EXIT PRESENTATION
MASS AND RELIABILITY SOURCE DATABASE
NC4

Ryan Ogilvie
Karl Rothe
RYAN OGILVIE - JSC EXPERIENCE

- Bible Study with Astronaut David Leestma
- Astronaut Timothy “TJ” Creamer
- Astronaut Douglas “Wheels” Wheelock
- NBL movie night
- Astronaut Clayton Anderson
- Floor tour of MCC
- Galveston at Dawn
- Flight Director Gene Kranz
KARL ROTHE – ABOUT ME

FIRST Robotics Alumni
Marching Band
Micro-G NExT
Formula SAE
My cat
Robotics Lab
Girlfriend
1st Internship
KARL ROTHE – JSC EXPERIENCE

PAXC trip to Wallops

Grand Theft MRV

My robot friend

Astronaut Clayton Anderson

Flight Director Gene Kranz

Sounding Rocket Launch Pad

JWST

SAIL Lab

Anechoic Chamber
• MaRS: database of components on ISS
• Purpose: Planning of spare parts for deep space missions
• Contains: MADS ORUs with parts list, mass, and reliability data
• MaRS is based on MADS
• Other databases add component and failure information

• New Databases found
  • “List of ORU Failures”
  • “Maintenance Data Collection”
NEW DATABASE FAILURE LIST

- PowerPoint references to PART records and Job Orders
- This was compiled into one dataset of referenced Reports and Job Orders
1. Merged “Metadata” sheet into components list

2. Added Columns:
   - Location, System, MADS ID, Checked, Weight Source
   - Metadata: Material & Tier 1, 2, 3, 4

3. Removed:
   - Unnecessary columns
   - Broken Macros
   - Unnecessary colors
UPDATES AND VERIFICATION

• Verified components in MaRS with MADS and their IPLs
• Added 400+ missing MADS ORU’s with their IPLs
  • 40,000 new lines for a total of 120,000 lines
• Checked IPLs vs. newly downloaded IPLs for 800+ parts
DOWNLOADING IPLS

- Manually
  - 20 mouse and keyboard inputs
  - 3-7 minutes each
- Macro Assistance
  - 8 mouse inputs
  - 1-2 minutes each
DOCUMENTATION UPDATE

• Removed outdated information
• Quick reference tables
• Glossary of terms
• End-user edition and developer edition
CONCLUSION - KARL

• Impact of Internship
  • Structure of NASA
  • Communication and teamwork skills
  • Confirmed desire for a career in aerospace

• Future Plans
  • Apply to Pathways
  • Electrical Engineering Degree
  • Move to JSC area
  • Seeking career in aerospace
CONCLUSION - RYAN

• Impact of Internship
  • Understanding of failure analysis
  • Probability and risk analysis
  • NASA’s missions and goals
  • Communication in teams
  • Furthered my interest in working for NASA

• Future Plans
  • Mechanical Engineering Degree (May 2018)
  • Masters in Mechanical or Aerospace Engineering (Fall 2018)
  • Apply to NASA as Pathways or internship
  • Pursue a job in space industry
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• Van Keeping, Nicholas Meyer
• Jessica Mclaughlin
• NA Directorate
• NC Division
2017 Summer Intern Award Ceremony

Come see how interns at Johnson Space Center have impacted NASA’s mission! Everyone is welcome!

Date: Wednesday, August 9
Time: 3:00pm – 4:00pm (CT)
Location: Teague Auditorium

Following the event, be sure to stay for refreshments in the Teague Lobby from 4:00pm – 4:30pm.