



**JOB TITLE:** Embedded Software Engineer-Linux

**DEPARTMENT:** Engineering

**REPORTS TO:** Manager, Software Engineering

**EFFECTIVE DATE:** 8/6/2019

**SUMMARY:** The Embedded Software Engineer will work closely with the hardware development team and specify, develop, debug and validate a new embedded Linux-based system. Support legacy embedded Linux-based systems, provide direction to junior engineers and assist in testing as required.

**DUTIES AND RESPONSIBILITIES:**

- Evaluate embedded Linux software in C at both the kernel and application level.
- Perform the evaluation, specification and integration of Linux kernel, BSP, bootloader, drivers, etc.
- Initialize the Custom board bring-up process, debugging and s/w design validation.
- Maintain existing software platforms, root cause analysis, bug fixes and feature enhancement.
- Document of work product, concepts, and architecture for wide range of customers, products and applications.
- Lead code reviews and participate in bug scrub.
- Mentor of junior embedded software developers.
- Consult with other Engineers to evaluate hardware/software interfaces and optional performance requirements.
- Provide technical guidance to lower level programming personnel.
- Perform other related duties as assigned by management.

**SUPERVISORY RESPONSIBILITIES:**

- This job has no supervisory responsibilities.

**QUALIFICATIONS:**

- Bachelor's Degree in Computer Science, Electronic Engineering, Electrical Engineering or equivalent and 3 years of experience in embedded systems development.
- 2 years of experience with embedded Linux.
- Experience with Eclipse, CCS, Static Analysis, Perforce, Git, Jenkins and other such development tools.
- Extensive knowledge of C/C++.
- Experience with Linux distributions, tool-chains and open source projects, (i.e. Yocto, Ubuntu, etc.).
- Experience with database design and SQL-lite.
- Experience with a wide variety of drivers, back-porting techniques and other low-level issues
- Experience with board bring-up, and debugging techniques using a variety of tools & techniques.
- Experience with 2/4-wire Ethernet, USB, RS-232, RS-485, CAN, I2C, SPI, etc.

- Experience with Wi-Fi, Bluetooth, BLE, AT command-sets and NMEA message strings.
- Experience with Bash, Python, Perl or other scripting languages.
- Strong written and verbal skills with the ability to present concepts clearly and concisely using programs such as Word, Excel (charts), and PowerPoint.

**Other skills preferred:**

- Experience with Secure Boot, High Assurance Boot, Key and Certificate Management.
- Experience with satellite communications, V2X or other wireless technologies.
- Experience with GPL terms and conditions.
- Knowledge of test and diagnostic equipment such as spectrum analyzers, oscilloscopes, etc.
- Familiarity with simple soldering and electrical diagnostics.
- Experience with RF, analog, digital circuits and logic systems.
- Ability to analyze and solve complex software engineering problems.

**COMPETENCIES:**

- **Diversity** - Demonstrates knowledge of EEO policy; Shows respect and sensitivity for cultural differences; Educates others on the value of diversity; Promotes a harassment-free environment; Builds a diverse workforce.
- **Ethics** - Treats people with respect; Keeps commitments; Inspires the trust of others; Works with integrity and ethically; Upholds organizational values.
- **Adaptability** - Adapts to changes in the work environment; Manages competing demands; Changes approach or method to best fit the situation; Able to deal with frequent change, delays, or unexpected events.
- **Analytical** - Synthesizes complex or diverse information; Collects and researches data; Uses intuition and experience to complement data; Designs work flows and procedures.
- **Attendance/Punctuality** - Is consistently at work and on time; Ensures work responsibilities are covered when absent; Arrives at meetings and appointments on time.
- **Cost Consciousness** - Looks for cost savings opportunities; Conserves organizational resources.
- **Dependability** - Follows instructions, responds to management direction; Takes responsibility for own actions; Keeps commitments; Completes tasks on time or notifies appropriate person with an alternate plan.
- **Design** - Generates creative solutions; Translates concepts and information into images; Uses feedback to modify designs; Applies design principles; Demonstrates attention to detail.
- **Initiative** - Undertakes self-development activities; Seeks increased responsibilities; Looks for and takes advantage of opportunities; Asks for and offers help when needed.
- **Interpersonal Skills** - Focuses on solving conflict, not blaming; Maintains confidentiality; Listens to others without interrupting; Keeps emotions under control; Remains open to others' ideas and tries new things.
- **Motivation** - Sets and achieves challenging goals; Demonstrates persistence and overcomes obstacles; Measures self against standard of excellence; Takes calculated risks to accomplish goals.
- **Oral Communication** - Speaks clearly and persuasively in positive or negative situations; Listens and gets clarification; Responds well to questions; Demonstrates group presentation skills; Participates in meetings.
- **Organizational Support** - Follows policies and procedures; Completes administrative tasks correctly and on time; Supports organization's goals and values; Benefits organization through outside activities; Supports affirmative action and respects diversity.
- **Planning/Organizing** - Prioritizes and plans work activities; Uses time efficiently; Plans for additional resources; Sets goals and objectives.

- **Problem Solving** - Identifies and resolves problems in a timely manner; Gathers and analyzes information skillfully; Develops alternative solutions; Works well in group problem solving situations; Uses reason even when dealing with emotional topics.
- **Professionalism** - Approaches others in a tactful manner; Reacts well under pressure; Treats others with respect and consideration regardless of their status or position; Accepts responsibility for own actions; Follows through on commitments.
- **Quality** - Demonstrates accuracy and thoroughness; Looks for ways to improve and promote quality; Applies feedback to improve performance; Monitors own work to ensure quality.
- **Safety and Security** - Observes safety and security procedures; Determines appropriate action beyond guidelines; Reports potentially unsafe conditions; Uses equipment and materials properly.
- **Teamwork** - Balances team and individual responsibilities; Exhibits objectivity and openness to others' views; Gives and welcomes feedback; Contributes to building a positive team spirit; Puts success of team above own interests; Able to build morale and group commitments to goals and objectives; Supports everyone's efforts to succeed.
- **Technical Skills** - Assesses own strengths and weaknesses; Pursues training and development opportunities; Strives to continuously build knowledge and skills; Shares expertise with others.
- **Written Communication** - Writes clearly and informatively; Edits work for spelling and grammar; Varies writing style to meet needs; Presents numerical data effectively; Able to read and interpret written information.

**PHYSICAL DEMANDS:**

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this job, the employee is regularly required to stand, walk, sit, and talk or hear. The employee must occasionally lift and/or move up to 25 pounds. The employee must occasionally crouch, stoop, or reach. Specific vision abilities required by this job include close vision, color vision, depth perception, and ability to adjust focus. The noise level in the work environment is usually moderate.

**WORK ENVIRONMENT:** The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

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*The above is intended to describe the general content of and requirements for the performance of this job. It is not to be construed as an exhaustive statement of duties, responsibilities or physical requirements. Nothing in this job description restricts management's right to assign or reassign duties and responsibilities to this job at any time. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.*

**ACKNOWLEDGEMENT**

I have read the foregoing job description and understand the responsibilities of the job. I agree that I am able to perform the essential duties of this position.

\_\_\_\_\_  
Employee Name

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Manager Name

Employee Signature

Manager Signature

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Date Signed

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Date Signed