



TECHNOLOGISCHES GEWERBE MUSEUM

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FACH

Aufgaben-Titel

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# 1 Introduction for everybody

So I guess the purpose of this document is quite clear. Everybody can share his or her knowledge in Latex into this document.

It can then be used for any Borko-Tasks and stuff.

The language of documentation is English, so that everybody and their grandma can use this document. Also the basic things should be described somewhere, so that also beginners can make a use of this document.

Furthermore, the .tex file counts as a documentation and not the output into pdf. If someone wants to change this, they are welcome to do so tho! This means, that normally, the user of this document will have to read the .tex file rather than the pdf.

Collaborators can add their names here:

**Hannah Siegel**(hsiegel-tgm)

## 2 Basic Latex Commands

### 2.1 Text Formatting

*italic*

emph

**bold**

code

underlined

-----  
dashed underlined

### 2.2 Alignment of text

### 2.3 Colors

red

text

red

OrangeRed

red

#### 2.3.1 Defining customized colors

test

test

## 3 Graphics

### List of Figures

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### 3.1 Including graphics using figures

Normal way:

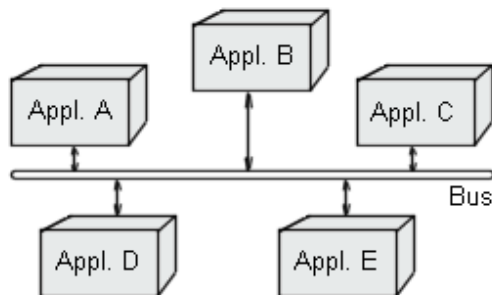


Figure 1: caption1

With a shorthand:

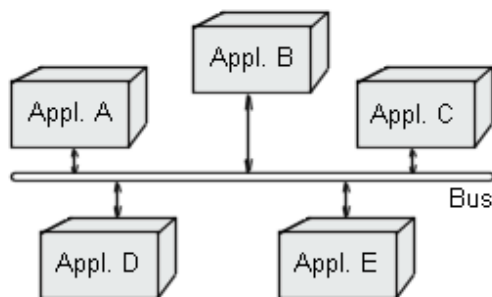


Figure 2: caption1

### 3.2 Including svg using rsvg-convert

If you want to insert `svg` you will need to add this to the PdfLaTeX-Command:

```
--shell-escape --enable-write18 %.tex
```

You will also need to install rsvg-convert, install on Linux XUbuntu:

```
sudo apt-get install rsvg-convert
```

(don't know if this is going to work on windows)

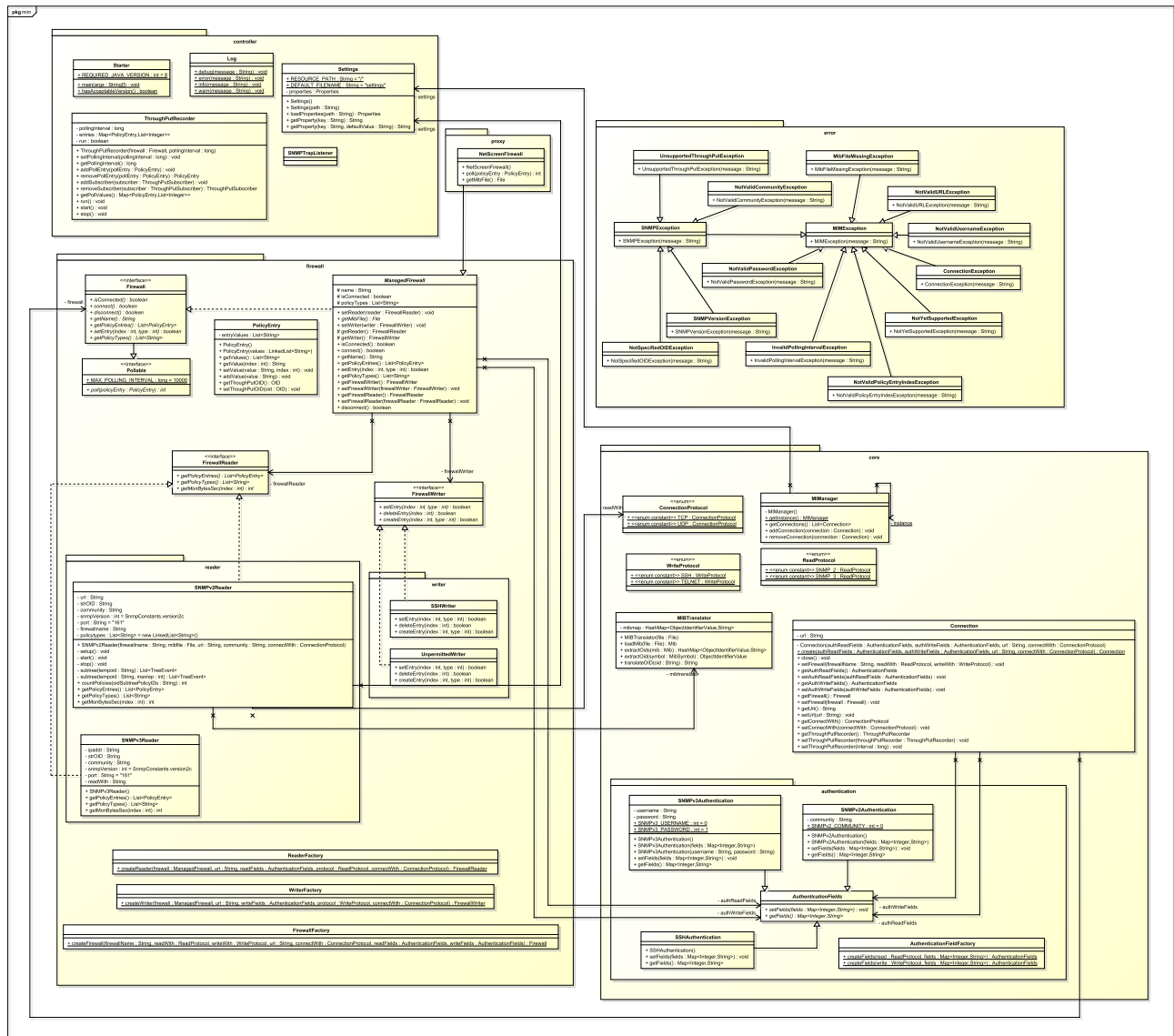


Figure 3: UML Diagram

## 4 References and referencing

### 4.1 Easy Bibliography

#### References

- [1] **Who**, When  
*url*  
 last used: dd.mm.yyyy, hh:mm
- [2] **Mister Super-genious**, Answer from 20.01.2015  
*http://www.stackoverflow.com/question*  
 last used: 22.10.2014, 21:00

This source can be cited using:

`\cite{name}`

[1]

### 4.2 More complicated/'better' Bibliography

"I'm a cite from a book" [Autar]

Some content-related cite [wiar]

**Entries in your bib-file you don't relate with a `\cite` aren't listed!**

#### References

[Autar] Some Author. *Some Title*. Some Publisher, number edition, Year.

[wiar] Who write it. Some title. URL if it is online, Year.

### 4.3 Referencing

Referencing in Latex is quite easy, all that has to be done is:

1. Define the 'point-of-reference' with:

```
\label{type:name}
```

2. Refer to the item using:

```
\ref{type:name}
```



## 5 Document and Layout

### 5.1 Minipages

Whenever you want to layout your document a little bit more, the use of minipages would be great! Take care: text width within a minipage always depends on the size of the minipage.

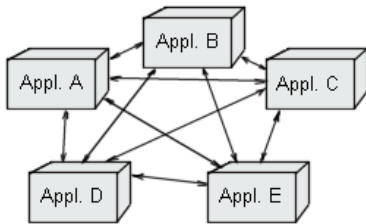


Figure 4: Star-topology

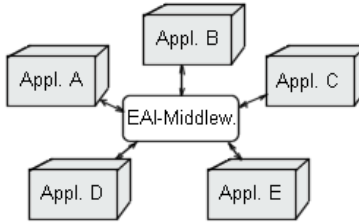


Figure 5: Hub-topology

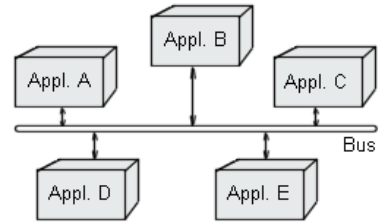


Figure 6: Bus-topology

### 5.2 Letting some space free

If you wish to leave some space free in your document, use the `vspace` command

```
\vspace{0.1\textheight}
```

This looks like this:

### 5.3 The Usage of Itemize and co

#### 5.3.1 Itemize

- item1
- item2

#### 5.3.2 enumerate

1. enumerate1
2. enumerate2

#### 5.3.3 description

**First** The first item

**Second** The second item

**5.3.4 Nested items**

1. The first item
  - (a) Nested item 1
  - (b) Nested item 2
2. The second item

**5.3.5 enumerate using letters**

- (a) an apple
- (b) a banana
- (c) a carrot
- (d) a durian

- (A) an apple
- (B) a banana
- (C) a carrot
- (D) a durian

- (i) an apple
- (ii) a banana
- (iii) a carrot
- (iv) a durian

## 6 Tables

### 6.1 Table generator

For Tables in latex, there is the possibility to use table generators. Simply google this.

Still, the following things should be thought of:

- the width of a table can be set using  
`p{0.4\textwidth}`

Please note: a default table for the working time can be found in the other document.

## 7 How to include Code

### 7.1 Simple with own written commands

For some exercises you will need to input some commands or error messages (maybe for your protocol for a borko-exercise) or comments, for this I have written some shorthands formatting the code:

```
sudo apt-get install *latex*
```

```
A BorkoException was cause because Borko runs your application ;)
```

```
A solutuion for this problem does not exist
```

```
\command{sudo apt-get install *latex*}
```

```
\error{A BorkoException was cause because Borko runs your application ;) }
```

```
\comment{A solutuion for this problem does not exist}
```

## 8 Important Things, Bugs, Useful Hits ...

### 8.1 Float Barriers

Things like tables, pictures and also paragraphs sometimes jump on a random position, to avoid this use FloatBarriers. It is hard to show this effect, but be so kind a trust me just use it so that this don't happen to you.

Just input `\FloatBarrier` after a picture or a table.

## 8.2 How to write own commands in LaTeX

In some cases, because also the `perfect.tex` also can't provide anything it would make sense to write your own commands, for things you do very often in your documents (including pictures) to make them shorter or to have some special commands (including `svg` files).

```
\newcommand{cmd}[args][default]{def}
```

**cmd** The name of the command

**args** Number of arguments, is optional  
to reference to the parameters just write `#Number`

**default** Default values for the arguments, is optional

**def** The body of the command, what it should really do

**Example:**

```
\newcommand{\insertpicture}[5]{
    \begin{figure}[!htb]
        \centering\includegraphics[width=#5\textwidth]{#1}
        \caption[#2 #3]{#2}
        \label{#4}
    \end{figure}
    \FloatBarrier
}
```

## 8.3 Glossaries

First of all the entry needs to be defined on the top of the document:

```
\newglossaryentry{cpu}{name=CPU, description={Central Processing Unit}}
```

Afterwards, the glossary entry can be referred to using:

```
\gls{cpu}
```

The glossaries are printed out when you use:

```
\printglossaries
```

Take care: ! I use `texmaker` and sometimes I have to run this on my command line:

```
makeglossaries <dokumentenname> ausfuehren
```

**List of Tables**

**List of Figures**