

MICHIGAN STATE

U N I V E R S I T Y

Alpha Presentation

SmartSat Satellite App Store

The Capstone Experience

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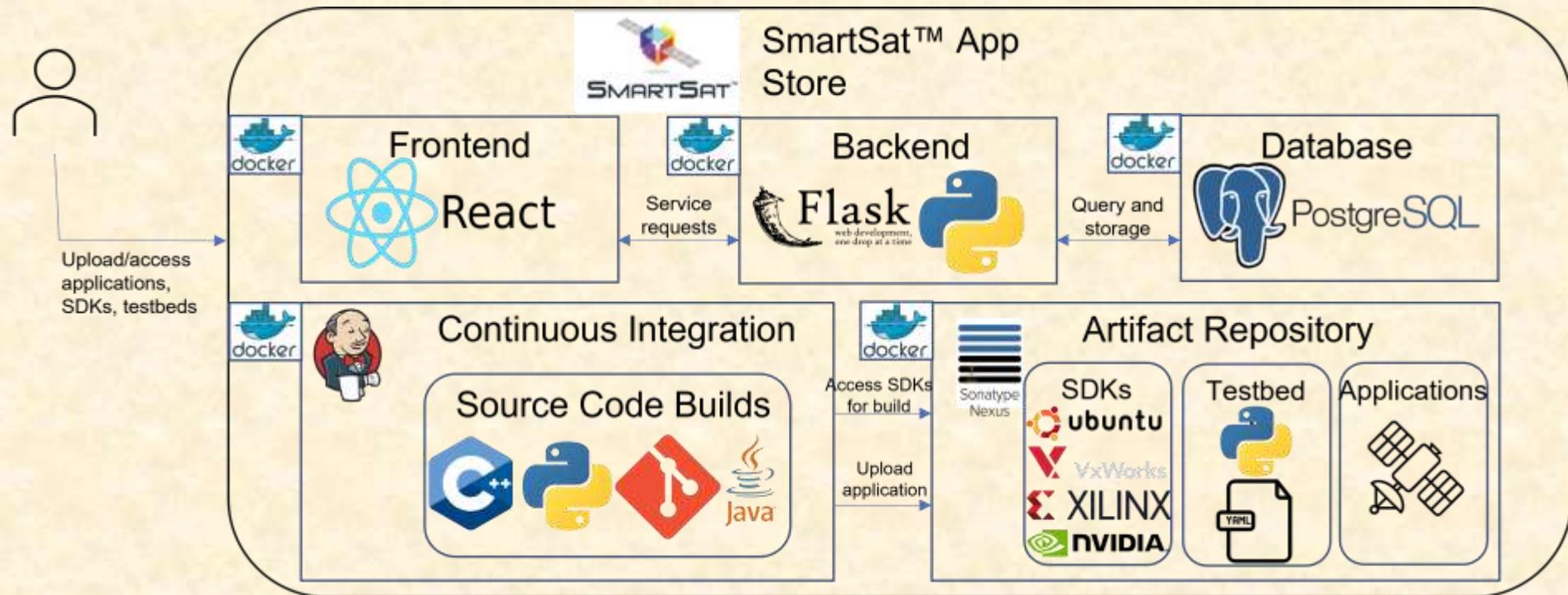
*From Students...
...to Professionals*

Project Overview

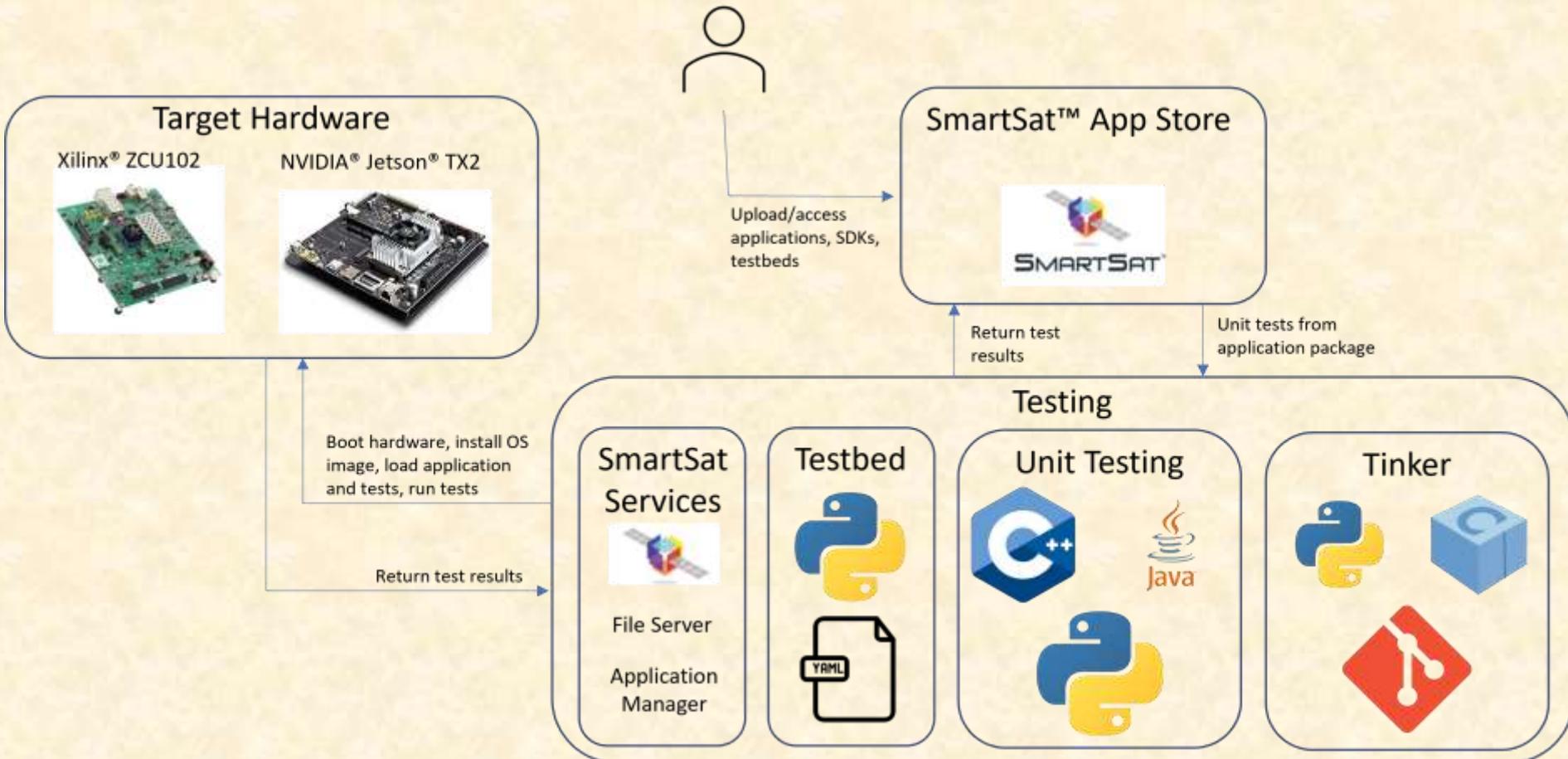
- Upload a new application to the App Store through the new upload form
- Send application and unit tests to the ZCU102 board
- Run unit tests on board
- Send test results back
- View test results



System Architecture



System Architecture



Application Upload Form

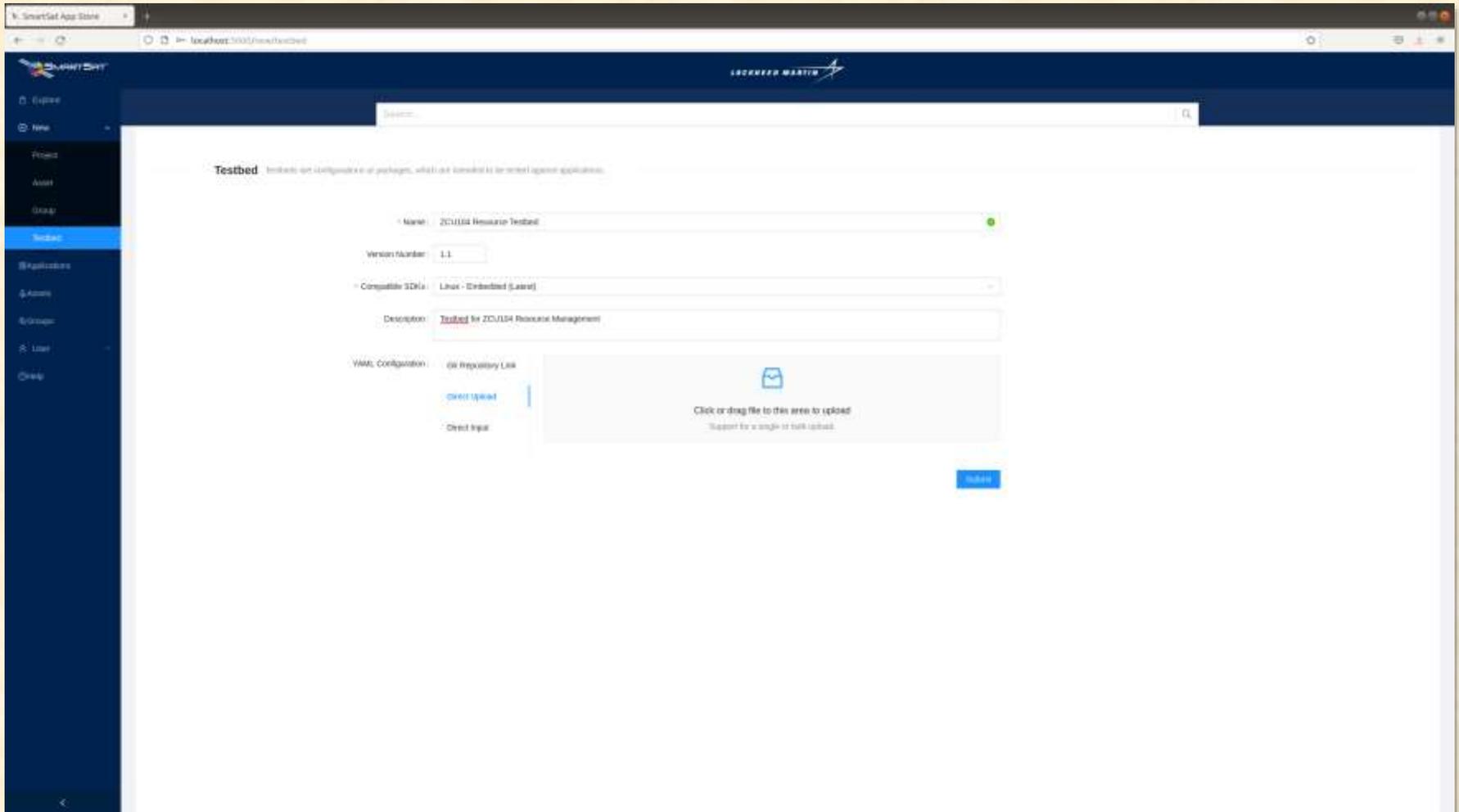
The screenshot shows a web browser window displaying the 'SmartSat App Store' interface. The page is titled 'Project' and contains a form for uploading an application. The form fields and their values are as follows:

- Avatar:** Click to upload (Recommended: 100x100px, png and jpg accepted)
- Name:** ZCU 504
- Category:** Application
- Tags:** Resource Management
- Version Number:** 1.1
- Private Project:**
- Format:** Source Binary
- Type:** Bin Payload Mission
- Compatible with:** Compatible With All SDKs
- Description:** ZCU 504 Resource Management
- Source:** See Repository Link

At the bottom of the form, there is a 'Select Upload' button and a large area for file upload with the text: 'Click or drag file in this area to upload. Support for a single or multiple uploads.' A 'Submit' button is located at the bottom right of the form.



Testbed Upload Form



The screenshot shows a web browser window displaying the SmartSat App Store interface. The page title is "Testbed" and it includes a search bar at the top. The main content area contains a form for uploading a testbed package. The form fields are:

- Name:** ZCU104 Resource Testbed
- Version Number:** 1.1
- Compatible SDKs:** Linux - Embedded (AArch)
- Description:** Testbed for ZCU104 Resource Management
- YAML Configuration:** (a) Repository Link

Below the form, there is a section for uploading the testbed file. It features a large grey box with a blue folder icon and the text "Click or drag file to this area to upload" and "Support for a single or bulk upload". A "Publish" button is located at the bottom right of the form.



Completed Test Result Logs

```
<?xml version="1.0" encoding="UTF-8"?>
<testsuite tests="16" failures="0" disabled="0" errors="0" timestamp="2021-10-19T02:04:35" time="0.008" name="AllTests">
  <testcase name="TestTopGroundhogClient" tests="16" failures="0" disabled="0" errors="0" time="0.007">
    <testcase name="constructorDestructorNormal" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="initializeWithInvalidAddress" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="constructorFailedSignal" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="initializeInvalidAddressFamily" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="initializeFailedFirstSocket" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="initializeFailedReuseAddr" status="run" time="0.001" classname="TestTopGroundhogClient" />
    <testcase name="initializeFailedSizeSendBuf" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="initializeFailedConnect" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="sendNormal" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="sendConstructFailsToConnect" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="sendBothAttemptsFailToConnect" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="sendInParts" status="run" time="0.001" classname="TestTopGroundhogClient" />
    <testcase name="sendConnectionClosed" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="sendInPartsConnectionClosed" status="run" time="0.001" classname="TestTopGroundhogClient" />
    <testcase name="sendFailedTransmit" status="run" time="0" classname="TestTopGroundhogClient" />
    <testcase name="receiveResponseUnimplemented" status="run" time="0" classname="TestTopGroundhogClient" />
  </testcase>
</testsuite>
</testsuites>
```



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?

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