

XML-Query

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Aims of XML-Query

„The mission of the XML Query working group is to provide flexible query facilities to *extract data* from *real* and *virtual documents* on the Web, therefore finally providing the needed *interaction* between the web world and the database world.

Ultimately, *collections* of XML files will be accessed like *databases*.“

Goals of XML-Query

- Produce
 - a data model for XML-documents
 - a set of query operators
 - a query language based on these query operators
- Queries
 - based on single documents or fixed collections
 - to select whole documents or subtrees of documents

Usage of XML-Query

- Human-readable documents
 - Technical manuals, individual documents
- Data-oriented documents
 - Databases
- Mixed-model documents
 - Catalogs, patient health records
- Administrative data
 - Administrative logs, user profiles, configurations

Usage of XML-Query

- Native XML repositories and web servers
- Catalog search
 - Describe document servers, document types, XML schemas
- Multiple syntactic environments
 - Query embedded into an URL, represented in programming language, supported by protocols like Z39.50 or DASL

Syntax

- Language may have more than one syntax
- At least one syntax must be convenient for humans to read and write
- At least one syntax must be expressed in XML, reflecting the underlying structure of the query

Declarativity

- Language must be declarative
- It must not enforce a particular strategy

Protocol independence

- Language must be defined independently of any protocols with which it is used.

Error conditions

- Language must define standard error conditions, that can occur during the execution of a query.
- Error handling while usage of and from external functions must be defined.

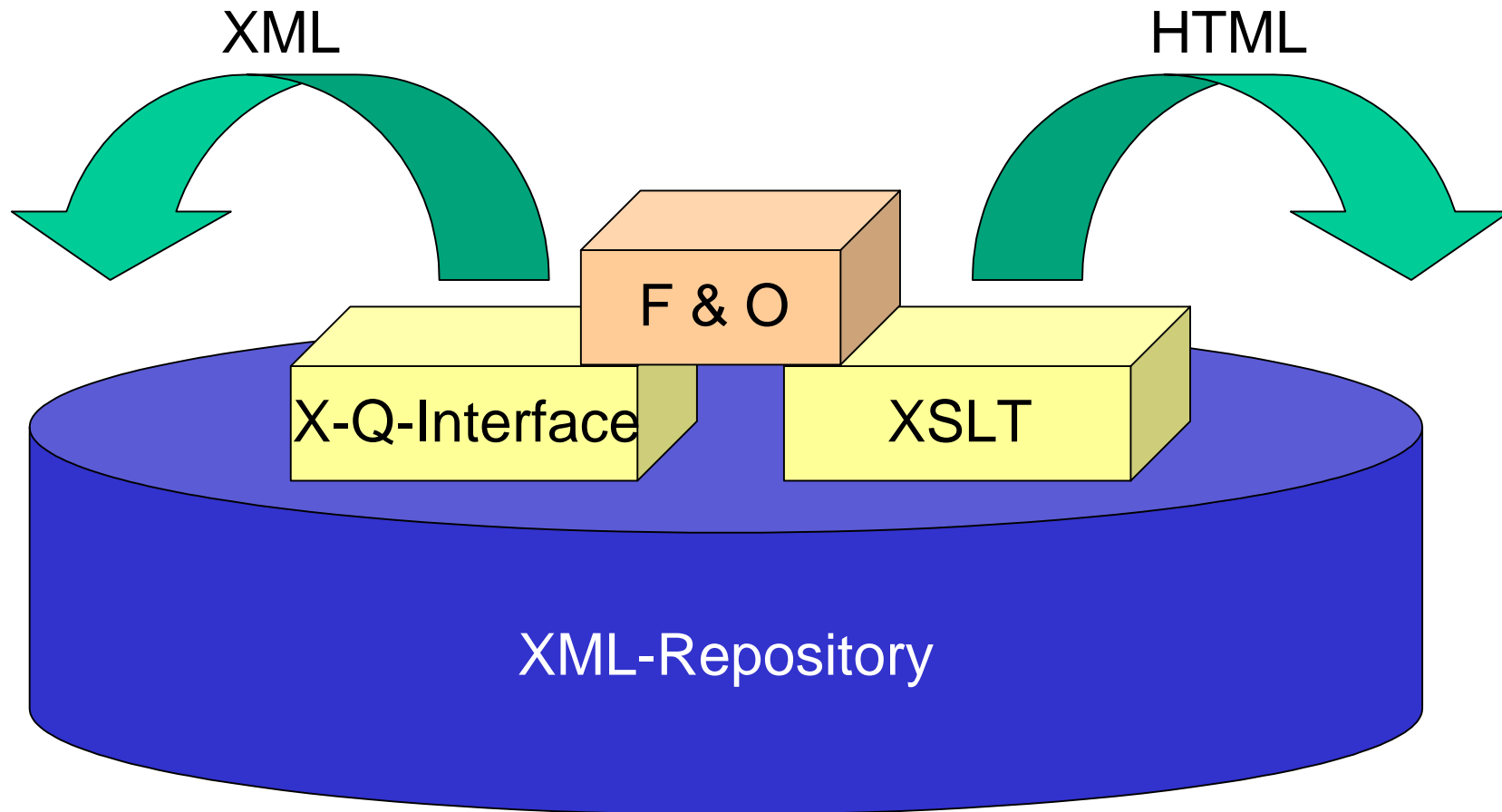
Functionality

- Language must support operations on all data types (see usage)
- Queries must be able to express simple conditions on text
- Operations on collections must include support for universal and existential quantifiers
- Queries must support operations on hierarchy and sequence of document structures.

Functionality

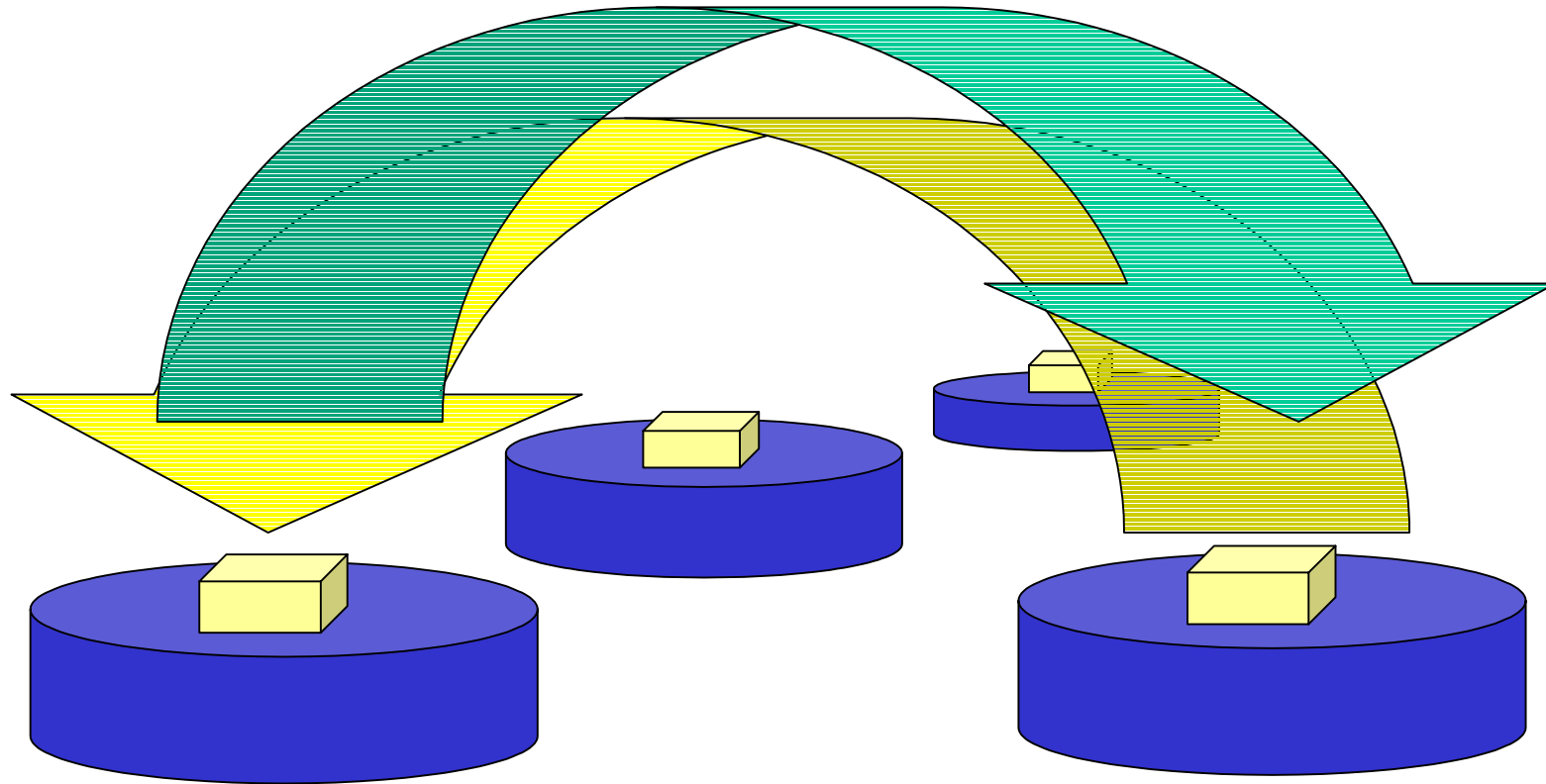
- Language must be able to combine related information from different parts of a given document or from multiple documents
- Language must be able to compute summary information from a group of related document elements („aggregation“)
- Language must be able to sort query results
- ...

Systematics



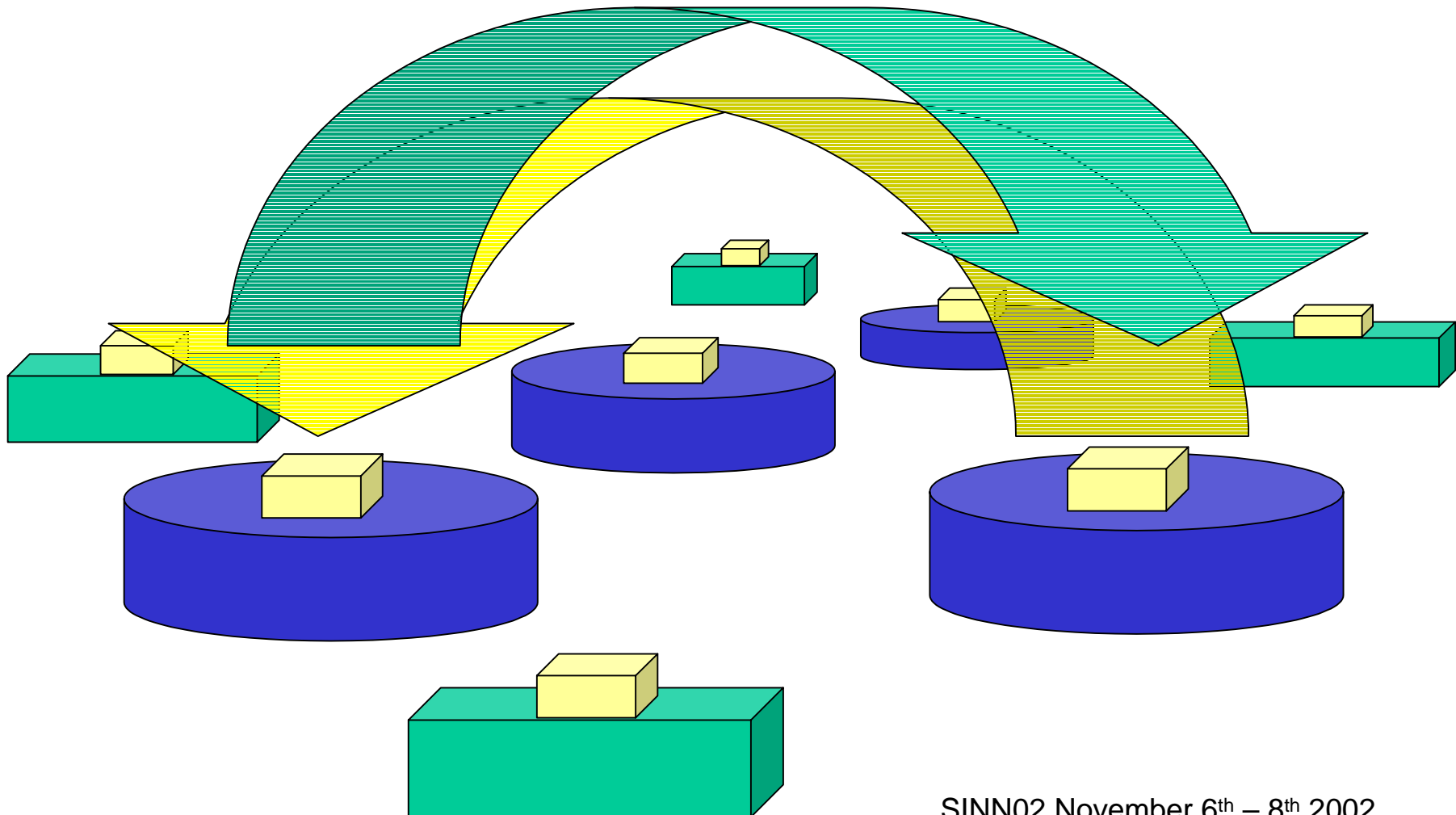
Systematics

Update Protocol



Systematics

XML-Query



Time Scale

● ...