

## Sr. Software Test Engineer

<b>Department:</b>	<i>Engineering</i>
<b>Reports To:</b>	<i>Software Engineering Manager or Lead</i>
<b>Supervises:</b>	<i>None</i>
<b>FLSA Classification:</b>	<i>Exempt</i>
<b>Approved By:</b>	<i>Tim Erickson –VP Engineering</i>
<b>Revision Date:</b>	<i>08/24/2021</i>

### JOB PURPOSE:

The Sr. Software Test Engineer understands the software development life cycle and is passionate about validating software quality at the requirements level, design level, and implementation level. They understand the value of repeatable tests and therefore strive to automate tests whenever possible.

They strive to understand the users of the product and methodically test from multiple perspectives by considering applicable user roles. It is important that all users ranging from advanced software developers that consume the HED (Hydro Electronic Devices) BSP to novice users that want to create a custom user experience without writing a line of code have a frictionless experience. The Sr. Software Test Engineer feels empowered to make that happen.

They appreciate participating with the team to solicit requirements by interviewing stakeholders early and often when considering design options, ingesting standards documents, and complying with government regulations, documented industry standards, and the HED Agile/SCRUM processes.

The Sr. Software Test Engineer considers system constraints and user expectations as they measure the verifiability of each requirement and how they are deconstructed into designs. They collaborate with peers, subject matter experts (SMEs), and stakeholders to construct meaningful tests.

Their software test implementations are constructed to ensure software meets or exceeds product (internal/external) requirements. This person understands technical debt and works with the project team to reduce it whenever possible.

They create supporting documentation from all activities and automate when possible.

When executing their duties, they adhere to established new product development (NPD) and Scrum processes and strive for continuous improvement.

### ESSENTIAL DUTIES and RESPONSIBILITIES:

- Collaborate in developing clear project requirements based on (internal/external) customer needs, government regulations, and industry standards. Leads interactive conversations with the design team during planning around test requirements and execution.
- Design and perform verification and validation testing on products and sub-assemblies to confirm hardware and/or software performance to design standards, requirements, and/or industry standards. This will include manual, unit, and/or automated testing.
- Remain current in new software engineering technology and best practice through study and continuing education.
- Work in an agile team culture closely collaborating and mentoring team members.
- Helps establish and support a project plan and schedule to meet and achieve project deliverables as defined by the project requirements.
- Design, develop, document, and review build pipelines.
- Identify and track software defects.
- Create and maintain product documentation such as technical data sheets and manuals.

- Write reports, letters, comprehensive design proposals, and progress reports.
- Present information orally and in writing to technical and managerial personnel and to small groups.
- Collaborate with quality assurance to resolve any product related issues including root cause analysis of returns. Resolve issues that are preventing shipment of products.
- Collaborate with operations, project management, and business development to release new or updated products via engineering changes and/or deviations.
- Provide technical expertise and aid to customers. This may include travelling to the customer's site to commission and/or troubleshoot products. Travel by plane and/or automobile and overnight stays may be required including international travel.
- Collaborate with business development in developing rough order of magnitude (ROM) estimate for new product development (NPD) requests
- Collaborate with and direct third-party partners.
- Provides a collaborative and inclusive environment.
- Champion the culture by supporting the HED mission and modeling the core values and behaviors HED has chosen to define how employees' approach and complete their areas of responsibility.
- Celebrate success and learn from failure.
- Other duties as assigned by the Software Engineering Lead or Manager.

## MINIMUM QUALIFICATIONS:

### Education:

- BA/BS Degree in Electrical Engineering, Computer Science/Engineering, or similar.

### Experience:

- 5+ years' experience working in a test role preferably with Linux based IoT/telematics modules, Linux based displays, and/or I/O control modules.
- Experience being assigned multiple tasks and completing them while being self-directed.
- Experience successfully collaborating, mentoring, and influencing others.
- Working in cross-functional teams in a matrix environment.

### Abilities:

- Ability to manage projects/assignments to quality, cost, and delivery targets
- Smart design choices leading to accurate estimates to meet objectives
- Self-motivated with an ability to work within a fast-paced environment.
- Strong team player using collaboration and influencing skills appropriately
- Organization, attention to detail, critical thinking
- Continuous learner/learning agility
- Good verbal, written, and presentation communication skills

### Skills:

- Proficient with implementing manual and automated tests based on requirements and design documentation
- Proficient with Agile/Scrum/DevOps systems and concepts
- Proficient using requirements and bug tracking software
- Proficient with using version control for software. (git experience is a plus)
- Proficient with standard programming and testing concepts, practices, and procedures
- Proficient with implementing build pipelines. (Azure DevOps experience is a plus)
- Proficient with a common programming language (e.g. Python, Bash, C, C++, etc)
- Proficient with Microsoft tools (Teams is preferred)

## PREFERRED QUALIFICATIONS:

**Education:**

- Agile\Scrum certification (developer or tester)

**Skills:**

- Interfacing directly with customers.
- Developing usability tests (user-centered interaction)
- Knowledge of working with open-source software communities
- Familiarity with cloud-based testing to simulate real-world environments
- Familiarity with Linux administration
- Ability to setup and utilize common test equipment (e.g., power supplies, multimeters, oscilloscopes, etc.)
- Proficient with working with hardware, schematics, and datasheets.
- Knowledge of communication (CAN, UART, Ethernet)
- Knowledge of encryption algorithms
- Familiarity with cloud-based testing to simulate real-world environments
- Familiarity with performing test for security vulnerabilities ex: penetration tests

**PHYSICAL AND MENTAL DEMANDS:**

While performing the duties of this job, the employee is frequently required to sit, talk and/or hear, and/or use hands to finger, handle, or touch objects, tools, or controls. The employee is occasionally required to stand, and/or walk. The employee must occasionally lift and/or move up to 10 pounds while moving files or small packages. Specific vision abilities required by this job include close vision and the ability to focus.

The mental and physical requirements described here are representative of those that must be met by an individual to successfully perform the essential functions of this position.

**WORKING ENVIRONMENT:**

Work is typically performed in an office environment. The noise level in the work environment is usually moderate. Infrequent travel to a customer's location may be required and may include factory or test environments.

The work environment characteristics described here are representative of those an individual may encounter while performing the essential functions of this position.

I have read and understand the duties, responsibilities, and requirements for this position. \*

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Employee Acknowledgement

\_\_\_\_\_  
Date

\*This document does not create an employment contract, implied or otherwise, other than an "at-will" employment relationship. HED, Inc. retains the discretion to add duties or change the duties of this position at any time.