OX Documents Explained
From a technical point of view

Svante Schubert - Freelancer

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Operations Processing
Step 1 – Decomposing the document (on server)

Operations describe how to manipulate the document – including how to build it up from scratch.

Lorem ipsum dolor sit...

Duis autem vel eum iriure dolor in hendrerit...

Unknown object – will be ignored
Operations Processing
Step 2 – Apply operations to editor (on client)

The browser will do the layout and the rendering

Lorem...)
Duis...

Lorem ipsum dolor sit...

Duis autem vel eum iuri e dolor in hendrerit...
Operations Processing
Step 3 – Edit document in browser (on client)

- Intercept all events – do not let the browser do any DOM manipulations
- Create operations for desired document manipulations
  - For mouse/keyboard input as well as for actions triggered in the user interface
- Apply these operations to HTML DOM (see step 2 on last slide)
  - The browser will display the updated document
- Send operations to the server - for persistence and for further distribution
Operations Processing
Step 4 – Apply operations to document (on server)

- This step is optional (for supporting legacy applications)
  - It would also be possible to just make the operations list persistent

• Duplicate original document, build DOM tree
• Use only the newly created operations to update the DOM tree
• Do not touch any DOM nodes that you don’t understand or don’t care about, so the round-trip is nearly perfect!
References

ODF Operation Standardization

• OASIS ODF Advanced Document Collaboration SC

• Latest Draft of new ODF Change-Tracking

OX References

• Original Presentation
  http://www.slideshare.net/Malte.Timmermann/ox-documents-explained

• OX Office Sources
  http://git.open-xchange.com/

• OX Office Installation Guide
OX Documents Explained

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