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

Transitioning unique data and research technologies to operations
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

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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
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
RGB Localization Editor

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RGB Localization Editor

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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