FiNK – the LaTeX 2_ε **Fi**le **N**ame **K**eeper[*]

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1 Description

This package is a real fink indeed: it looks over your shoulder and keeps track of files `\input`'ed (the LaTeX way) or `\include`'ed in your document. You then have a permanent access to the directory, name and extension of the file currently being processed through several macros. Dis packache fas orichinally a hack dat I used somefere elss, but since it might be off a cheneral interest, I'fe decided to make it a separate fink...

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2 User Interface

To use the package, simply say `\usepackage[`⟨*options*⟩`]{fink}` in the preamble of your document. This will do everything for you. Available options will be described when appropriate.

2.1 Retrieving the current file's name components

`\finkdir`
`\finkbase`
`\finkext`

The file currently being processed is described by the macros `\finkdir`, `\finkbase` and `\finkext` which expand (as you may have guessed) to the directory, base name (sans extension), and extension of the file.

`\finkfile`
`\finkpath`

Additionally, the macro `\finkfile` is defined to be `\finkbase.\finkext` (as in previous versions), and the macro `\finkpath` (new in version 2.0) is defined to be `\finkdir\finkfile`. Feel free to use these macros in your sources.

2.2 Main file's name components

`maindir`
`mainext`

Because there's no way TeX can give you back information about the file being processed (apart from its base name), ***FiNK*** provides the options `maindir` (defaults to `./`) and `mainext` (defaults to `tex`) for changing the directory and the extension

[*] This document describes ***FiNK*** 2.1.1, release date 2008/02/27.

of the main source file. For instance, suppose your source file is in `src/foo.ltx` and you are compiling in `pdf/`. You can then use the package as follows:

```
\usepackage[maindir=../src,mainext=ltx]{fink}
```

3 AUC-TeX support

AUC-TeX is a powerful major mode for editing TeX documents in Emacs or XEmacs. In particular, it provides automatic completion of macro names once they are known. ***FiNK*** supports AUC-TeX by providing a style file named `fink.el` which contains AUC-TeX definitions for the relevant macros. This file should be installed to a location where AUC-TeX can find it (usually in a subdirectory of your LaTeX styles directory). Please refer to the AUC-TeX documentation for more information on this.

4 Caveat

FiNK cannot follow files included with the TeX `\input` primitive. That's because TeX has a very insensible way of defining primitives whose argument parsing syntax is not available for macros. As a consequence, it's almost impossible to redefine the `\input` primitive without breaking its syntax (one would have to parse the characters one by one, and I'm not ready to do so. . .). ***FiNK*** currently does not follow auxiliary files either.

5 Hints, Tricks, Tips

5.1 File names with special characters

Here, "special" is to be taken in the LaTeX sense, for instance, a directory or file name containing an underscore. If this situation occurs, you're likely to face problems with ***FiNK*** macros because they don't try to properly escape those characters. So for instance, an underscore alone will make LaTeX think that you forgot the math mode `$` sign before it. There are actually two problems that you may encounter:

Characters not displayed properly Try to change your font encoding by putting this in your document's preamble: `\usepackage[T1]{fontenc}`.

Compilation breakage The `url` package might be of some help here. Put `\usepackage{url}` in your document's preamble first. Then (assuming that `\finkfile` is the culprit), instead of using `\finkfile` directly, use this instead: `\expandafter\url\expandafter{\finkfile}`. You might also want to play with `\urlstyle` to have your file name displayed in the font you prefer.

6 Changes

v2.1.1 Fix trailing whitespace in `\fink@restore`, reported by Maverick Woo
Added some hints about filenames with special characters, suggested by David P. Goodall

v2.1 Fix bug preventing expansion in math mode, reported by Alain Schremmer, fixed by Morten Hoegholm before I could even raise my little finger.

v2.0 New macros `\finkdir`, `\finkbase`, `\finkext` and `\finkpath` suggested by Alain Schremmer
New options `mainext` and `maindir`, use `kvoptions` for options management

v1.2 Fixed conflict with `\includegraphics`, reported by Jim Crumley

v1.1 Fixed missing 3rd arg to `\PackageError` call from `\finkextension`

7 The Code

```
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{fink}[2008/02/27 v2.1.1
                      Keep track of the current filename]

\RequirePackage{kvoptions}
\SetupKeyvalOptions{family=fnk,prefix=fnk@}

```

7.1 Main file initial settings

`maindir`
`mainext`

```
\DeclareStringOption[\@currdir]{maindir}
\DeclareStringOption[tex]{mainext}

```

The following is for backward compatibility only (not documented anymore). It provides support for the old `tex` and `ltx` options (still functionnal), and for the `\finkextension` macro. However, this macro is now defined to trigger an error, begging the user to use the new option instead.

```
\newcommand*\@fink@mainext[1]{\setkeys{fnk}{mainext={#1}}}
\newcommand*\fink@mainext{%
  \expandafter\@fink@mainext\expandafter{\CurrentOption}}
\DeclareVoidOption{tex}{\fink@mainext}
\DeclareVoidOption{ltx}{\fink@mainext}

\newcommand*\finkextension[1]{%
  \PackageError{FiNK}{%
    \protect\finkextension\space shouldn't be used anymore.\MessageBreak
    Please use the 'mainext' package option instead.}{%
    No big deal right ?\MessageBreak
    Type X to quit and modify your source.}}
\@onlypreamble\finkextension

\ProcessKeyvalOptions*

```

7.2 File's name components macros

\finkdir
\finkbase
\finkext
\finkfile
\finkpath

We declare the user-level macros here. `\fink@file` is used to compute file names, possibly with no extension.

```
\newcommand*\finkdir{\fnk@maindir}
\newcommand*\finkbase{\jobname}
\newcommand*\finkext{\fnk@mainext}

\newcommand*\finkfile{}
\newcommand*\fink@file[2]{#1\ifx\\#2\\\else.#2\fi}
\xdef\finkfile{\fink@file{\jobname}{\fnk@mainext}}

\newcommand*\finkpath{}
\xdef\finkpath{\finkdir\finkfile}

\PackageInfo{FiNK}{main file set to "\finkpath"}

```

7.3 Commands overriding

\fink@prepare

This macro prepares the name of next file to be input. We arrange to setup a complete filename, including directory and extension.

As of version 1.2, this macro performs in a group of its own. This fixes a problem that appeared when using `\includegraphics` with a filename with an explicit extension. `\includegraphics` calls `\filename@parse` itself, so it is important that the same call in `\fink@prepare` only have a local effect, just the time to compute the new values for the `\fink@next*` macros.

```
\newcommand*\fink@prepare[1]{%
  \begingroup%
    \filename@parse{#1}%
    \xdef\fink@nextdir{%
      \ifx\filename@area\@empty%
        \fnk@maindir%
      \else%
        \fnk@maindir\filename@area%
      \fi}%
    \xdef\fink@nextbase{\filename@base}%
    \xdef\fink@nextext{\ifx\filename@ext\relax tex\else\filename@ext\fi}%
    \xdef\fink@nextfile{\fink@file{\fink@nextbase}{\fink@nextext}}%
    \xdef\fink@nextpath{\fink@nextdir\fink@nextfile}%
  \endgroup}

```

\fink@input
\fink@restore

These macros are defined for a convenient use of `\expandafter`. They save and restore the current filename. Remember that `\@@input` is LaTeX's redefinition of the TeX input primitive.

```
\newcommand*\fink@input{%
  \xdef\finkdir{\fink@nextdir}%
  \xdef\finkbase{\fink@nextbase}%
  \xdef\finkext{\fink@nextext}%
  \xdef\finkfile{\fink@nextfile}%
  \xdef\finkpath{\fink@nextpath}%
  \@@input\@filef@und}
\newcommand*\fink@restore[1]{%
  \begingroup%
    \filename@parse{#1}%
    \xdef\finkdir{\filename@area}%
    \xdef\finkbase{\filename@base}%
    \xdef\finkext{\filename@ext}%
    \xdef\finkfile{\fink@file{\finkbase}{\finkext}}%
    \xdef\finkpath{\finkdir\finkfile}%
  \endgroup}

```

Note: in earlier versions, we redefined `\IfFileExists` to prepare the name of the next file, but this is bad because it can be used outside of ***FiNK***'s scope. We also redefined `\@input`, but neither `\include` nor `\input` use it.

`\InputIfFileExists` LaTeX's `\input` and `\include` commands use `\InputIfFileExists`, so let's redefine it here:

```
\long\def\InputIfFileExists#1#2{%
  \IfFileExists{#1}{%
    #2\@addtofilelist{#1}%
    \fink@prepare{#1}%
    \expandafter\fink@input%
    \expandafter\fink@restore\expandafter{\finkpath}}}

```

Well, I think that's it. Enjoy using ***FiNK***!