Code Documentation
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LCG Software Process & Infrastructure
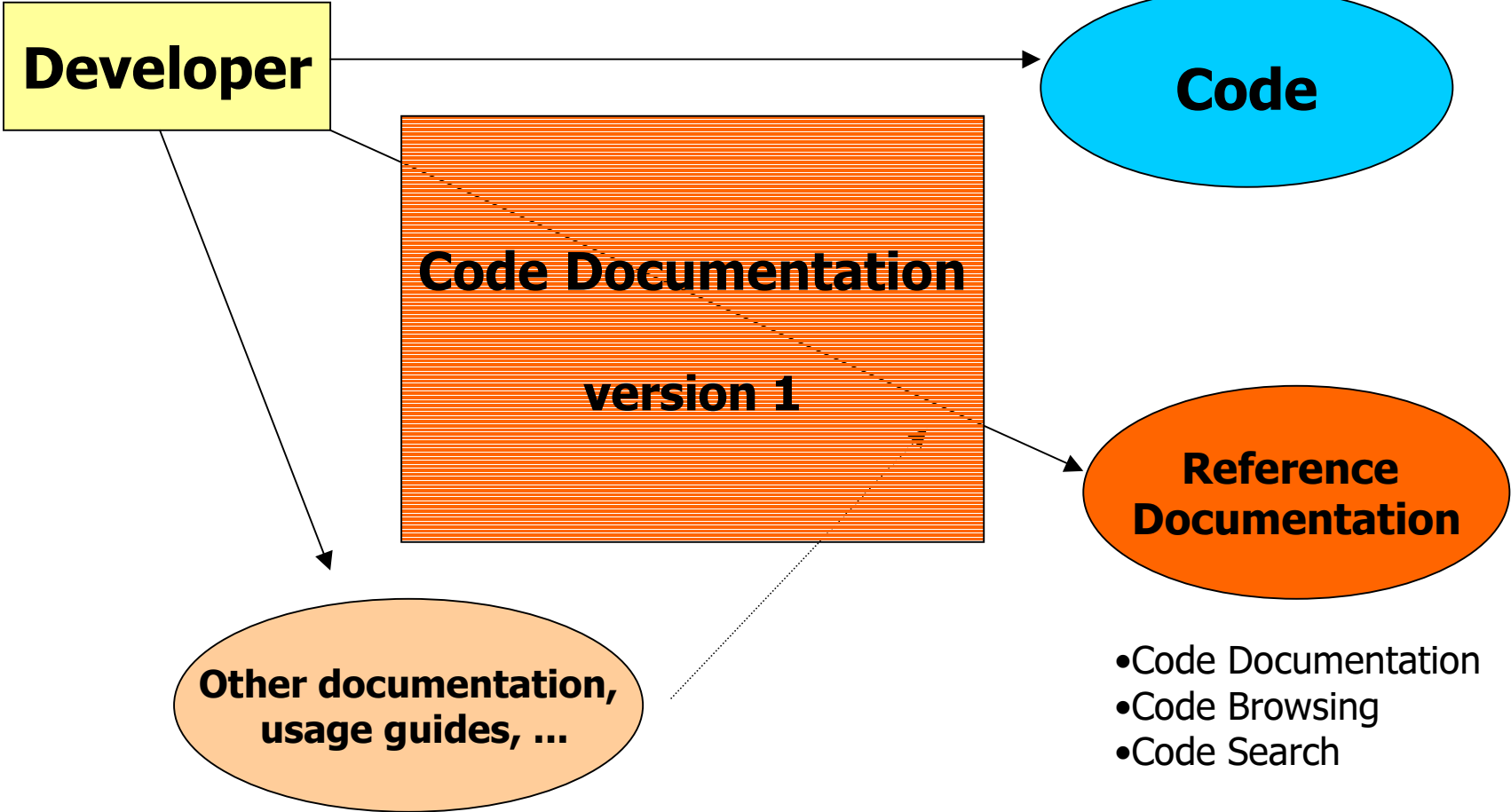### (CERN, 10/23/02)

Description of the Component

- Analyze different Code Documentation Systems
- Decide what and how is going to be used
- Features of interest:
  - Code browsing
  - Code searching
  - Code information
  - Design diagrams
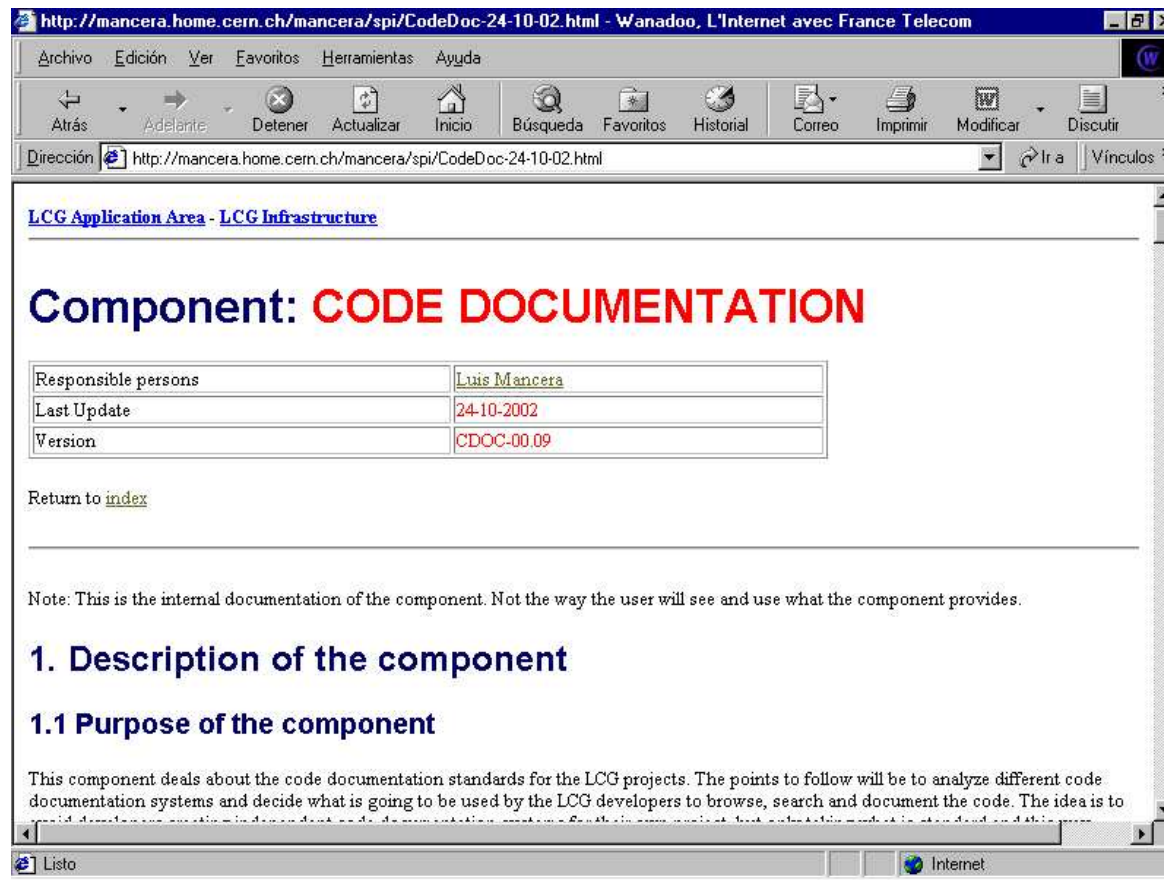- Work in colaboration with HEP experiments and projects

Code Documentation:

Developer

Code

Code Documentation

version 1

Other documentation, usage guides, ...

Reference Documentation

- Code Documentation
- Code Browsing
- Code Search

Component Documentation

- All information about the component
  - http://cern.ch/mancera/spi

Main steps followed

- ## Technology survey
  - ### Web Survey
    - ALiCE, ATLAS, CMS, LHCb, LHC++, Anaphe, ROOT, Monarc, Geant 4, BaBar, Coral
    - Also surveyed some not-CERN projects
    - Main products found: Doxygen, ViewCVS, CVSweb, LXR, Internal ones,…
    - Other products: DOC++, Doc-o-matic, winCVS, Ignominy, some comercial ones…
  - ### Contact HEP projects and experiments
    - Gabriele Cosmo (Geant 4):
      - Use LXR, Recommend Doxygen and CVS browsers
    - Nick Sinanis (CMS):
      - Use and recommend LXR, Doxygen and ViewCVS
    - Benigno Gobbo (Coral):
      - Use and recommend Doxygen

Main steps followed (II)

- Choose products to use
- Install and create documentation

- Wait feedback from LCG projects
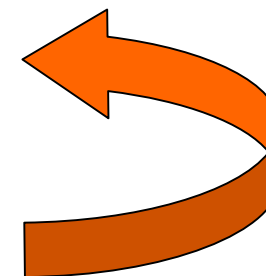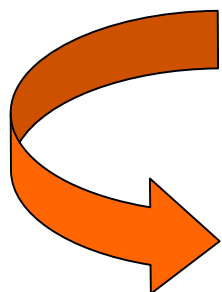
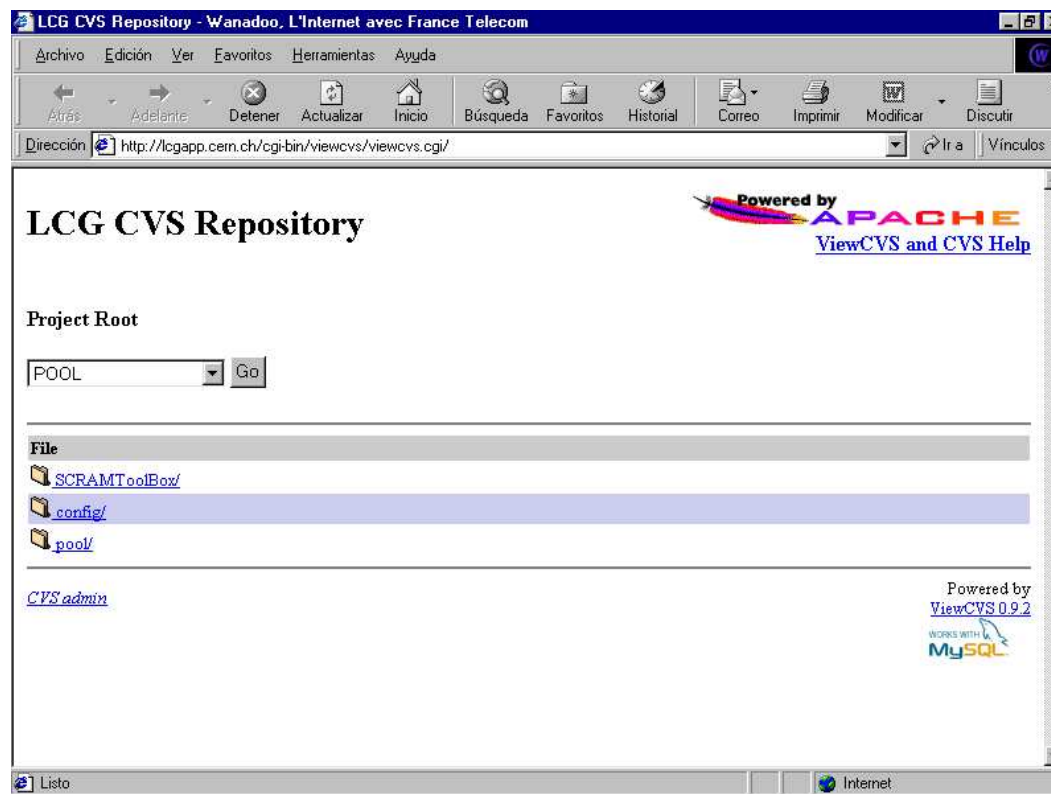# CVS Browsing: ViewCVS (I)

- Browse directories, change logs, and specific revisions of files.
  - Complete interaction with CVS
  - Compared to CVSweb:
    - Easy to configure, less bugs, more features, better implemented, tarball generation
  - Widely used:
    - ATLAS, ALICE, CMS, Sourceforge,…
  - Recommended by the people contacted
    - Nick Sinanis (CMS)

CVS browsing: ViewCVS (II)

- ## ViewCVS 0.9.2 installed at lcgapp:
  - ### http://lcgapp.cern.ch/cgi-bin/viewcvs/viewcvs.cgi/

CVS browsing: ViewCVS (III)

- Additional features installed by now:
  - CVSgraph 1.3.0: Displays the tree of revisions and branches graphically
  - Enscript 1.6.1: Colorize files in the CVS repository.

X ref. and searching: LXR (I)

- Cross-Referencing Code
  - General hypertext cross-referencing tool
  - Powerful search tool
  - Requires no code changes
  - Easy to manage and launch
  - Widely used
    - ATLAS, CMS, Anaphe, GNOME
  - Recommended by the people contacted
    - Gabriele Cosmo (Geant4), Nick Sinanis (CMS)

X ref. and searching : LXR (II)

- Open issues:
  - Could be slow to update when the projects become big ones ☹
  - It needs its own separate copy of the code ☹
  - Bad documentation ☹
  - Maybe not needed if Doxygen can give us all LXR functionality

X ref. and searching: LXR (III)

- ## LXR 0.3 installed at:
  - http://lcgapp.cern.ch/lxr/source

Code Doc: Doxygen (I)

- Documentation system for C++, C, Java, IDL and PHP.

- Generates on-line documentation browser (html)

- Generates off-line reference manual (latex)

- Other ouput formats: RTF, Postcript, PDF, compressed HTML, Unix man pages

Code doc: Doxygen (II)

- Complete: Code browsing (cross referenced), code reference, search, code structure, diagrams,...

- Flexible

- Well documented

- It can be use to create normal documentation (.dox)
  - Adds every .dox file under <project>/doc

- Widely used
  - CMS, Anaphe, BaBar, Coral, ...

- Recommended by the people contacted
  - Gabriele Cosmo (Geant4), Nick Sinanis (CMS), Benigno Gobbo (Coral)

Code doc: Doxygen (III)

- Common doxygen 1.2.18 area created at lcgapp:

  - http://lcgapp.cern.ch/doxygen/

Code doc: Doxygen (IV)

- doxygen 1.2.18 documentation placed lcgapp:
  - http://lcgapp.cern.ch/doxygen/doc/
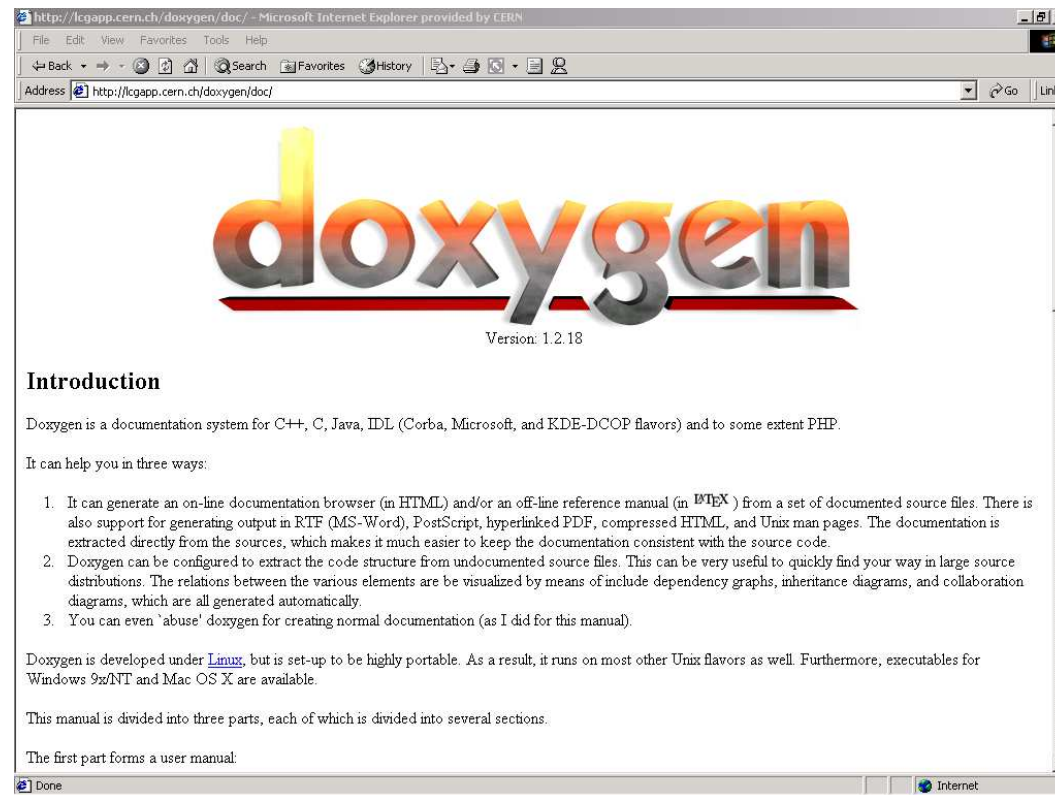
To do

- Finalize ViewCVS features installation
- Include Doxygen search functionality
- Move into a fully automatic update system for LXR and Doxygen
- Create good user documentation
- Interacting with POOL for review and changes
- Component in production soon