Learn, Design, Develop: My summer with Unidata AWIPS
Rhoen Fiutak, Shay Carter, Nicole Corbin, Tiffany Meyer; University Corporation for Atmospheric Research (UCAR), Unidata Program Center, Boulder, USA

Unidata AWIPS supports two visualization frameworks for rendering meteorological and geographic data: CAVE, a graphical user interface (GUI) application and Python-AWIPS, a programmatic application programming interface (API) for EDEX. Users can learn about each through multiple educational resources, some of which include:

- AWIPS Tips provides topical updates and tutorials
- Learn AWIPS CAVE is an eLearning course
- Jupyter Notebook examples for Python-AWIPS

This summer I contributed to each of these resources while gaining foundational technical and instructional skills.

Motivation

To transform the geosciences community, research, and education by providing innovative data services and tools - Unidata Mission

- Educational resources for these visualization tools can lower barriers to using software tools
- Targeted tips and tutorials increase access to and awareness of informative ways of using data
- Serving our University community with better instructing on CAVE and Python-AWIPS

Contributions

Learn Python-AWIPS eLearning module
Video: Drawing Properties for WWA display in CAVE

Next Steps

- Publish blogs for AWIPS Tips and new resource
- Evaluate using KirkPatrick Model:
  - LEVEL 1 REACTION
  - LEVEL 2 LEARNING
  - LEVEL 3 BEHAVIOUR (Monitor and Adjust)
  - LEVEL 4 RESULTS

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Community Outreach

What resource is needed next? Who needs this information the most?
- Evaluation Meeting with Texas A&M Professors
- Email Interviews with University Professors and Professional Users

Foundational Skills

- Project Pythia Tutorials on Python, Jupiter, and Git
- Providing user feedback on Learn AWIPS CAVE course
- Communication with Subject Matter Experts (SME)
- Submitting pull requests to Unidata/python-awips

Learning Objectives (LOs)

- Terminal and Enabling Learning Objectives
- Bloom’s Taxonomy
- Assessment: How will we know if the learner has achieved the objectives?

Storyboard

- Outline of topics with LOs
- Instructional and Assessment tools

Scaffolding

- Assumptions about previous knowledge of learner: Are they familiar with Python? with meteorological data?
- Pre-requisites: previous courses; installation of applications and programs

Educational Technology

- Take advantage of pre-existing material
- Use Camtasia and Articulate Rise 360 to create new content

Building Narrative

- Context, Challenge, Activity, Feedback
- What is the story learners will follow?

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