Integrating SEDRIS Capabilities Through Focus

http://tools.sedris.org

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About this tutorial

DESCRIPTION

This tutorial will present the SEDRIS Focus tool, which is used to edit, examine, and analyze SEDRIS transmittals. It will describe the functional capabilities and goals of Focus, including the integration of other SEDRIS tools such as Depth, Model Viewer, Rules Checker, and Syntax Checker. Future enhancements and capabilities being planned will also be discussed.

WHO SHOULD ATTEND

Those users of SEDRIS who will be working with SEDRIS transmittals for any purpose, as well as developers of new SEDRIS applications who would like to provide such applications to the rest of the SEDRIS community.

PREREQUISITE

Prior attendance at either the "Introduction to SEDRIS for Managers" or the "Fundamentally SEDRIS: The Technology Components" tutorial is recommended.

WHAT TO EXPECT

At completion, the attendee will have an understanding of the potential and features of the Focus tool, and how the Focus tool can provide the mechanism to integrate the broad range of SEDRIS capabilities.

Prerequisite

- **To get the most from this tutorial, we assume you know the following information as a prerequisite to this session:**
  - **A basic understanding of the DRM**
  - **A basic understanding of SEDRIS transmittals**
  - **Have some exposure to other SEDRIS tools such as Syntax Checker, Model Viewer and SEE-IT**

Tutorial Outline

- Why Focus?
  - Current state
  - Need for integrated working environment
- Examining transmittals with Focus
- Analyzing transmittals with Focus
- Editing transmittals with Focus
- Use Cases
- Integrated Hypertext tutorials
- Focus Configurability
- Future Capabilities
- Questions
- Where to go from here
- Demonstration of capabilities
- Demonstration of capabilities
- Demonstration of capabilities

Current State

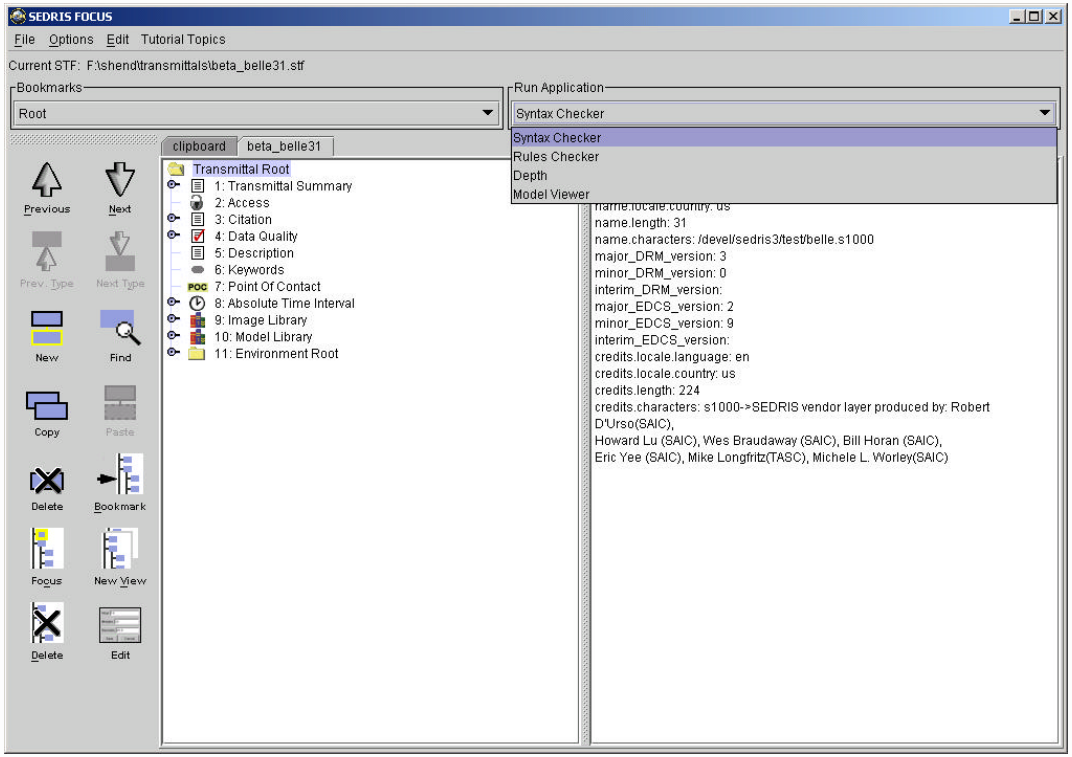
- **There are many specialized SEDRIS tools to fulfill many different functions. Examples:**
  - Examining the STF (Depth, Transmittal Browser, Side-by-Side, SEDRIS Navigator, Model Viewer, …)
  - Data Checking (Syntax Checker, Rules Checker, SEE-IT, …)
  - Testing (SEDRIS testing utilities, STG to STF, …)
  - Conversion (STF to CTDB, DTED to STF, VPF to STF, …)
- **What has been lacking is a tool that can integrate these capabilities and make them accessible through a common user interface.**
- **This need is most evident when users perform complex operations requiring viewing, analyzing and editing transmittals in several iterative steps.**

Need for an Integrated Working Environment

- Need to edit and examine transmittals without converting to other formats
- Need to move data between transmittals
- Need to search and replace objects to correct global problems in transmittals
  - Wrong EDCS codes
  - Artifact of creation
- Need to have several applications working sequentially to obtain specific results
- Need to easily add new capabilities as the need arises

Focus - Addressing Those Needs

- **Focus was designed and implemented with those goals in mind**
- **The current version is SEDRIS SDK 3.1 compliant and available for Beta testing**



Examining Transmittals With Focus

- Examining object hierarchy
  - Class type identification through graphical coding
  - Hierarchy expansion and contraction
- Object bookmark
  - Bookmark objects that need to be visited repeatedly
  - Focusing on a selected object
  - Easy locates and displays the selected object
- Object Search
  - Search by object ID
  - Search by object class
- Object browsing by DRM class
  - Navigate to previous and next objects of a selected class

Examining Transmittals With Focus (cont.)

- **Hierarchy-based browsing**
  - **Navigate to previous and next objects within a tree hierarchy**
- **Object field display**
- **Multi-view capability**
  - **Multiple views of same transmittal for simultaneous browsing**
- **Multi-transmittal**
  - **Color coding of opened transmittals for read/write or read-only mode**
  - **Multiple views of multiple transmittals**

Analyzing Transmittals With Focus

- **Stand-alone SEDRIS utilities have been integrated in Focus**
  - **Depth, Syntax Checker, Rules Checker, & Model Viewer**
  - **New utilities can be added easily**
- **These utilities can be used to analyze transmittals**
  - **Run Model Viewer to see 3D models**
  - **Run Syntax Checker from a selected object hierarchy**
    - **Examine the condition/error report to find the offending objects in the transmittal**
  - **Run Rules Checker**
    - **Exam the condition/error report to find the offending objects in the transmittal**

Analyzing Transmittals With Focus

- Integrated error capabilities
- Integrated SEE-IT condition report
- Error correlation to object

Editing Transmittals With Focus

- Object field editing
  - Default field editing
    - Altering object field using the default field windows
  - User-defined field editing
    - Altering object (e.g., RGB color) fields using specialized editors
- Object creation
  - Creates a new object of a selected class
  - Assigns defualt field values
  - Adds it as a child of an existing object
- Object copy and paste
  - Makes a copy of an object to the clipboard
  - Pastes the copied object as a child to an existing object

Editing Transmittals With Focus (cont.)

- **Object deletion**
  - **Deletes existing object and its relationship links.**
- **New transmittal capability**
  - **Allows the creation of new transmittals**
  - **Creates a <Transmittal Root> and sets as the root object**
  - **User con modify transmittal and use the remaining Focus editing capabilities**

Note: All changes are committed to the transmittals

Use Case 1

- **Scenario:**
  - **A transmittal is analyzed and a few problems are uncovered by the Syntax Checker. The user then proceeds to find the offending objects. Once found, the user makes the proper fixes and re-checks the transmittal to verify that the fixes have corrected the problem.**
- **Capabilities Used:**
  - **Transmittal syntax checking**
  - **Error correlation to object**
  - **Field and object editor**
  - **Object addition**

Use Case 2

- **Scenario:**
  - **SEE-IT analyzed a transmittal and generated a SEE-IT conditions report. This report is then fed into Focus for identifying the offending objects.**
- **Capabilities used:**
  - **SEE-IT condition report import capability**
  - **Error correlation to object**
  - **Field and object editor**

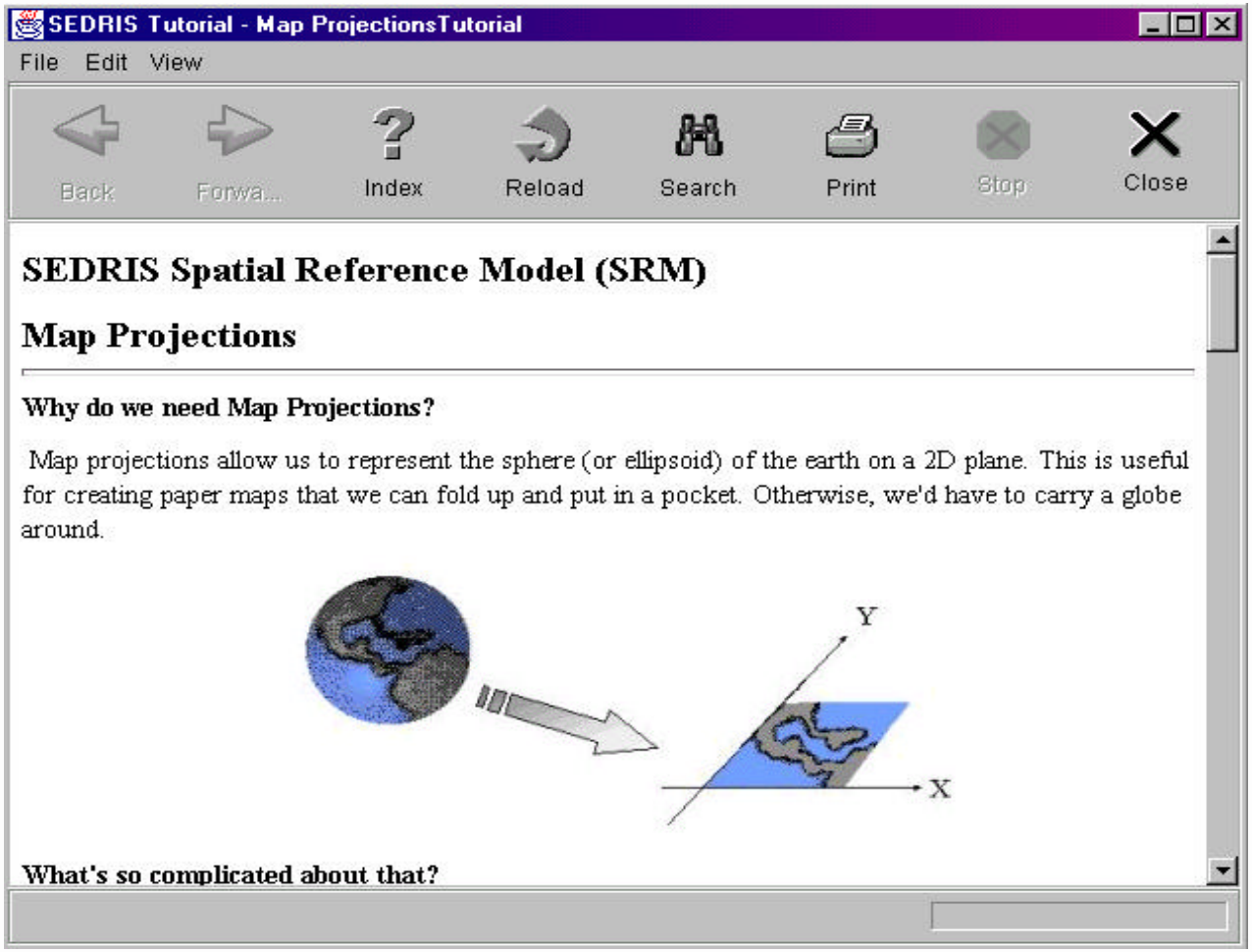
Focus Configurability

- Application preferences
  - Look-and-feel
    - Metal, CDE/Motif, Windows
- Traversal iterator parameters
  - For tree hiearchy
  - Examples: depth/breadth first, inheritance, ITR
- Editor binding
  - Binds specialized editors to specific object classes
  - Example: Color editor bound to RGB color
- Application integration
  - Allows quick integration of other SEDRIS-based applications

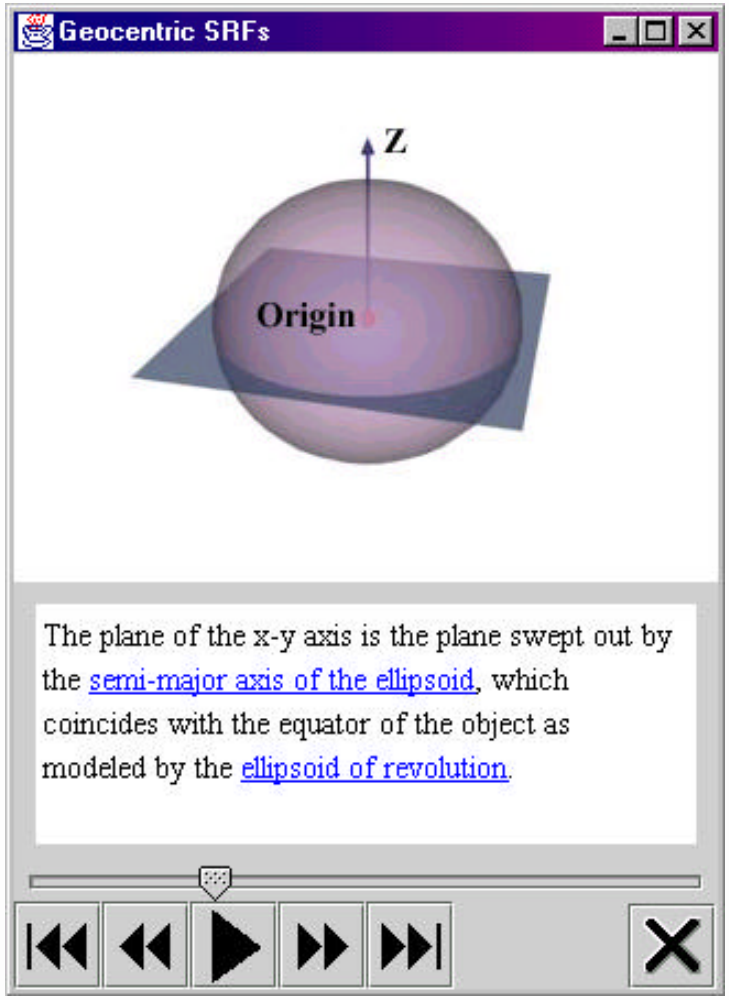
Integrated Hypertext Tutorial

- Focus has an integrated viewer for HTML tutorials
- Provides access to SEDRIS technical information from within the tool
- New tutorials can be be created as HTML pages and added to the Tutorials directory to view from Focus
- The tutorials can link to animated visualizations
- Visualizations can be created from a sequence of .gif files and titles
- An initial SRM tutorial is integrated

Integrated Hypertext Tutorial (cont.)



Integrated Hypertext Tutorial (cont.)



Future Capabilities

- Global search and replace
- Template matching for certain characteristics. Examples:
  - Find all trees in the transmittal that are shorter than 10 ft.
  - Find all houses whose normal vectors are inverted
- Template conversion to replace old characteristics with new characteristics. Examples:
  - Make all trees that are shorter than 10 ft to be 20 ft
  - Correct all the inverted normal vectors associated with houses
- Transmittal Content Require Specification (TCRS) support
  - Validate a transmittal against a TCRS

Questions/Comments?

Where to go from here

- **Use Focus tool for manipulating SEDRIS transmittals**
- **Provide feedback on its capabilities**
- **Suggest improvements**