Schedule

11:00-11:30	Reporting back
11:30-12:00	Objective Trees: Goals and requirements
12:00-12:01	Take coffee ☺
12:01-13:00	Exercise: Goals and requirements
13:00-14:00	Lunch break

Planning the Future with Planets
April 14-15 2008, Vienna, Austria

The Objective Tree: Defining goals and requirements

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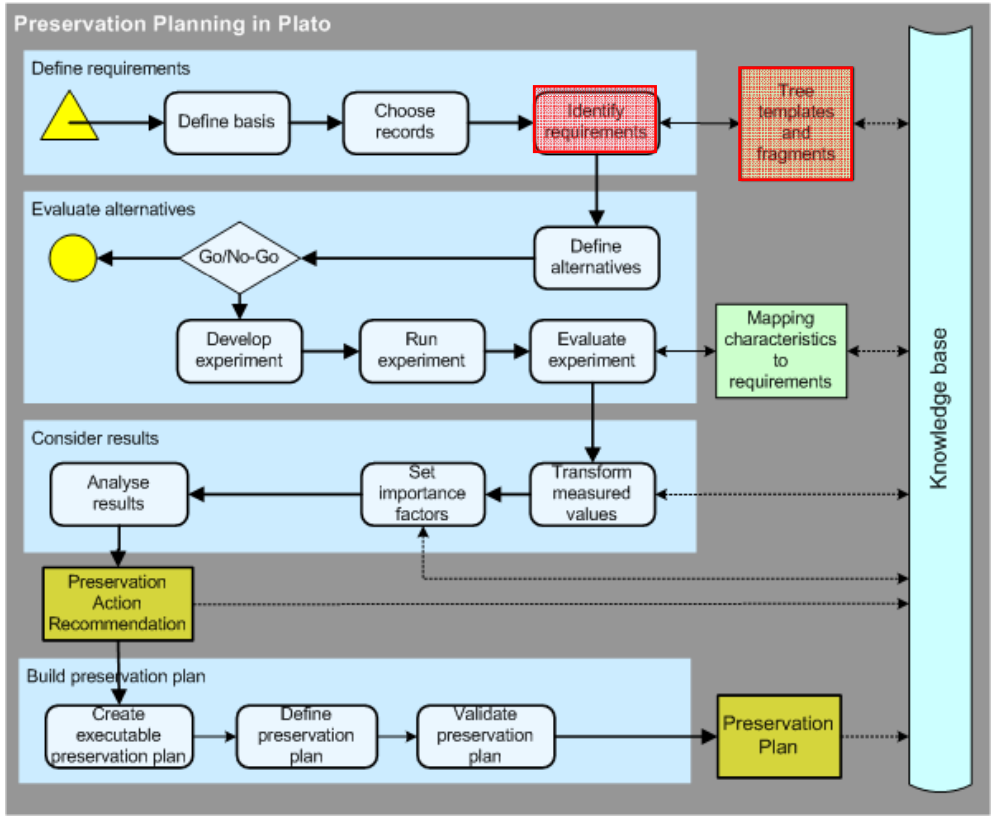
Agenda

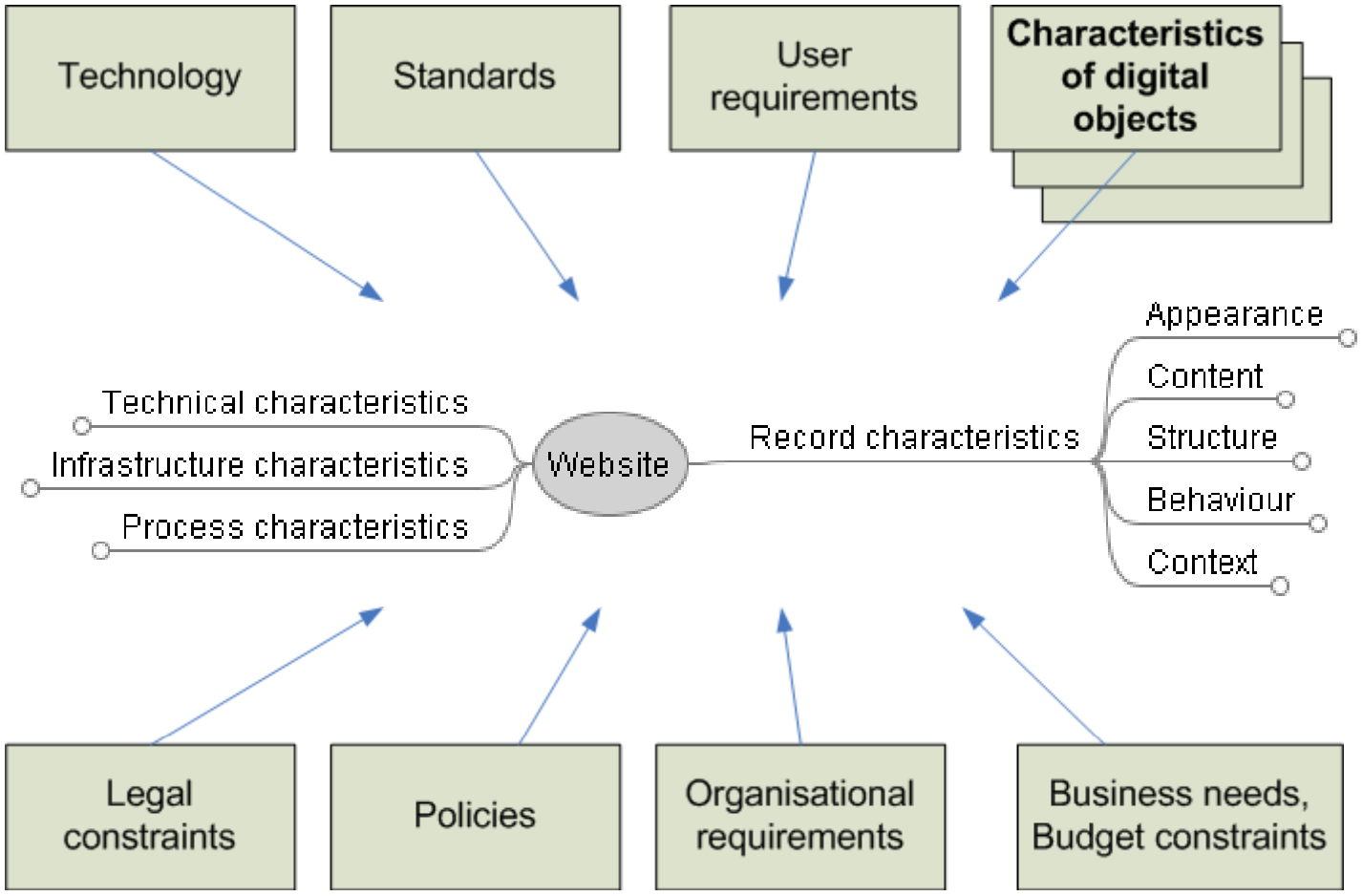
- Requirements definition in the Planets Preservation Planning methodology
- Constructing objective trees
- Examples
- Tool support
- Outlook



The Objective Tree

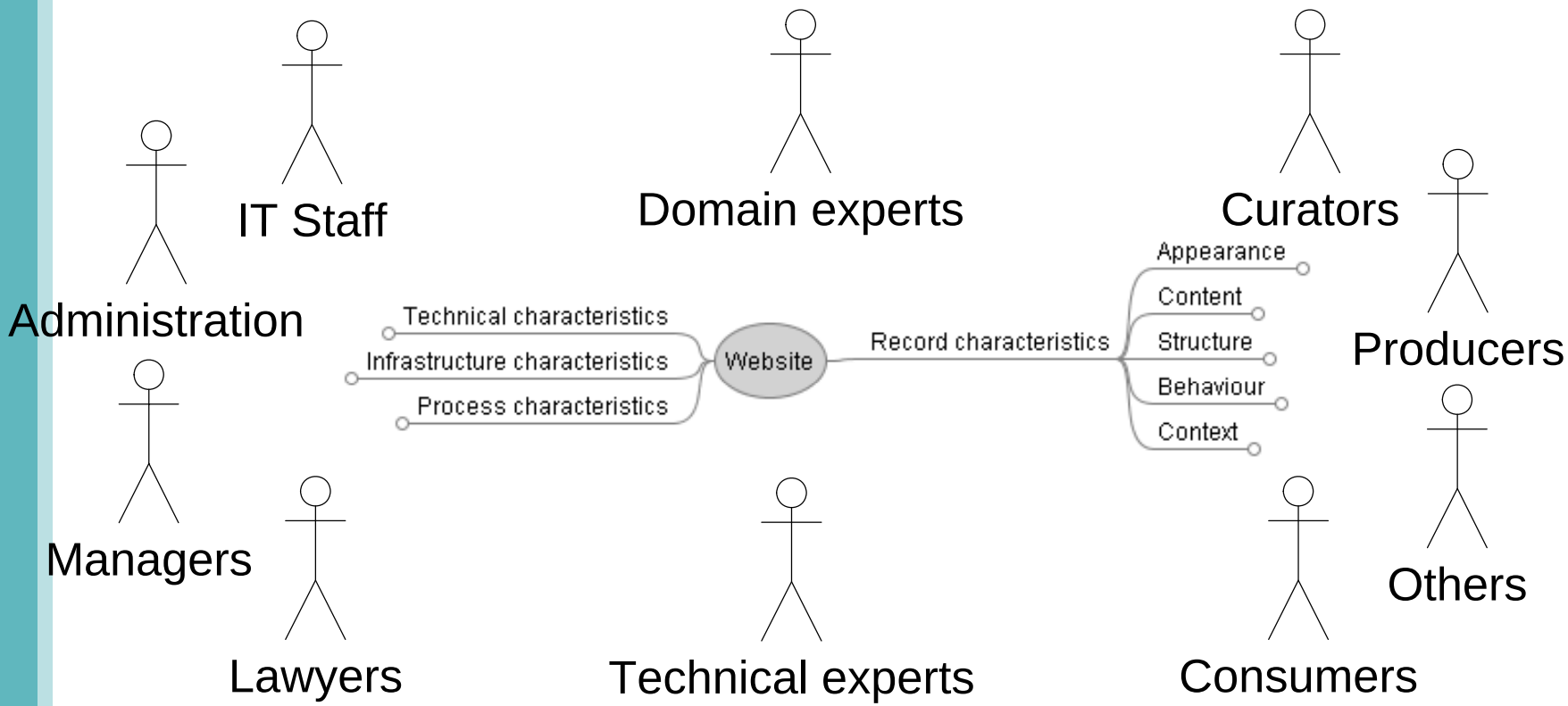
- Define all relevant goals and characteristics (high-level, detail) with respect to a given application domain
- Put the requirements in relation to each other
  → Tree structure
- Top-down or bottom-up
  - Start from high-level goals and break down to specific criteria
  - Collect criteria and organize in tree structure

Influence Factors

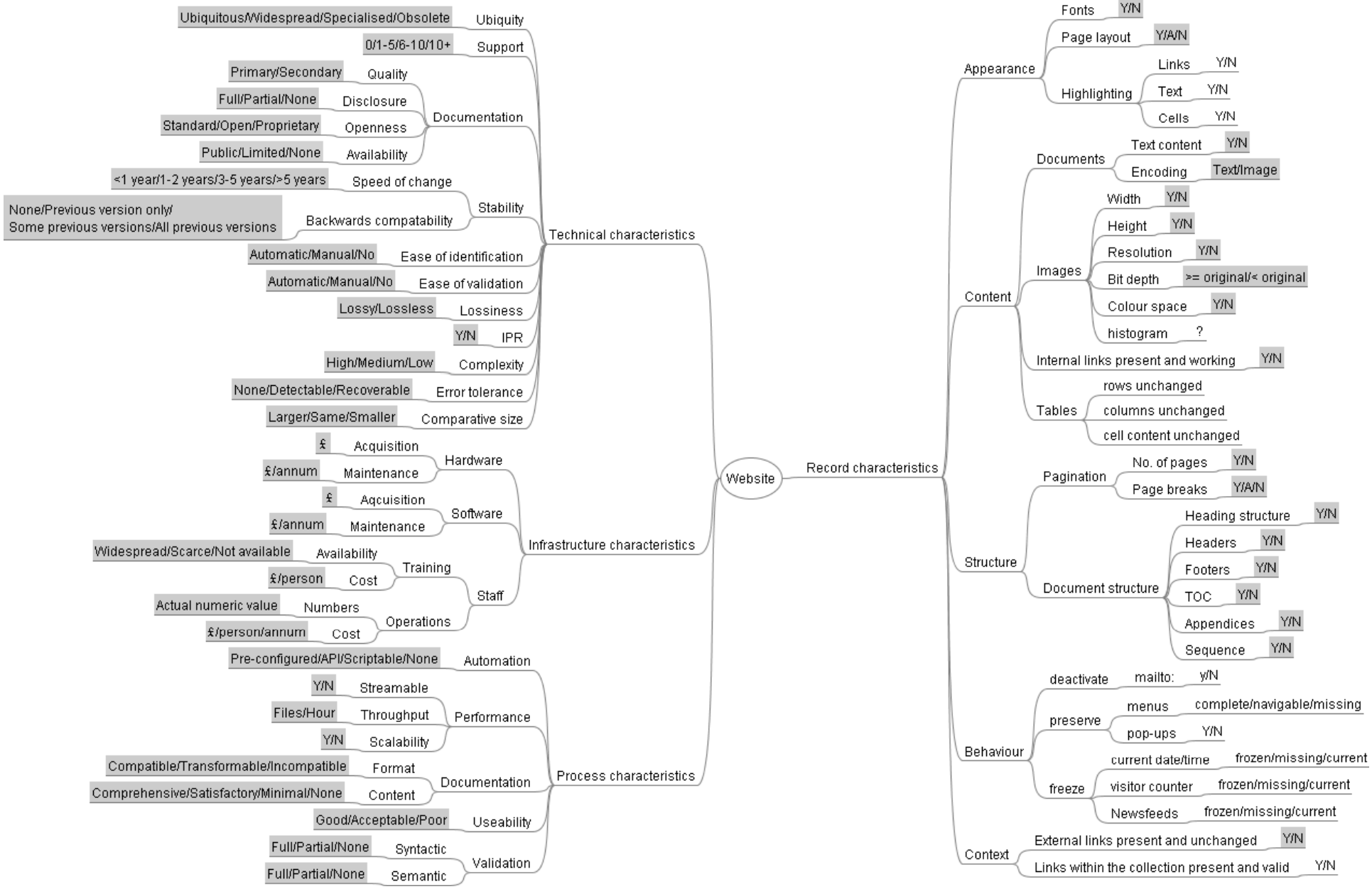


Stakeholders

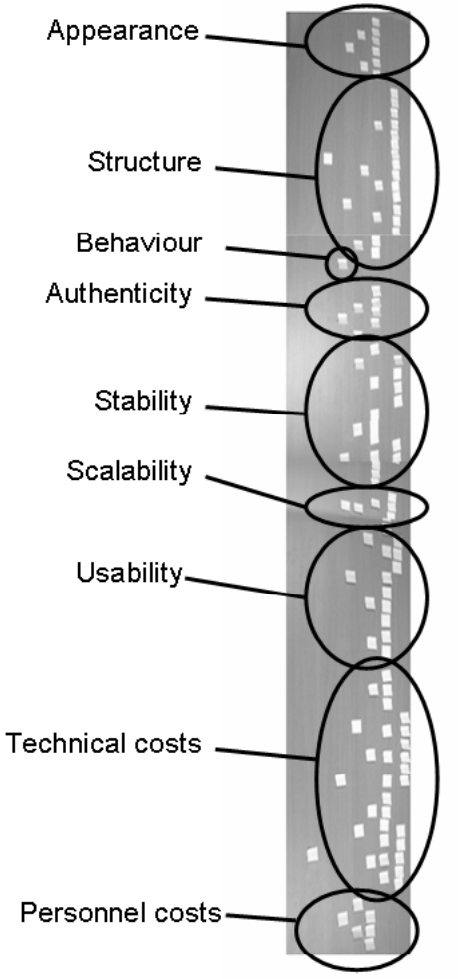
- Input needed from a wide range of persons, depending on the institutional context and the collection



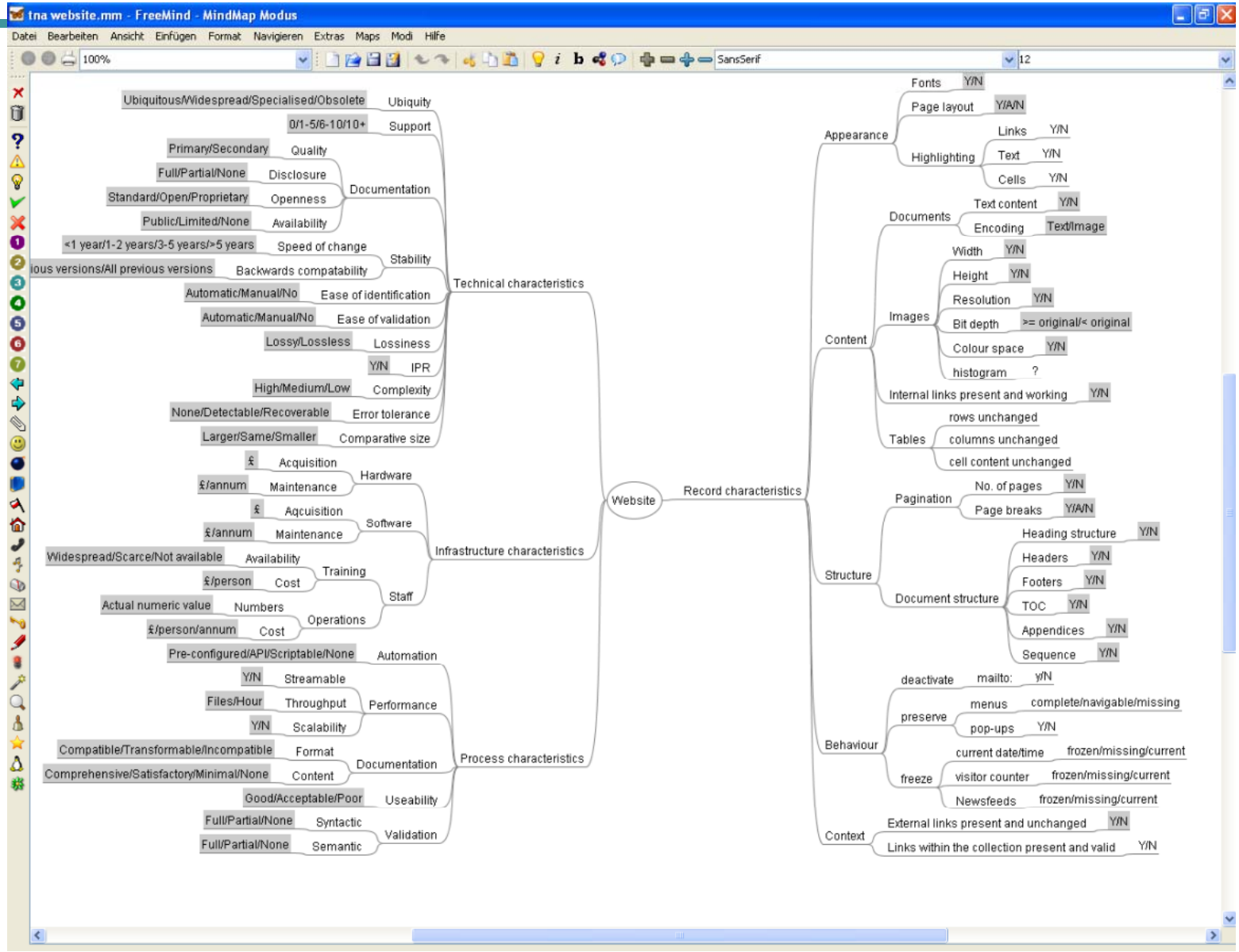
The Objective Tree



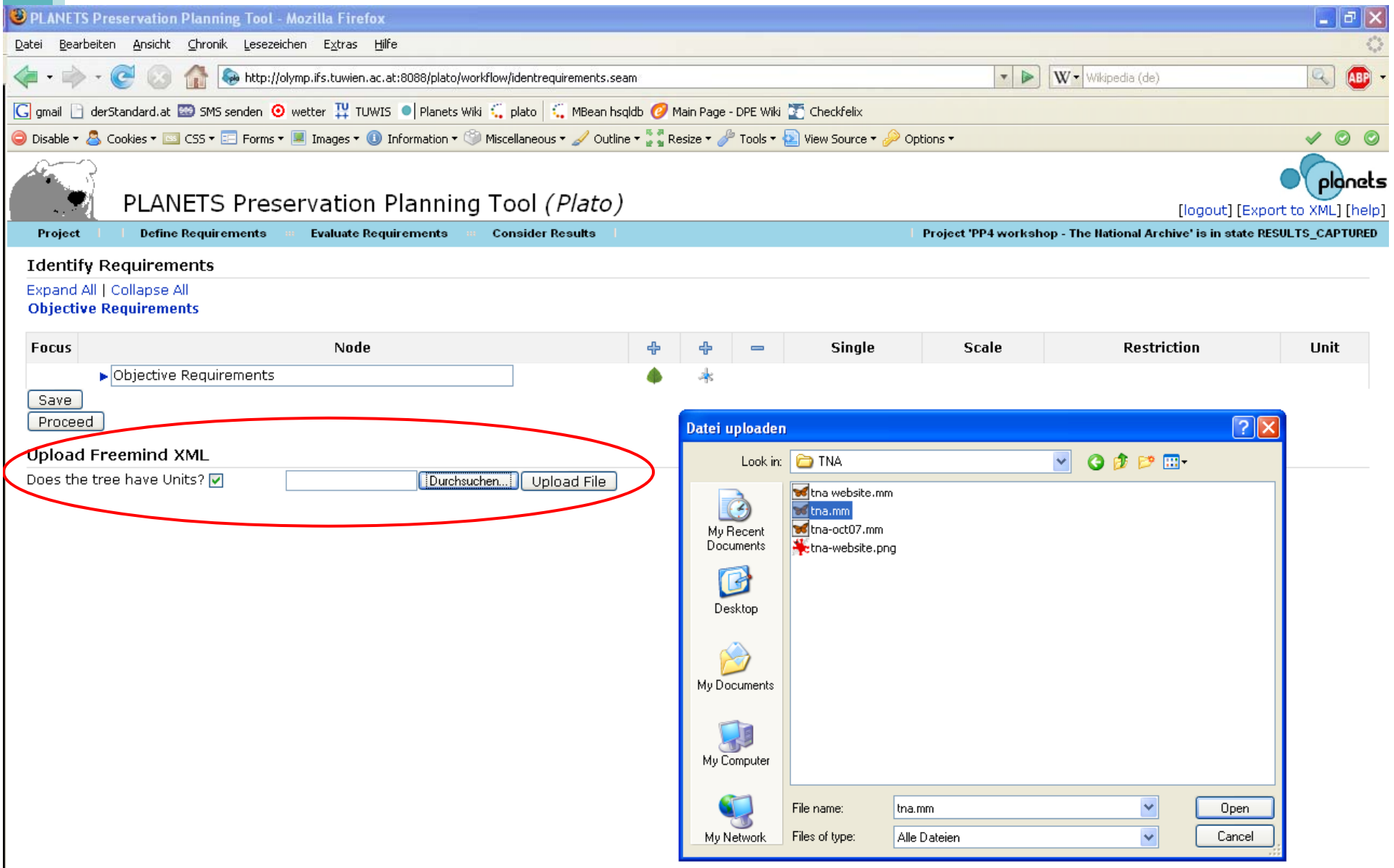
Analog…


Appearance
Structure
Behaviour
Authenticity
Stability
Scalability
Usability
Technical costs
Personnel costs

… or born-digital



Importing objective trees



Objective Tree

PLANETS Preservation Planning Tool *(Plato)*

planets

[logout becker] [help]

Project | Define Requirements ::: Evaluate Requirements ::: Consider Results | PP4 workshop - The National Archive

Identify Requirements

Objective Tree
Descriptive Information

How can I define the objective tree?

[↑] Objective Tree

Expand All | Collapse All

Website

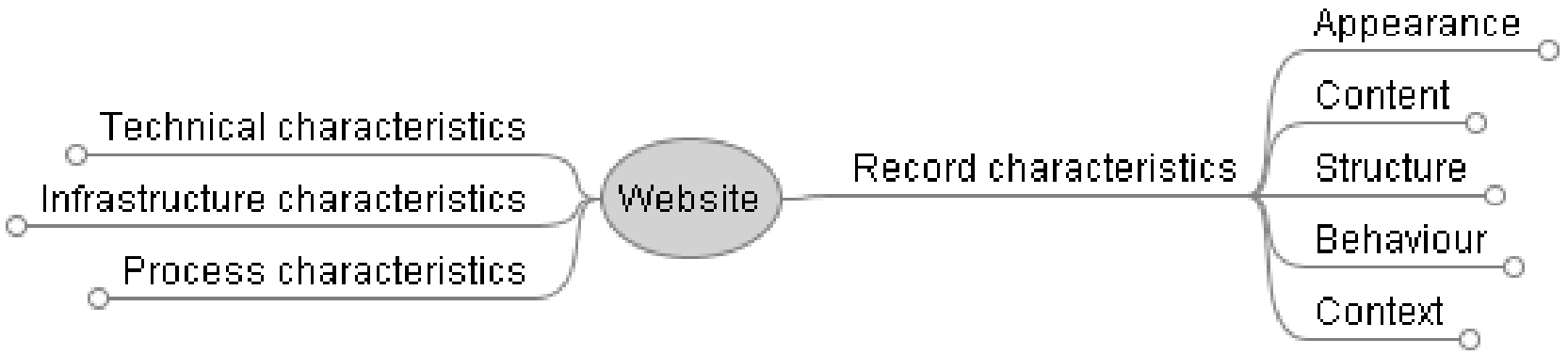
Focus	Node	Single	Scale	Restriction	Unit
	▼ Website				
X	▶ Record characteristics				
X	▼ Technical characteristics				
X	▶ Ubiquity	☐	Ordinal	Ubiquitous/Widespread/Specia	
X	▼ Support	☐	Positive Integer		number of tools
X	▶ Documentation				
X	▶ Stability				
X	▶ Ease of identification	☐	Ordinal	Automatic/Manual/No	
X	▶ Ease of validation	☐	Ordinal	Automatic/Manual/No	
X	▶ Lossiness	☐	Ordinal	Lossy/Lossless	
X	▶ IPR	☐	Boolean	Yes/No	
X	▶ Complexity	☐	Ordinal	High/Medium/Low	
X	▶ Error tolerance	☐	Ordinal	None/Detectable/Recoverable	

Release 1.1 - Institute of Software Technology and Interactive Systems: «off-ice bears»

Quick Access:

Case Study: Web archiving

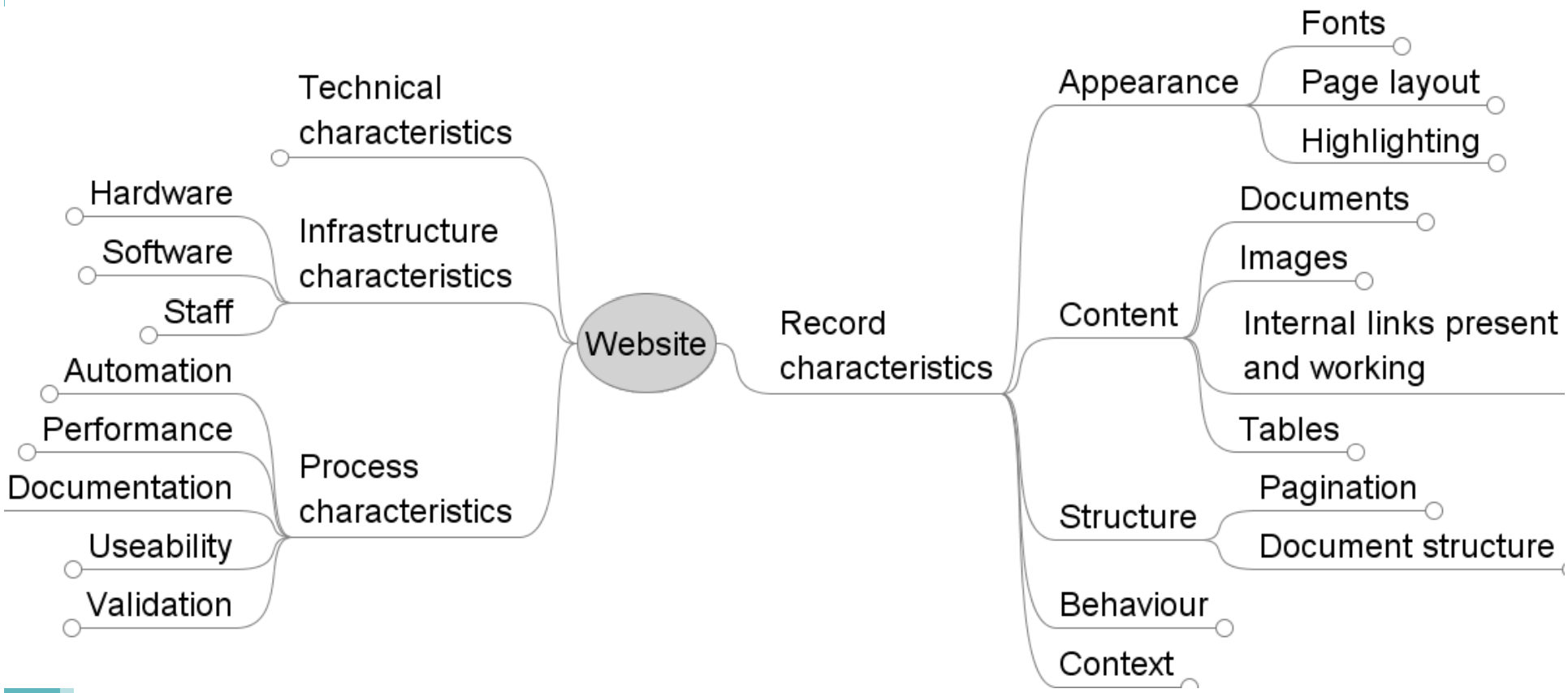
- Static web pages from the public domain
- Includes documents in formats such as doc, pdf
- Images
- No interactive content shall be preserved



Object characteristics

- Content
- Structure
- Appearance
- Behaviour
- Context

A bit more detail…



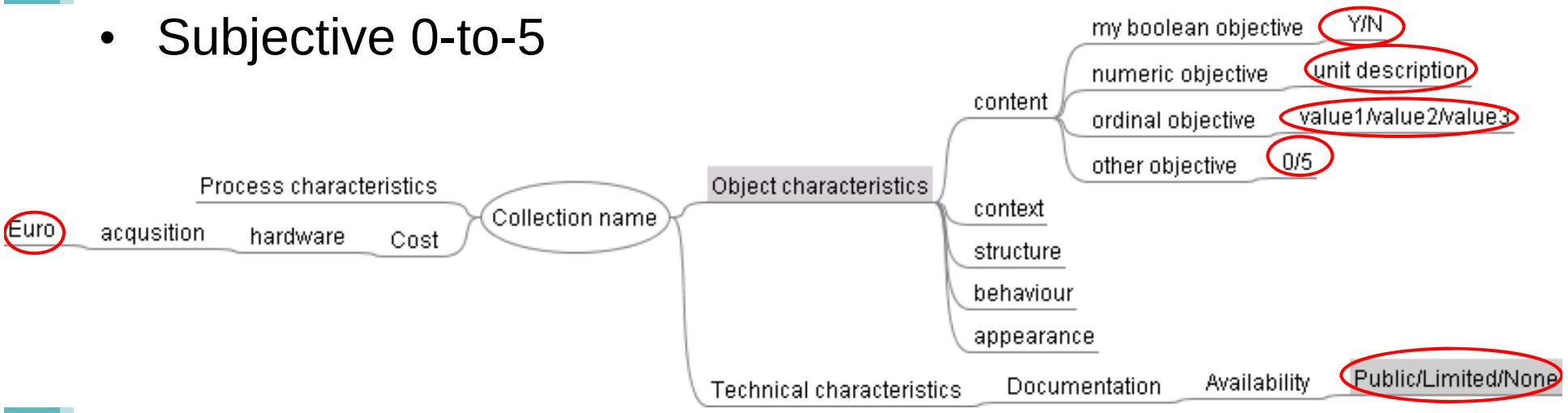
Assign Measurable Units

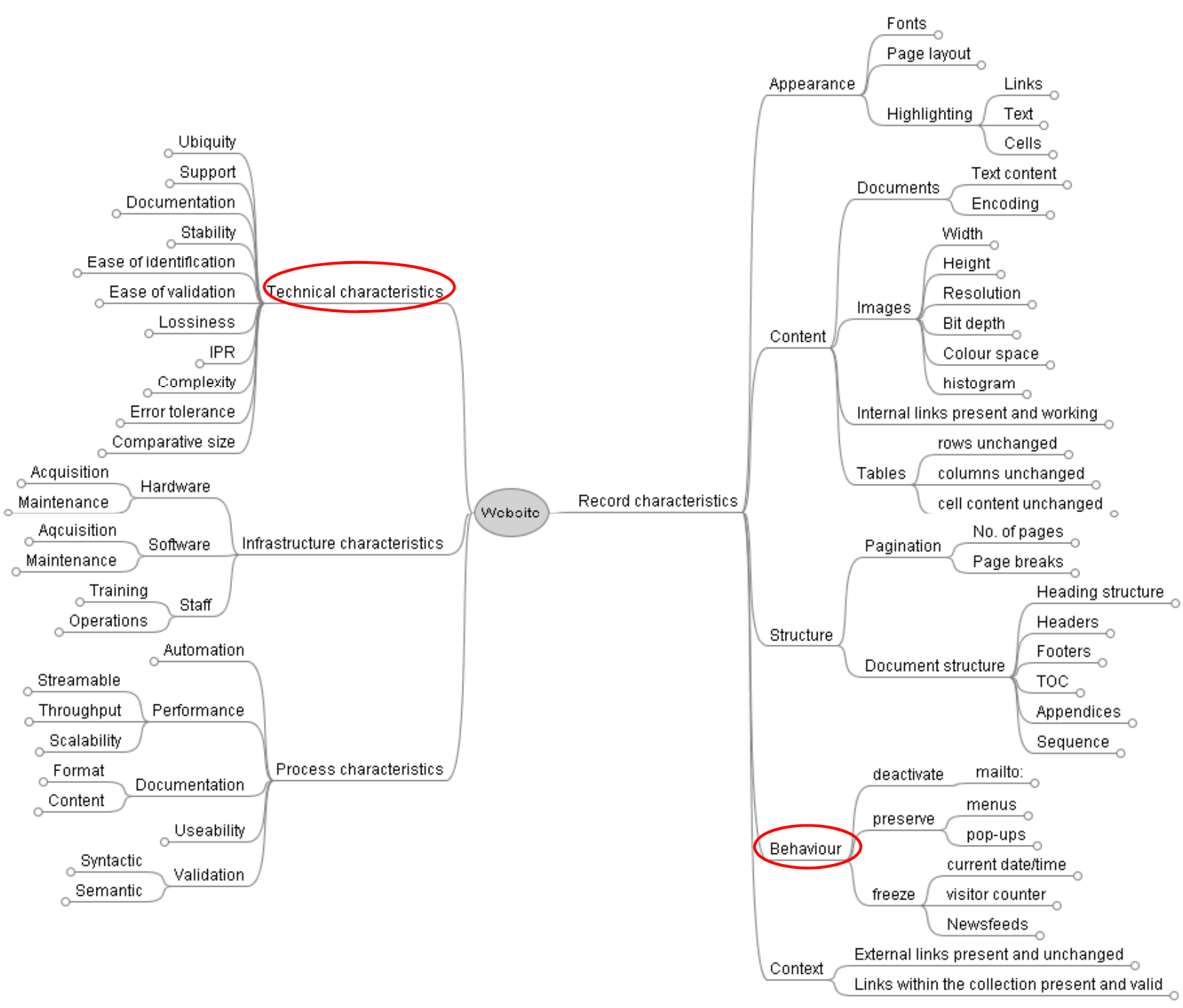
- Leaf criteria should be objectively measurable
  - Seconds per object
  - Euro per object
  - Bits of colour depth
- Subjective scales where necessary
  - Adoption of file format
  - Amount of (expected) support

➢ Quantitative results

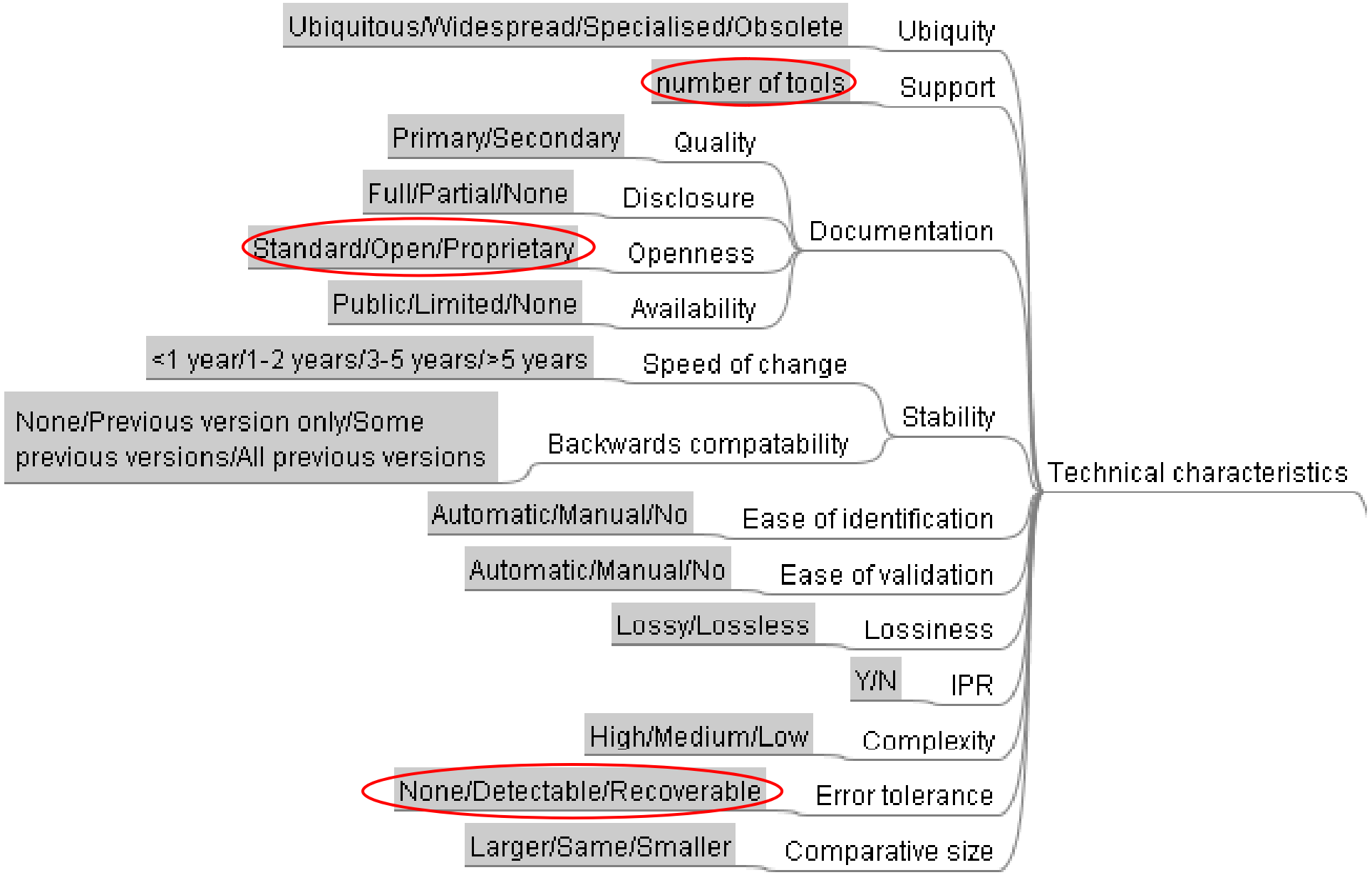
Types of scales

- Numeric
- Yes/No (Y/N)
- Yes/Acceptable/No (Y/A/N)
- Ordinal: define the possible values
- Subjective 0-to-5

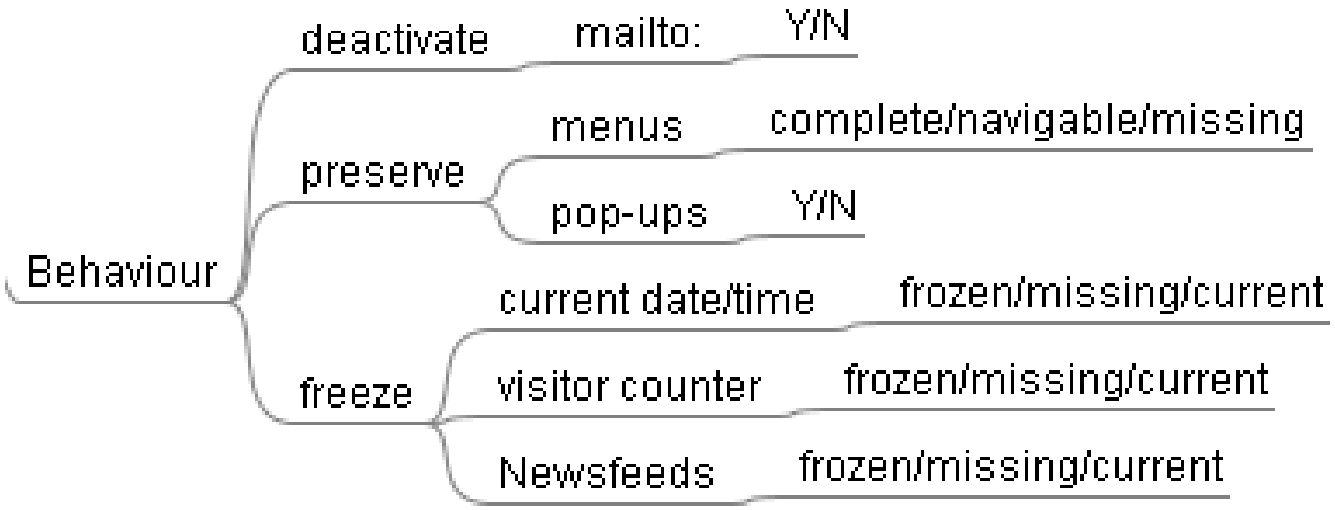



Website
Record characteristics
Technical characteristics
Ubiquity
Support
Documentation
Stability
Ease of identification
Ease of validation
Lossiness
IPR
Complexity
Error tolerance
Comparative size
Infrastructure characteristics
Hardware
Acquisition
Maintenance
Software
Aqcuisition
Maintenance
Staff
Training
Operations
Process characteristics
Automation
Performance
Streamable
Throughput
Scalability
Documentation
Format
Content
Useability
Validation
Syntactic
Semantic
Content
Appearance
Fonts
Page layout
Highlighting
Links
Text
Cells
Documents
Text content
Encoding
Images
Width
Height
Resolution
Bit depth
Colour space
histogram
Internal links present and working
Tables
rows unchanged
columns unchanged
cell content unchanged
Structure
Pagination
No. of pages
Page breaks
Document structure
Heading structure
Headers
Footers
TOC
Appendices
Sequence
Behaviour
deactivate
mailto:
preserve
menus
pop-ups
freeze
current date/time
visitor counter
Newsfeeds
Context
External links present and unchanged
Links within the collection present and valid

File format characteristics

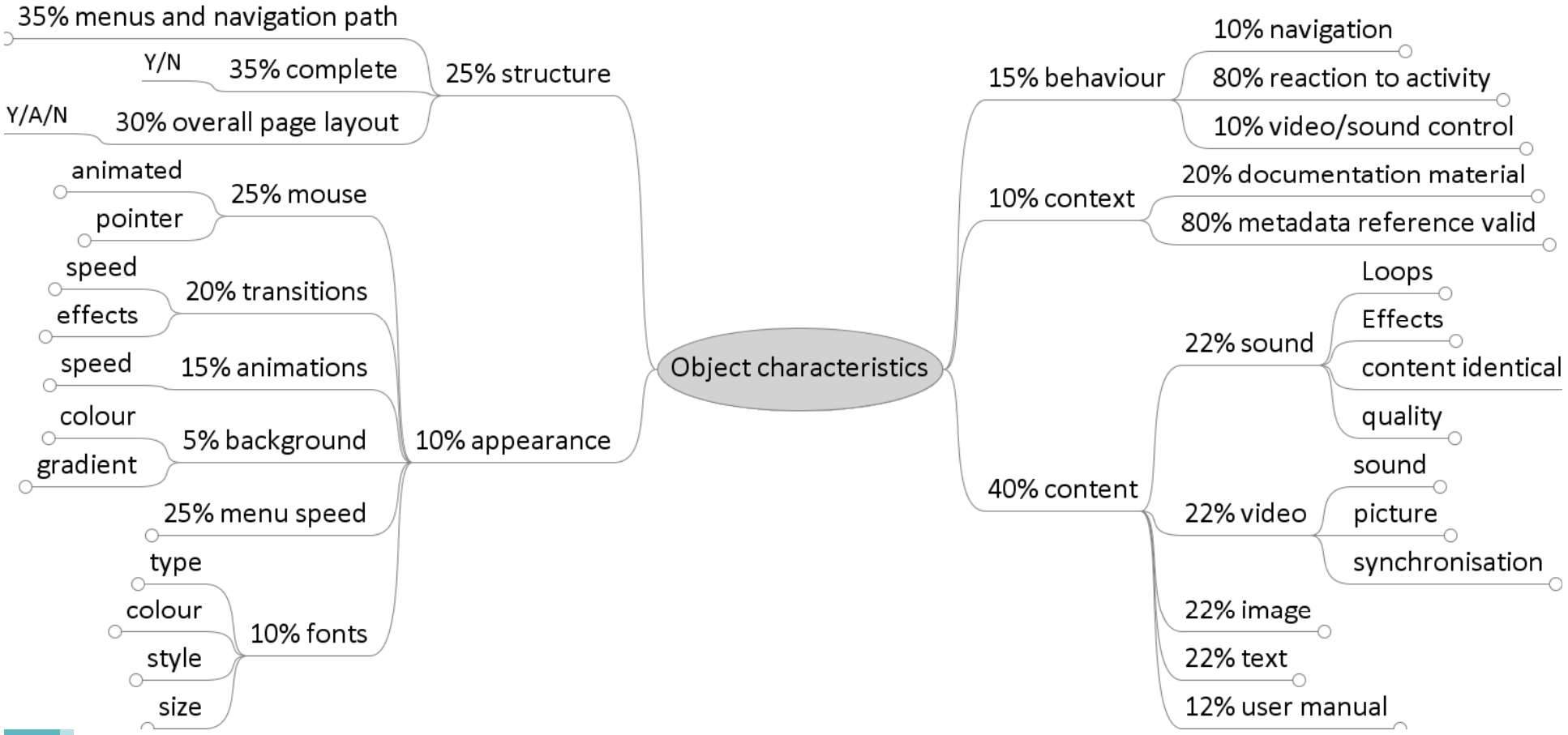


Behaviour



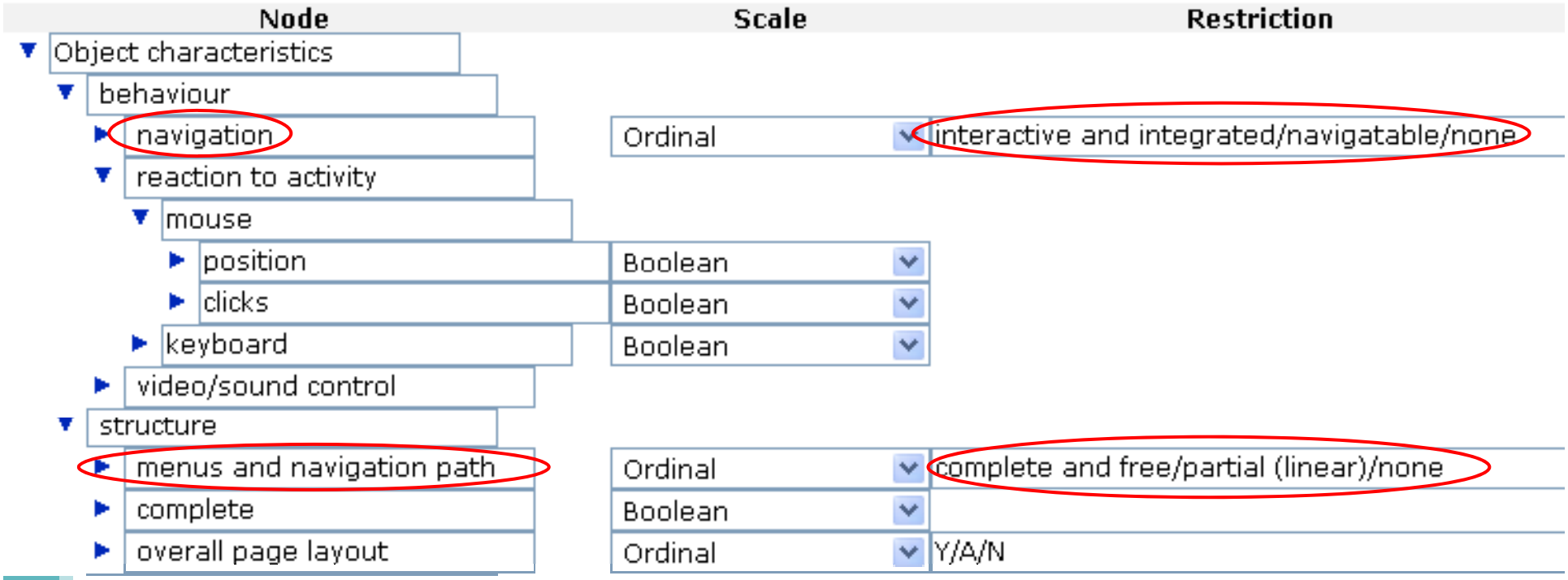
- Visitor counter and similar things can be
  - Frozen at the point of harvesting
  - Left out
  - Still counting while being accessed in the archive (Is this desirable?)

Interactive multimedia



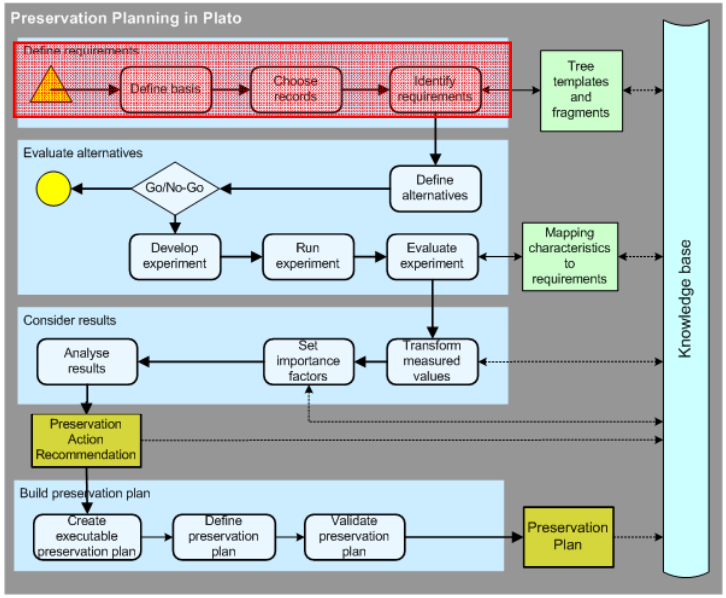
Behaviour

- Interactive presentations exhibit two facets
  - Graph-like navigation structure
  - Navigation along the paths



Results of Phase 1

- Defined and documented the context of a preservation problem
  - Which types of objects
  - Which environment
  - What are the obligations and constraints
- Defined and documented representative samples for performing experiments
- Defined and documented goals and requirements

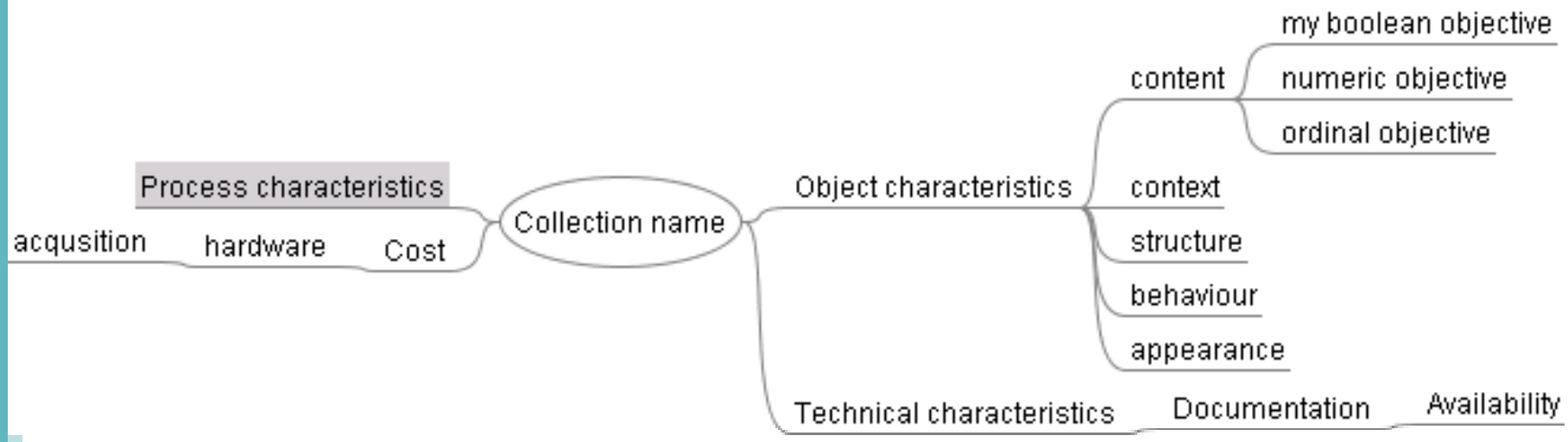


Practice time!

- How to construct the tree?
- With the open-source mind-mapping tool Freemind
  - USB stick with file and default mindmap
  - Java required
  - Freemind is installed in 20 seconds
- With post-it notes
  - Please recreate the tree in FreeMind
  - Tree is most readable on screen

The template

- This is *one* way to start
- Add (and remove) criteria as you like
- Adapt hierarchy as you deem appropriate



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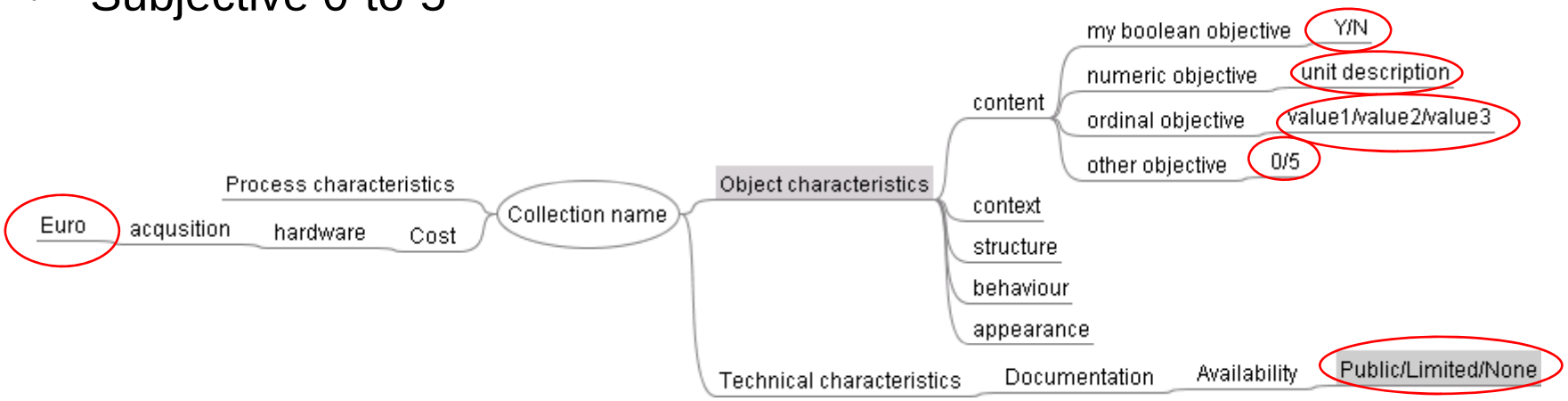

Remaining schedule	
now	Breakout session
14:10	**Report back and discuss**
	Outlook on tool support in Plato 2.0
14:45	Break

Outlook: Improving tool support

- Two key aspects:
  - Tree construction
  - Automatic evaluation
- Tree library contains templates and fragments
- Mapping of requirements to technical characteristics
  - Object properties can be extracted through characterisation tools such as the eXtensible Characterisation Languages (XC*L)
  - Format properties and risks can be retrieved from technical registries such as PRONOM
- ➢ Automating the evaluation of preservation actions

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Questions?

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