

Tutorial: Long Term Preservation of digital assets: basics concepts and practices

PLANETS project tools: The Planets Interoperability Framework, the Testbed, Plato, and XCL related tools for preservation planning in cultural heritage institutions.

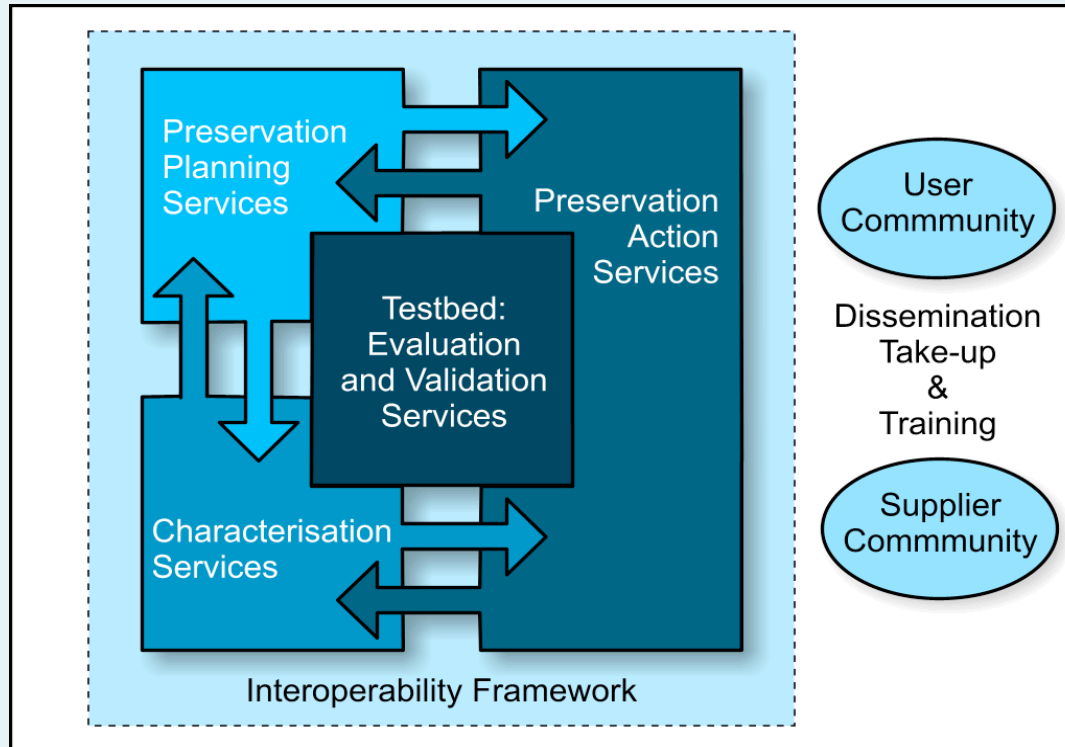
Sven SCHLARB
Austrian National Library, PLANETS project

Overview

- ❑ The Planets Project
- ❑ XCL Software Suite
- ❑ Plato - Preservation Planning Tool
- ❑ The Testbed

The Planets Project*

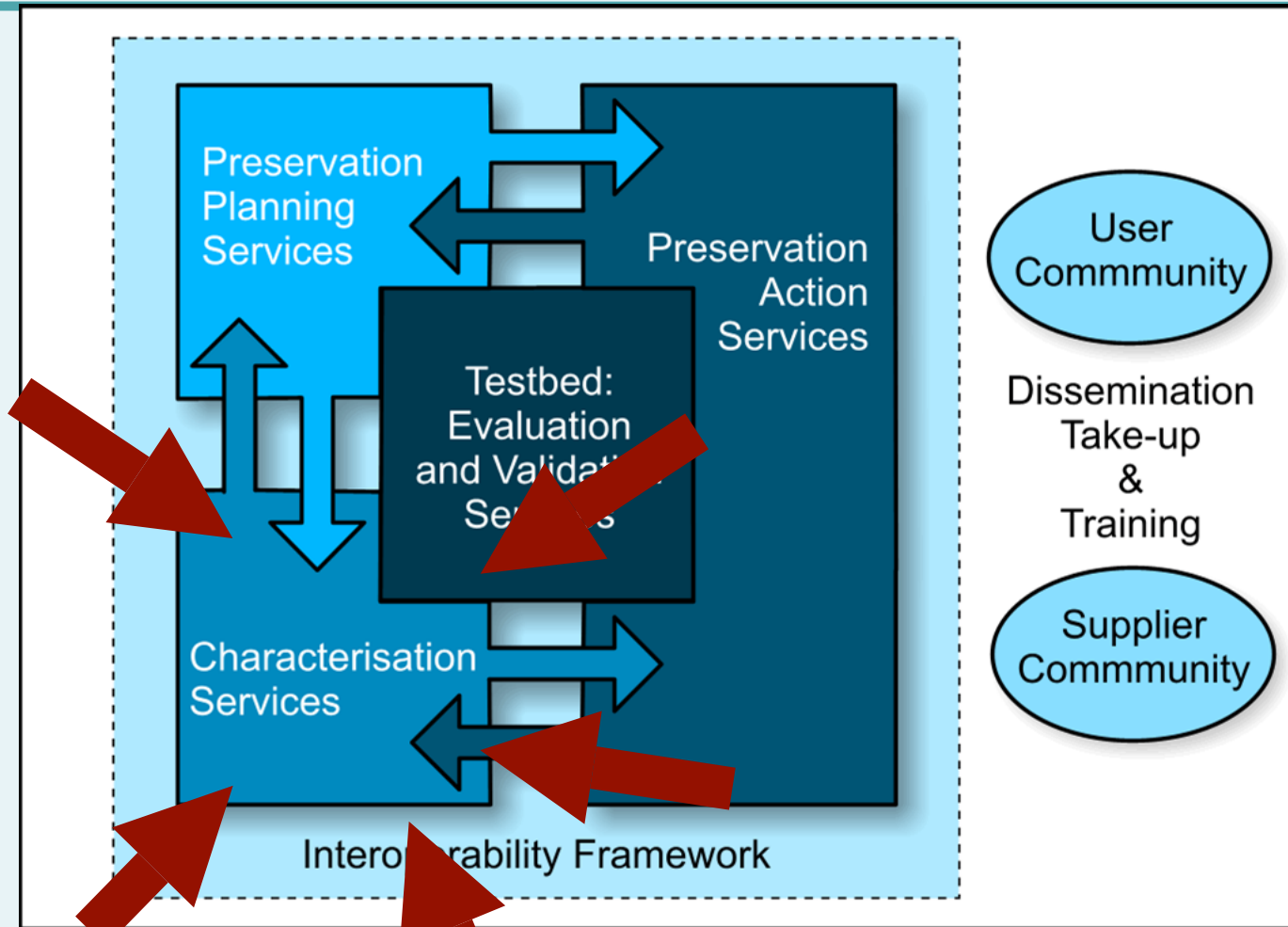
Preservation and Long Term access through NETworked Services



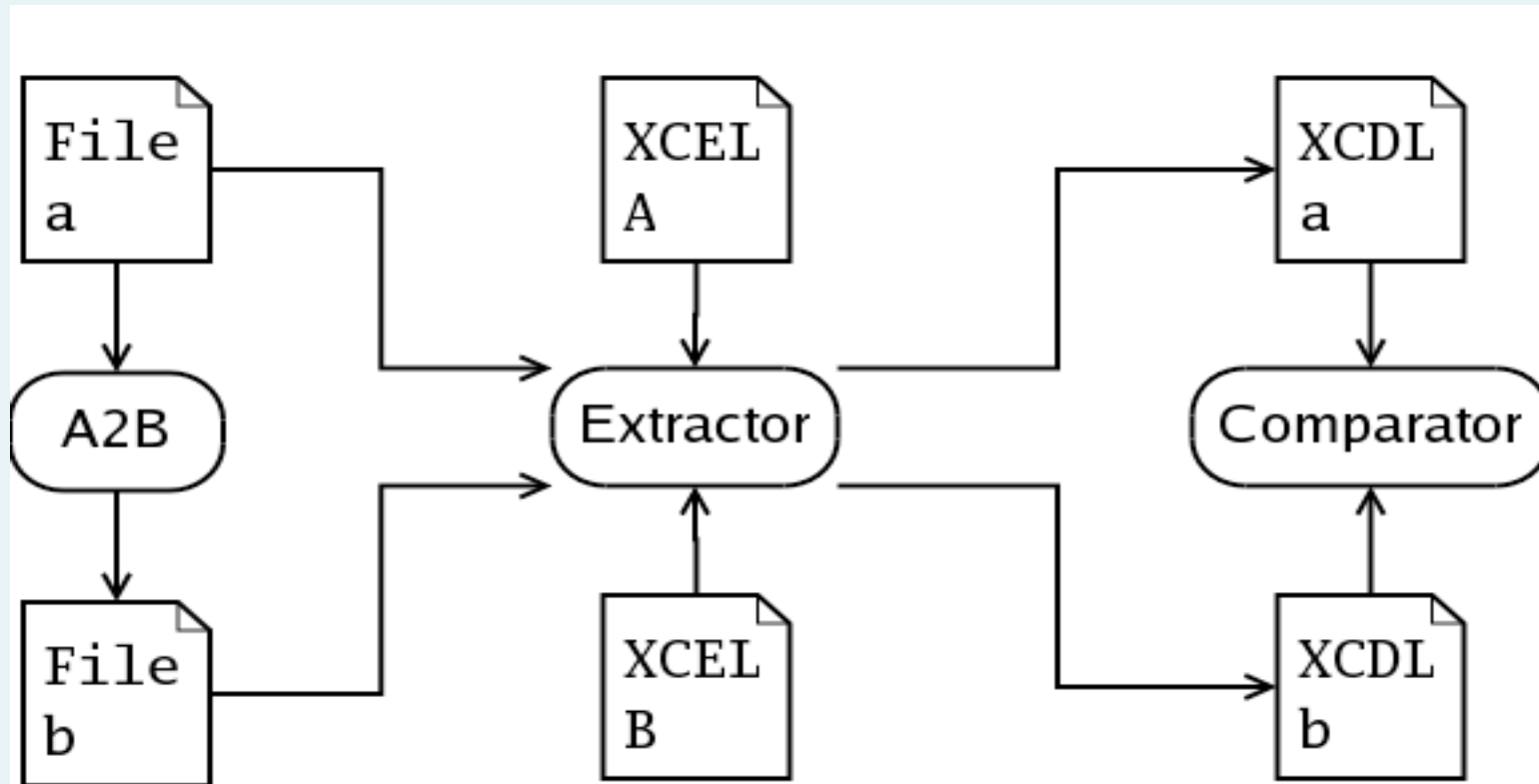
** co-founded by the European Commission, 6th Framework Programme (IST)*



XCL



XCL - Extractor/Comparator



XCL – Properties Extraction using XCEL

XCEL (Extensible Characterisation Extraction Language)

```
<symbol value="137 80 78 71 13 10 26 10"/>
```

```
<symbol interpretation="uint32" length="4"/>
```

```
<symbol value="IHDR" interpretation="ASCII">
```

```
<symbol interpretation="uint32"  
  name="imageWidth" length="4"/>
```

Natural Language

„The first eight bytes of a PNG datastream always contain the following (decimal) values: 137 80 78 71 13 10 26 10 [...]

The four-byte chunk type field contains the decimal values 73 72 68 82[.] The IHDR chunk shall be the first chunk in the PNG datastream. It contains: Width 4 bytes [...]

Width and height give the image dimensions in pixels.

They are PNG four-byte unsigned integers. Zero is an invalid value.“

(<http://www.w3.org/TR/PNG/>)



XCL - General Data Representation with XCDL

(Extensible Characterisation Definition Language)

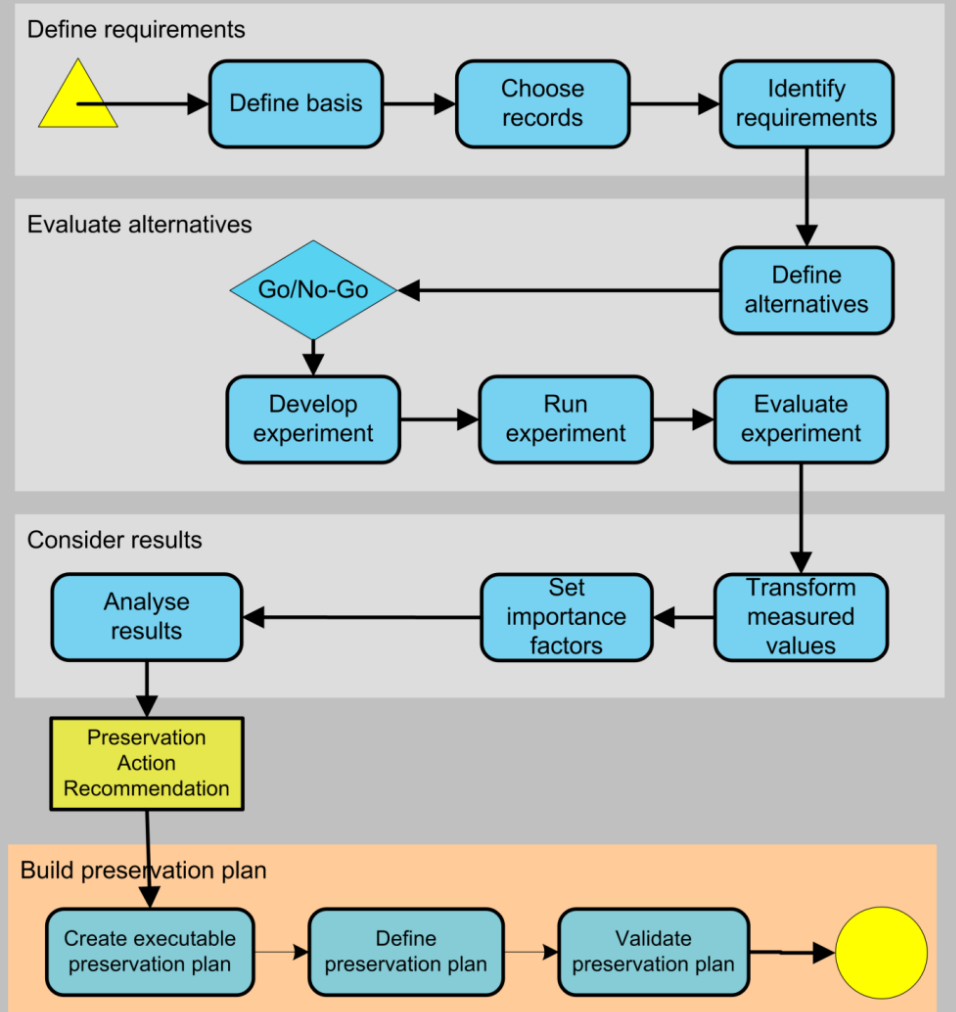
```
<object id="o1" >
  <normData type="image" id="nd1" >00 01 02 03 04 05 06 07 08 09
0a 0b 0c 0d 0e 0f 10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d ...
  </normData>
  <property id="p13" source="raw" cat="descr" >
    <name id="id2" >imageHeight</name>
    <valueSet id="i_il_s10" >
      <labValue>
        <val>32</val>
        <type>int</type>
      </labValue>
    </valueSet>
  </property>
  <property id="p14" source="raw" cat="descr" >
    <name id="id30" >imageWidth</name>
    <valueSet id="i_il_s8" >
      <labValue>
        <val>32</val>
        <type>int</type>
      </labValue>
    </valueSet>
  </property> ...
</object>
```



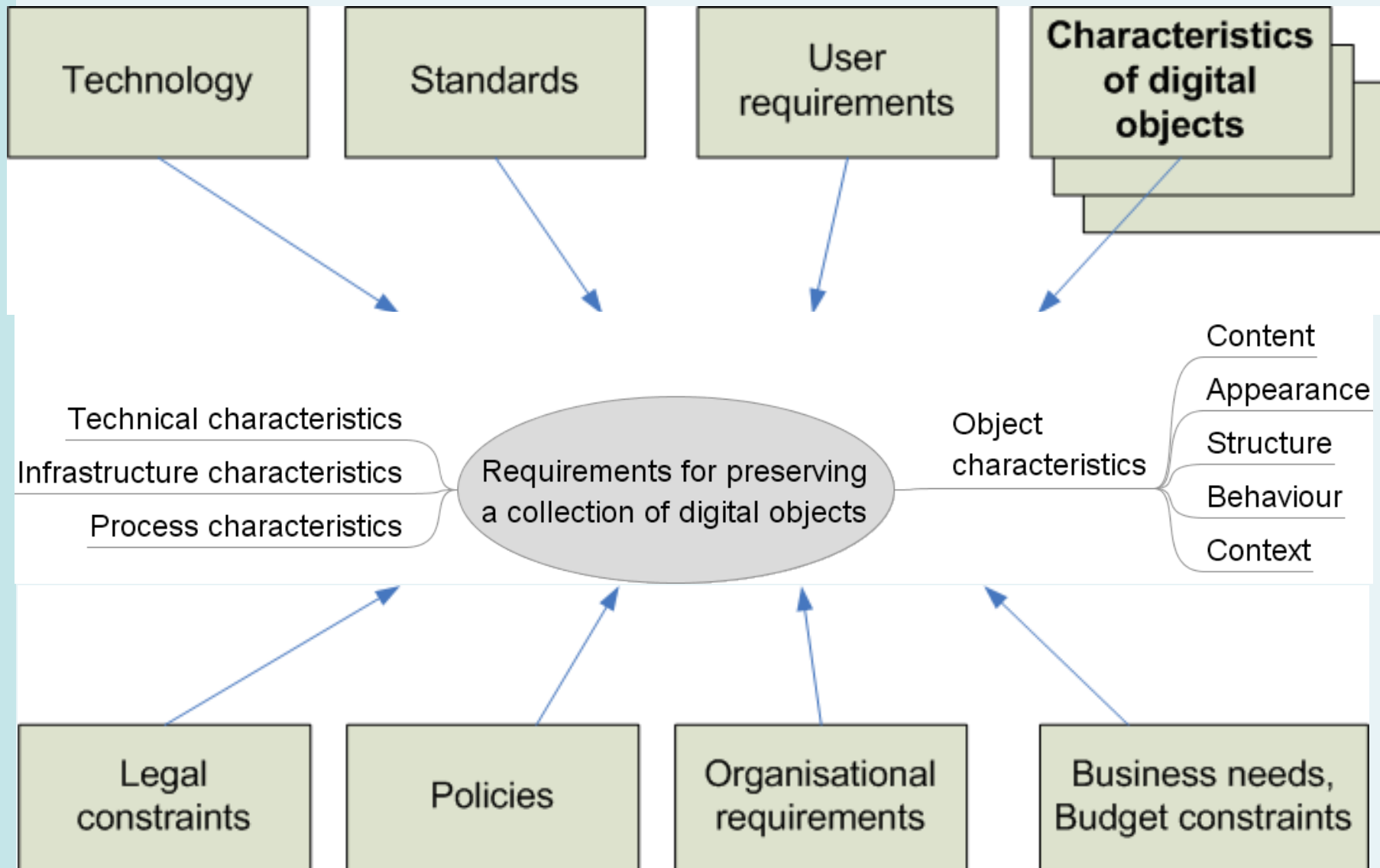
Plato

- ❑ Define requirements
 - ❑ Basis
 - ❑ Sample objects
 - ❑ Requirements
- ❑ Evaluate potential actions
- ❑ Analyse results
- ❑ Build a preservation plan

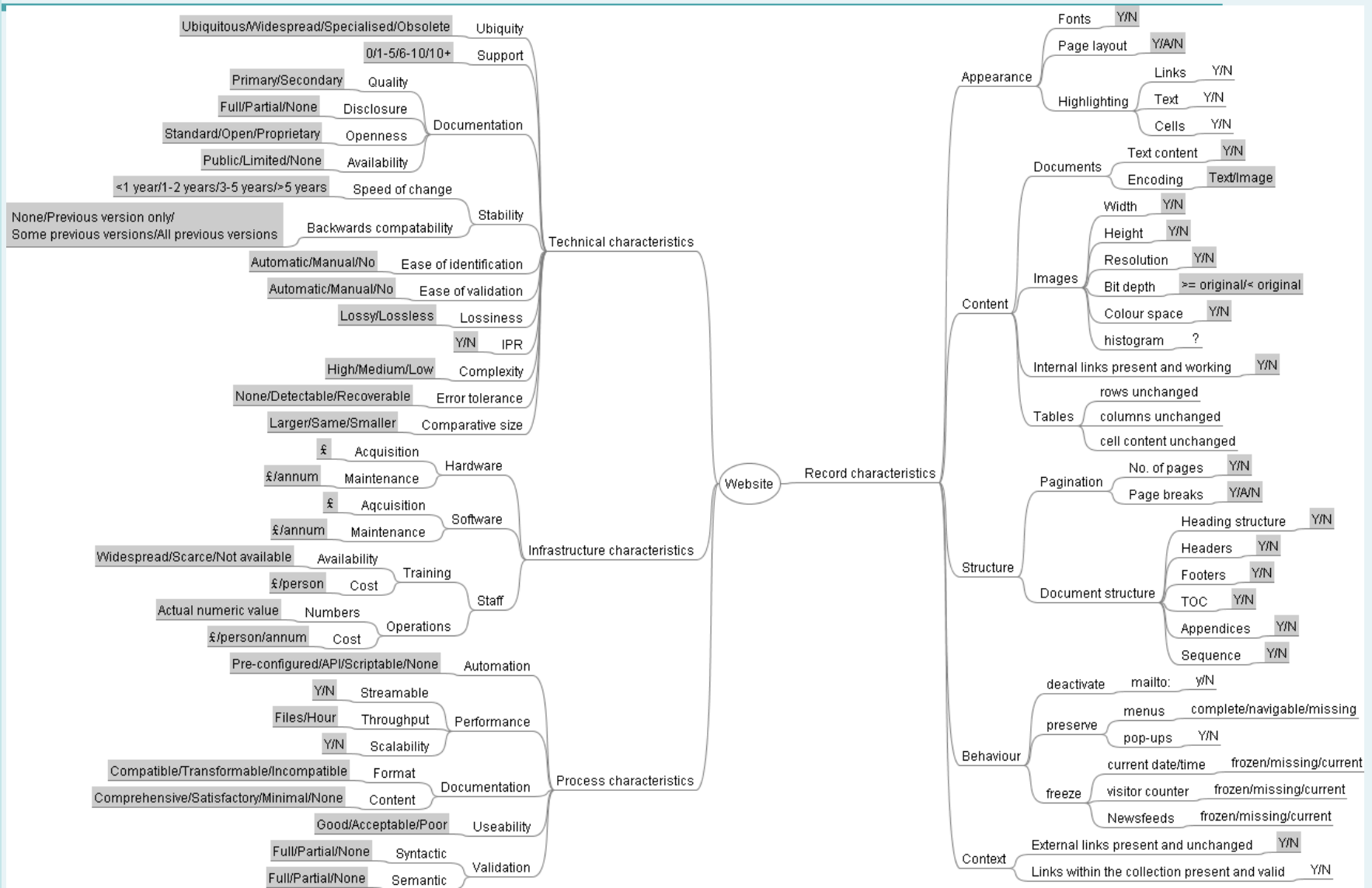
Preservation Planning workflow



Plato – Creating the objective tree



Plato - An Objective Tree



The Testbed

„*The Planets Testbed is a **controlled environment for experimentation** in digital preservation. It allows for **systematic and empirical analysis of existing (preservation) tools** on various digital object types (e.g. text, image, audio, video) and with **predefined and well described content (corpora)**.*“

(Testbed Key messages, December 2008)



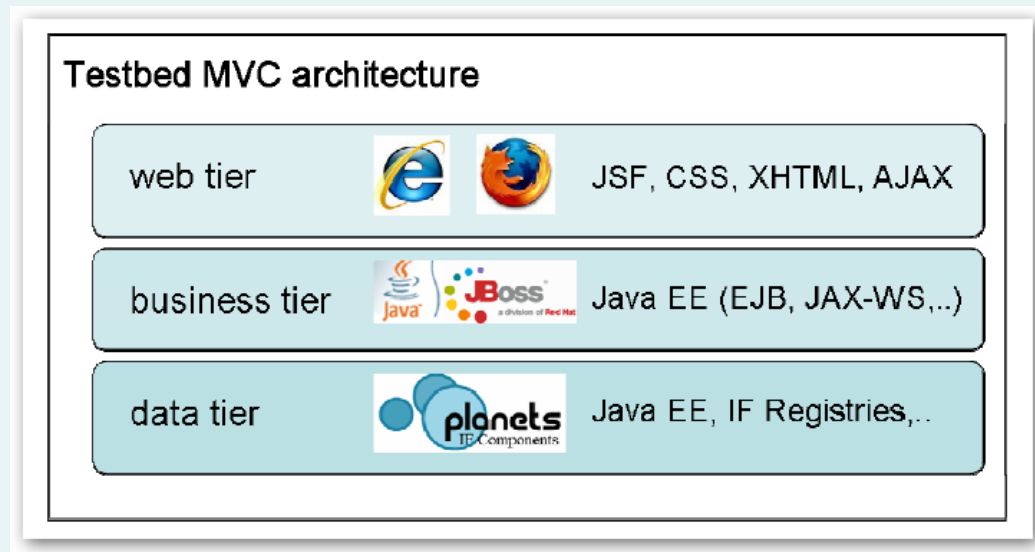
The Testbed – Overview

- ❑ It allows to execute experiments on a variety of preservation tools and services
- ❑ It has a central instance for the community and also a downloadable instance for local installation
- ❑ It is part of the overall Planets software suite and integrated with other Planets software



The Testbed – Architecture

- ❑ Platform independent, robust and scalable
 - Java Enterprise Edition
- ❑ Web Service approach: Tools wrapped as web services



The Testbed – What does it provide?

- ❑ Methodology for systematic execution of experiments
 - 6-step workflow
- ❑ Long-term availability of experiment documentation
- ❑ Shared access to the experiments
 - Comparison of experiments results
 - Reproducibility of experiments
- ❑ Partly automated evaluation of experiment results
 - Integration within Preservation Planning



The Testbed – What does it provide?

- ❑ a Central Instance of the Testbed
 - Integrated preservation tools and services for experimentation
 - Integrated Planets Comparator and XC*L language

- ❑ Structured files to test with (Testbed Corpora)
 - +4500 annotated files
 - Wide range of files and formats



The Testbed – Experiment Process



The Testbed – Experiment Process

Design Experiment



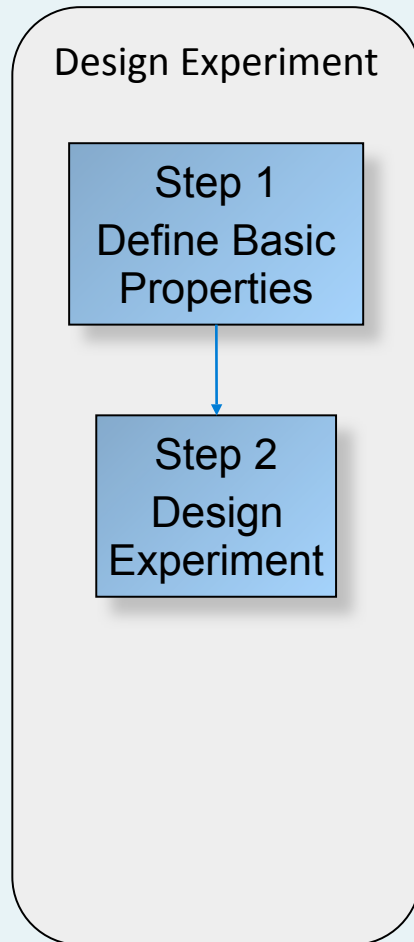
The Testbed – Experiment Process

Design Experiment

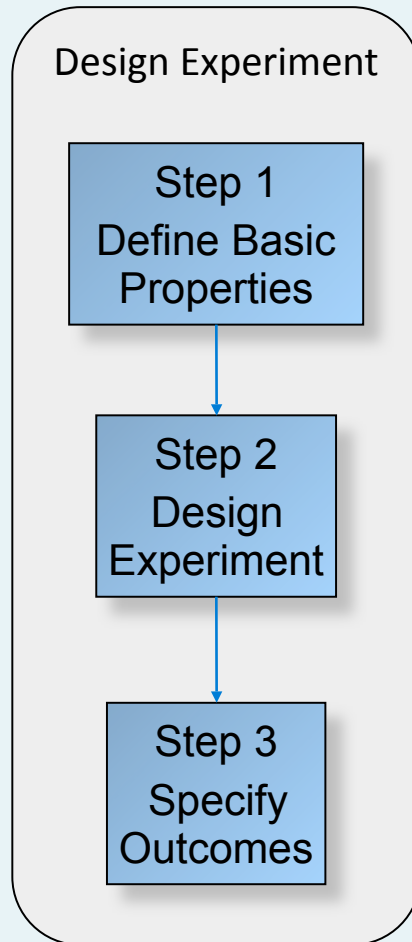
Step 1
Define Basic
Properties



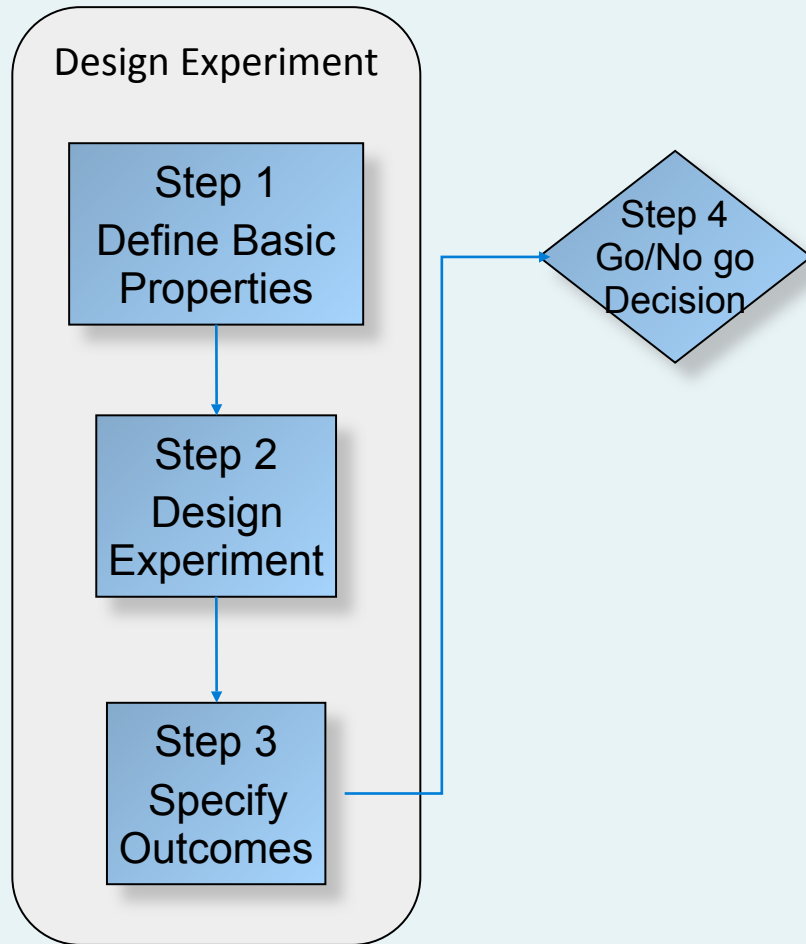
The Testbed – Experiment Process



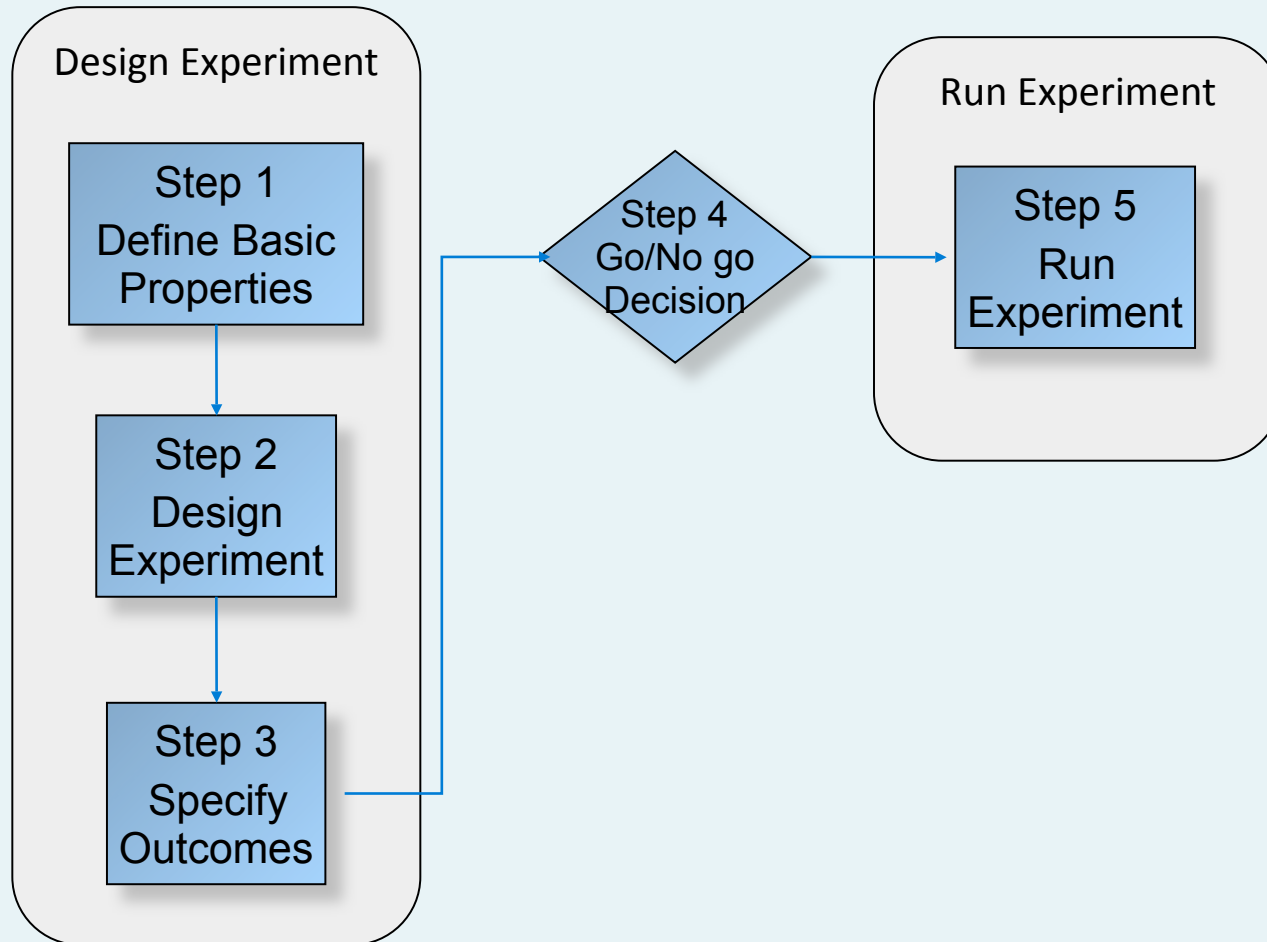
The Testbed – Experiment Process



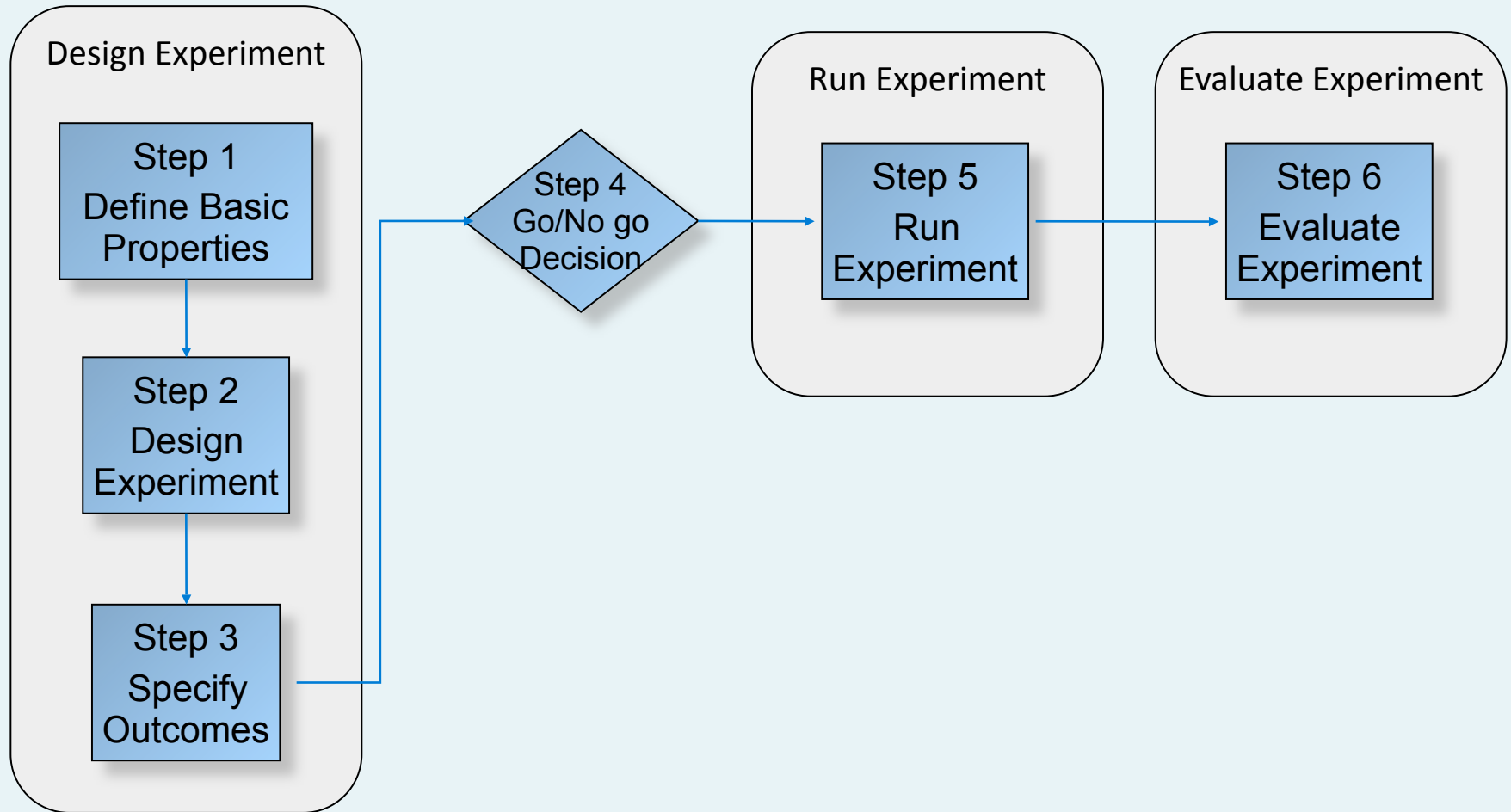
The Testbed – Experiment Process



The Testbed – Experiment Process



The Testbed – Experiment Process



THANK YOU!

- PLANETS

 - www.planets-project.eu

- Plato - Preservation Planning Tool

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

- The Testbed

 - <https://testbed.planets-project.eu/testbed>

- XCL Software Suite

 - http://planetarium.hki.uni-koeln.de/planets_cms/about-xcl

