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| --- | --- | --- | --- | --- |
| ***Feature*** | ***XML DTD*** | ***(W3C) XML Schemas*** | ***RELAX NG*** | ***Schematron*** |
| **Appication domain** | - independent groups of people can agree to use a standard DTD for interchanging data.  - you can verify that the data you receive from the outside world is valid.  - verify your own data. | - your XML files can carry a description of its own format.  - independent groups of people can agree on a standard for interchanging data.  - you can verify data. | - has unrestricted support for unordered content  - has unrestricted support for mixed content  has a solid theoretical basis.  - can partner with a separate datatyping language | - used for business rules validation, data reporting, general validation, quality control, quality assurance, firewalling, filtering, constraint checking, naming and design rules checking, statistical consistency, data exploration, transformation testing, feature extraction, house-style-rules checking. |
| **General overview** | A XML structure definition with a lisr of legal elements | An object-oriented XML schema language | A schema language created by unifying RELAX core and TREX | a rules-based XML schema language |
| **Grammar** | posses its own compact but nonXML gramma | object-like, XML syntax | both an XML syntax and a compact nonXML syntax | XML syntax |
| **Datatyping** | no, (weak, only applies on attributes) | yes | plugged from W3C XML Schema and others | not directly (can be implemented with user-made rules) |
| **Support for XML namespaces** | none | yes | yes | yes |
| **Can directly partner with other schema languages** | no | no | partially (with a separate datatyping language) | yes (can be embedded inside XML Schema or RELAX NG) |
| **Post-Schema-Validation-Infoset** | yes | yes | no | not directly |
| **Complexity** | intermediate | quite complex (definitions require considerable expertise) | relatively simple | easy to learn (only six basic elements) but needs XPath knowledge (and XSLT) |
| **Can express nondeterminism** | no | no | yes | n.c. |
| **Rules expression** | no | no (can only use regular expressions do constraint data values) | no (can only use regular expressions do constraint data values) | yes, using XPath |
| **Data structure description** | yes | yes | yes | only using usermade check rules  (not directly) |
| **Data integrity (identifiers, references)** | yes | yes | using features of an external datatype system (as W3C XML Schema) | only using usermade check rules (not directly) |
| **Overall flexibility** | poor | good (but weak support for unordered content) | high for structures | top, but all must be defined by user |
| **Notes** | even if widespread, it is probably going to disappear because of newer and more powerful schema languages | a XML Schema is relatively easy to extend and good for data-oriented applications | it relies on both strong mathematical theory underlying regular expressions and solid theoretical basis | it is based on a simple idea : finding nodes and checking properties on them |