

SconeEdit: a Text-guided Domain Knowledge Editor

Demonstration Script

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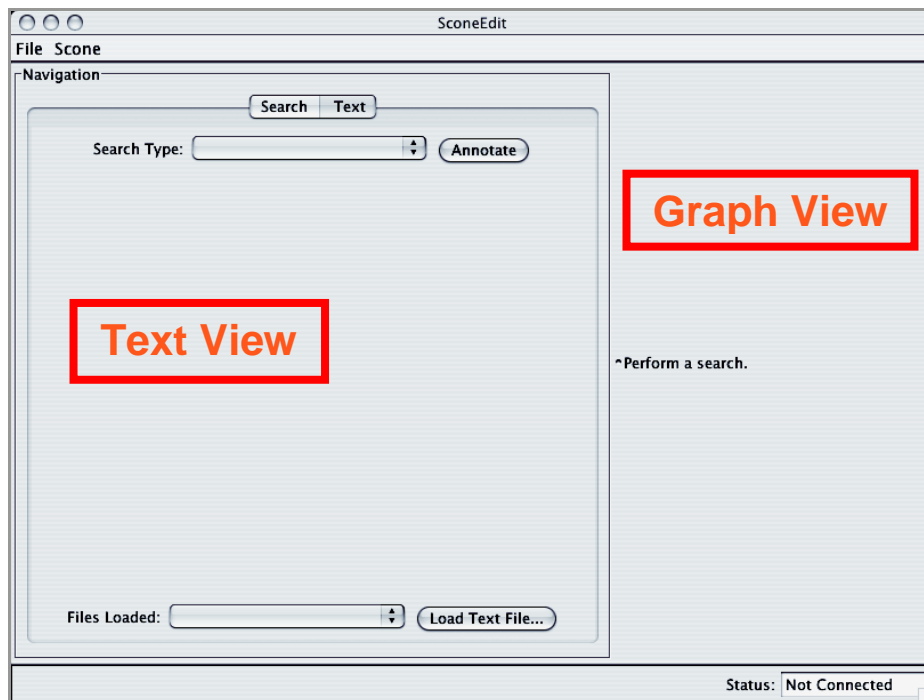
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Introduction

In this demonstration the user will explore and augment a knowledge base (KB) using SconeEdit. The tool provides a live, editable text window (Text View) where concepts from the knowledge base are highlighted and clickable. This allows the user to explore knowledge base concepts directly from the text. Alongside the Text View, a navigable KB View of the knowledge base provides list-style and graph-style visualizations of the KB. SconeEdit gives the user a principled way to browse the ontology and add new knowledge, guided by the context of a concrete text document.

When the demo begins, SconeEdit is running and connected to a Scone KB. The Scone KB Engine has an existing knowledge base loaded and ready for the user to explore and edit. When SconeEdit start up the user sees an empty Text View on the left and an empty Graph View on the right.

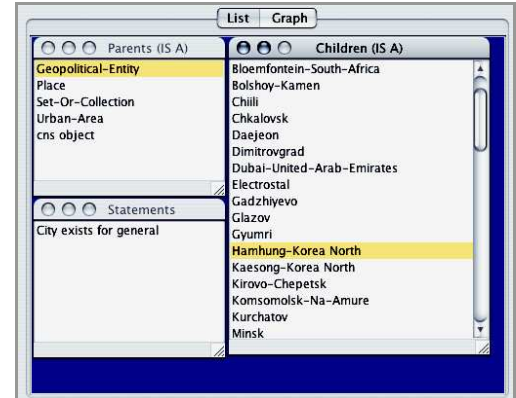
The user will load a text file that has been downloaded from the web in advance (*US accused of blocking approval of new UN human rights body*. Xinhuanet, March 1, 2006). Next the user will use SconeEdit to annotate the text with semantic concepts, explore the links between these concepts in the knowledge base and add missing knowledge based on the loaded text.



Step Five: Use the Text View to find missing concepts

The user notices that the city “Washington” is highlighted in the Text View but the city “Havana” is not.

To verify that Havana is not in the KB, double-click on the *City* node to bring it into focus, and click on the List Tab. The “Children (IS-A)” list displays all of the known cities listed alphabetically. Scroll down to “H” to verify that “Havana” is not a city in the KB.

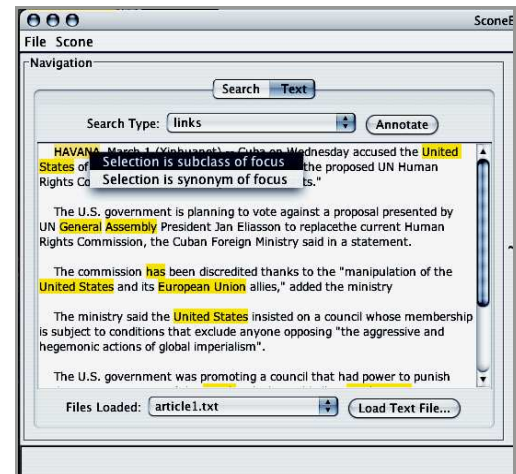


Step Six: Add a new concept to the KB

With the *City* node still in focus in the KB View, select the text “Havana” in the Text View with the cursor. Right-clicking on the selected text opens a popup menu with two options:

- Selection is subclass of focus
- Selection is synonym of focus

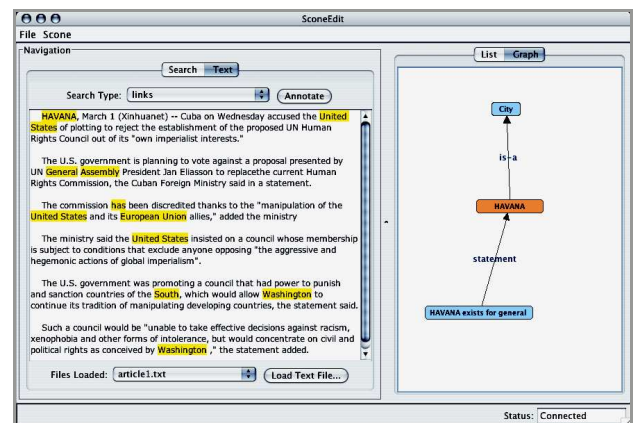
Choose “Selection is subclass of focus” to make the new concept *Havana* a subclass of *City*.



Step Seven: View the result of adding a concept

SconeEdit re-annotates the text and “Havana” is now highlighted, indicating that the term is in the knowledge base.

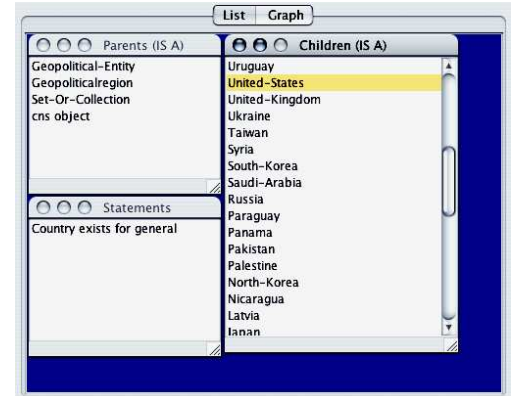
Double-click on “Havana” to show the new concept in the KB View. In the Graph Tab there is a new node *Havana* connected to the *City* node by an *is-a* link.



Step Eight: Use the Text View to find missing English names

The user notices that the string “United States” is highlighted, but the string “U.S.” is not. This indicates that the KB has a concept for *United-States*, but doesn’t recognize the string “U.S.” as an English name for this concept.

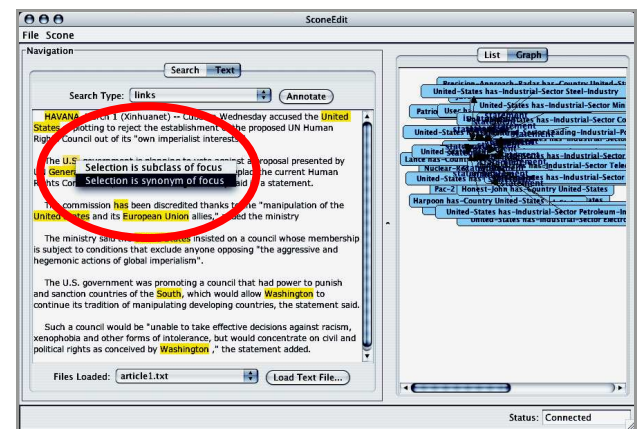
Verify that “United States” is a concept in the KB by clicking on the List Tab with the concept *Country* in focus. Double-click on the entry for *United-States* in the List Tab. This brings the *United-States* concept into focus.



Step Nine: Insert a new alias for an existing concept

To specify that “U.S.” is an English name for the *United-States* concept, first make sure the *United States* node is in focus. Then select the text “U.S.” in the Text View with the cursor. Right-click on the selected text and choose the option “Selection is synonym of focus”. The English name “U.S.” is added to the KB.

The Text View displays the results of the change by highlighting all instances of “U.S.” in the news story and linking them to the concept *United-States*.

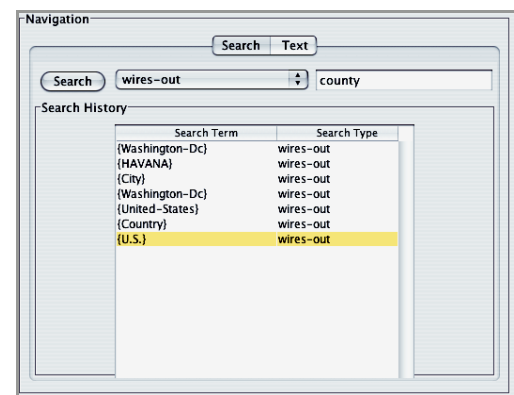


Step Ten: Explore the knowledge base using the Search Tab and Search History

In addition to the Text Tab, the Text View contains a Search Tab where the user can search for concepts directly and review a stored history of his/her searches.

Switch to the Search Tab at the top of the Text View. Type the words “United States” or “U.S.” into the search box and click on the button labeled “Search”. Both searches will locate the concept *United-States* in the knowledge base, and bring it into focus in the KB View.

The Search History contains a list of recently viewed concepts for easy navigation back to the results of earlier searches.



Step Eleven: Load another document

The changes that are made to a knowledge base using SconeEdit persist during the session, even across multiple text documents. To see the changes we have made to the KB illustrated in a new text document, load a new document into the Text View.

Click on the button “Load Text File...” at the bottom of the Text View. Choose the file “article2.txt”. Now click on the “Annotate” button. The strings “U.S.” and “Havana” are highlighted, and link to the concepts *United-States* and *Havana* in the KB.

Switch back to the previous document by clicking on the drop-down box labeled “Files Loaded” at the bottom of the Text View.

Conclusion

This is the end of the scripted demonstration. The user will be free to explore the knowledge base further at his/her leisure. We look forward to all user comments and suggestions. Please contact the authors of SconeEdit with any questions (Alicia Tribble atribble@cs.cmu.edu, Benjamin Lambert belamber@cs.cmu.edu).

Thank You!

