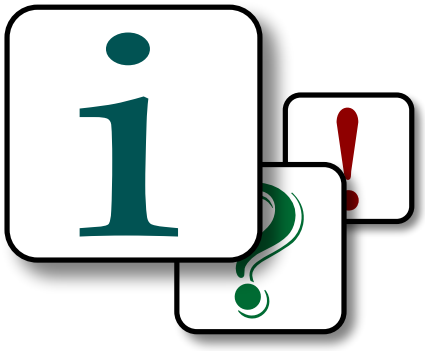
imageboxes user guide

Integrate boxes into common environments

Nathanaël Cottin



contact@ncottin.net

http://www.latexworks.org

version 0.1.4

Copyright 2008 - Nathanaël Cottin
Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.2 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts.

Abstract

This package redefines common boxes environments (such as `definition`). The new environments allow to insert an image in place of the environment title.

Moreover, boxes can be customized with inner images width, margins and an inner padding.

Keywords: latex, box, image

Contents

1 Introduction **2**

1.1 Purpose 2

1.2 Requirements 2

2 Overview **2**

2.1 Common layout 3

2.2 Alternative layout 4

3 Usage **5**

3.1 Package options 5

3.2 Commands and environments 5

3.2.1 Boxes default and alternative titles 5

3.2.2 Image source 5

3.2.3 Images width 6

3.2.4 Inner padding 6

3.2.5 Margins 6

3.2.6 Maximum width 7

3.3 Restoring default values 8

4 Examples **8**

5 Known limitations **10**

1 Introduction

This document refers to `imageboxes` version 0.2.3 or above.

1.1 Purpose

`imageboxes` defines (or redefines) the following environments for french and english languages:

- `definition`
- `theorem`
- `example`
- `lemmma`
- `proposition`
- `remark`
- `demonstration`
- `alert`

These environments are built on top of existing ones, if already defined by other packages.

1.2 Requirements

Mandatory packages:

- *ifthen*
- *qsymbols*

2 Overview

This package defines two types of imageboxes layouts. These layouts depend on the imageboxes initialisations with corresponding images:

- *Common layout* is selected each time a source image is provided.
- *Alternative layout* replaces common layout when no image is provided for an imagebox.

The textual zones of `imageboxes` are defined by `minipage` areas. Please refer to this environment for further information.

2.1 Common layout

The box depicted by figure 1 shows the layout and properties of an imagebox.

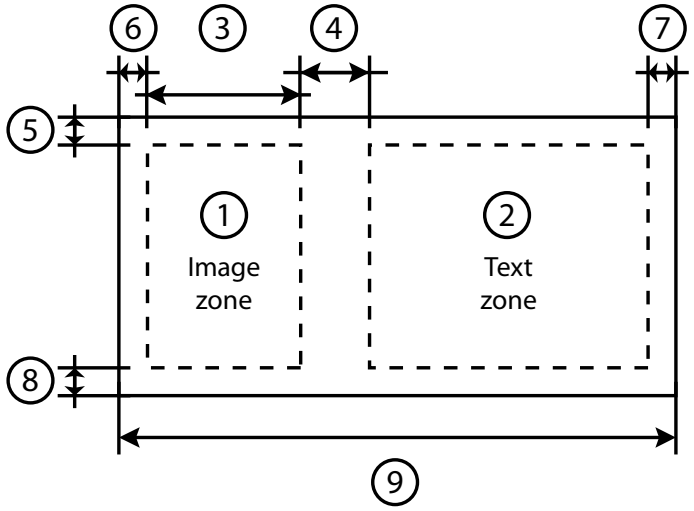


Figure 1: imagebox with image structure

`imagebox` boxes allow defining values for the following (optional) elements (items reference figure 1 and figure 2 circled values):

1. Images sources
2. Associated texts
3. Images width (images heights are automatically adjusted)
4. Inner padding, which corresponds to the required space between the box image and the text
5. Top margin

6. Left margin
7. Right margin
8. Bottom margin
9. Maximum width

All properties apply to every image box but image sources and textual information.

2.2 Alternative layout

A default imagebox is provided when not initialised with a source image. In this case, the imagebox layout is given by figure 2 (called “text only” version).

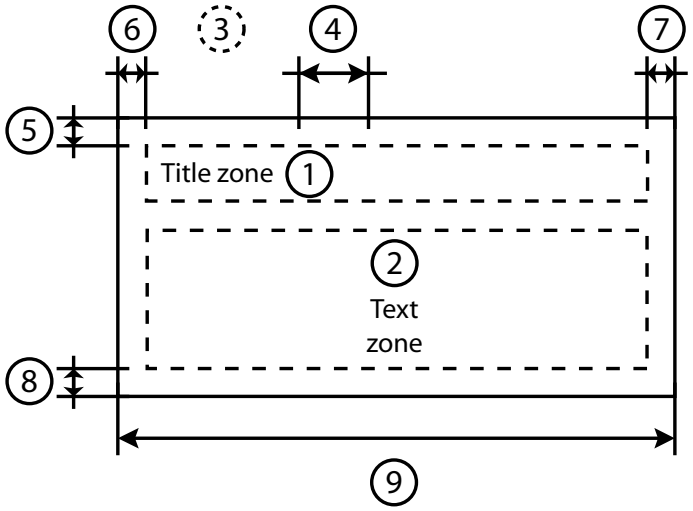


Figure 2: imagebox without image structure

Image width and inner padding properties have no meaning when an image box has no associated image. However, as properties (but image source) apply to every box, these properties remain applicable to boxes with associated images.

3 Usage

3.1 Package options

`imageboxes` package is loaded with the following options:

- `french`: to use french boxes titles (default language is english)

The example below shows a french configuration:

```
\usepackage[french]{imageboxes}
```

3.2 Commands and environments

3.2.1 Boxes default and alternative titles

Each *imagesboxes* box is initialized with a default title (used in textual version of the box called *alternative layout*). As shown by table 1, these predefined titles take into account the language of the document.

Environment	English	French
`definition`	Definition	Définition
`theorem`	Theorem	Théorème
`example`	Example	Exemple
`lemma`	Lemma	Lemme
`proposition`	Proposition	Proposition
`remark`	Note	Remarque
`demonstration`	Demonstration	Démonstration
`alert`	Caution	Attention

Table 1: Default titles

imageboxes allow to change each box title separately using an optional argument. Please refer to section 4 for examples.

3.2.2 Image source

Each box holds its own image source. No image source is selected by default, which means that boxes are configured in “text only” version.

Boxes image sources can be selected with the following commands, given the image name in argument:

- `\definitionimage`: image to be displayed in the `definition` environment
- `\theoremimage`: image to be displayed in the `theorem` environment
- `\exampleimage`: image to be displayed in the `example` environment
- `\lemmmaimage`: image to be displayed in the `lemmma` environment
- `\propositionimage`: image to be displayed in the `proposition` environment
- `\remarkimage`: image to be displayed in the `remark` environment
- `\demonstrationimage`: image to be displayed in the `demonstration` environment
- `\alertimage`: image to be displayed in the `alert` environment

3.2.3 Images width

Box images are configured to have a standard width of `0.9cm`. This size may be modified by means of `\imageboximagewidth`, given the new width. This width applies to all boxes.

3.2.4 Inner padding

The inner padding refers to the horizontal space between the box image and the associated text. This padding is set to `0.2cm` by default. It can be changed with `\imageboxinnerpadding` given the new padding value in argument.

3.2.5 Margins

`imageboxes` boxes can make use of outer margins to specify a required space between boxes and the other elements of the page.

Each margin can be defined separately either with the corresponding command or with `\imageboxmargins`. This command takes four arguments to respectively set top, left, right and bottom margins.

To set a specific margin without changing other margins, please use one of the following commands, given the new margin value in argument:

- `\imageboxtopmargin`
- `\imageboxleftmargin`
- `\imageboxrightmargin`
- `\imageboxbottommargin`

`\imageboxallmargins` ia a shortcut when all margins are to be set to the same value. This command takes the new margin value to be applied to all margins.

3.2.6 Maximum width

Default configuration uses `\linewidth` as maximum width, which means that box wrapping is disabled. This width can be modified using `\imageboxwidth` command. The latter takes the new width in argument (`10cm` for example).

When the new width is less than the line width, the imagebox can be wrapped by surrounding text. This does not interfere with box margins.

Boxes default width is set to the line width value when the document environment starts (at `\begin{document}`). Thus, switching layout in article mode from default column mode (one column or two columns) to two or more columns implies changing boxes width manually using `\imageboxwidth`.

Back to default column mode, boxes width does not automatically takes its previous value. Two alternatives are provided:

- Call `\imageboxdefaultwidth` to reset boxes width to line width. This command should be used when default width has not been manually changed in default column mode
- Change width using `\imageboxwidth`, given the user-defined width applied before the document column mode modification

3.3 Restoring default values

Boxes properties (but associated images) can be reset to default values (i.e. values applied when the document environment begins) as follows:

- `\imageboxdefaultwidth` resets boxes width to line width
- `\imageboxdefaultimagewidth` resets boxes images width
- `\imageboxdefaultmargins` resets outer margins to their default values (no margins)
- `\imageboxdefaultinnerpadding` resets boxes inner padding value
- `\imageboxdefaults` is a shortcut to restore all default values

4 Examples

You should pay attention to this alert box with an alert image.

Caution
You should pay attention to this alert box with no alert image. A textual title (*Caution*) replaces the alert image.

You should pay attention to this alert box with an alert image and all margins set to `2cm`.

```
\imageboxmargins{2cm}{2cm}{2cm}{2cm}
\begin{alert}
...
\end{alert}
```

Caution
This is the same box with no associated source image. All margins are still set to `2cm`, which explains the non-breakable vertical space between this imagebox and the previous one.

You should pay attention to this `3cm` padded image alert box with an alert image and all margins set as follows:

- `top margin`: `1cm`
- `left margin`: `0cm`
- `right margin`: `3cm`
- `bottom margin`: `2cm`

```
\imageboxmargins{1cm}{0cm}
                {3cm}{2cm}
\imageboxinnerpadding{3cm}
\begin{alert}
...
\end{alert}
```

Back to default margins and inner padding. Boxes images width is set to `1.5cm`.

```
\imageboximagewidth{1.5cm}
\begin{alert}
...
\end{alert}
```

Note
This is the default *alternative layout* of the `remark` environment.

Changing default title
The default title has been locally changed for this box using its optional argument as follows:

```
\begin{remark}[Changing default title]
...
\end{remark}
```

5 Known limitations

Changing the global width (with `\imageboxwidth` command) has not been tested yet.

`\footnote` and `\footnotepage` command do not work properly at this time. Is this a `minipage` issue?

Merely all properties apply to every boxes. Future releases may allow to customize each box type properties (namely margins and inner padding), depending on users needs, though it seems logical to keep boxes homogeneity.

Using the inline verbatim mode within an `imagebox` text zone (with `\verb` command) produces a compilation error, although verbatim environment (from `\begin{verbatim}` to `\end{verbatim}`) is tolerated.