**Professional Summary:**

* Experience in complete Systems Development Life Cycle and the Test Life Cycle
* Experienced in writing Technical Documentation such as Design Documents, User Manuals, Proposals, Wiki Pages, Bug/Feature stories and tickets.
* Experience in interfacing with embedded systems over serial or LAN using PuTTY.
* Experience in writing, maintaining, and developing features related to embedded file systems and firmware using C/C++.
* Experience in interfacing an embedded system to a Windows/Linux driver.
* Experience in working with JavaScript, CSS, XML, React, Node.js, and DOM to create responsive web pages.
* Experience in using C/C++/C#/.NET for embedded systems’ file systems, drivers, and firmware.
* Experience in developing features using proper Memory Management, Pointers, Multi-threading, Semaphores, and Locks.
* Experience in creating and modifying components on a web page.
* Knowledge in and familiar with 802.1x, EAPOL, RADIUS, MQTT, TLS, and SSL (1-3).
* Experience in Unit Testing embedded features using Rake and C.
* Familiar with validating firmware builds using Jenkins.
* Experienced and open to researching and learning new frameworks and APIs that enhance a product or feature.
* Experienced in writing Test Plans, Test Cases, Black Box/White Box Testing, Defect Tracking and reporting for both Manual and Automated Test environments.
* Experience in conducting various test phases like Unit, Integration, Functional, Regression and Acceptance Testing.
* Seeking, willing, and able to learn new concepts and technologies
* Great analytical skills, communication skills, problem solving skills, decision making and leadership skills with a high understanding of management
* Goal and task oriented teammate that seeks improvement and mastery through an open and cognitive mind, attention to detail, and decisive judgment.

**Technical Skills:**

|  |  |
| --- | --- |
| **Languages** | C, C++, C#, .NET, JAVA, PHP |
| **Web Technologies** | HTML, JavaScript, CSS, XML, DOM, React, Node.js, lodash, JSON, OpenSSL, Mosquitto, Paho, libxml2, wpa\_supplicant |
| **Web Servers** | lighttpd, FreeRadius Server |
| **Databases** | MySQL |
| **Operating Systems** | Windows XP/Vista/7/10, Linux, Unix, Mac-OS, MS-DOS |
| **Tools** | Eclipse, Notepad++, Visual Studios, Jira, PuTTY, WinSCP, VMWare, VirtualBox, VPL, BugTracker.NET, Jenkins, Rake |
| **Methodologies/Software** | AGILE/SCRUM, Waterfall |
| **Source Control** | Tortoise SVN, GitHubEnterprise, BitBucket |

**PROFESSIONAL EXPERIENCE**

**Mercury Security Corporation – Long Beach, California May 2016 to June 2017**

**Firmware Application Engineer**

Mercury Security Corporation is a leader on developing and manufacturing OEM hardware for facility security and access control. They collaborate with OEM partners to build an unmatched set of features into an open hardware platform that is unequaled for reliability, longevity, and effectiveness.

* Planned and Documented the Scope, Features, Requirements, Milestones, and Technical Details required for each project as Design Documents, User Manuals, Proposals, Stories, and Mercury’s Private Wiki Pages.
* Developed and maintained features within the firmware that dealt with TCP, TLS, HTTP, and REST.
* Developed features relating to the client-server architecture using TCP/TLS sockets that were written in C.
* Developed, overhauled, and maintained the embedded user web interface on all controllers using C, JavaScript, HTML, CSS, and XML, adding functionality and making the web interface more responsive.
* Utilized proper Memory Management when working with Pointers, Arrays, and Structures.
* Utilized Locks, Semaphores, and Time-Outs to avoid Race Conditions, Live-Locks, and Dead-Locks when working with Multi-threading.
* Designed, implemented, and maintained the ability to use a secondary NIC via USB, with its specific permissions and features.
* Designed and implemented the Broker and wrote features for the Client of Mercury’s MQTT “Overwatch” system using Paho and Mosquitto.
* Designed and implemented the 802.1x foundation as a supplicant for Mercury’s NIC security using wpa\_supplicant.
* Cross-compiled C written controller firmware and .cgi scripts.
* Developed commands for the Mercury driver and API that interfaces with user clients using C# and .NET.
* Developed features on Mercury’s client tester software that simulated a TCP/TLS socket using C# and .NET.
* Developed features within an automated functional testing software that validated all of the components and values of recently manufactured Mercury controllers.
* Developed features that fed values relating to MQTT or the controller’s current values using JSON embedded in C, as well as on the JavaScript/HTML/CSS based web interface.
* Wrote an Automated Unit Test per feature using Rake and C.
* Used the Hungarian Notation while developing firmware, web interface cgi’s, and various other features.
* Maintained a server that distributed and documented the distributed TLS certificates for controllers using MySQL.
* Maintained the controller integrated web server involving lighttpd and Blunk’s OEM web server.
* Used VirtualBox and VMWare for Integration, Unit, and Functional tests on a simulated MSC controller.
* Used PuTTY, Linux command line SSH, and WinSCP to interface and file transfer to MSC controllers.
* Used TortoiseSVN for source controlling all code changes.
* Logged, Diagnosed, and Resolved defects in Jira/BugTracker.
* Used JIRA to create and document stories of new features.
* Familiar with using Jenkins to create custom firmware and Unit Test existing firmware.
* Aided in the shift and creation of the agile workflow within the team.
* Interacted with the engineering and QA team on a regular basis to collaborate, resolve defects, and plan new features.
* Had good coordination with the engineering team involving motivation, daily and weekly meetings, training sessions, responsibilities, and problem solving.
* Stayed in contact with engineers from partnering companies such as Blunk and Otis.
* Developed with the values of Mercury such as reliability, stability, and scalability.

**Tools:** Visual Studio/Eclipse, Notepad++, TortoiseSVN, Jira, BugTracker, VMWare, VirtualBox, PuTTY, WinSCP, Rake C

**Environment:** C, C++, JavaScript, HTML, CSS, XML, OpenSSL, libxml2, JSON, PHP, C#, .NET, wpa\_supplicant, Linux, Windows 7

**Starwood Waypoint Homes – Scottsdale, Arizona October 2015 to April 2016**

**Front-End Web Developer (Intern)**

Starwood Waypoint Homes, previously Colony Starwood Homes and Colony American Homes, is one of the largest publicly traded owners and operators of single-family rental homes in the United States. The company acquires, renovates, leases, maintains, and manages single-family homes. They develop and utilize Atlas, a web-based mobile-friendly and highly scalable software system with functionality across multiple departments. Atlas optimizes efficiency by being fully integrated with the technology systems of over 40 of their outside vendors and engages residents by providing a mobile-enabled lease application and completion process, a seamless online rent payment capability, and a service portal with detailed self-help videos.

* Developed features on Atlas dealing with renter’s personal information using JavaScript, HTML, Node, and lodash.
* Integrated new components onto existing web pages using JavaScript, HTML, Node, and lodash.
* Developed features following backwards compatibility standards and ensuring compatibility across Mozilla Firefox, Google Chrome, Apple Safari, and Microsoft Internet Explorer.
* Used Git Hub and BitBucket for source controlling code changes.
* Documented, diagnosed, and resolved defects documented on Jira, Git Hub, and BitBucket.
* Actively participated in daily scrum meetings, being aware of any issues and concerns from other engineers that could affect recently implemented features.
* Analyzed and implemented Scalability, Performance, and Responsiveness trade-offs on design choices.

**Tools:** JavaScript, HTML5, CSS, Node, React, lodash

**Environment:** MacOS, Windows 7

**Starwood Waypoint Homes – Scottsdale, Arizona February 2015 to October 2015**

**Quality Assurance Analyst (Intern)**

Starwood Waypoint Homes, previously Colony Starwood Homes and Colony American Homes, is one of the largest publicly traded owners and operators of single-family rental homes in the United States. The company acquires, renovates, leases, maintains, and manages single-family homes. They develop and utilize Atlas, a web-based mobile-friendly and highly scalable software system with functionality across multiple departments. Atlas optizes efficiency by being fully integrated with the technology systems of over 40 of their outside vendors and engages residents by providing a mobile-enabled lease application and completion process, a seamless online rent payment capability, and a service portal with detailed self-help videos.

* Performed manual Regression Testing at the end of every sprint on Atlas.
* Documented, planned, and recorded Test Plans, User Stories, Feature Defects, and Suggestions on the appropriate Jira, or Git Hub story/ticket.
* Performed Functional and Black Box testing on Atlas based on the stories documented in Jira or Git Hub.
* Documented compatibility across browsers,
* Openly communicated concerns and suggestions to the engineering team.
* Collaborated on a regular basis with the engineering team to provide immediate feedback on specific features.
* Actively participated in daily scrum meetings, providing suggestions and personal perspective on user level difficulties or concerns.

**Tools:** Jira, Git Hub, BitBucket, Microsoft Office

**Environment:** Windows 7, MacOS

**Ira A. Fulton Schools of Engineering – Tempe, Arizona Summers of 2012 - 2014**

**Robotics Camp - Head Instructor and Manual Developer**

The Ira A. Fulton Schools of Engineering is an independent school unit of Arizona State University that provides undergraduate and graduate programs for engineering, computer science, and construction students. It has grown over 20,000 students from all 50 states and Puerto Rico and 121 countries. They emphasize discovery, design, innovation, entrepreneurship, and societal impact. This camp focused on providing 7th – 12th grade students an introductory course to Computer Science as well as robotics through visual programming LEGO NXT/EV3 robots.

* Designed and Implemented robotics exercises that reinforced and introduced Computer Science and Computer Engineering theories and concepts.
* Guide, troubleshoot, and help students solve problems and develop features within their robots.
* Provide an enjoyable and positive interpersonal experience for the students that reinforces and introduces Computer Science and Computer Engineering theories and concepts.
* Create and present presentations and short lectures to provide a background for the students.
* Guide, set the example, communicate, and collaborate with fellow instructors.

**Tools:** Microsoft VPL, Microsoft Office, Visual Studios, LEGO EV3/NXT IDEs

**Education:**

**Bachelor of Science in Engineering: Computer Systems Engineering**

Arizona State University – May 2016 – 3.86 GPA