W3C XML Schema Patterns for Databinding

Paul Downey, BT
Chair, XML Schema Patterns for Databinding Working Group
WWW2006, May 25th 2006
XML Schema 1.0

Instance XML

Schema Processor

PSVI

Schema
Web Services

Schema

WSDL

Instance XML

Sender

Receiver
Databinding: Abstraction
Databinding Tools Suck!
Databinding Tools Suck

... differently!
W3C Workshop on XML Schema 1.0 User Experiences

http://www.w3.org/2005/03/xml-schema-user-cfp
Don’t Change Schema!

... 300,000+ developers use XSD
... There is tremendous value in XML Schema. Don't just change it...

Soumitra Sengupta,
Microsoft
Discussion Topics
Discussion Topics

- versioning
- profiles and patterns of use
- code generation (v) validation
- Unique Particle Attribution (UPA)
- XML Schema 1.1
- test suite
Implementations

ABC's "sweet spot"
W3C XML Schema Patterns for Databinding Working Group
Deliverables

• requirements and a roadmap

• W3C Recommendations:
  - “basic” patterns
  - “advanced” patterns and versioning

• test suite

• identifying the patterns
# Roadmap

<table>
<thead>
<tr>
<th>Month</th>
<th>Basic Patterns</th>
<th>Advanced Patterns</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Charter</td>
<td>Expected</td>
</tr>
<tr>
<td>Jan 2006</td>
<td>First WD</td>
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<tr>
<td>Feb 2006</td>
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Basic, Advanced, the REST

Advanced

"The Rest"

"Broken"
What is a Pattern?

identifier

- rules
- XSD
- XML
Collecting Patterns
Null Value

Definition
A special value used to represent an "unknown", "missing", "not applicable", "uninitialised" or "undefined value".

Patterns
* 3.9 Optional Element
* 3.10 Nillable Element
* 3.11 Nillable-Optional Element
Versioning

http://www.w3.org/XML/2005/xsd-versioning-use-cases/
StringEnumeration XSD

```xml
<xs:element name="beatle" type="ex:Beatle"/>

<xs:simpleType name='Beatle' >
  <xs:restriction base='xs:string' >
    <xs:enumeration value='John' />
    <xs:enumeration value='Paul' />
    <xs:enumeration value='George' />
    <xs:enumeration value='Stuart' />
    <xs:enumeration value='Pete' />
    <xs:enumeration value='Ringo' />
  </xs:restriction>
</xs:simpleType>
```
StringEnumeration XML

<ex:beatle>George</ex:beatle>

<ex:beatle>John</ex:beatle>

<ex:beatle>Ringo</ex:beatle>
Spec Driven Testing

spec

URI

XML

XSD

SOAP

WSDL
Detecting Patterns

XSD → rules → URIs
Detection of Patterns

“Note that this method is not intended to be used (and must not be used) by Web Services toolkits as an excuse for restricting their support of XML Schema.”
Participation
We Need Your Help!

http://www.w3.org/2002/ws/databinding/