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An XML based web service for an electronic logbook </title>

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<date>2002-10-16</date>

<conference>PCaPAC 2002 Frascati</conference>



Overview

- Motivation
- Requirements
- The basic technology
- Internal data handling
- Software components
- The TTF e-logbook
- Conclusions

-Motivation

Most of us know the "good old" paper logbook ...

... with all its pros and cons!?



The old paper logbook

- + Intuitive read/write access
- + Freedom in creation of entries
- + No access problems (only one version)

- Preparation can be very time consuming
- No standard layout for entries
- Only one version exists
- No systematic search possible

The electronic logbook

An e-logbook can:

- make editing easier and faster
- offer helpful search functionality
- be **the** common place for measurement results
- can be made accessible for everyone
- make remote shift possible

E-logbook is a must for a GAN (Z Talk of K. Rehlich)

- Requirements

• Simplicity:

Input must be self describing and easy

• Availability:

Must run on nearly every computer system

• Stability:

Running 24 hours 7 days the week

Meeting the requirements 1

Simplicity:

A standard web browser as front end

can serve our purpose

&

today nearly everybody is familiar with it!

Meeting the requirements 2

Availability:

the standard web browser

runs on every computer system &

mostly no additional installation is required!

Meeting the requirements 3

Stability:

Concerns only side holding and serving the data (server).

A standard web server can do this job!

- Many existing web servers are available.
- Years of experience with these server exists.



Classic client – server architecture:



The I/O concept

Three distinct communication channels:

- Two input channels:
 - Graphics via printing to PS printer
 ASCII textual data via web interface
- One output channel:

Standard HTTP communication (LAN, Internet etc.)



Data input

- Graphics are stored as PS and converted to JPEG for display in web browsers.
- XML files hold the connection between these files and metadata like date, author, etc.
- All files are stored in a pool reflecting the local requirements (e.g. 3 shifts per day, weekly or monthly etc.).

Data output

- JAVA Servlet collects requested data out of pool (named "logbook folder").
- This data is redirected to an XML parser.
- The parser passes the parsed data to an XSL transforming processor for final generation of either HTML or PDF output.

Software components 1

On the client side we need:

- Standard JAVA capable web browser (e.g. Netscape 6 or Internet Explorer 5)
- Every program that can print to a standard PS printer (e.g. MATLAB, ROOT etc.)

Software components 2

On the server side we need:

- A standard web server with a servlet engine (e.g. Apache web server with Tomcat servlet engine)
- An XML parser and an XSLT processor (e.g. Xerces and Xalan from the Apache software foundation)

The TTF e-logbook

So let's have a look at the e-logbook's GUI.



The TTF e-logbook (cont.)



The e-logbook search



Conclusions 1

- Now one year of experience with an e-logbook at the TESLA Test Facility (TTF).
- Good or even very good resonance from the operators.
- E-logbook has grown up to be an integral part of the machine operation.
- More people are involved in the machine operation.

Conclusions 2

- The e-logbook is a promising trial to work with this modern web technologies.
- Interfacing with other web services (see poster of O. Hensler) possible.
- Many ideas and suggestions are appearing since its introduction.



Thanks for your attention!