Documentation template in LaTeX

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Abstract

This is a template I wrote in order to have something to produce, nice, small documents to in document stuff, mainly code.
With that goal, I went through a bunch of packages, and leave here some settings I liked to use in my documents. The source of this document can also be useful for you to learn some tricks about how some of these packages. In this document I use *fullpage* for smaller margins, *xcolor* to define nice colors, *abstract* to change abstract settings, *fancyhdr* for the headers, *sectsty* to redefine section title font, *bclogo* and *pstricks* for nice colorful boxes, *rotating*, *booktabs* and *multirow* for tables, *subcaption* for images side-by-side and, *listings* to include code in the document.

1 Defined boxes

Sometimes you want to call out the attention of the reader for some important aspect or comment, with that in mind I defined two types of text boxes, the info box and the warning box, that can be used with simple environments.

Here is the example of a info box:

```
\begin{infobox}
this is the text that goes inside a info box $\phi$ \lipsum[1]
\end{infobox}
```

That will look like this:

Information

this is the text that goes inside a info box ϕ Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

And here is the example of a warning box:

```
\begin{warnbox}
 this is the text that goes inside a warning box $\Phi$  \lipsum[1]
\end{warnbox}
```

Warning

this is the text that goes inside a warning box Φ Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

2 Images

Images are a important part of documentation, we must not forget them, as one image can be worth thousand words.

2.1 Single images

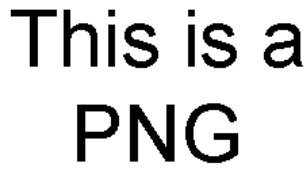


Figure 1: Example of the inclusion of a PNG

Another example would be how to include a jpg in a document... This can be achieved by:

```
\begin{figure}[htp]
\begin{center}
\includegraphics[width=.3\textwidth]{figs/fig2}
%% This line defines the with of the figure
\end{center}
\caption[Inclision of a JPEG]{Example of the inclusion of a JPEG}
\label{jpgfig}
\end{figure}
```

And the result can be seen Fig. 2.

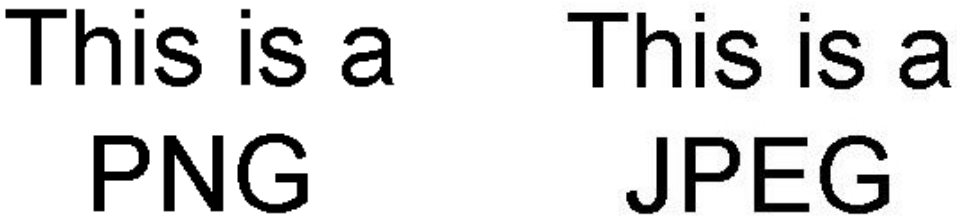
Figure 2: Example of the inclusion of a JPEG

2.2 Multiple Images

Here 3 we can see the 2 figures side by side.

Figure 3: An Example on how to place 2 pictures side by side.

Now using the subcaption package that will allow for several captions, one under each figure. When can even refer to the left on using 4a.



(a) Image of a PNG

(b) Image of a JPEG

Figure 4: Two images side-by-side, with each having its caption

3 Code

Here you will find how to add some code to the document the package listings is a good way to include code.

You can include the whole file:

```
#!/usr/bin/env python

 # this is s simple pyhton program that prints "Hello, World"!
 print "Hello, World!"
```

Listing 1: Full Python file included in the text

or just a snipet:

```
/*
* Function to print a vector to given stream
*/
template<typename T>
void PrintVector(std::ostream& ostr, const std::vector<T>& t,
                                 const std::string& delimiter = ",")
{
    // This will print the vector
    std::copy(t.begin(), t.end(),
                      std::ostream_iterator<T>(ostr, delimiter.c_str()));
}
```

Listing 2: Snippet of C++ code included in the text

4 References used in the document

This I will place and example how to use references in LaTeX, a very nice book to start is the wikibook of LaTeXon the web [1]. Don't forget that after adding references you will need to compile twice, for the references to show up correctly.

5 Tables

Here I'm going to spread around a few tables, just to get a feel for it.

5.1 Horizontal

Here you find a nice horizontal table 1 in page 5.

5.2 Vertical

Were you can find how to place vertically a table that is too wide to fit horizontaly, see 2 in page 6.

References

[1] *Wikibook on LaTeX*, http://en.wikibooks.org/wiki/LaTeX

Table 1: This is a horizontal table

	Activity [Bq]				
	15 days	3 months	6 months	1 year	2 years
^{37}Ar	1.02×10^{10}	2.22×10^{9}	3.66×10^{8}	9.95×10^{6}	7.22×10^{3}
^{39}Ar	1.24×10^{7}	1.24×10^{7}	1.24×10^{7}	1.24×10^{7}	1.24×10^{7}
^{22}Na	3.26×10^{7}	3.09×10^{7}	2.89×10^{7}	2.53×10^{7}	1.94×10^{7}
^{35}S	5.65×10^{8}	3.07×10^{8}	1.49×10^{8}	3.53×10^{7}	1.96×10^{6}
^{33}P	7.63×10^{8}	9.25×10^{7}	7.64×10^{6}	5.22×10^{4}	2.37
^{32}P	1.25×10^{9}	3.16×10^{7}	1.98×10^{6}	1.61×10^{6}	1.60×10^{6}
^{32}Si	1.62×10^{6}	1.62×10^{6}	1.61×10^{6}	1.61×10^{6}	1.60×10^{6}
^{3}H	6.08×10^{8}	6.01×10^{8}	5.93×10^{8}	5.76×10^{8}	5.45×10^{8}
^{7}Be	2.16×10^{8}	7.88×10^{7}	2.40×10^{7}	2.22×10^{6}	1.87×10^{4}
^{207}Bi	1.66×10^{5}	1.66×10^{5}	1.65×10^{5}	1.63×10^{5}	1.59×10^{5}
^{241}Am	5.00×10^{3}	5.00×10^{3}	5.00×10^{3}	4.99×10^{3}	4.98×10^{3}

Table 2: This is a vertical table

	15 days	1 month	3 months	6 months	1 year	2 years
Effective dose to Infants[Sv] Ext. exposure & Inhalation	7.82×10^{-7}	7.42×10^{-7}	6.71×10^{-7}	6.19×10^{-7}	5.39×10^{-7}	4.14×10^{-7}
Effective dose to Adults [Sv] Ext. exposure & Inhalation	7.77×10^{-7}	7.40×10^{-7}	6.70×10^{-7}	6.17×10^{-7}	5.38×10^{-7}	4.14×10^{-7}
Effective dose to Infants [Sv] Ingestion, summer release	2.79×10^{-4}	1.55×10^{-4}	3.70×10^{-5}	2.56×10^{-5}	2.07×10^{-5}	1.55×10^{-5}
Effective dose to Adults [Sv] Ingestion, summer release	5.03×10^{-5}	2.98×10^{-5}	9.86×10^{-6}	7.46×10^{-6}	6.07×10^{-6}	4.56×10^{-6}
Effective dose to Infants [Sv] Ingestion, winter release	4.95×10^{-7}	4.75×10^{-7}	4.19×10^{-7}	3.67×10^{-7}	3.05×10^{-7}	2.30×10^{-7}
Effective dose to Adults [Sv] Ingestion. winter release	4.95×10^{-7}	4.75×10^{-7}	4.19×10^{-7}	3.67×10^{-7}	3.05×10^{-7}	2.30×10^{-7}