Distributed real-time collaboration for Writer

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A first prototype

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Distributed? Real-Time?

a few definitions

1) document collaboration

2) distributed documents

3) real-time collaboration

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History of Implementations

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1) **Ad-Hoc**

Doug Engelbard's Mother of all Demos (1968), MoonEdit/SubEthaEdit (around 2003), Writely (2005)
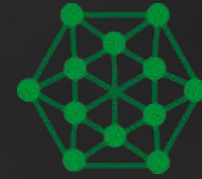
2) **Operational Transformations (OTs)**

Google Wave, Etherpad, CKEditor (mid-2000)

3) **Conflict-Free Replicated Datatypes (CRDTs)**

redis/riak/cosmos DBs, Nextcloud, TipTap, Monaco/VSCode, CodeMirror …. libs: automerge, yjs, yrs (2011 & later)

LibreOffice CRDT (NLnet)

- prototype real-time collaboration

- using a CRDT

- for Writer comments, over a read-only main document

NLnet project page

Edit comments in a R/O doc

Tibor Nagy:

https://gerrit.libreoffice.org/c/core/+/173340

`this is a prototype`

Create a special mode that allows editing comments and adding new comments, while the rest of the document remains in read-only mode.

Hook YRS into EditEngine

Michael Stahl:

`https://gerrit.libreoffice.org/c/core/+/175652`

`"yrs wip"`

Discovery & Transport

- TBD
    - currently ad-hoc local sockets
    - Contenders:
        - matrix/xmpp/<existing chat protocols>
        - p2anda - building blocks for p2p apps

Adjust comments GUI

- TBD
  - currently ad-hoc local sockets
  - Contenders:
    - matrix/xmpp/<existing chat protocols>
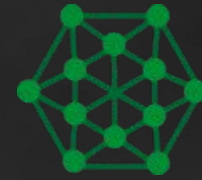   - p2anda - building blocks for p2p apps

Multi-user cursors

- TBD
  - show multiple cursors in main text
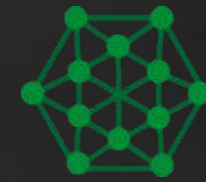 - overlay usernames at cursor pos

  See feature branch:
  https://git.libreoffice.org/core/+/refs/heads/feature/yrs-demo

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Demo time!

![allotropia logo]

- set `EDIT_COMMENT_IN_READONLY_MODE=1`
- set `YRSACCEPT=1` for *one* instance

Questions & Answers