

Exchanging Data with XML

Michael Hahsler

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Introduction

- Advantages
- Well-formed XML
- Document Type Definition
- Extensible Stylesheet Language
- XML Document Object

XML

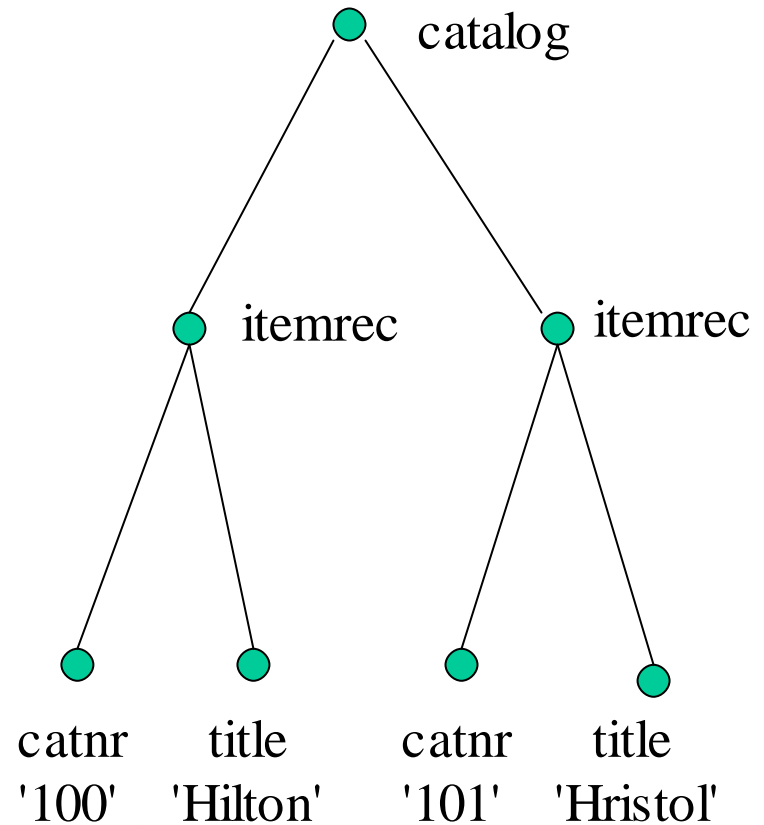
- ? **E**Xtensible Markup Language (W3C)
- ? A **markup language** much like HTML.
- ? Designed to **describe structured data** not the presentation of the data.
- ? Tags are not predefined in XML. You must **define your own tags**.
- ? Uses a DTD (**Document Type Definition**) to describe the data.
- ? XML can be **translated** into other representations using XSL (Style Sheets)

Advantages of XML

- Data in **databases** also contain structured data and can easily be represented in XML
- **Standardized** by the W3C
- Easy to translate into other representations using XLS
- XML with a DTD is designed to be **self-descriptive**

Well-formed XML

```
<catalog>
  <itemrec>
    <catnr>100</catnr>
    <title>Hilton
Hotel</title>
  </itemrec>
  <itemrec>
    <catnr>101</catnr>
    <title>Bristol
Vienna</title>
  </itemrec>
</catalog>
```



XML Parser

Well-formed XML II

- Tag names must begin with a letter, _ or : but not with xml
- A tag that has no content can be written `<emptytag />`
- Tags can have attributes
`<price currency="USD">19.90</price>`
`<price currency="EUR">21.20</price>`

Document Type Definition (DTD)

- Tells the parser **what tags** are mandatory, optional and **what values** are allowed for any given tag
- If a document passes the test against its DTD it is **valid**.
- DTDs are normally standardized

```
<?xml version="1.0" encoding="UTF-8" ?>  
<!DOCTYPE greeting [  
  <!ELEMENT greeting (#PCDATA)>  
>  
<greeting>Hello, world!</greeting>
```

Extensible Stylesheet Language (XSL)

- Transformation and formatting language
- e.g. transformation of XML into HTML to provide visual appearance for XML data

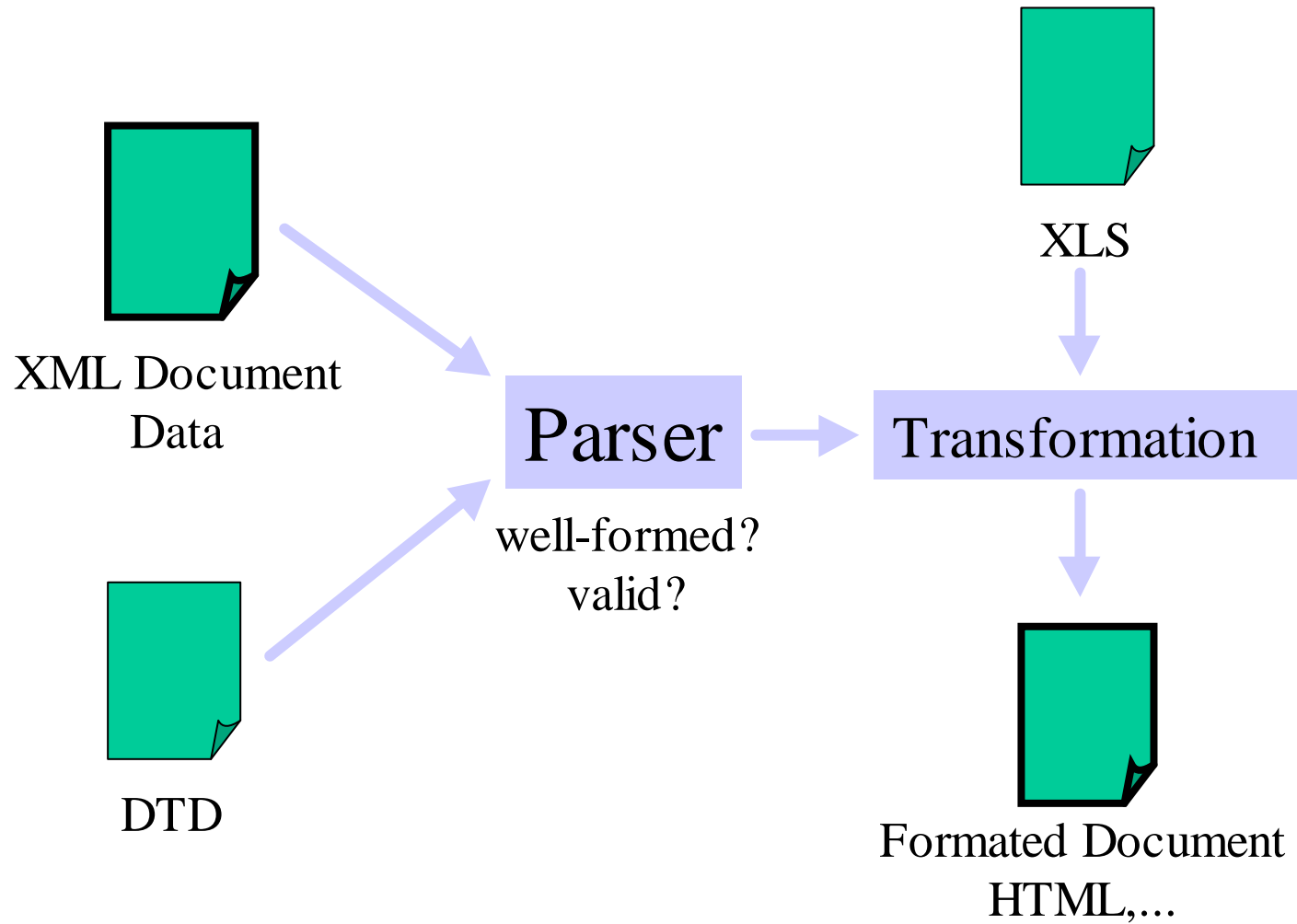
XML Namespaces

- to prevent different organizations to use the same tag name for different purposes

```
<?xml:namespace  
  ns="http://www.interlacken.com/schema/ns"  
  prefix="il" ?>
```

```
<il:catnr>100</il:catnr>
```

Usage of XML



XML Document Object

- The XML parser is implemented in windows inside the XMLDOMDocument object

Create Object

```
Dim xmldoc
```

```
Set xmldoc = CreateObject("Microsoft.XMLDOM")
```

Load XML

```
XMLdoc.load("http://<server>/<path>/<file>.xml")
```

```
XMLdoc.loadXML(<string>)
```

Access Data

```
xmldoc.documentElement.childNodes.item(0)
```