Lockheed Martin Internship Experience Overview

VLS Software Team and LCS Environmental QUAL Team
Mission Systems and Training

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About Lockheed Martin

• World’s Largest Defense Contractor (~126,000 employees)
• Areas of Business:
  – Aeronautics
    • F-35, C-130, F-16, F-22, C-5M, Sikorsky
  – Information Systems & Global Solutions
    • IT, Biometrics, Cybersecurity, Cloud Computing
  – Missiles and Fire Control
    • Weapons Systems
  – Mission Systems and Training
    • Ship and Submarine mission and combat systems
  – Space Systems
    • Satellites, missile-launch detection, Orion, intercontinental ballistic missiles
VLS – Vertical Launching System

• The only launching system that can simultaneously accommodate the weapon control system and the missiles of every warfighting mission area
  – anti-aircraft, anti-surface, antisubmarine and land attack
• System is designed to accept any missile into any cell
• Deployed by 12 navies, in more than 20 different ship classes in more than 180 ships
LCS- Littoral Combat Ship

- US Navy’s newest fleet of ships
- Environmental Qualifications Testing: Ships undergo extensive Shock Testing in order to ensure survivability - the capacity to absorb damage and maintain mission integrity
VLS BLV

• Supported Baseline V by updating Iteration 2 SDD (Software Design Document) with the updated Iteration 2 Ada code for both the controller and new missile applications.

• Updated SDD allows software developers to correctly develop future BLV applications.
VLS BLV

• Worked to document the new procedures used for configuration management creation of the new program memory for Baseline V Configuration 9.
• Preserving processes to ensure longevity of operational functionality.
VLS BLVII

• Data analysis of IDSIM “go launch” fault scenario log files for Baseline VII MECS 2C
• Become aware of and investigate reported anomalies within the scenarios in order to correct known problems prior to combat use
VLS BLVII

• Worked with BLVII engineers to develop and provide a solution for testing to fix a UTD (Unit Test Defect)
• Brought BLVII closer to expected functionality.
VLS BLVII

• Worked task to update BLVII design documentation/UML to incorporate latest design changes related to new missile integration.
LCS QUALS

• Account for received ancillary equipment for LCS Environmental Qualifications by documenting and organizing all received equipment, handling GFE equipment, and being responsible for requested shipping of equipment.

• Accounting for and providing test materials is an essential step in the process of Environmental QUALS Shock testing.
Challenges

• Working with an unfamiliar language and project
  – Utilize resources
  – Ask questions

• Encountering design documentation voids/errors
  – Important to emphasize accuracy and detail

• Times of confusion or lack of organization
  – Patience and communication are key
Summary & Reflection

• Internship was a valuable learning experience.
  – Practical applications of schooling
    • Low-level applications of COSC 250
    • Basic understanding of languages and algorithms
• Reinforced my career goals
• Benefits: Learned valuable skills, made many connections, gained work place experience, furthered career goals
Questions?