

JOB DESCRIPTION

Title	Embedded Software Engineer		
Department	Engineering	Reports to	Software Manager
Position Type	Full Time	Shift	Day
Location	Bristol	Schedule	Monday-Friday 37.5hrs/wk

POSITION SUMMARY

To design, develop and maintain embedded firmware for downhole tools and interface systems, creating bare metal applications adhering to functional and non-functional specifications that will support D-Tech in continuing to develop high quality, competitive products

Implement optimal and high-performance firmware for new and sustaining projects by leveraging a strong understanding of embedded hardware development.

Able to collaborate successfully with the software team, and with the wider engineering team, ensuring that development milestones and deadlines are met.

Contribute to reliability analysis such as risk assessments and Failure Mode Effects Analysis by compiling and examining data.

Identify testing requirements and write Unit Test and Integration Test code.

Diagnose issues with firmware and hardware.

Adhere to company standards in relation to coding styles, version control and documentation.

Produce system documentation, including but not limited to APIs and communication protocols, as well as status reports.

ESSENTIAL FUNCTIONS/RESPONSIBILITIES

- Firmware design and development to support product changes and new products
- Design and develop embedded firmware for downhole tools, in addition to related interface and communication systems
- Design and develop tests along with the creation of test scripts
- Work with legacy firmware
- Find and fix bugs in embedded firmware
- Read and understand hardware schematics and datasheets
- Evaluate new hardware devices and designs
- Using task tracker systems such as Jira to record issues and co-ordinate development
- Analyse design issues and identify solutions
- Install and configure development tools such as Integrated Development Environments, compilers, and source-code control systems
- Produce detailed documentation for new and existing code and interfaces
- Perform any other engineering duties as required

QUALIFICATIONS/EXPERIENCE REQUIRED

- Minimum five years' experience working with embedded systems
- Experience of embedded programming using C for developing bare metal firmware
- Knowledge of synchronisation issues in embedded systems
- Knowledge of commonly used communication systems, interfaces, and protocols such as SPI, RS485, & CAN
- Experience with debugging embedded systems and hardware, using tools such as oscilloscopes, logic analysers and multimeters
- Experience of using source-code control systems such as Git
- Some electronics design knowledge is required
- User-level familiarity with Microsoft Windows operating systems and Office applications

PREFERRED QUALIFICATIONS/EXPERIENCE

- Experience in developing multithreaded and/or multi-process embedded systems
- Systems Engineering
- UML
- Knowledge of ARM and/or Microchip dsPIC architectures
- Experience of KEIL MDK V6, and Keil Studio/μVision
- Knowledge of coding in a high-level scripting language such as Python
- Experience with LabVIEW
- Knowledge of HiL simulation
- Familiarity with MathWorks products such as Simulink Coder and Embedded Coder
- Experience with Real Time Operating Systems