6.1 AWIPS LOCAL APPLICATION - LSR4AWIPS

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1. INTRODUCTION

As a greater emphasis was placed on utilizing AWIPS versus PC-based applications at the WFO level, there arose a need for a program which could aid in the timely creation and transmission of Local Storm Reports (LSRs) within the AWIPS platform. The LSR is necessary to provide near realtime reports to help the Storm Prediction Center (SPC) make quick and accurate decisions in issuing convective watches. The script, LSR4AWIPS, was developed with this need in mind.

2. METHODOLOGY

After reviewing several PC-based applications designed for the creation and dissemination of the LSR, a graphical user interface (GUI), utilizing aspects from each of these applications, was designed.

National Weather Service Operations Manual C-40 was reviewed to ascertain the proper format of the LSR product. This format was strictly adhered to while developing the code used to produce the final LSR product.

Finally, the AWIPS Application Integration Framework Manual (AIFM) was consulted to ensure the development of LSR4AWIPS software followed all established guidelines for AWIPS local applications.

3. SOFTWARE SPECIFICS

3.1 *Development*

The script, LSR4AWIPS, was developed utilizing the Tool Command Language (Tcl) and its associated graphical user interface toolkit, Tk. Since no similar AWIPS or UNIX based software existed for the creation of the LSR, LSR4AWIPS was developed from the ground up. Following the development of the user interface, work began with the ingest of inputted data and the creation and storage of the storm report data. Numerous Tcl scripts were developed to handle the different aspects of the script. To date, LSR4AWIPS is comprised of over 25 individual scripts, all performing unique functions. These functions include the creation of the actual LSR text product, archiving all inputted data in ASCII flat files, transmission of the LSR via the AWIPS Wide Area Network (WAN), and other various program functions.

Work began on LSR4AWIPS in the summer of 1999. Since that time, numerous versions and updates have been added, with the most recent version scheduled to be released in late 2001 or early 2002.

3.2 *Testing*

As development of LSR4AWIPS continued through late 1999, the first version was released via the AWIPS Local Applications Database (LAD). As sites installed and began utilizing the software, suggestions were made as to how the script could better aid the WFO in the LSR process. With this input, the script continues to be tested and modified to ensure smooth and error-free operations.

3.3 *Operation*

LSR4AWIPS is a complex application which allows the user to enter storm reports in a simple and easy-to-use graphical user interface (GUI). This data is then used to create the transmitted LSR.

Currently, LSR4AWIPS goes beyond the simple creation of LSR products by computing the latitude and longitude of each entered report and placing that data in a flat file database. This file can then be used to plot the data via ArcView (a widely used map production software) for display on the Internet or for the creation of a static graphical display on AWIPS

The script also stores all the inputted data in ASCII flat files. The data can then be used to create Summary LSRs, event logs, or reports to be used in future severe weather research.

4. FUTURE DEVELOPMENT

The script is continually monitored for possible improvements, and was recently modified to allow for quicker report dissemination by adding pull-down city menus.. Other considerations for the script include utilizing LSR4AWIPS data to create initial StormData reports, the integration of AWIPS spotter lists to log and automatically insert data into the script, utilizing Informix database tables for the storage and retrieval of data, and the dynamic creation of storm data plots for dissemination to the internet.

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