



Improving collaborative documentation in CMS

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1. Context: CMS analysis software documentation

The CMS software documentation suite consists of a **Workbook** (getting started instructions) and an **Offline Software Guide** (with more detailed information), implemented online in wiki.

The document suite is managed by the CMS User Support and the contents are authored by physicists developing the code who are often also the target audience for different areas of expertise.

Due to some authors' lack of experience in technical writing and limited manpower resources the documentation is not always user-friendly. In addition, all the existing documentation is not yet within the suite and all areas are not fully covered.

3. How to achieve these goals?

3.1 CMS software documentation review process

Each group providing software undertakes a review consisting of

- | | |
|---|---|
| 1. Usability tests
(general level, see 3.2.1)
→ pinpoint problems | 2. Heuristic evaluation (see 3.2.2)
→ agree on goals |
| 3. Work period
- short, intense
- involve group members | 4. Final review (see 3.2.3) |
| | 5. Group-specific usability tests
→ follow-up |

3.2 Methods

Well-proven **methods exist** to review and improve documentation:

3.2.1 Usability tests

Principle: Testers are asked to do a **typical task** with the user interface being tested and to think aloud; tests are recorded.

Example tasks (step 1 above):

- You will start writing analysis code, find instructions.
- You will have e/μ /jet in your analysis, find what the e/μ /jet data contain.
- Find a useful example code to access data.

Outcome – we have identified:

- missing or misleading links** (see figure 1).
- access patterns** and **search strategies** of users
- keywords** users are looking for:

Example How to Getting started Tutorial
 CMSSW

3.2.2 Heuristic evaluation

Principle: Evaluators check the compliance with recognized usability principles[2].

In our case, this is done with the responsible person of each group face-to-face with the CMS User Support (step 2 above).

Outcome – recommendations for authors:

- make clear distinction between **“How to use”** (for users) and **“Implementation details”** (for developers)
- remember the **user’s point of view**
- provide **links** to the documentation suite from the group web pages.

3.2.3 Use of a check list

Principle: A content check list for documentation elements based on [3] is drawn up and used in the final review.

References

- [1] L. Salmi: *Documents multilingues pour logiciels et utilisabilité*. Ph.D., University of Turku, Department of French Translation Studies. Annales Universitatis Turkuensis, B. 269, p. 75-83, 2003
- [2] V. Purho. “Heuristic Inspections for Documentation – 10 Recommended Documentation Heuristics”, Usability Interface Vol 6, No. 4, 2000
- [3] Annex B of the ISO Standard ISO/IEC 18019:2004(E)

2. Goals: comprehensiveness and intuitiveness

The CMS User Support has started a review to improve the usability of the documentation suite.

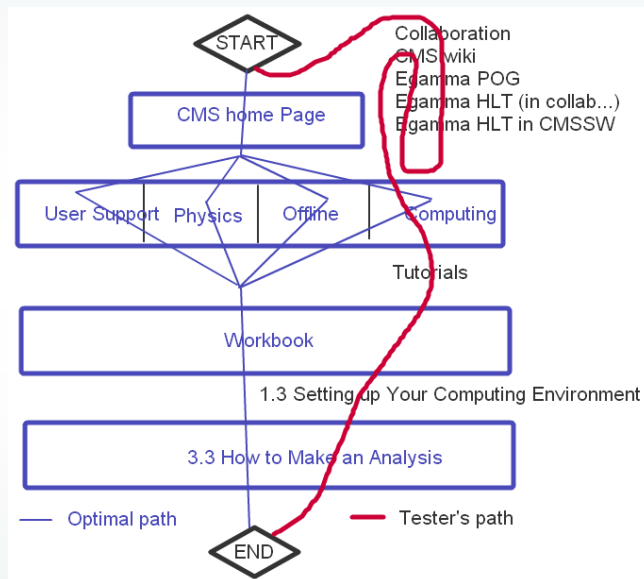
Objectives:

- predictable and consistent structure
- as comprehensive as possible
- easy-to-find answers to users’ basic questions: **What?** **How?** **Where?** **Why?**

Constraints:

- contributors’ lack of experience in technical writing
- relying on only voluntary contributions and limited manpower resources.

Figure1: Analysis of the usability test data according to [1]. The figure illustrates **the optimal path** to reach the information, and **the actual path of one user**.



4. Conclusion: small things matter!

Small improvements by the author of the documentation can make a **big difference** for the user. Usability tests are an excellent tool for pinpointing the problems.

Some **immediate improvements** have already been made:

- make link titles to better correspond the users’ tasks
- provide comprehensive template pages for authors
- add links to avoid dead ends.

Individual evaluation sessions for each group are time-consuming but essential for defining clear group-specific goals. Documentation reviews are ongoing and will be completed by group-specific usability tests.