Speare Code Editor
Quick Reference

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Version 1.1
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Speare (http://sevenuc.com/en/Speare.html) is an ultra lightweight code editor and a small IDE that has an efficient code navigation and call routines tracing ability, and has integrated debugging environment for C, C++, Ruby, mruby, Lua, Python, PHP, Perl and Tcl. It was originally developed to providing a native scripting language debugging environment that seamlessly integrated with C and C++. It not only has very concise user interface but also has a very flexible architecture to easily add a new programming language code runner, parser, syntax highlighting, code formatter and debugger in it.

Notes

Some changes of this document are only suitable for Speare version 1.2.56 and later, Speare Pro version 1.2.60 and later.

File Organisation

1. Add File or Folder in Workspace

a. Drag file or folder from Finder into Treeview directly.
b. Click "+" symbol on the bottom of Treeview.
c. Create temporary document:
   Click menu: File → New
   Click "+" symbol on the top of tabs view.
d. Click menu: File → Open Recent.
e. Add file or folder in a particular folder: right click the folder, on the popup menu → "Add File or Folder".
f. Create a new file or folder in a particular folder: right click the folder, on the popup menu → "New File" or "New Folder". (Input file

or folder name and then click anywhere outside of the input box to close it.)
g. Reload a particular folder: right click the folder, on the popup menu → "Reload".

2. Remove File or Folder From Workspace

a. Select a file or folder, click "-" symbol on the bottom of the Treeview.
b. Right click a file or folder, on the popup menu → "Remove".
c. Use shortcut key "Option + Shift + R" to do the removing.
d. Click menu: File → Remove.

3. Delete File or Folder to Trash/Bin (Careful!)

a. Click menu: File → Delete.
b. Right click a particular file or folder: on the popup menu → "Delete".
c. Use shortcut key "Command + D" to do the deleting.

Refresh Symbol List or Bookmark (Breakpoint) List

Click toolbar "**Functions**": function definitions of current file will be re-parsed and represented in left side Treeview.
Click toolbar "**Breakpoints**": all breakpoint (bookmark) of current file will be re-loaded in the left side Treeview.

Auto-completion Selection

Type in class name, function name, or variable name or anything else, wait one to three seconds and use Up and Down arrow key to move selection in the candidates and click "Return" key to select one.

SPP File

SPP File is the abbreviation of "Speare Project Plist" file, it is the project file type of Speare that has an .spp file extension, it packs

variant of project meta information together, including project folder and its bookmark/breakpoints, watches, opened tabs, selection of each tab, current selected tab etc.

1. Create SPP File
Click menu: File → Save as Speare Project file. This operation will store the root path of the nodes in the left side Treeview as a .spp file.

2. Open SPP File
Directly dragging the .spp file into Treeview, or select menu "File" → "Open", will load all indexed file and folder stored in the .spp file into the left side Treeview (Workspace Explorer).

Notice: When switch to another project, it is necessarily required to save current project so that the project meta information stored in .spp file and can be restore later otherwise these information will lost!

Search and Replace

1. Search Current Document
a. Use the shortcut key "Control + F" to do the searching just like in TextEdit.
b. Click search button on the toolbar and on the prompt dialog select "Current File".

2. Search Current Folder
Click search button on the toolbar and on the prompt dialog select "Current Folder".

3. Search Opened Files
Click search button on the toolbar and on the prompt dialog select "In Opened Tabs".

4. Search Entire Project Folders
Click search button on the toolbar and on the prompt dialog select "In Entire Project".
5. Searching by Index

a. Click symbol button on the toolbar and select items that parsed by the build-in syntax parsers.

b. Click breakpoint button on the toolbar and select items that placed as bookmark or breakpoint.

6. Searching Items in Left Side Treeview

Input the item name (or prefix or suffix, or contained word) in the search field that located in the bottom of the left side Treeview and then enter "Return" key, click up and down arrow right side of the search field to iterate items.

Brief & History: each search result has brief of the source line and all be classified, and the history of search words remembered automatically, click the down arrow of the search field will allow to select the searched items in history.

Tab Selection and Dragging

Speare use tabs to manage multiple opened files on the right side, continuously click on the leftmost or rightmost tab can quickly scroll tabs to left side or right side so that opened files can be quickly switched. Dragging special tabs together will also can help simultaneously editing multiple files.

Tips: click tab can fast select the node of left side Treeview when it loaded or reloaded end.

File Rename and Save

1. File Rename
Click the item in the left side Treeview and input a new file name just like in Finder, and then click the left side icon to end editing.

2. File Save
Speare can save file automatically whenever it be edited but the temporary "Untitled files" will be asked to save when quit the app or load a .spp file, because load a .spp file will empty current Treeview. In addition, Speare will change the icon colour of the item in the left side Treeview to indicate that it has been edited whenever it be edited, and will restore to default state when click the "Save" or "Save All" button on the toolbar.

Jump To Definition

Ensure the keyword selected and then right click one of the popup menu items. Speare provides all location where the symbol defined including header file and implement file.

Bookmark & Breakpoint

1. Add: click the line number.
2. Toggle: click on the marker, its colour will changed to dark or light, dark colour means breakpoint in debug mode.
3. Delete: right click on the marker → on the prompt menu, select "Remove".

Show in Finder

Right click the item in the left side Treeview (Workspace Explorer) and then click the prompt menu.

Insert Full Path of Current File

a. Click menu: File → Insert Full Path.
b. Use shortcut key "Option + Shift + I" to do the work.

Back and Forward

Just click the "Back" or "Forward" button on the toolbar to switch different edited location in a same file or switch between the files that was being editing. You can also click "Back" to return to the location before "Jump to Definition".

File Overwrite and Refresh

~~When you overwrite a file in Finder, Speare will ask you to reload it, you should save this file manually if you click "Cancel". You can also click the "Refresh" button on the bottom of the left site TreeView to reload the entire project, it may take a while to complete the loading for big project.~~ When you overwrite, rename, add or delete a file or folder in Finder, please right click its parent folder in the left side TreeView and click "Reload" on the popup menu.

Colour Picker

Right click current editing file → select "Colour Picker" on the prompt menu, then a HTML colour will be inserted when pick a colour.

Customise Font and Colour

Click menu item "Preferences" and then set font and colour of editor background etc.

Note: Change cursor colour requires restarting the application to take effect.

Add a new colour scheme:
Put you customised colour scheme in the following directory:
~/Library/Application Scripts/com.sevenuc.SpeareHelper/colorschemes
Please create the directory if it is not exists.

Markdown & HTML

1. Preview: select menu "View" → "Preview", see html or markdown file rendered in builtin web browser instantly.
2. Close Preview: select menu "View" → "Close Preview", close the opened builtin web browser.
3. Save Markdown: select menu "View" → "Save Markdown", save the generated html to local file, Speare has a builtin converter that can convert markdown to html instantly.

Note:
a. Supported file extensions: .htm, .html, .md, .mdown, .markdown.
b. Click any file item in the left side Treeview will also close preview automatically.

Code Formatter

Click menu: Format → Re-Indent Selection.

1. Supported Languages
a. C, C++, Objective-C, C#, Java (builtin support).

b. Ruby, Lua, Python, Perl, PHP, Tcl, JavaScript, Shell scripts, Dart, Go, Rust. (located in the formatters directory, and requires some modification to correctly working.)

2. Location of Formatters
~/Library/Application Scripts/com.sevenuc.SpeareHelper/formatters
Note: Please create the directory if it is not exists.

If the formatters has not installed, in the prompt dialog, select subfolder "com.sevenuc.SpeareHelper" and then click "Install Code Formatters" button. This directory contains various code formatter (aka. code beautifier) that used to indent and format code block for Speare code editor.

3. The Rule of Formatters
Speare code editor will give up formatted code block if there's something printed in stderr or nothing printed in stdout otherwise anything printed in stdout will be used to replace the selected code block.

Ensure the formatters correctly working, you should take a look at above directory, especially modify the shell script to match the path of executables (install interpreter or missing component), including:

a. js.sh: check Node.js installed and can be accessed from command line.
b. go.sh: check Go installed and can be accessed from command line.
c. php.sh: check PHP installed and can be accessed from command line.
d. rust.sh: check Rust and rustfmt installed and can be accessed from command line.
e. tcl.sh: check Tcl installed and can be accessed from command line.
f. dart.sh: check Dart and dartfmt installed and can be accessed from command line.
Note: The selected code block is complete or has logical begin and end border then the formatter can generate better output.

Lite Mode

Click siding button on toolbar and click menu "View → Hide Toolbar" then the app can be changed to an TextEdit-like editor.

Debug Mode

Speare code editor seamlessly supports debugging with C, C++, Ruby, mruby, Lua, Python, PHP, Perl and Tcl, more info please refers this document: http://sevenuc.com/download/Speare_debugger_quick_reference.pdf or visit online here: http://sevenuc.com/en/debugger.html.

File and Folder Filter

1. Click menu: View → Don't Show Hidden Files. Hide or display all hidden files.

2. Speare code editor uses a file named as ".speareignore" to hidden directory and file that you don't want it displayed in the left side Treeview (Workspace Explorer).

 # 1. Exclude directories by folder name (must end with /**).**
dist/
build/
.git/
.svn/
.hg/
CVS/
.deps/
.libs/
prefix+*/ (ignore directory name with prefix)
*+suffix/ (ignore directory name with suffix)
+word+/ (ignore directory name contains word)
...

 # 2. Exclude directories by full path (must end with /**).**
/xxxx/xxx/xxx/data/
/xxxx/xxx/xxx/xxx/resource/
...

 # 3. Exclude files by specified extension.
*.o
*.lo

*.la
*.so
*.class
*.gz
*.tar
*.zip
*.7z
*.iso
*.jar
...
(must starts with *.)

4. exclude files by file name.
.DS_Store (already ignored by builtin function)
someFile
someOtherFile
prefix+* (ignore file name with prefix)
*+suffix (ignore file name with suffix)
+word+ (ignore file name contains word)
...

5. exclude files by full path.
/xxxx/xxx/xxx/someFile
/xxxx/xxx/xxx/xxx/someOtherFile
...

a. Line starts with '#' is comment.
b. Each line contains a match rule to ignore directory or file.

3. Create or Edit .speareignore:
$ touch ~/Desktop/speareignore.txt
$ cp ~/Desktop/speareignore.txt /xxxx/xxxx/.speareignore
Put the file in your root of source code folder.

$ cp /xxxx/xxxx/.speareignore ~/Desktop/speareignore.txt
Edit the filter again.

$ cp ~/Desktop/speareignore.txt /xxxx/xxxx/.speareignore
Save it back again.

a. The ignored directory and files will not be parsed and their symbol definitions will not be indexed in background.

b. ~~When overwrite file or folder in Finder, they will not be asked to reload if they were set to be ignored~~ (deprecated).

c. You can directly edit file .speareignore in Speare code editor and right click the project folder and then click "Reload" on the popup menu.

Warning: File system monitor have been removed from version 1.2.38, please right click the particular folder to "Reload" it when you made file system changes in Finder.

About MATLAB source code

Please convert file extension name from .m to .mat to prevent conflict with objective-c files, to accomplish that, please download a simple perl script from here: http://sevenuc.com/download/rename.pl (2KB), and execute:

$ perl rename.pl /full/path/of/your/source/code/directory.

About Dart programming language

Speare code editor uses extra component to parse and index Dart source code and format code block, please download the parser from here: http://sevenuc.com/download/dart_parser.tar.gz (2.8MB), and following readme.txt in it to configure it to working with the editor.

Add a New Programming Language

Download the guide from here:
http://sevenuc.com/download/language_extension_protocol.pdf , and following the description to add a new programming language code runner, parser, syntax highlighting, code formatter and debugger in Speare code editor.

Syntax Checking and Run Code Instantly

a. Press shortcut key "Command + R".
b. Click menu: File → Run External Command.

Location of the shell scripts for the external commands
~/Library/Application
Scripts/com.sevenuc.SpeareHelper/commands
Note: Please create the directory if it is not exists.

This is a common interface that enables end user to run code for various of tasks immediately, usually includes syntax checking, unit test, and run code snippets.

You can put different of shell scripts in this directory to instantly run other tasks, such as automatic compile, building and packing, or run static code analysis tool (source code analyzer, such as PC-Lint, clang-analyzer, PHPLint etc), and any other tasks. Speare code editor determine which shell script should be called by the extension name of the source code files. One shell script service for one programming language. Every script can accept two input parameters, the full path of the current selected file and the selected code block, and the last parameter is optional and can be empty string.

```
#!/bin/bash
# $1 is the path of the current selected file
# $2 is the selected code block (optional)
ruby $1
```

The above is a sample shell script that accepts a file as input parameter and run it, if there's some syntax error, the error message will be printed in the debug output (the black area on bottom right). Please execute "chmod +x" to ensure the script is executable. Speare code editor will merge stderr and stdout together and print them in the debug output.

The map between the source code file extension names and the entry shell script name:

c.sh: *.c
cc.sh: *.cc, *.cxx, *.cpp, *.c++
ruby.sh: *.rb

lua.sh: *.lua
python.sh: *.py
perl.sh: *.pl
php.sh: *.php
tcl.sh: *.tcl
js.sh: *.js
sh.sh: *.sh (shell script)
go.sh: *.go
rust.sh: *.rs
dart.sh: *.dart

To add a new programming language and associate its source code file extension names with an entry shell script.

Note: Don't use this approach to run long running tasks but should launch Terminal.app to do such works.

Important Tips

1. Use ESC key or arrow key or 'Control+Z' to get out of suggested words list selection.

2. Please ensure all source code file and resource files have been dragged in the left side Treeview (Workspace Explorer) before start a debug session, because macOS app can't be allowed to access files outside of its sandbox.

3. When your source code file moved to another folder, you must drag the source code folder in Speare again then the debugging can correctly work.

FAQ

1. How to add syntax highlighting to support a new file type?

A: Open "/Applications/Speare.app/Contents/Resources/FileExtensions.plist", and carefully add the file extension name of the new file type in it, e.g. syntax highlighting all .jsx as JavaScript source code file:

<key>JavaScript</key>

```
<array>
  <string>js</string>
  <string>jsx</string>
</array>
```

2. How to add a missing keyword to enable syntax highlighting in Speare?

A: Open
"/Applications/Speare.app/Contents/Resources/Languages/xxlang.plist",
and carefully insert the missing keyword in the "keywords" section.

```
<key>keywords</key>
<array>
<string>missing keyword</string>
...
```

3. How to add "Open With" in Finder to support open a file type with Speare?

A: Right click the file in Finder → Get Info → Open With: Other..., find Speare.app and select, and then Click "Change All..." button.

4. How to clean hidden file and folders used by version control systems?

Download a simple python script from here:
http://sevenuc.com/download/cleanfolder.py (5KB), and execute:

```
$ python cleanfolder.py -d
"/full/path/of/your/source/code/directory".
```

Programming Languages and Document Types

AMPL ASM ASP AWK Ada ActionScript Active4D AnsiblePlaybook Ant Apache Applescript Asciidoc AutoIt Autoconf Automake Basic Batch Beta Bibtex C C# C++ CMake CPrePro CSS Scss CUDA Clojure Cobol CoffeeScript ColdFusion Csound Ctags D DTS DbusIntrospect Diff DosBatch PowerShell Dtd Dylan Eiffel Elixir Elm Erlang eZ Publish F-Script Falcon Flex Forth Fortran FreeFem++ Fypp GEDCOM Gdbinit Glade Go Gradle GraphViz Groovy Haskell HTML Haxe Header IDL ITcl Iniconf Inko JSP Java JavaFX JavaProperties JavaScript JSON Julia Kotlin Kuin LSL LaTeX LdScript Lilypond Lisp Logtalk Lua M4 MEL Makefile Man Markdown MATLAB Maven2 MetaPost Metaslang Moose MySQL Myrddin NASL NEURON Nemerle Objective-C Octave Ocaml Ox PDF PHP Parrot Pascal Passwd Perl Perl6 Pig Plist Pod PostScript Prolog Processing Protobuf Puppet PuppetManifest Python PythonLoggingConfig QemuHX QtMoc R R/S-PLUS RHTML RSpec RelaxNG Rexx Robot Racket RpmSpec Rst Ruby mruby Rust SGML SML SQL Scala Scheme Sedona Shell Slang Smalltalk Snippets Stata SuperCollider SVG Swift SystemTap SystemdUnit TTCN Tcl Tcl/Tk Tex TorqueScript TypeScript Udo VB VB.NET VHDL Vera Verilog SystemVerilog Vim WSDL WindRes XML XSD Xquery Xslt Yacc YAML YumRepo Zephir

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