

# The DELOS Digital Preservation Testbed

## Identifying, evaluating and selecting preservation methods

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*An Expedition to European Digital Cultural Heritage*  
*Collecting, Connecting - and Conserving*  
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# Overview

- Introduction
  - why testbeds?
  - what can they offer?
- DELOS DP Testbed framework
  - elements, model
  - testbed instance
- Evaluation Process
  - workflow
  - tool support
- Experience and Conclusions



# Introduction

- A number of DP challenges
- A number of (partial) solutions
  - different strategies
  - different tools for each strategy
  - different parameters for each tool
- Which solution to select?
  - to meet preservation requirements (what are these?)
  - cost? stability? future use?
- Digital preservation planning



# Introduction

- DELOS Digital Preservation Testbed
- DELOS Network of Excellence on Digital Libraries; Digital Preservation Cluster, (FP6 IST)
- Joint efforts by Dutch National Archives, TU-WIEN, ÖNB, Phonogram Archives, SUB Göttingen, CNR with additional input from many other parties



# Introduction

- DP Testbed
  - requires clear specification of all DP goals/requirements
  - provides structured view of these objectives
  - offers platform for repeatable, documented evaluation
- It is the basis for
  - informed,
  - documented, and
  - accountable decisions

on which preservation plan to adopt



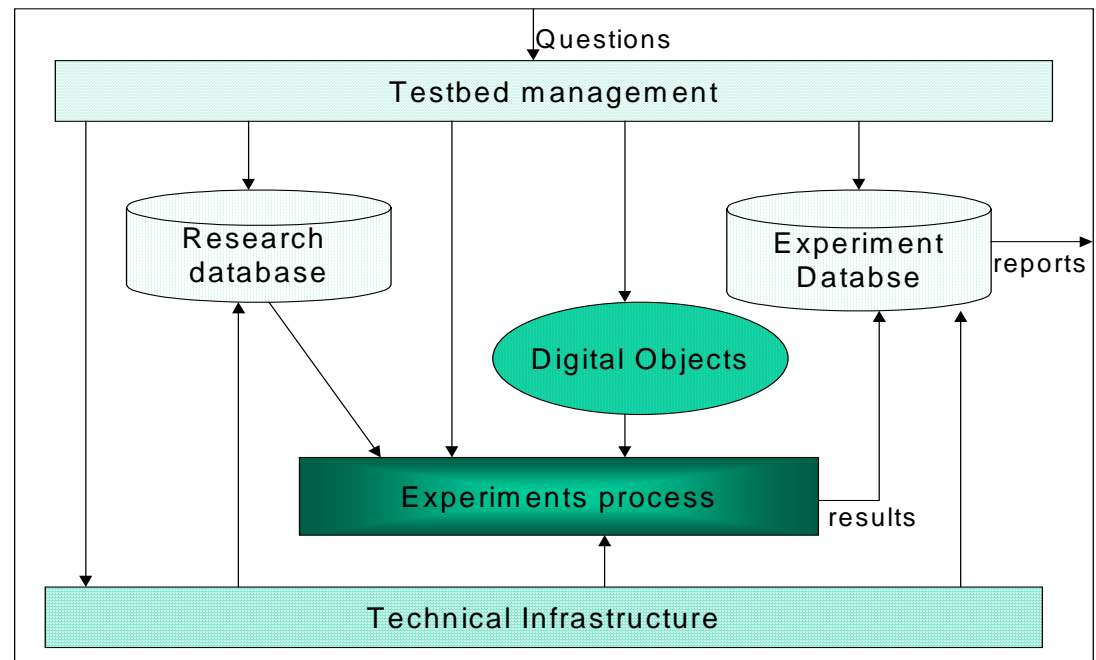
# DELOS DP Testbed

- Reference model for developing preservation testbeds (systems)
- An instance of the testbed for evaluating preservation strategies (Dutch National Archives, Netherlands)
- A methodology to plan and evaluate preservation plans (Utility Analysis)
- Tool support for the evaluation and documentation



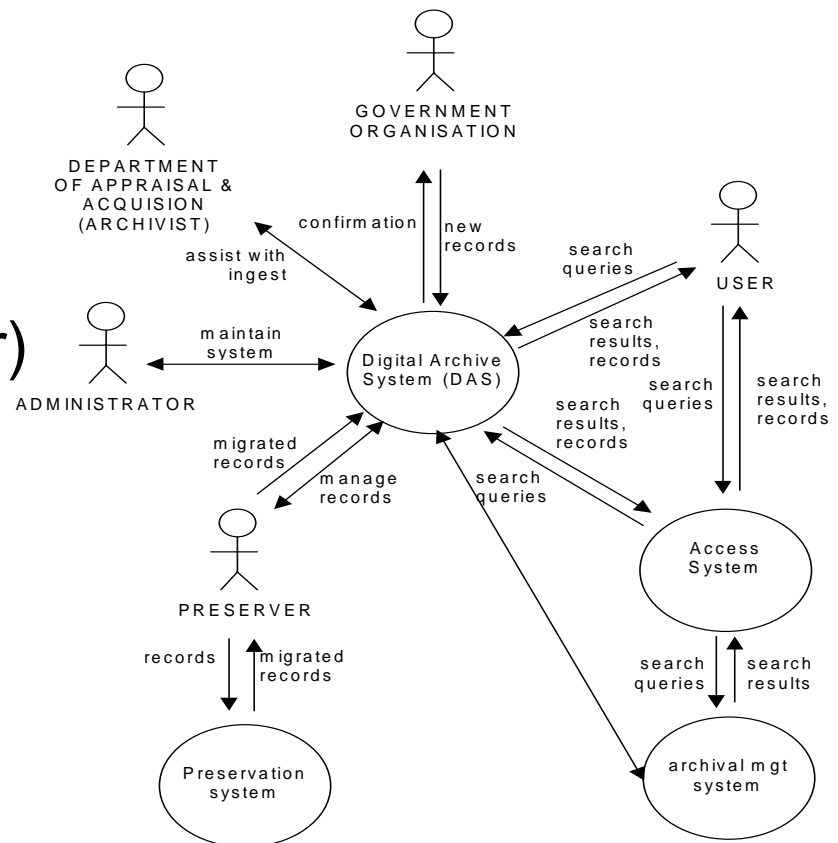
# Testbed Reference Model

- Describes elements and set-up of evaluation testbed
  - roles, responsibilities
  - IT infrastructure, databases
  - documentation for experiments
  - evaluation procedure



# Testbed Reference Model

- Different roles
  - Overall management
  - Supplier (of objects)
  - Preparing experiments and evaluation (preserver)
  - Carrying out experiments (implementation)
  - Evaluation group (with external experts)
  
- Technology
  - Automatic or manual



# DELOS DP Testbed Instance

- Testbed system hosted by the Dutch National Archives
  - experiments lab
  - document management system + records management
  - HW & SW support for evaluations



# Evaluation Methodology

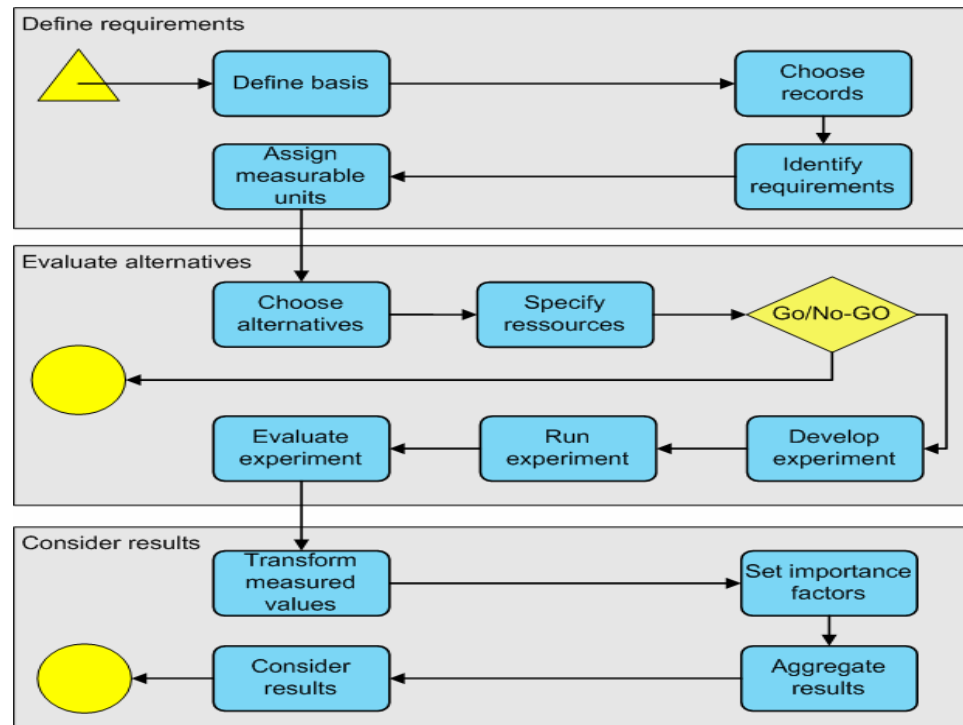
- Based on Utility Analysis

- Workflow

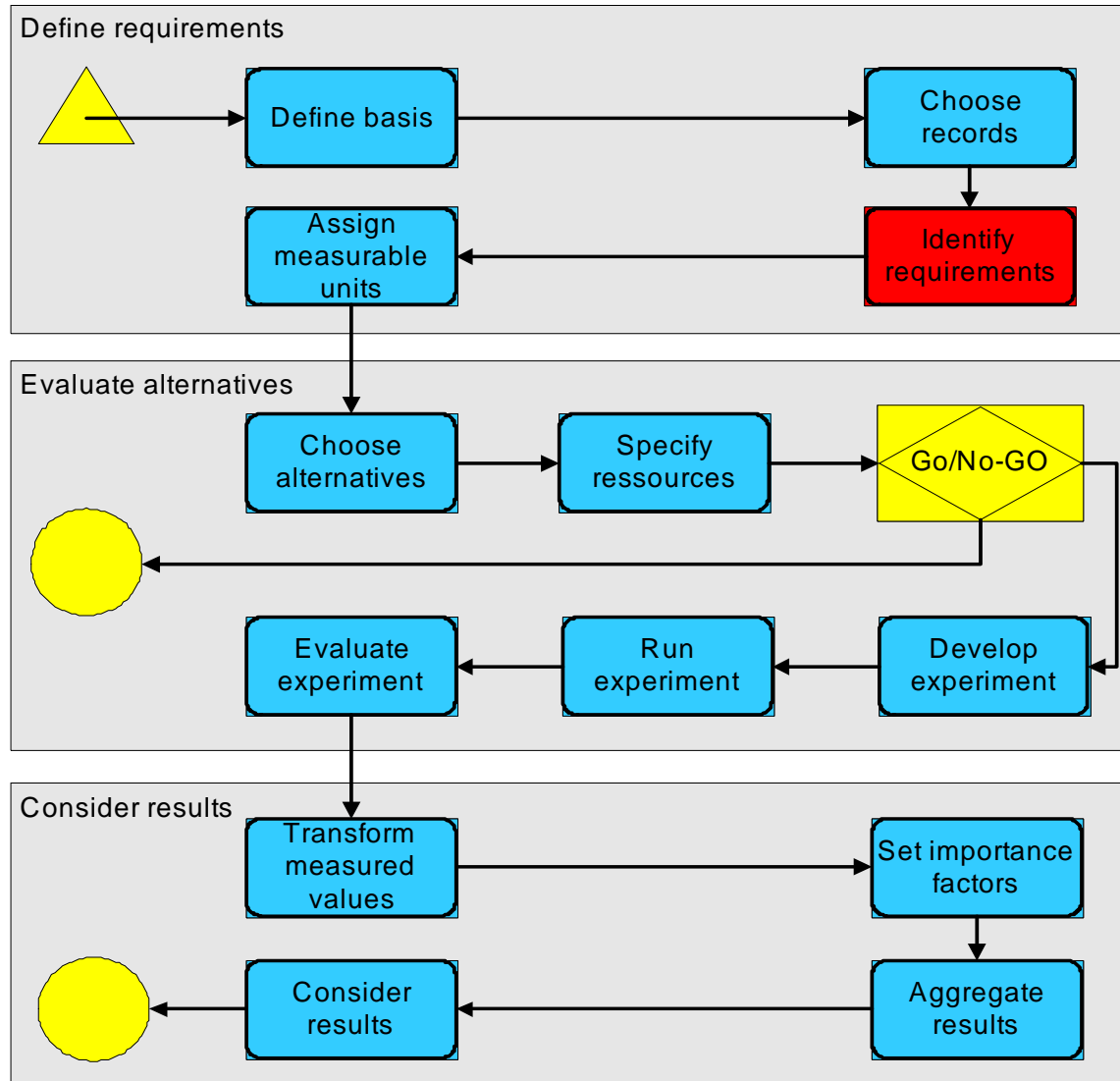
- 13 steps in

- 3 phases

- Specifying and evaluating alternative DP plans



# Evaluation Methodology



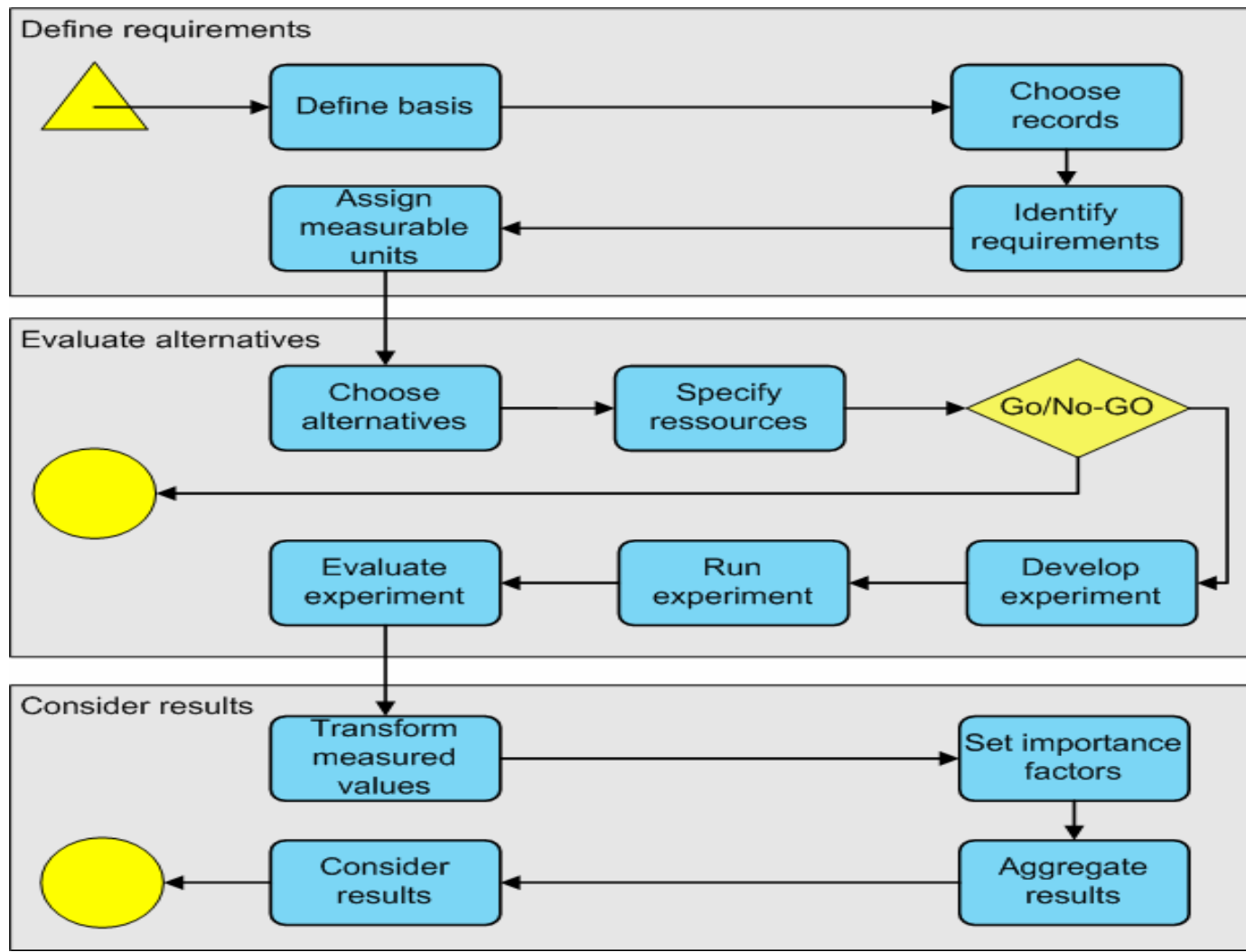
# Evaluation Methodology

## Identify Objectives - Objective Tree

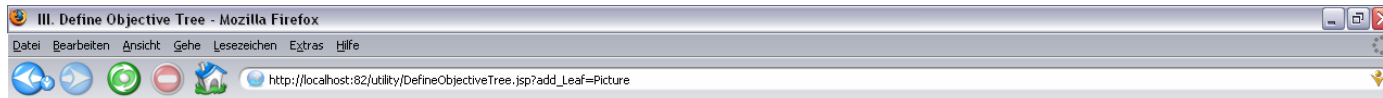
*(example: video files)*



# Evaluation Methodology



# Evaluation Tool Support



## DELOS DP TESTBED

**Navigation**

- [Create new Project](#)
- [1.\) Define Basis](#)
- [2.\) Choose Record](#)
- [3.\) Define Objective Tree](#)
- [Assign measurable units](#)
- [4.\) Define Alternatives](#)
- [5.\) Specify Ressources](#)
- [6.\) Go/No-Go](#)
- [7.\) Develop Experiment](#)
- [8.\) Run Experiment](#)
- [9.\) Evaluate Alternatives](#)
- [10.\) Transformation Table](#)
- [11.\) Weight Criteria](#)
- [12.\) Aggregate Alternatives](#)
- [13.\) Final Ranking/Sensitivity Analysis](#)

**Output**

- [XML Output](#)

**Contact**

- [BugReport](#)
- [Stephan Strodl](#)
- [Website](#)
- [DELOS DP Testbed](#)
- [Last Update: 20.1.2006](#)

### III. Define Objective Tree

- Root [addNode](#) [addLeaf](#)
  - File Char. [addNode](#) [addLeaf](#) [delete](#)
    - Appearance [addNode](#) [addLeaf](#) [delete](#)
      - Quality [addNode](#) [addLeaf](#) [delete](#)
        - Drop-Out [addNode](#) [addLeaf](#) [delete](#)
          - Picture [addNode](#) [addLeaf](#) [delete](#)
            - Colour-proof [] [delete](#)
            - Resolution [] [delete](#)
            - Picture Aspect-Ratio [] [delete](#)
            - Pixel Aspect-Ratio [] [delete](#)
            - Watermarking [] [delete](#)
            - High-Signal [] [delete](#)
          - Motion [addNode](#) [addLeaf](#) [delete](#)
            - Frame rate [] [delete](#)
            - Tape replay Speed [] [delete](#)
            - Replay variance [] [delete](#)

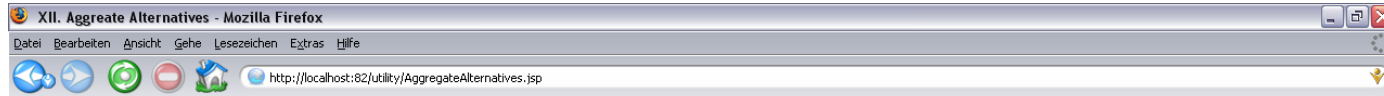
Leaf name:

Measure Unit:

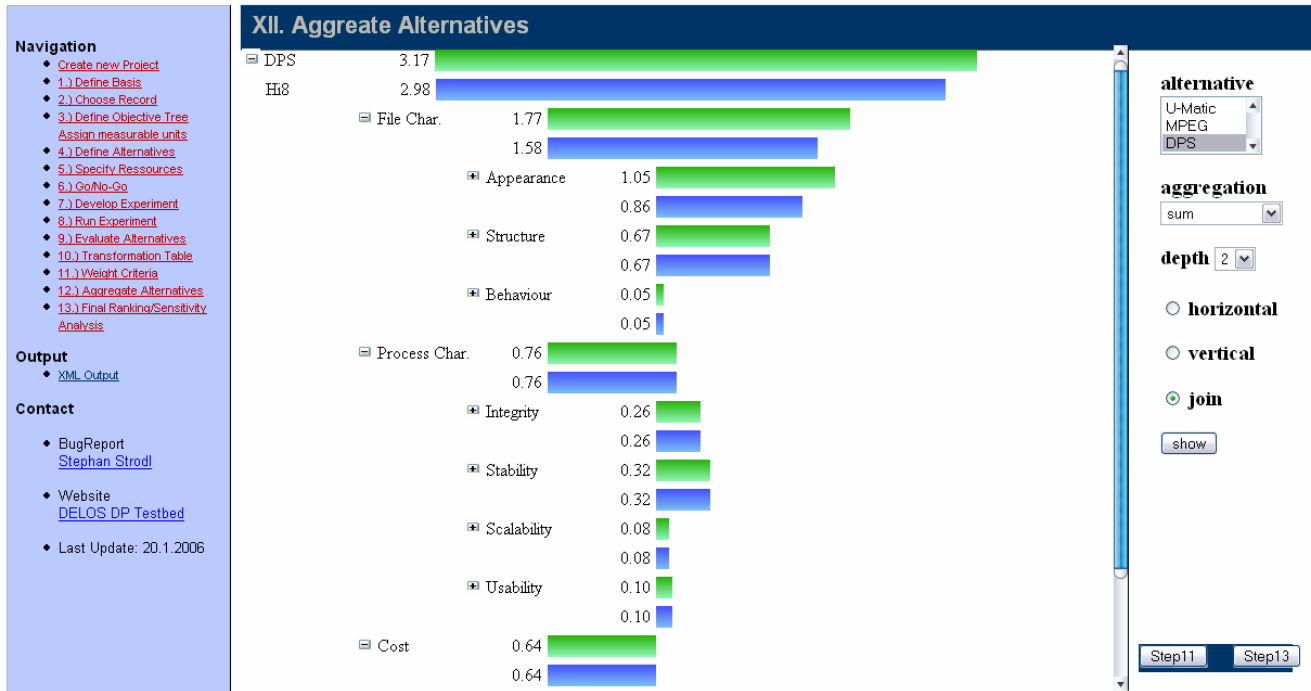
Fertig



# Evaluation Tool Support



## DELOS DP TESTBED

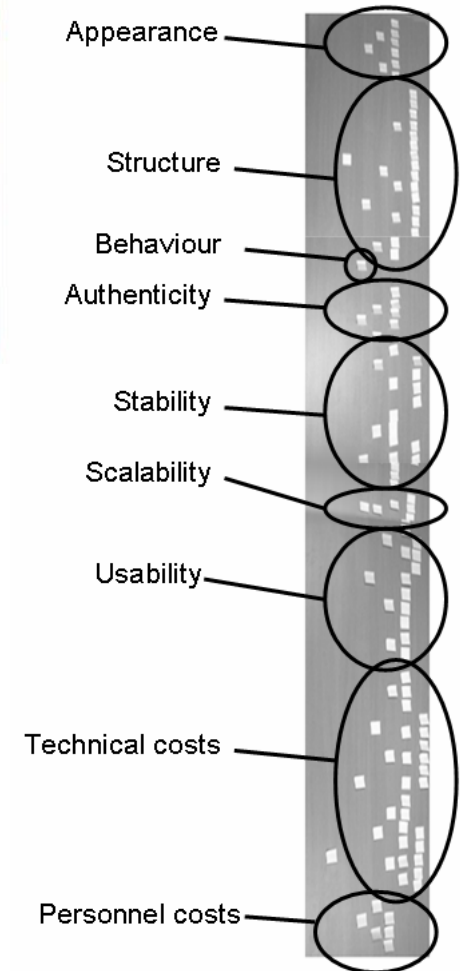


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# Experiences

- Variety of institutions, different holdings
- Requires (forces) DP requirements to be made explicit
- Brainstorming sessions
- Accepting trade-offs
- Structured approach DP decisions
- Documented and repeatable



# Summary

- DELOS DP Testbed Framework
  - Assists in the formulation of preservation plans
  - Enforces the explicit definition of preservation requirements
  - Enables the evaluation of preservation strategies
  - Assists in the process of running experiments
  - Supports appropriate documentation of processes, experiments, and evaluations
  - Provides a mean to make informed, accountable decisions
  - Establishes and maintains trusted preservation procedures



# Thanks

- DELOS, Digital Preservation Cluster NoE, 6th Framework Program IST
- PLANETS IP, 6th Framework Program IST
- DELOS DP Testbed tool :

<http://www.ifs.tuwien.ac.at/dp>

