DELOS DPC Testbed

A Framework for Documenting the Behaviour and Functionality of Digital Objects and Preservation Strategies

www.dpc.delos.info

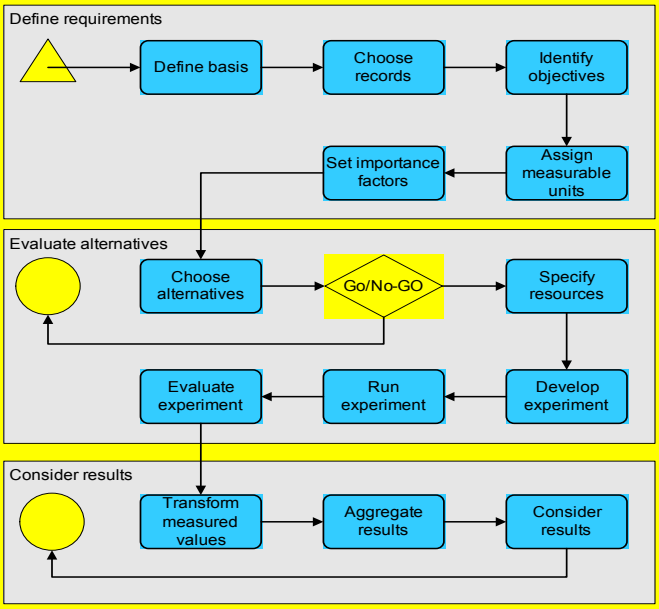
Motivation

- Several preservation strategies developed
- How do you know what is most suitable?
  - Right choice depends on the needs (no clear preferences)
- What are the preservation requirements?
- How to measure and evaluate the results of each preservation strategy?
- How to define a controlled and trusted environment and a procedure for applying or testing preservation strategies?

Solution: A Digital Preservation Testbed which,

- Enables the evaluation of preservation strategies
- Enforces the explicit definition of preservation requirements
- Supports appropriate documentation of processes, experiments and evaluations
- Assists in the process of running preservation experiments
- Provides a means to make informed and well-documented decisions
- Establishes and maintains a trusted preservation process/procedure

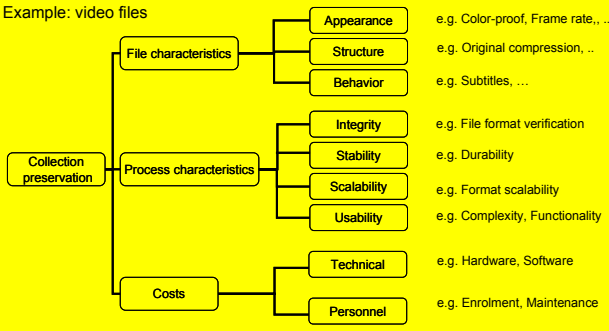
Workflow



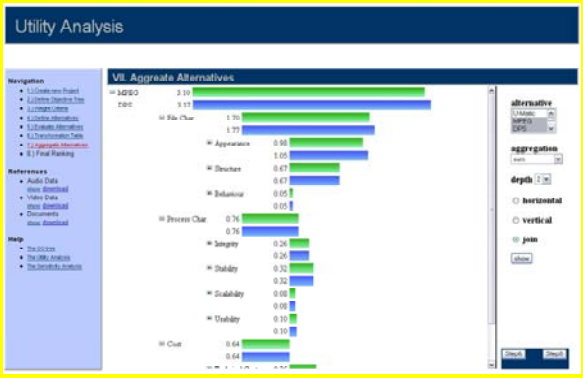
- **Define the basis**
  Define of the project's objects, characteristics, requirements and preservation strategies
- **Choose records**
  Choose representative sample objects for evaluation
- **Identify objectives**
  Define goals and requirements and construct the *Objective Tree*
- **Assign measurable units**
  Assign measurable effects and units to each leaf
- **Set importance factors**
  Define the relative importance of objects depending on specific preferences and requirements
- **Choose alternatives**
  Select alternatives for evaluation, such as specific migration tools or emulators
- **Go/No-Go**
  Decide to continue or redefine the project (useful, cost-effective, correct)
- **Specify resources**
  Specify human and technical resources for each alternative
- **Develop experiment**
  Define development plan, test plan and evaluation/experiment plan
- **Run evaluation/experiment**
  Process the sample objects with selected preservation alternatives
- **Evaluate evaluation/ experiment**
  Measure performance of each alternative for each leaf of the *Objective Tree*
- **Transform measured values**
  Transform obtained measures to a uniform, comparable scale
- **Aggregate values**
  Calculate a single weighted value per alternative
- **Consider results**
  Review results with respect to weighting sensitivity or external criteria

Objective Tree

- Definition of all relevant goals and characteristics (high-level, detail) with respect to a given application domain
- Specific to each individual preservation setting
- Based on Generic Objective Tree



Software



- Software support for the evalutation process (Web based, JSP, MySql)
- Single performance value for each alternative to rank the alternatives
- Single performance values for each alternative for each sub-set of criteria to identify the best combination of alternatives
- List of preservation alternatives ranked by performance

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