

Job Description

Job Title:	Software Developer	Grade:	Z12
Job Function:	Engineering	EEO:	02-2A
Sub-Function:	Development	FLSA:	Exempt

Job Summary

The Software Development Engineer is responsible for developing software applications and firmware for electronic devices and sensors used in orthopaedic surgery. This role is an integral part of the design team, participating in the definition of the specifications, the software implementation, and verification / validation activities through automated and unit testing.

This is a multi-faceted, product development-focused role as part of a small team that is responsible for commercializing intelligent instrument solutions for clinical applications. Good communication, teamwork and organizational skills are essential.

Principal Duties and Responsibilities:

- Lead software and firmware development activities for new product development involving the integration of MEMS sensors hardware in surgical instruments
- Implement wireless 802.15.4 or Bluetooth Low Energy (BLE) communications drivers to ensure the integrity of the surgical device network at all times
- Develop finite state machines to respond to surgeon events to guide the surgical workflow
- Develop user interfaces that provide clear and timely feedback to the surgeon-user
- Develop clinical algorithms using MEMS sensor data as inputs
- Coordinate product evaluation with surgeons
- Generate comprehensive protocols for testing, verification, and validation activities
- Generate software design assurance documentation (i.e. DHF) for each project
- Perform root-cause investigations, develop and implement corrective / preventive actions
- Develop procedures and instructions to support product development and ensure delivery of quality product

This is not an exhaustive list of duties or functions and might not necessarily comprise all of the essential functions for purposes of the Americans with Disabilities Act.

Expected Areas of Competence (i.e., knowledge, skills and abilities)

- Ability to deliver, meet deadlines and focus on results
- Ability to work effectively with project team and external stakeholders to expedite completion of project tasks
- Excellent knowledge of C++ and C programming
- Very good understanding of object oriented development and design patterns
- Experience with use of Linux in a development environment
- Experience with one or more of the following technologies: boost, python, Qt

- Experience in programming with Free RTOS
- Experience in programming peripheral devices on SPI ports
- Experience in programming on ARM Cortex M3/M4 devices
- Experience in using DMA for data transmission
- Knowledge of the 802.15.4 and/or BLE communication protocol
- Familiarity with MEMS sensors
- Ability to analyze and develop new testing methods for software verification
- Strong mathematical skills and aptitudes for algorithm development
- Excellent written and verbal skills
- Knowledge of QSR / ISO regulations and risk management practices (i.e. FMEA, FTA)

Education/Experience Requirements

- B.S. in software engineering, electrical engineering, or related discipline
- 1-3 years of experience in software and firmware development
- Combination of education and experience may be considered in evaluating experience relative to requirements

Travel Requirements

- Up to 10%