it can be done

$\TeX$

periods

Contents

1 Introduction

When the TEX program showed up there were not many fonts that could be used so it came with its own fonts and because the number of slots in the encoding was limited (first to 127, later to 255) there was no space characters. It was not needed anyway because the engine uses a model of glue between words. So, instead of fixed spacing, TEX uses flexible spacing. In addition to what is normally considered a word space, spacing is also determined by the so called space factor of characters preceding spaces. But, especially after abbreviations with periods you might want something different depending on the usage of the period. Here we discuss how that can be done.

2 Font related spacing

Spacing is controlled by the amount specified in the font in the so called font dimensions. In ConTEXt these can be accessed via macros:

	normal space	**bold space**	*italic space*	***bolditalic space***
\interwordspace	3.49658pt	3.82959pt	3.49658pt	3.82959pt
\interwordstretch	1.74829pt	1.9148pt	1.74829pt	1.9148pt
\interwordshrink	1.16553pt	1.16553pt	1.27654pt	1.27654pt

The differences in the three components are subtle but often of no concern to the user. Stretch and shrink kicks in when we align the left and right edge, otherwise they are basically ignored. These spacing properties are very specific for TEX fonts, they don't come with for instance OpenType fonts. There we derive the stretch and shrink from the regular font space (Unicode slot U+00020 or ascii value 32).

A user can tweak the interword spacing with `\spaceskip` and `\xspaceskip` which works together with the `\spacefactor` and (character specific)`\sfcode` values. And as it is somewhat hard to explain the details involved I just refer to Chapter 25 (Spacing) of TEX by Topic.

3 Spacing after periods

For this manual it's only important to know that the space factors influence the spacing after uppercase letters and punctuation and the later aspect is what this is about.

```
\frenchspacing          This is a t.e.s.t. for periods. Does it work?
\vskip-.8\lineheight
\nonfrenchspacing \blue This is a t.e.s.t. for periods. Does it work?
```

This is a t.e.s.t. for periods. Does it work?

You will notice that the spacing after `t.e.s.t.` is as flexible as the space after `periods.` but what if you don't want that? There are several ways to influence the following space:

```
\frenchspacing          This is a t.e.s.t.\ for periods. Does it work?
\vskip-.8\lineheight
\nonfrenchspacing \green This is a t.e.s.t.\ for periods. Does it work?
```

This is a t.e.s.t. for periods. Does it work?

The `\fsp` macro looks ahead and adapts the space factor:

```
\frenchspacing          This is a t.e.s.t\fsp. for periods. Does it work?
\vskip-.8\lineheight
\nonfrenchspacing \red This is a t.e.s.t\fsp. for periods. Does it work?
```

This is a t.e.s.t. for periods. Does it work?

4 Automation

Where the manual (explicit) making sure we get spacing right is quite robust and predictable a user might be willing to delegate the task to ConTEXt, and here is the trick:

```
\setperiodkerning[zerospaceperiods]
\frenchspacing          This is a t.e.s.t. for periods. Does it work?
\vskip-.8\lineheight
\nonfrenchspacing \red This is a t.e.s.t. for periods. Does it work?
```

This is a t.e.s.t. for periods. Does it work?

This features has been present from mid 2017 but I admit that till now I never used it. Reasons are that it makes no sense to adapt existing documents and when a text is for

instance meant for a user group journal too, you cannot expect this automatic feature to be present in the macro package used for typesetting it. But maybe it's time to change that policy. I also admit that I seldom have this situation, probably the only few cases are abbreviations like `e.g.` (for example) and `c.q.` (casu quo).

There are a few predefined period kerning variants and you can define more if you want:

```
\defineperiodkerning [zerospaceperiods]  [factor=0]
\defineperiodkerning [smallspaceperiods] [factor=.25]
\defineperiodkerning [halfspaceperiods]  [factor=.5]

\setperiodkerning[zerospaceperiods]
\frenchspacing          How about c.q. and e.g. within a sentence?
\vskip-.8\lineheight
\nonfrenchspacing \red How about c.q. and e.g. within a sentence?
```

How about c.q. and e.g. within a sentence?

Of course one needs to keep an eye on the results because one never knows if the heuristics are flawed. And if needed it can be improved.

5 Todo

more spacing related features

5 Colofon

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ConTEXt	2023.02.07 19:06
LuaMetaTEX	2.1006
Support	www.pragma-ade.com
	contextgarden.net