

SEP #9 : Scipad / Add feature « Create help from sci »

Title: Scipad / Add feature « Create help from sci »

Version: 1.0

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Review:

Commented:

State: Draft

Scilab-Version: Trunk

Vote: ?

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Abstract

This SEP proposes to add a new feature in Scipad to allow for creating xml help files from comments located in the header of functions stored in .sci files.

Rationale

Some users, mostly coming from Matlab, have get into the habit of documenting their sci files by using comments directly embedded in the header of their function files.

Besides, Scilab has a help system based on xml help source files that the build process compiles into different formats for later use in the java browser.

The purpose of this proposal is to help users to bridge the gap between their header-documented .sci files and xml files a la Scilab 5.

To reach this goal, a new Scipad feature is to be introduced: « Create help from head comments ». This will be located in the Scipad File menu near the existing « Create help skeleton ».

Implementation

Implementation is using a function `help_from_sci` courtesy of Torbjørn Pettersen. This function is similar to `help_skeleton`. It parses the header comments from a Scilab file stored on disk, identifies keywords and turn these comments into a valid xml file that can later be compiled by the Scilab help build process.

Function `help_from_sci` is to be included in the help module of Scilab 5 (licence issues to fix – currently discussing this). This function will therefore be added in Scilab itself, making it available at the prompt level too.

From Scipad, implementation is the same as for creating a help skeleton in Scipad. It consists basically in calling `ScilabEval help_from_sci(filepath,dir)`, `filepath` being the location of the file on disk, and `dir` being the directory where the resulting xml help file will be saved. This location can be selected by the user.

Use case

Documentation could be written and maintained as part of the `head_comment` section of the .sci file, and `help_from_sci` should be used for generation of the final xml files. This approach

eliminates any sync issues between the function source file and its associated help file.

Alternatives

It has been proposed to use other documenting schemes, among which doxygen and robodoc. These are not deemed to be adequate solutions because:

- They are currently not part of Scilab (despite the Scilab code is automatically documented by doxygen, this happens outside of the source tree) and they are much less lightweight than the proposal of this SEP
- Doxygen or similar tools are not understood to be a solution for any lambda-user, because a number of syntax conventions need to be learned
- Until Scilab 6 becomes available, there is only very minimal introspection features available (e.g. macrovars). Benefits from using advanced documentation tools like doxygen, which makes advantage of source code structure analysis, are therefore not foreseen in the immediate future.

Besides, the existing function `head_comments` cannot be of much use in this SEP because it prints only in the Scilab shell and this output cannot be captured. Also, this output would need to be parsed and converted into xml by `help_from_sci`.

Compatibility

Scilab 5.0 and later only, because `help_from_sci` implements the Scilab 5 help files structure based on a subset of Docbook.

Limitations and drawbacks

No specific limitation is foreseen.

Drawbacks are:

- Possible sync issues between the `.sci` file and its corresponding xml file. Responsibility left to the user, who should not deviate from the use case mentioned above.
- In case the help system changes, for instance by changing the Docbook subset that it uses, then function `help_from_sci` should be maintained in sync with this subset. This is much the same problem as for `help_skeleton`, and looks as an accepted drawback.

Detailed reference implementation

<How can I attach files here? I could provide a diff against trunk, how to do this?>

Still <TODO>

1. The reference implementation does not limit the use of the new feature to Scilab 5 versions and above.
2. License of contributed files from Torbjørn Pettersen is to be decided.

Example Usage

From Scilab shell:

```
// start without arguments to generate a source code template.  
help_from_sci()
```

```
// Edit the template and save it as e.g test_fun.sci in the current directory.  
help_from_sci('test_fun') // return the xml skeleton as a text string  
help_from_sci('test_fun','.') // create the xml help file in the current  
directory.  
xmltohtml('.',[],'html.xsl','html') // create the file test_fun.html in current  
directory.
```

Changelog

1.0 – F. Vogel 13/10/08, Initial version.

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