ODF Toolkit? What for?

800 pounds sculpture (was stolen) from Healdsburg, Calif.
ODF Toolkit

ODF Basic

- ODF document is a ZIP:
  - ODF Package (part 3)
  - ODF XML (part 1)

- OASIS ODF specification == „Blueprint“ or „Cooking Recipe“
ODF Validator

This service checks conformance of ODF documents based on their OpenDocument Format specification. It does not cover all conformance criteria, yet (see implementation details).

**ODF Version:**
auto-detect

**Logging:**
verbose

Choose ODF documents for validation:
Browse... list.odt

Validate  Reset

This service is provided to you by The Document Foundation

This service does not cover all conformance criteria of the OpenDocument Format specification. It is not applicable for formal validation proof. Problems reported by this service only indicate that a document may not conform to the specification. It must not be concluded from errors that are reported that the document does not conform to the specification without further investigation of the error report, and it must not be concluded from the absence of error reports that the OpenDocument Format document conforms to the OpenDocument Format specification.

Impressum (Legal Info)  Privacy Policy
ODF Toolkit

Use Cases

• Online Validator (or via commandline) https://odfvalidator.org/

• Running XSLT directly on ODF document (no unzipping XML)
ODF Toolkit

Use Cases

• Editing an ODF document (e.g. Cloud)
  – by API without Layout
  – for Data Extraction (e.g. Translation)
  – for Data Insertion (e.g. by Database)

• Collaboration on Documents (ODT)
  – backend for Web Offices (ODT)
    *(starting with ver 1.0.0)*
The Architecture of ODF Toolkit

Alcazaba of Almería
ODFDOM Source Code Generator Architecture

ODF XML Grammar

OASIS XML grammar:
~18000 text lines
~600 XML elements
~1200 XML attributes

Multi-Schema-Validator

XML Validator reads many XML grammars

Apache Velocity

template engine generating sources by text templates having a context with Java access
Can a paragraph `<text:p>` be nested in a valid document?

ODF 1.2 XML:
- 598 XML Elements
- 1300 XML Attributes

> 18k lines
ODF GRAMMAR - TEXT
HARD TO READ

ODF 1.2 XML:
• 598 XML Elements
• 1300 XML Attributes
>18k lines
<define name="table-table">
  <element name="table:table">
    <ref name="table-table-attlist"/>
    ...
  </element>
  <optional>
    <ref name="text-soft-page-break"/>
  </optional>
  <ref name="table-table-row"/>
</define>

ODF 1.2 XML:
• 598 XML Elements
• 1300 XML Attributes
>18k lines
ODF GRAMMAR - GRAPH
TABLE ELEMENT WITH CHILDREN
ODF GRAMMAR - GRAPH
TABEL ELEMENT WITH CHILDREN
ODFDOM Source Code Generator

Architecture

ODF XML Grammar

OASIS XML grammar:
~18000 text lines
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Multi-Schema-Validator

XML Validator - reads many XML grammars

Apache Tinkerpop Graph

Graph of XML grammar (since 1.0.0)

Apache Velocity

template engine - generating sources by text templates having a context with Java access
ODF Toolkit
Architecture

ODFDOM
Source Code Generator

ODFDOM

Dependencies:
compile time
run time
ODF Toolkit
Architecture

ODFDOM Source Code Generator

Dependencies:
- compile time
- run time

ODFDOM

ODF Validator
Simple API (deprecated)
XSLT Runner
Document Collaboration from 80ths
Design based on former Requirements

- In the 80ths: **One person on single machine**

- Exchanging document by **floppy disc** or **modem**
Document Collaboration Today
New Requirements

• With Smartphones **everyone** has **multiple machines** (Smartphone & PC/Laptop)

• **Exchanging documents** faster via Internet, Mail, Dropbox, etc. will **not** solve the **merge problem**!

• **Key Collaboration Question:**
  What have you changed?
Document Collaboration Idea
New Change Design

- Allow **collaboration functionality** similar as software developers have with repositories

- Exchanging **changes (commits)** instead of **documents (repositories)** via Internet, Mail, Dropbox, etc.

- **Solving Key Question:** What have you changed?
Interoperable Collaboration

Exchanging ODF Changes

ODF Application

ODF Application

ODF Application

ODF Application
Interoperable Collaboration

Exchanging ODF Changes

ODF Application → LibreOffice

ODF Application

ODF 4th paragraph blue

Google Docs

ODF Application
Interoperable Collaboration
Exchanging ODF Changes
ODT ⇔ Changes

sponsored by PrototypeFund

See https://github.com/svanteschubert/odftoolkit/tree/odf-changes/
Soon https://github.com/tdf/odftoolkit (1.0.0-beta)
ODT ↔ Changes

sponsored by PrototypeFund

ODT Document (changed)

ODFDOM

ODT Changes (new)

See https://github.com/svanteschubert/odftoolkit/tree/odf-changes/
Soon https://github.com/tdf/odftoolkit (1.0.0-beta)
Prototype of Collaboration of Editors based on ODF Changes (ODFDOM)

WYSIWYG Editors with different feature set editing same ODT Document:
- LibreOffice (ODT)
- Emacs (Text)
- CKEditor 5 (HTML 5)
ODF Toolkit – CKEditor5
Upcoming Work

• Build your CKEditor5 example:

  git clone -b stable https://github.com/ckeditor/ckeditor5-build-classic.git
npm install
npm run build

• Open local editor in browser (& add eventlistener from notes)

  ./sample/index.html
ODF Toolkit – CKEditor5
Demo results in Chrome console

- `enventinfo[object Object] args["baseVersion":12,"position":
{"root":"main","path":[0,6],"stickiness":"toNone"},"nodes":
[{"data":"X"}],"shouldReceiveAttributes":true,
"__className":"InsertOperation"}

- `index.html:48 enventinfo[object Object] args["baseVersion":13,
"range":{"start":{"root":"main","path":[0,3],"stickiness":"toNext"},
"end":{"root":"main","path":[0,7],
"stickiness":"toPrevious"}},"key":"italic","oldValue":null,"newValue":true,"__className":"AttributeOperation"]`
ODF Toolkit

Resources

- **Website (in progress):**
  https://odftoolkit.org/
  https://tdf.github.io/odftoolkit/docs/ (latest)

- **Sources:**
  https://github.com/tdf/odftoolkit

- **Online Validator:**
  https://odfvalidator.org/

- **ODF Specification**
  http://docs.oasis-open.org/office/v1.2/os/