Documentation Tools for Gaudí

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Abstract

The Gaudí project will produce a large number of articles and presentations about System Architecture. The first 3 months of the project were used for exploration of reader requirements, potential contents, distribution media and support tools.

This presentation shows the requirements, the choices and the underlying design of the tools to fulfil quest of making the art of system architecting more accessible and understandable.

Distribution

This article or presentation is written as part of the Gaudí project. The Gaudí project philosophy is to improve by obtaining frequent feedback. Frequent feedback is pursued by an open creation process. This document is published as intermediate or nearly mature version to get feedback. Further distribution is allowed as long as the document remains complete and unchanged.

22nd December 1999 version: 1.0
Key drivers of the user of documentation tools

Accessibility for the readers
- Support for lectures/presentations
- Visualization
- Explanatory text complementing visualizations
- Web browsable
- Web based distribution and feedback

Productivity of the author
- Expressive power of descriptive data formats
- Modularity
- Low infrastructure effort
- Support functions (for instance spell checking, keyword generation)

Quality of the information
- Not determined by tools or infrastructure
Requirements

Output:

- Platform independent (1)
- Web enabled (2)
- High quality on paper (3)
- Fast scrolling enabled if viewed on monitor (4)
- Presentations enabled for electronic projection (5)

Management:

- Modularity of information (6)
- Minimal redundancy, limited use of copy paste (7)
- Separation of information and presentation (8)
- Low effort to create and maintain the tools (9)
Requirements continued

Source:

- Standard Format (10)
- Enabling version management, a.o. by supporting differencing (11)
- Platform Independence (12)
- Support for Rich Graphics, i.e. maintaining the structure of the information (13)
- Bibliography support, including symbolic citation support (14)
- Automatic generation of figure, table and page numbering with symbolic reference support (15)
Requirements continued

Use:

- Easy
- User actions should have an intuitive and predictable result
- Customizable, f.i. minimize user actions for frequent operations
- Support for Graphics
Requirements continued

Design:

- Platform Independent (20)
- Extendability (21)
- Scaleability (22)

Future:

- Spell Checking (23)
- Keyword Generation to support web search engines (24)
Structure of Source; Relation with Output

```
\input or \include
or \includegraphics
```

```
\begin{itemize}
  \item section 1
  \item section 2
  \item section n
\end{itemize}
```

```
<name>Main.tex
```

```
<name>Paper.tex
```

```
article
.pdf
```

```
<name>HTML.tex
```

```
fast browse-able
.html
.gif
```

```
<name>Slides.tex
```

```
landscape
.pdf
```

```
\begin{itemize}
  \item \texttt{not operational yet}
\end{itemize}
```

```
\texttt{generation}
```
Typical Layout of an article on paper

Title
   name
   organization
   address
   e-mail
   version
   date
   distribution note

1 Introduction

Section 2
   to
   Section n

[acknowledgements]
[bibliography]

History
Version n, date, author
   change 1
   change 2
Version n-1, date, author
   change 1
   change 2
Typical layout of a presentation on slides

Title
Author
Organization

Abstract
date version

Note on distribution

Header
Body
Footer

Footer layout:

Author
Title
slidecount
date version
filename

Logo
Organization

\LeftFooterWidth
\RightFooterWidth

Typical Slide Layout

Research

IST - SWA - AmE
Filetypes and transformation from source to output

- Visio
  - .vsd
  - .eps

- LaTeX
  - .tex
  - .bib

- BiBTeX

- TeXShell editor

- genpdf
  - .dvi
  - .ps
  - .pdf

- dvips
- .ps

- topdf
- genpdf

- tex4ht
  - .html
  - .gif

- Acrobat reader

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FilesAndTools
Example, the source structure of this presentation
Productivity of LaTeX vs Word/Powerpoint

![Graph showing productivity comparison between LaTeX and Word/Powerpoint over time. LaTeX is shown to have higher productivity over a 1-year period.]