About the TeX4ht Engine

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TeX4ht is a program by Eitan M. Gurari which uses a standard LaTeX source file as input, but outputs an html file. After Gurari died in 2009, other developers stepped up to maintain the program, and it is in very active development today. The principal developer is Michal Hoftich.

The file TeX4ht.engine is an engine file for this project which works in TeXShop 5.00 and higher. To use it, drag TeX4ht.engine to the active area ∼/Library/TeXShop/Engines.

There has been a significant change in the TeX4ht engines starting with TeXShop 5.53. The engines now assume that the source directory contains a folder with a configuration file:

```
MyConfig/myconfigfile.cfg
```

The configuration file is indicated by a flag in the make4ht command, and is read each time the typesetting command runs. The reason for this change is that configuration files are the recommended method to add features to TeX4ht, so projects usually have them.

Using the engine is easy. Write a standard LaTeX source file. Select the TeX4ht engine in the pulldown menu next to the typeset button and then push the Typeset button or type command-T. The engine will call both pdflatex and TeX4ht, creating both a pdf output file and an html output file. Then TeXShop will open the pdf file in a Preview window and the html file in an HTML window. This makes it easy to compare the standard pdflatex results with the corresponding web page. The web page will be active, so links and other standard html features will work. You can modify the source and typeset again, and both views will update.

By adding the following magic line to the top of the source file, the TeX4ht engine will always be called and it is not necessary to use the pulldown menu:

```
% !TEX TS-program = TeX4ht
```

The folder containing this document contains a short demonstration. Copy the folder named "Example" to your home directory or location for TeX source files, and typeset the document Sample.tex inside. Then compare the pdf and html outputs. Resize the windows and notice their different behavior. Add extra material and typeset again to verify that both views update. The sample file contains a web link. Click this in both the pdf and html windows and notice their different behavior.

Math4ht has many parameters controlling its operation. Originally it created a large number of small pictures for mathematical equations, and the web page displayed these pictures. It can also output MathJax and let the browser interpret those commands. The command to do that is given below, where "$1" indicates a full path to the source file:

```
make4ht -c MyConfig/myconfigfile.cfg "$1" "mathjax"
```

TeX4ht can also output ordinary LaTeX code for mathematics and render the output with MathML. The command for that is

```
make4ht -c MyConfig/myconfigfile.cfg "$1" "mathml"
```

This folder contains a sample configuration file, MyConfig/myconfigfile.cfg. It also contains three engines for TeX4ht, which can use this configuration file. The engines are

- TeX4ht.engine, which outputs MathJax data and displays both a pdf window and an html window

- TeX4htMathML.engine, which outputs MathML data and displays both a pdf window and an html window

- TeX4htOnly.engine, which outputs MathJax data and displays only an html window

In my experiments, MathJax was much better than MathML, so it is the recommended approach.