OpenDocument Format in KDE

Calligra and WebODF

Calligra WebODF

Jos van den Oever, Friedrich Kossebau, Inge Wallin

KO GmbH
THE OPEN DOCUMENT COMPANY

Who are we?

Jos van den Oever	Friedrich Kossebau
KDE since 2005	KDE since 2003
Strigi	Okteta
WebODF/Calligra	Calligra/WebODF
OASIS	Kasten
Big Band	Choir

Why do you write documents?

- To let other people read them.
- To read them yourself later.

Ways to share the document

- Print
- Send a file
- Share in the cloud

Print

+ Easy
+ Works without batteries
+ Easy to read in the sunlight
+ Easy to add notes
- Might take time to deliver
- Not easy to edit or search or analyze

Send a file

+ Can be reused
+ No material cost / infinite copies
+ Easy to search
+ You can change the font

→ Recipient must have software that handles the file

Share in the cloud

+ It seems convenient to share
- Not private: others can read the file
- The file can disappear
- The file format is proprietary

→ cloud service should remain available

→ you need a network connection

Threats to Digital Freedom

Closed cloud applications

Digital Rights Management

Software Patents

Closed file formats

Solutions for Digital Freedom

For all: *education*

Closed cloud applications

provide alternative software

Digital Rights Management

provide alternative hardware

Software Patents

politics

Closed file formats

work on standards, provide alternative software

Open Document Format

- Format for Office Documents
- Open Standard
- All-in-one (zip)

What is nice about ODF

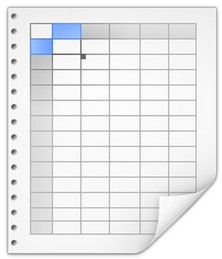
- Reuses many technologies:

XML, ZIP, URL, XSL-FO, RDF, SVG, XQuery, …

- It is an active open standard with people from many implementations in the Technical Committee
- There are quite a few implementations

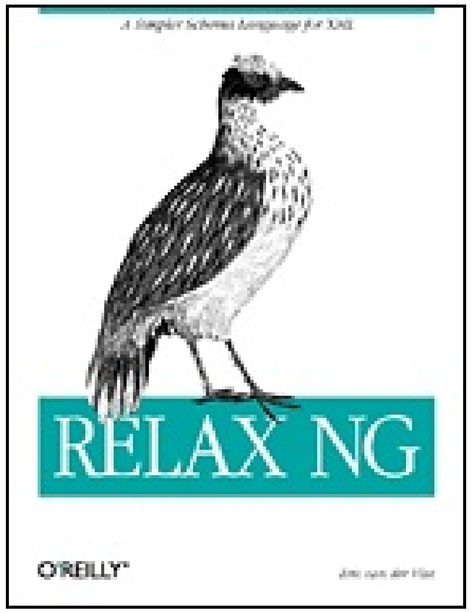
HTML

ODF



OASIS

- Standards organization like W3C and ISO
- Many standards mainly for businesses
- Example standards: Relax NG, OpenDocument Format
- KDE is a member
- Other members: Microsoft, IBM, Ars Aperta, Novell, Oracle, Red Hat, The Document Foundation, Boeing



Advancing open standards for the information society

ODF in OASIS

Committees:

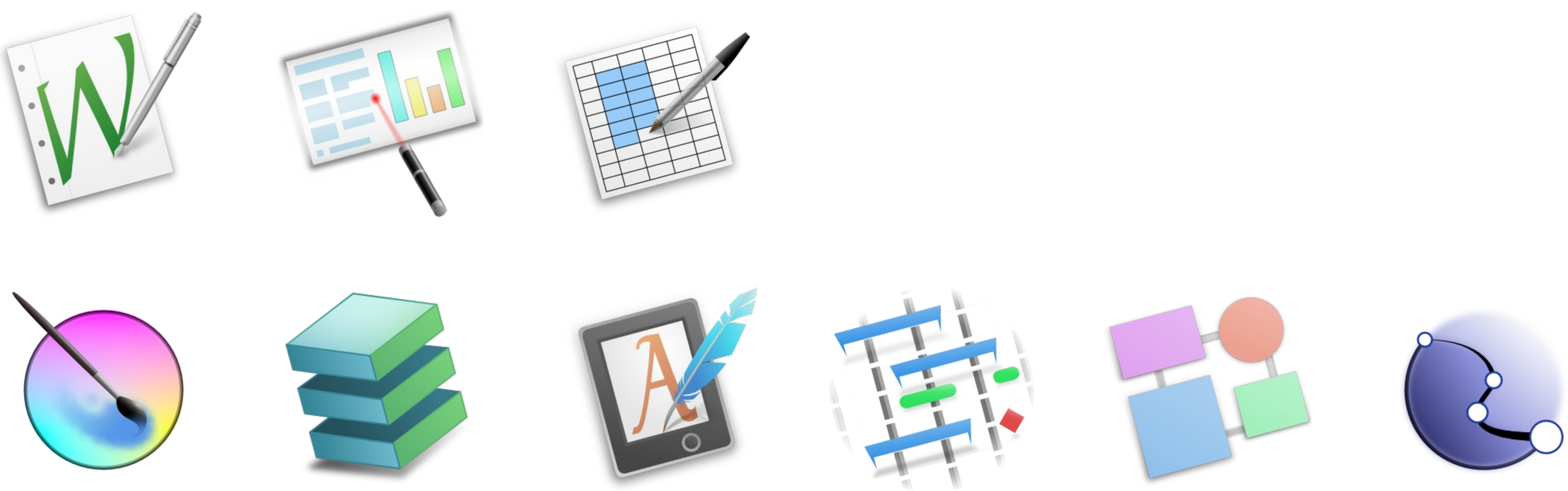
- ODF Technical committee
- ODF Adoption committee
- Change Tracking subcommittee

First representative was David Faure (ODF 1.0)

Camilla Boemann, Luke De Mouy, Jos van den Oever

Calligra

- KDE project since more than 10 years
- Renamed from KOffice to Calligra in 2010
- Based on Qt and KDE libs
- Light and modular



ODF in Calligra

OpenDocument Text (ODT)

Calligra Words, Author

OpenDocument Spreadsheet (ODS)

Calligra Sheets

OpenDocument Presentation (ODP)

Calligra Stage

OpenDocument Graphics (ODG)

Karbon, Calligra Flow

WebODF

A JavaScript/HTML5 library that makes it easy to:

- Add ODF support to your (mobile) application
- Add ODF support to *your* website on *your* server

compiled into one file: webodf.js

(66k gzipped)

http://webodf.org

The Web: faster and standard abiding








HTML, CSS, JavaScript, SVG, RDF

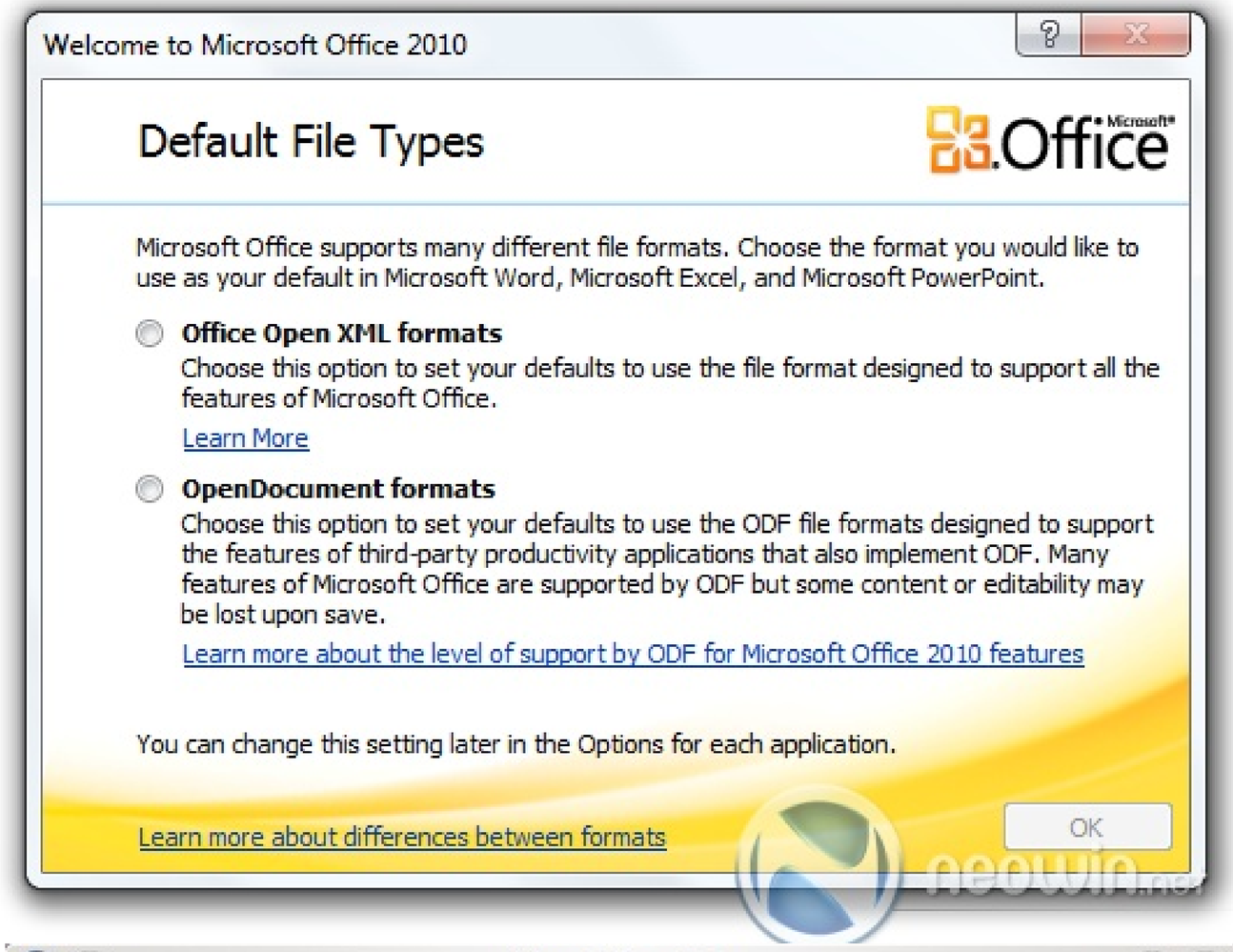
HTML and ODF are similar

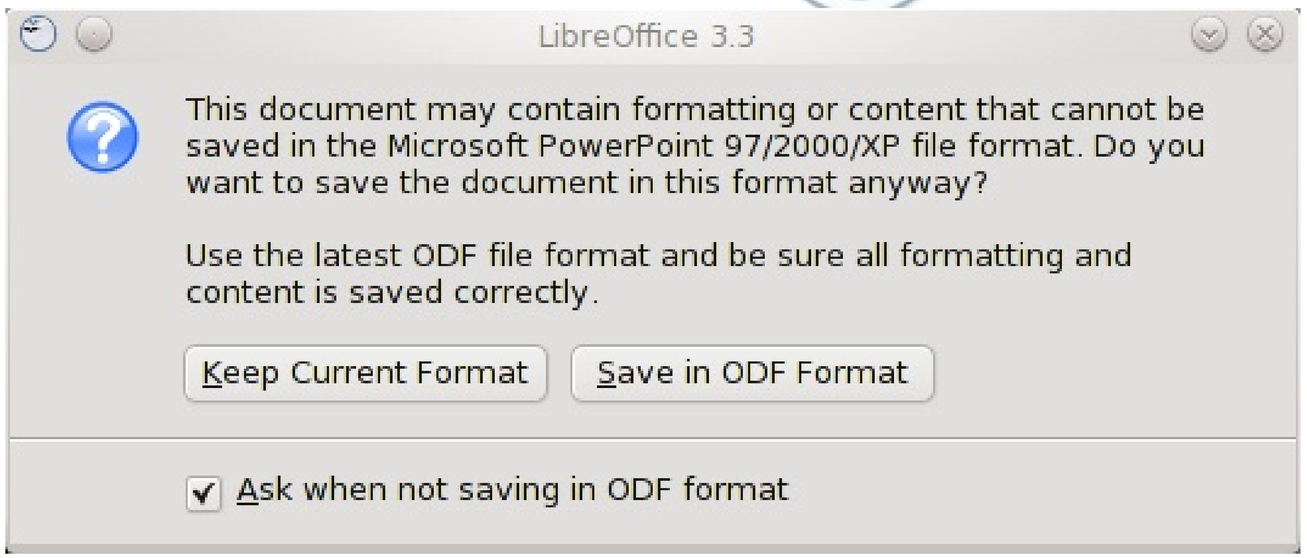
- XML
- CSS
- PNG,JPEG,
- SVG
- JavaScript

HTML

- XML
- ODF Styles
- PNG,JPEG,
- SVG
- ZIP

ODF





WebODF: no conversion, just ODF.

Demo

- Exchange an ODF file between

Calligra

WebODF

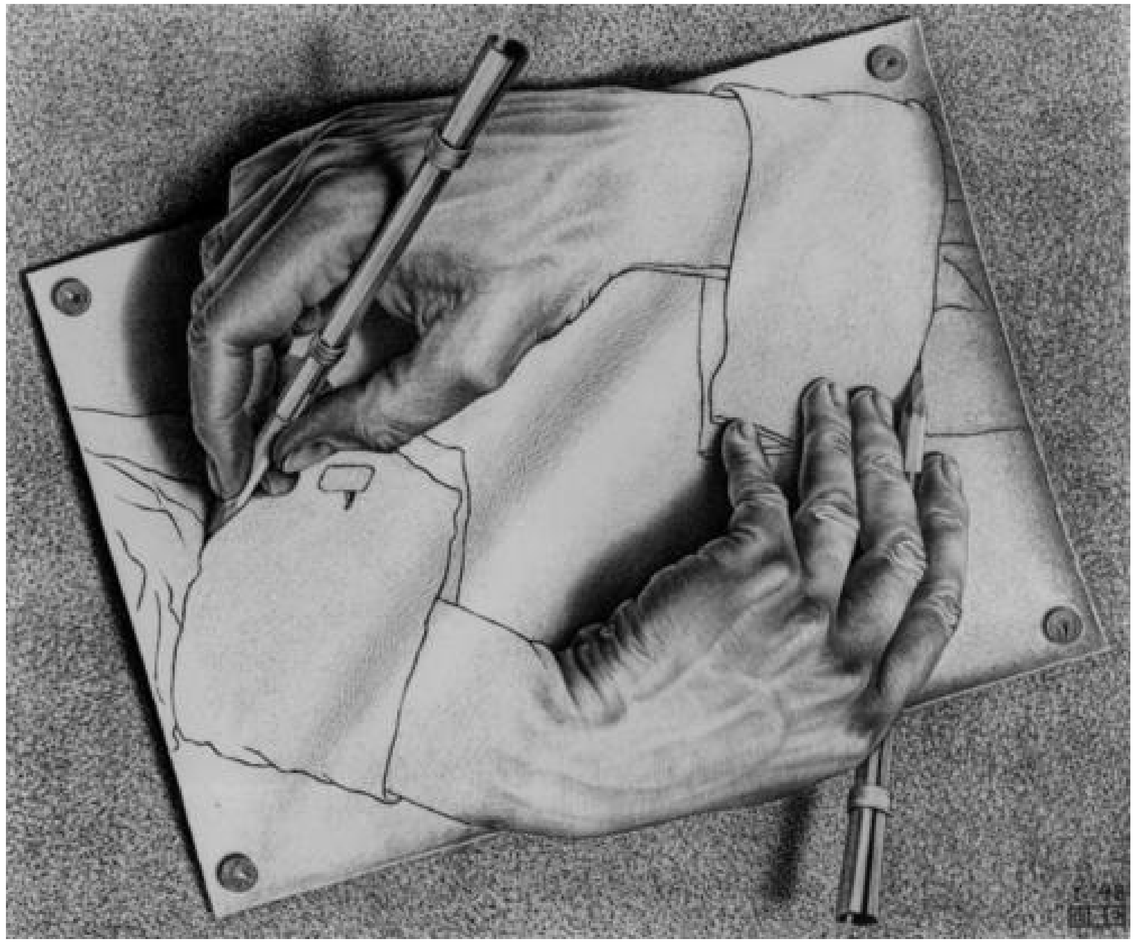
The ZIP contains:

content.xml, styles.xml, settings.xml, meta.xml

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.
<html lang="en" xmlns="http://www.w3.org/1999/xhtml" xml:lang="en">
  <head>
  <body onload="init()">
    <document>
      <office:meta>
      <office:settings>
      <office:styles>
      <office:automatic-styles>
      <office:master-styles>
      <office:body>
    </document>
  </body>
</html>
```

Collaborative editing

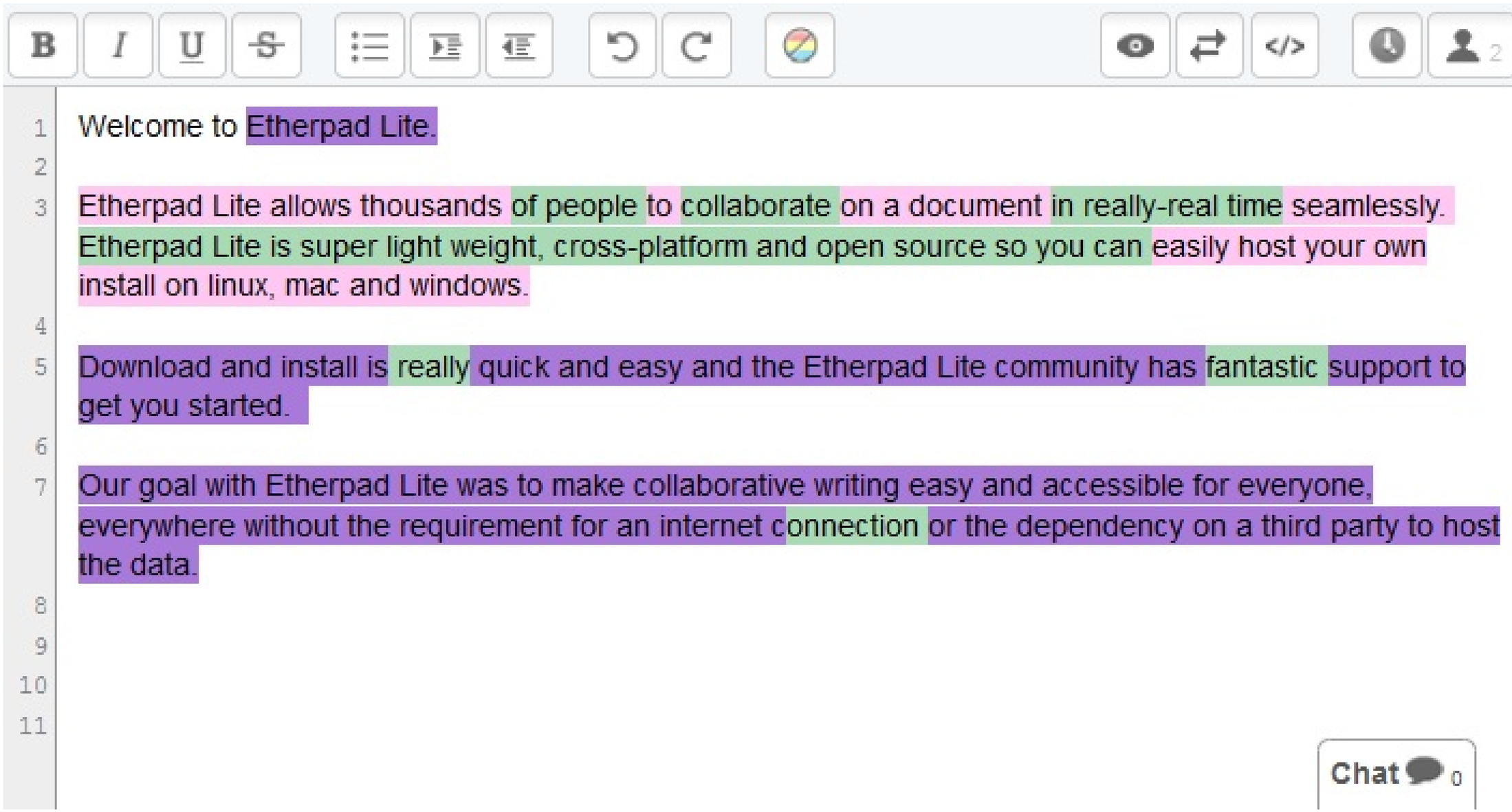
Users that are far apart can work together in real-time on the same document



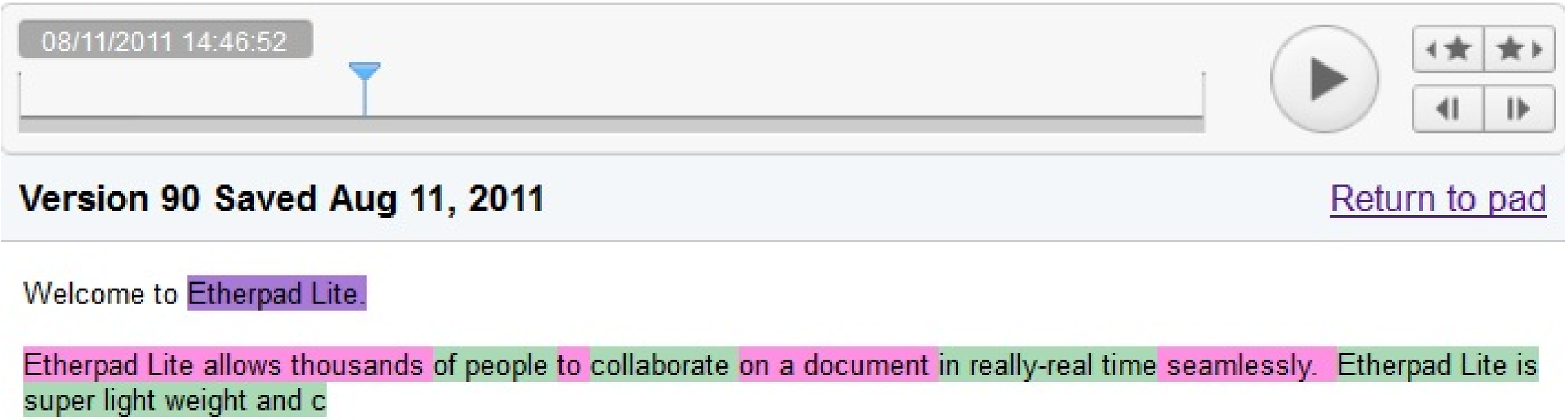
Pioneers in the browser

- Launched in November 2008
- Bought by Google in 2009 and open sourced

Etherpad


Welcome to Etherpad Lite.
Etherpad Lite allows thousands of people to collaborate on a document in really-real time seamlessly. Etherpad Lite is super light weight, cross-platform and open source so you can easily host your own install on linux, mac and windows.
Download and install is really quick and easy and the Etherpad Lite community has fantastic support to get you started.
Our goal with Etherpad Lite was to make collaborative writing easy and accessible for everyone, everywhere without the requirement for an internet connection or the dependency on a third party to host the data.
Chat 0

Etherpad


08/11/2011 14:46:52
Version 90 Saved Aug 11, 2011
Return to pad
Welcome to Etherpad Lite.
Etherpad Lite allows thousands of people to collaborate on a document in really-real time seamlessly. Etherpad Lite is super light weight and c

Collaborative Editing Pilot

- Feature parity with Etherpad
- ODF as the file format
- WebODF as viewing and editing component

Future:

Collaborative editing standardized in ODF

Implementation

- Each edit action is an *operation*
- Operations are sent to the central node
- Central node can be a server or participant
- Web Socket, GET/PUT, minimal server logic

Collaborative editing

High-Latency, Low-Bandwidth Windowing in the Jupiter Collaboration System

David A. Nichols, Pavel Curtis,
Michael Dixon, and John Lamping
Xerox PARC

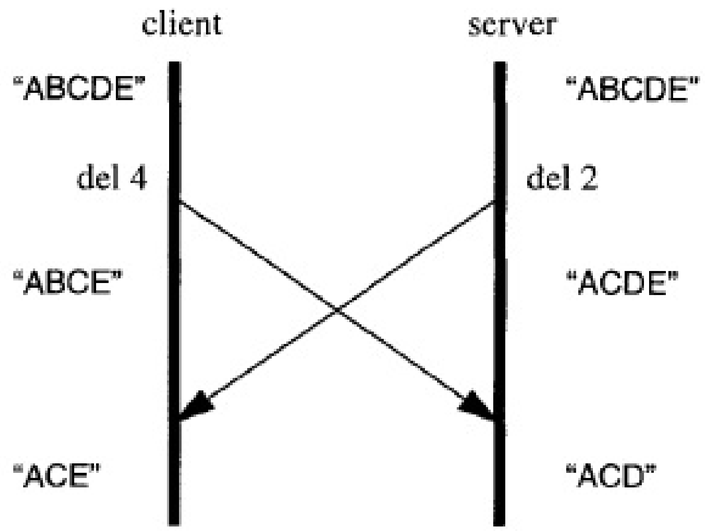


Figure 3: An example of an update conflict. The client has deleted the fourth character, "D", while the server has deleted the second one, "B". Without concurrency control, the client and server wind up with different final values. The fix is to have the server transform the client's message into "del 3" so that both client and server get the same result.

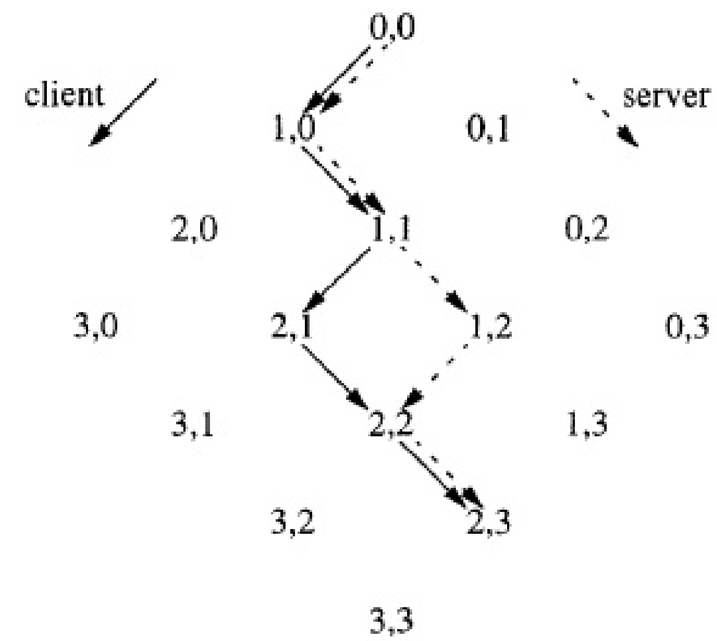


Figure 4: The state space the client and server traverse while processing messages. Each node is labelled with the number of client and server messages processed when in that state. A conflict has occurred starting from the state 1,1.

Demo

heap.kogmbh.net:23456/programs/editor/

be gentle

Summary

- For digital freedom, we need standardized file formats
- KDE participates in standards
- Calligra and WebODF implement ODF
- Collaborative editing is next

It gets worse: The Cloud

With most Cloud Office suites:

☹ Closed file formats

☹ Closed source code

☹ Code not running on your computer

☹ Data not stored on your computer

☹ You are being watched

☹ Your data is being watched

Why is the cloud growing?

- No installation
- No cost (yet)
- Easy to collaborate
- Cross-platform
- Central data store and back-up

The Cloud: Can you ever leave?