Experimental Products Development Team (EPDT)

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Origins of EPDT

• Originally SPoRT formed EPDT internally to focus on:
  – Creating advanced display capabilities for NASA research data in AWIPS II environment
  – Create training for AWIPS II development

• General need for AWIPS II development training within community

• Expanded EPDT out into the community

• Funded jointly by GOES-R Proving Ground, JPSS, and NASA SPoRT

• Support from the National Weather Service
GOES-R/JPSS Proving Ground EPDT

Objectives:

• Create a community environment to share AWIPS II development knowledge

• Develop technical expertise of AWIPS II within NASA, NOAA’s CIs, and NWS

• Create AWIPS II plug-ins for GOES-R proxy and JPSS data
  • Ingest
  • Analysis
  • Display

• Provide feedback to NWS on:
  • External development process
  • Governance of locally developed AWIPS II software
Learning Structure

- **Conference Calls**
  - Prepare for initial hands-on learning
  - Supplemental topics

- **Hands-on Learning**
  - Classroom setting learning
  - Learn to develop a plug-in from ingest to display

- **Code Sprint**
  - Participants pick project and “learn by doing”
  - Work on projects in small groups
  - Groups help each other

Transitioning unique data and research technologies to operations
Hands-on Learning Training

- Topics covering:
  - Ingest Plug-in EDEX (Day 1)
  - Data Model Plug-in (Day 1)
  - Visualization Plug-in CAVE (Days 2-3)
- Hands-on exercises
- Training was recorded and provided back to NWS
Code Sprint Training

• Team broken into small groups
• Groups actively develop project during sprint
• “Learn by doing” something meaningful
• Produce working AWIPS II feature by end of code sprint
• Continue working on feature after code sprint ends
Group A, B, and C

• Group A (14 Participants)
  – Hands-on Learning March 2013
  – Code Sprint Fall 2013
  – Code Sprint Fall 2014

• Group B (14 Participants)
  – Hands-on Learning April 2014
  – Code Sprint Fall 2014

• Group C (14 Participants)
  – Hands-on Learning May 2015
  – Code Sprint Fall 2015
Participant Breakdown

• Limit size to facilitate group learning and development activities
• Participants are nominated by organizational leaders
• One representative from:
  • NWS Regions
  • Each NOAA Cooperative Institute (and SPoRT)
  • MDL and GSD
  • Raytheon
  • NWS SEC
  • GOES-R PG AWIPS II developer
• **Team Lead/Instructor:** Jason Burks (NASA SPoRT)
• **Instructor:** Max Schenkelberg (Raytheon)
• **Advisor:** Ed Mandel (NWS/OST SEC Development Branch Chief)
Code Sprint Development

• EPDT subgroups worked on projects
  – Tracking Meteogram
  – RGB Recipe
  – mPing ingest and display
  – GOES-R product ingest
RGB Recipe Project

- Identified current deficiency in AWIPS II true color imagery display
- All EUMETSAT Recipes implemented
  - Air mass (VIIRS/CrIS)
  - Dust
  - Nighttime Microphysics
- RGB Composites
  - Natural Color composite
  - Snow Cloud composite
  - VIS/VIS/IR composite
- Can be used in 14.3.1, only localization needed
- Currently tested in WFO HUN
- Working to baseline the python code used to provide ability to wider community
- Testing RGBs in OPG in early Fall 2015
Benefits of EPDT

- Expanded AWIPS II development knowledge in community
- Helps NWS to assist in integration tasks from product developers
- Direct Plugin development
- Continued development keeps community up on technology within AWIPS II
Proposed EPDT Code Sprint development

• RGB Localization Editor
  – Visual manipulation of RGB components
  – Drag and Drop interface
• Just in Time Training plugin for AWIPS 2
• Meet with product developers to address specialized needs
Transitioning unique data and research technologies to operations

RGB Localization Editor
RGB Localization Editor

Transitioning unique data and research technologies to operations
Just in Time Training Concept

Transitioning unique data and research technologies to operations
Future EPDT

• Group C Code Sprint Fall 2015
• Previous EPDT Members continue to work on AWIPS II
  – Code Sprints to address GOES-R display and ingest needs
  – JPSS funding to host code sprints to address JPSS needs
• Previous EPDT members have real world experience troubleshooting problems in AWIPS II
Questions