Alpha Presentation
SmartSat Satellite App Store
The Capstone Experience
Team Lockheed Martin Space

Colin Williams
Valentino Dore
Aidan Delfuoco
Will Teasley
Matt Heilman

Department of Computer Science and Engineering
Michigan State University
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Project Overview

• Upload a new application to the App Store through the new upload form
• Send application and unit tests to the ZCU102 board
• Run unit tests on board
• Send test results back
• View test results
System Architecture

- Frontend: React
- Backend: Flask
- Database: PostgreSQL
- Continuous Integration: Source Code Builds
- Artifact Repository: SDKs, Testbed, Applications
System Architecture

Target Hardware

- Xilinx® ZCU102
- NVIDIA® Jetson® TX2

SmartSat™ App Store

- Upload/access applications, SDKs, testbeds
- Return test results
- Unit tests from application package

Testing

- SmartSat Services:
  - File Server
  - Application Manager
- Testbed
- Unit Testing
- Tinker

Boot hardware, install OS image, load application and tests, run tests

The Capstone Experience
Application Upload Form
Testbed Upload Form
Running File Servers
Completed Test Result Logs
What’s left to do?

• Display the test logs under each application in the frontend
• Configure SDKs and testbeds for Vxworks
• In series, run the tests on the three different boards and have all of them return the test logs
Questions?