



# Web-Based Learning Systems: A « document technology » approach

Dr Christine VANOIRBEEK  
Swiss Federal Institute of Tehnology  
Computer Science Dpt (LITH - MEDIA)  
IN Ecublens  
1015 Lausanne  
Christine.vanoirbeek@epfl.ch

## OUTLINE

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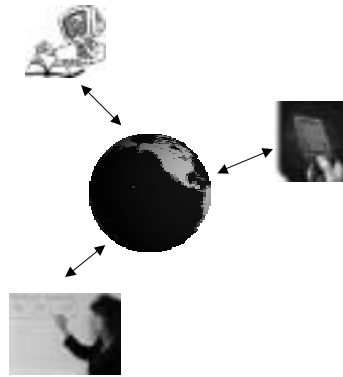
- ◆ E- learning?
- ◆ Benefits of a « document technology » approach
- ◆ Perspectives



## E-LEARNING

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### Traditional learning vs e-learning?



## E-LEARNING

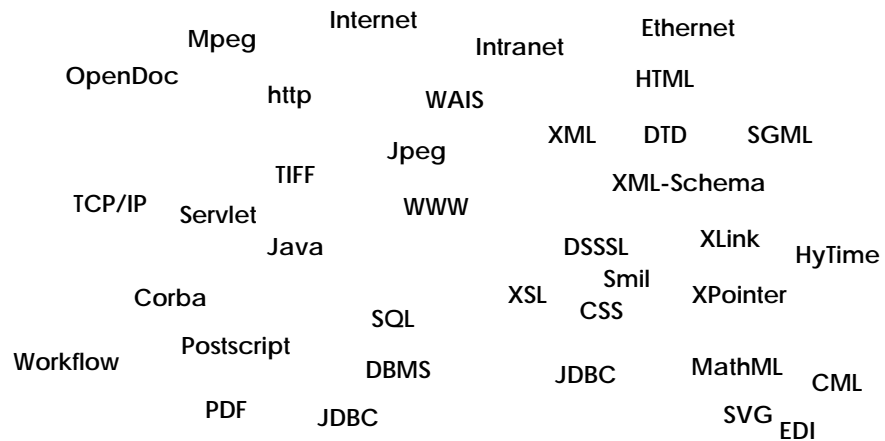
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- ◆ Access and share of multimedia digital data
- ◆ User interface



- ◆ Communication and collaboration

## DOCUMENT TECHNOLOGY (Dealing with data on the Web)

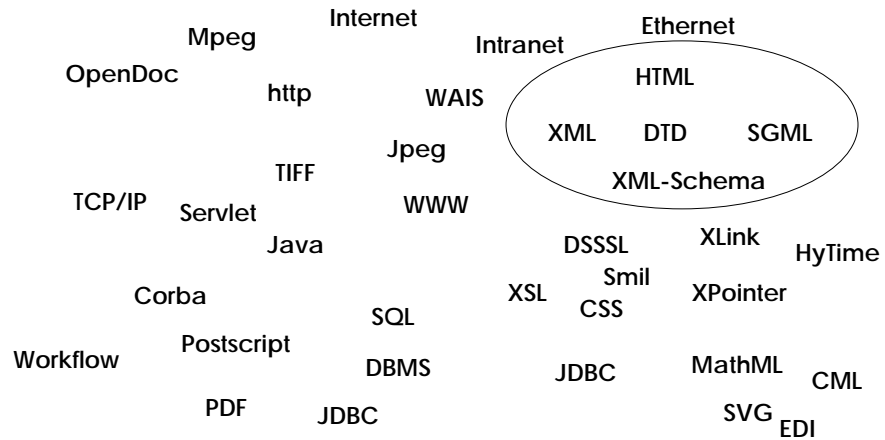


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## DOCUMENT TECHNOLOGY: MODELLING

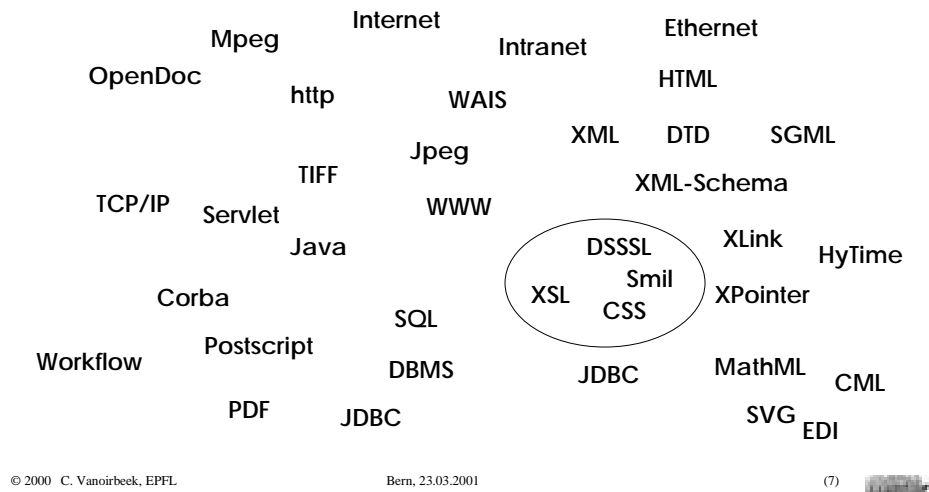


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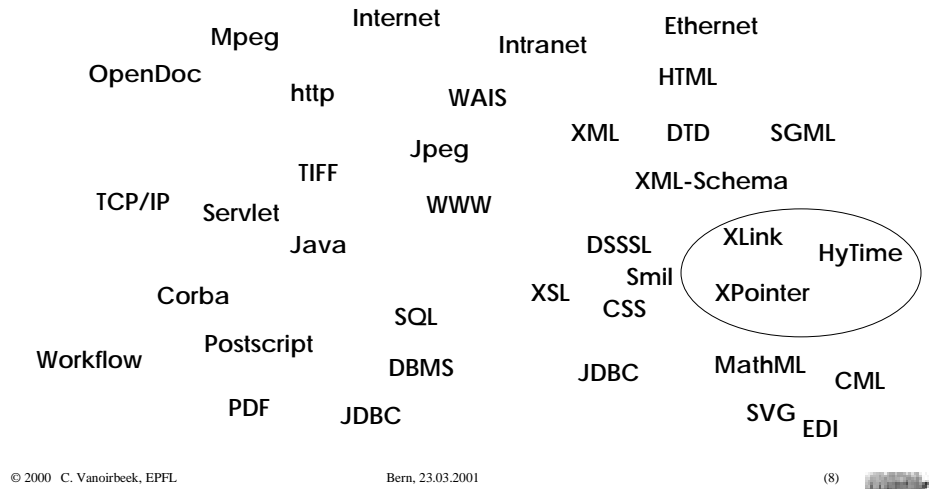
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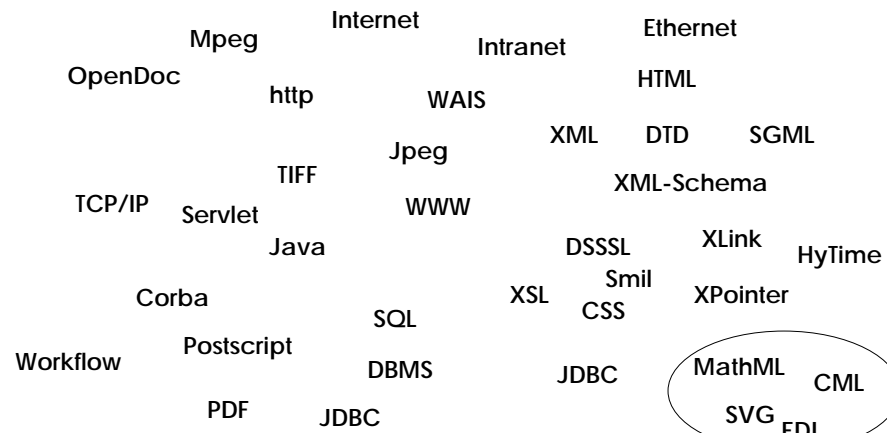
## DOCUMENT TECHNOLOGY: RESTITUTION



## DOCUMENT TECHNOLOGY: HYPERTEXT



## DOCUMENT TECHNOLOGY: APPLICATION



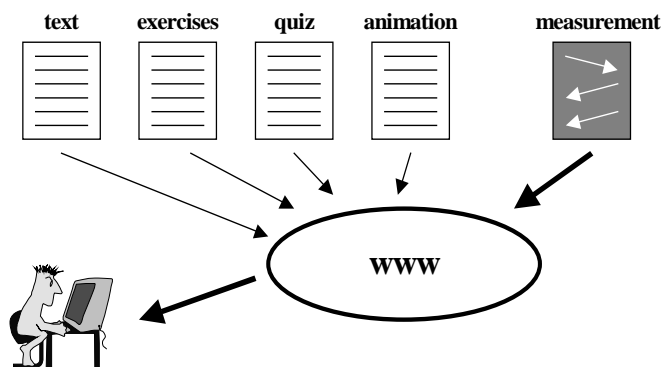
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## INTEROPERABILITY

### Telelaboratory (Classroom 2000 project - SNF)



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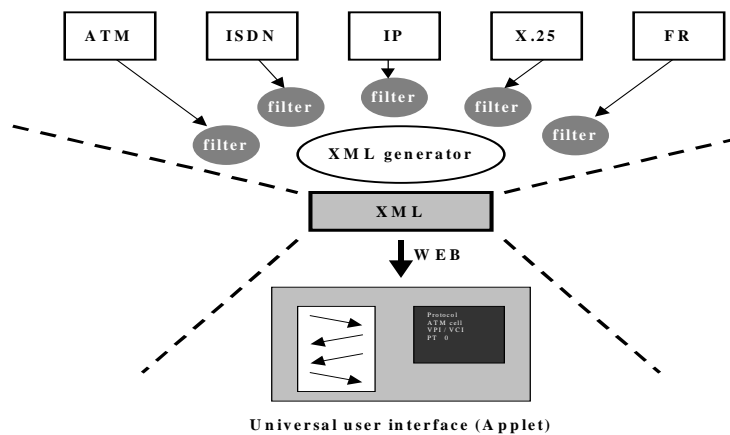
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# INTEROPERABILITY

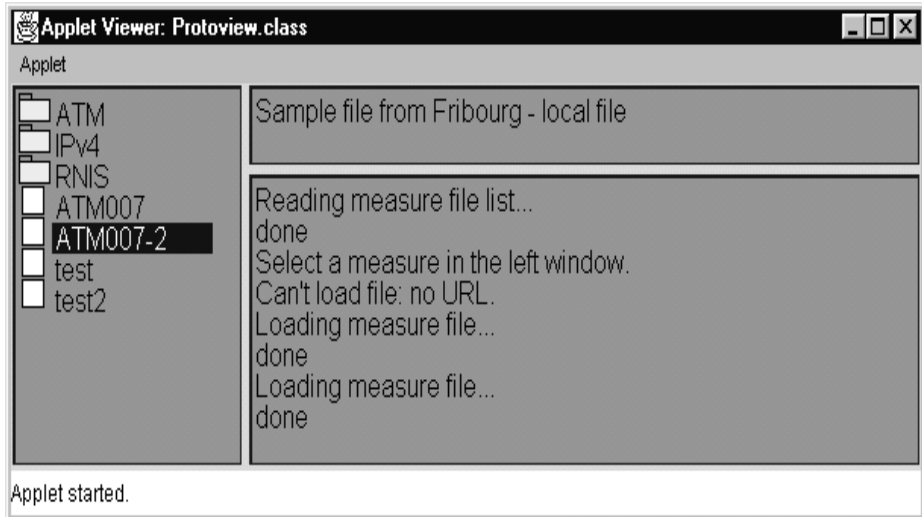
- ◆ Telelaboratory (user interface)



# INTEROPERABILITY



## INTEROPERABILITY



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## INTEROPERABILITY

- ◆ Benefit of document technology approach?
  - Data flow = structured document
  - Structuring vs programming?
- ◆ Dealing with one protocol more (ISDN, TCP-IP,...)  
--> no modification in the program sources
- ◆ Platform independence
- ◆ Reuse of data within other applications

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## INTERACTION

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### Remote manipulation (eMersion project – FIT board)

#### Trial-and-error paradigm



## INTERACTION

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### Cockpit Metaphor



### Lab Journal

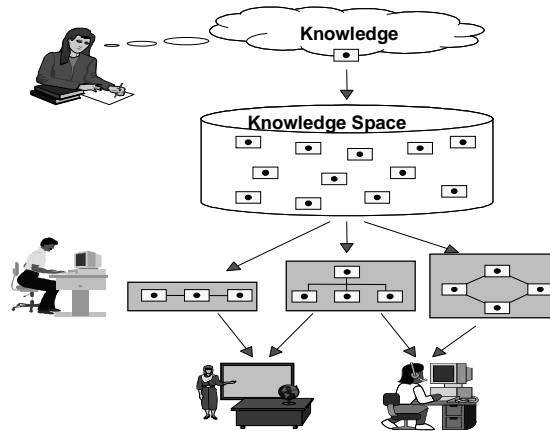


Lab Model



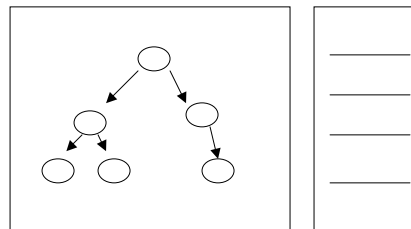


# REUSABILITY



# REUSABILITY

## Flexible document fragments (OO design)



## COLLABORATION

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### Production of documents (NICE project SNF/ERCIM)



Spatial metaphor



## PERSPECTIVES

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- ◆ Using mobile devices
  - One example: Acces to a program course
  - More about this topic
    - ✓ Summarization
    - ✓ ....



## PERSPECTIVES

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- ◆ Modeling data to promote interoperability
  - Reusability
  - Interaction
  - Access (to multimedia data)
- ◆ Combining skills !

