

## **JOB DESCRIPTION – ELECTRICAL AND SOFTWARE SYSTEMS ENGINEER**

### **Mission statement**

Prytime Medical's mission is to design and develop rapidly delivered minimally invasive solutions for vascular trauma and hemorrhage control. The individual who will thrive in this position is a self-motivated, experienced engineer who enjoys the fast pace and accountability of a small company and wants to take high value ideas from concept to commercialization.

### **Responsibilities include:**

- Design, document, test, iterate, commercialize and support single/multi-use electronic and electro-mechanical medical devices
- Create, modify and maintain software, firmware, and hardware
- Working knowledge of microcontroller-based systems: architecture, software development, synthesis, analysis, problem solving, troubleshooting and testing of embedded software and hardware
- Design circuits for the use in power supplies, controllers, motors or pumps, interface devices, and any other required electrical device necessary for the control and processing of signals or data in the function of medical devices
- Leads prototyping the design including sourcing of materials for initial models, product test models, and market test models
- Develops software requirements and risk analyses based on general product standards.
- Develops software in the C programming language
- Assemble prototypes, iterate design, and support manufacturing
- Create, execute, document and validate test methods and technical reports
- Establish compliance with electronic medical device standards
- Document the product by providing detailed hardware and software specifications for completion of specification sheets, part drawings, printed circuit board artwork, layout documents, printed wiring assemblies, and electronic assembly drawings. Manage product documentation through the Change Order and Releases process.
- Provide engineering support for the manufacturing of products at contract manufacturing firms by supplying alternate sourcing advice including vendor or component analysis, alternate manufacturing process deviations, and cost improvement design changes.
- Develop guidelines for the development of manufacturing inspection/test procedures and equipment.

### **Primary - Required**

- BS in electrical, software, computer engineering, or computer science
- Minimum 5 years hands-on design and development experience with electronic devices
- Experience designing, fabricating, and testing PCBAs, electronics and software embedded systems
- Strong engineering fundamentals (mechanics, dynamics, electrical, fluids, etc)
- Competent working in regulated design conditions, under Quality Systems, FDA and ISO regulations
- Excellent ability to multi-task between projects
- Experience with creating, documenting and supporting intellectual property (IP)
- Excellent interpersonal/communication skills

- Confident taking initiative and ability to share knowledge in a team setting

### **Secondary – Preferred**

- Experience taking at least one electro-mechanical medical device through some phases of product development process
- Experience with Design of Experiments and statistical techniques
- Understanding of clinical and regulatory pathways, IP and internal processes

### **Software Engineering skills:**

- Experience with designing embedded systems
- Experience in C development, software tools for design, testing, and documentation of products (i.e. software requirements development, architecture design, static source code analysis, performing code reviews, configuration management tools, risk reviews and Software Level of Concern)
- Experience with some communication protocols: Bluetooth, 3G, Wi-Fi, TCP/IP, or Mesh Networks
- Embedded microprocessor and microcontroller software development, including digital signal processing and SPI driver implementations
- Operating Systems: iOS, Android, or Embedded Linux
- Experience with ARM processors and IAR development platform
- Simulations utilizing Matlab, Mathcad, Zemax, Mathematica, or Labview

### **Electrical Engineering skills:**

- Experience in Alternating Current (AC), Direct Current (DC) power systems including battery technologies
- Experience in manufacturing processes, Nationally Recognized Testing Labs (NRTLs) and International Electrotechnical Commission (IEC) standards
- Experience with analog and digital product development, PCB/Printed Wiring Assembly (PWA) design and embedded systems development, including schematic capture and board design using software such as Altium, OrCAD or PADS
- Experience with electronic diagnostic equipment: oscilloscopes, signal generators, logic analyzers
- Problem-solving and circuit troubleshooting skills
- Structured approach to electronic and software development (flowcharting)
- Design of systems with risk management requirements - safety critical systems engineering, redundancy, FMEA, etc.

### **Regulatory and agency testing experience:**

- UL, MECA, CSA, ETL
- EMC, EMI and FCC Testing
- IEC 60601-1, IEC 61010, IEC 62304

### **Travel**

- This job is located in Boerne, Texas (San Antonio area)
- Yes, 15-20%