindings, overlay files, and Kconfig project configurations. • Validated sensor output with real-time data and ensured stable acquisition for long-duration monitoring and gained experience in Zephyr's driver model, low-level embedded development, and sensor interfacing.
Project 3	• **Commercial Grade RO (reverse osmosis) Filter (Client: Paragon, USA)**
Role	• Validation Engineer
Responsibilities	• Verified data transfer via the MQTT protocol over Wi-Fi in STA Mode. • Worked on testing LTE and GSM on BG95 Development Board and observe the response of every command in putty. • Worked on testing of AT commands.

POOJITHA K

Career Objective:

To be part of a progressive organization which gives me scope to enhance both my personal and professional skills and wherein my techno-rich abilities can be utilized for enhancing the goals of the organization

Professional Summary:

- Embedded Software Engineer with 1.5 Years of experience.
- Programming experience in C,and Linux System Programming.
- Knowledge on Kernel System Programming and Device Drivers.
- Knowledge on Linux Architecture and Linux Booting process
- Knowledge on ARM architecture.
- Good Knowledge on Android Architecture and Android debugging (ADB) tool.
- Good Knowledge on RTOS and ZephyrRTOS.
- Good knowledge on communication protocols: UART, I2C and SPI.
- Good Knowledge on Networking protocols: TCP/IP, UDP, MQTT.
- Good Knowledge on IPC Mechanisms: Pipes, FIFOs, Message Queues, Shared Memory.
- Good Knowledge on multi-threading for data parallelism using mutex locks.
- Experienced in loading and managing kernel modules using insmod, rmmod and dmesg for real-time kernel log analysis.
- Worked on wireless technologies like BLE.
- Work Experience with Segger Embedded Studio and Code Composer Studio.
- Working experience on JTAG and JLINK
- Good Knowledge on Trace32.
- Exposure to both manual and automation testing for embedded systems, with focus on BLE communication and MQTT-based workflows.

Professional Work Experience:

- Working as an Embedded Software Engineer at Embinsys private limited.

Technical Skills:

Programming Language	C, Python
System Programming	File management, signals, Threads, Process Management, Pipes, named pipes, Shared memory, Semaphore, Mutex.
Kernel Programming	MAKE, CMAKE, Kernel compilation and configuration, Module Creation, Interrupt Handlers, Character Driver, Blocking I/O mechanisms(wait queue and wait event,poll and select), Device Drivers (UART).
Communication Protocols	UART, I2C, SPI
Operating System	Linux (Ubuntu), Windows, Android

Debugging Tools	GDB, ADB, JLINK, JTAG, perf
Wireless Communication	Bluetooth, BLE
IDE's and Compiler Worked on	Segger Embedded Studio, Code Composer Studio, CCS Compiler, Visual Studio, Arduino IDE, GCC Compiler
Boards Worked on	nRF52833, nRF5340, ESP32, MSP432E401yt.

Project1:

Title: DASHPOD (Development of BLE Enabled Athletes Performance Systems)

Software: Segger Embedded Studio

Programming Language: C

Description:

We devised a Dashpod aimed at evaluating the performance and precision of athletes or fitness enthusiasts. This innovative device incorporates components such as the nRF52833 microcontroller, Addressable LEDs, Buzzer, Radar Sensor, Fuel guage, I/O expander, and Accelerometer. Programming for the nRF52833 circuit board was conducted using C language. Through the integration of radar sensors, accelerometers, and addressable LEDs, the Dashpod offers a comprehensive platform for performance assessment. Users can conveniently monitor their progress via a smartphone utilizing Bluetooth Low Energy (BLE) technology. This project not only deepened my understanding of BLE technology but also provided valuable insights into its practical application.

Responsibilites:

- Worked on A111 and A121 Radar sensor for response on different ways and we validate the each movement of the object detections.
- Developing the sensor code to find accurate distance and improving detection speed.
- Developed the radar sensor code for calculating the speed detected object
- Verified transmission and reception of BLE packets, including advertising and data payloads, by performing packet-level analysis with Wireshark.
- Prepared test plans, wrote and validated test cases, and documented results in Excel for embedded system testing.
- Testing the dashpod using DFU through air.

Project2:

Title: Indoor/Outdoor tracking

Role: Sensor Bring-up and Driver Development (AS7058 Bio-Sensor)

OS : ZephyrRTOS

Description:

Worked on bringing up the AS7058 bio-sensor as part of a multi-sensor indoor/outdoor tracking system. The project integrates biosensing, motion tracking (ICM-45686 IMU sensor), temperature monitoring(MAX30208), and long-range communication (LoRa lr110) for real-time health and location tracking.

Responsibilities:

- Developed and tested a custom driver for the AS7058 bio-sensor in Zephyr RTOS to extract heart rate, SpO2, and respiration rate.
- Interfaced the sensor over I2C and handled AGC configuration, FIFO data handling, and signal routing.
- Integrated the sensor into Zephyr using Device Tree bindings, overlay files, and Kconfig project configurations.
- Validated sensor output with real-time data and ensured stable acquisition for long-duration monitoring.
- Gained strong experience in Zephyr's driver model, low-level embedded development, and sensor interfacing.

Project3:

Title: COMMERCIAL GRADE RO FILTER

Role: Testing Engineer

Software & Tools: Code Composer Studio, Arduino, Putty Project

Description:

Worked on a project for continuous monitoring of an RO water plant, focusing on key parameters like TDS levels, water flow rates, and water temperatures at the inlet, outlet, and waste stages. Collected data was transmitted to a server using the MQTT protocol. The system was powered by the MSP432E401YT microcontroller from Texas Instruments as the main control unit. For data transmission, the project used the Quectel BG95 module for LTE connectivity and the RTL8720DN (BW16) module for Wi-Fi. Data was reliably published to the server for further analysis and management.

Responsibilities:

- Verified data transfer via the MQTT protocol over Wi-Fi in STA Mode.
- Worked on testing LTE and GSM on BG95 Development Board and observe the response of every command in putty.
- Worked on testing of AT commands.

Education:

B-TECH | SRINIVASA INSTITUTE OF ENGINEERING AND TECHNOLOGY 2020-2024

ELECTRONICS AND COMMUNICATION ENGINEERING 7.67 CGPA

Declaration:

I hereby declare that the above-mentioned details are true to the best of my knowledge.

K.Poojitha