Matthew Green

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UX/UI UX/UI Designer

Offering over 18 years of experience designing and validating safety critical and hazardous systems within highly regulated industries. Multidiscipline (Software, Mechanical, Electrical) proficiency in rapid prototyping, design, systems integration, and requirements engineering. Demonstrated creative problem-solver applying innovation in support of technical organizations.

User Research	HTML	Prototyping
Usability Testing	CSS	Statistical Analysis
Quality Systems ISO 9001, 13485, 21CFR820	JavaScript	Instrumentation
System Life Cycle Processes ISO/IEC 15288	Hardware in the Loop Testing	Hazard Analysis
Risk Management & Decision Making with Uncertainty	Agile Development	Model Based Systems Engineering
	Electrical & Electronic (design/prototyping/testing)	

PROFESSIONAL EXPERIENCE

Jacobs (NASA-JSC) - Houston, TX Feb 2021 to Present

Energy Systems testing in support of manned lunar missions (Artemis)

Sr. Software Engineer

Designs and implements software for the design, development, test, and certification of space flight hardware. Utilizes National Instruments Data Acquisition Devices (cRIO, cDAQ, PXI, FPGA) to integrate hardware with control Systems. Supports research and development projects by advising and recommending solutions based on best practices and lessons learned.

- Test Director for the Lunar Habitat Burst Test. This was a hazardous burst test of an inflatable requiring the coordination with the Customer, NASA Engineers, emergency responders, as well as limiting the airspace around JSC.
- Lead Software Engineer for the Gateway Refueling Breadboard System. Successfully integrated European Space Agency hardware with NASA System in London, UK. Managed cross-functional requirements from three nations to capture and analyze high speed data (10 kHz) from flight sensors.
- Lead Software Engineer for Carbothermal Reduction (CARD) research and development systems. CARD is a complex integration of multiple systems to extract resources from lunar soil.
- Gathers and analyzes customer and system requirements for the design of electro-mechanical test systems.
- Authors documentation including Requirement Specifications, Test Plans, and Operating Procedures to coordinate software development with other disciplines (Mechanical, Electrical, Data Science)

Aireon LLC, McLean, VA — Nov 2018 to Feb 2021

Provider of the first Space Based Real Time Air Traffic Surveillance Network

Test Engineer

Played a significant role in the specification, design review, testing, and deployment of the Aireon Space-Based Automatic Dependent Surveillance-Broadcast (ADS-B) Air Traffic Surveillance System. Aireon is a safety critical system of systems providing surveillance to air traffic controllers for separation of aircraft in remote locations.

- Test lead and ScrumMaster for the commercial data services product line. Managed projects with agile methods for incremental and iterative development.
- Built two subsystem test environments matching the operational system inputs with Linux CentOS and Red Hat servers. These supported the testing of live data without the need for the operational system.
- Conducted Factory and Service Acceptance Tests with FAA stakeholders. Led the test effort of various subsystems and generating CAPA reports for failing requirements. Artifacts produced by testing satisfied industry regulatory compliance for safety critical software.
- Supported the design of test tools and automation opportunities with Matlab, Python, and Bash scripts. Automation efforts decreased operator error and rework conserving man hours and system resources.

Orbital ATK (NASA–GSFC) Greenbelt, MD — May 2017 to Nov 2018

Manufacturer of Integrated Thermal Systems for spaceflight hardware

Test Engineer

Responsible for the development of automated test systems related to flight hardware verification and validation. Test software and system design adhered to NASA and DoD regulatory standards for space vehicle flight hardware.

- Coordinated with group project managers to develop lifecycle timelines and product delivery dates.
- Deployed five test systems. Improved repeatability of highly standardized tests with greater reliability. Previous systems had 95% availability which was improved to 99.9% with refactoring.
- Engineered requirements from stakeholder (NASA, L3/Harris, and Internal Design Teams) concerns. Elicited requirements improved system delivery timeframes while maintaining quality and minimizing rework.
- Developed software with modern LabVIEW architectures to increase system reliability and repeatability. Integrated instrumentation such as thermocouples, pressure sensors, environmental controllers, and data acquisition systems.

Breethe, Inc. Baltimore, MD Jul 2016 to May 2017

Startup medical device company developing the first portable Heart/Lung Machine.

Test Engineer

Tasked with implementing test and evaluation program for the validation and verification of medical devices. Designed and fabricated test fixtures, automated manufacturing processes, and drove the development of a scalable centralized repository of design and test data.

- Collaborated with University of Maryland Medical Researchers for the elicitation of test system requirements. Advanced test methodologies pertaining to oxygen transfer and blood hemolysis by automating data capture and simplifying mechanical test system.

Tandem Diabetes Care, San Diego, CA April 2007 to Jan 2016

Successful startup medical device manufacturer of ambulatory infusion pumps directed at the diabetes market.

Engineering Technician

9 years in R&D Department contributing to the design, test, and validation of prototype and production medical devices. Second employee of the company which achieved successful FDA 510(k) submission and raised over $400 million with its IPO.

- Coordinated a cross disciplinary team of mechanical and electrical engineers to build accelerated life cycle tests of product subcomponents including fixtures, electrical, and software components.
- Lead Engineer for the redesign of the consumable cartridge leak test fixture. Legacy design tested one cartridge over 3 hours; new design tested 8 cartridges in less than 1 hour. Managed entire design lifecycle from planning to deployment.
- Assisted Senior Engineer in establishing reliability program to generate preliminary hazards analysis and failure mode effects of all Tandem products. Established test plans and provided reports of findings.
- Defined, documented, and maintained test system requirements in the quality management system to defend test results and practices in the event of a regulatory audit.
- Performed statistical analysis on closed loop flow control algorithms.

US Navy, Iceland & Italy Aug 2000 to Aug 2006

Electronics Technician Petty Officer

Forward deployed Work Center Supervisor in charge of repairing and maintaining shipboard and shore communications equipment including radios, radars, and navigation suites.

EDUCATION

The George Washington University, Washington DC
MS – Systems Engineering

San Diego State University, San Diego CA
BS – Film, Emphasis in Producing