

# LibreOffice on Android

## (a development update)

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# LibreOffice on Android

- High demand from users for LibreOffice on Android
- Use LibreOffice to render documents
- Create UI for phones and tablets
- Many attempts and failed prototypes

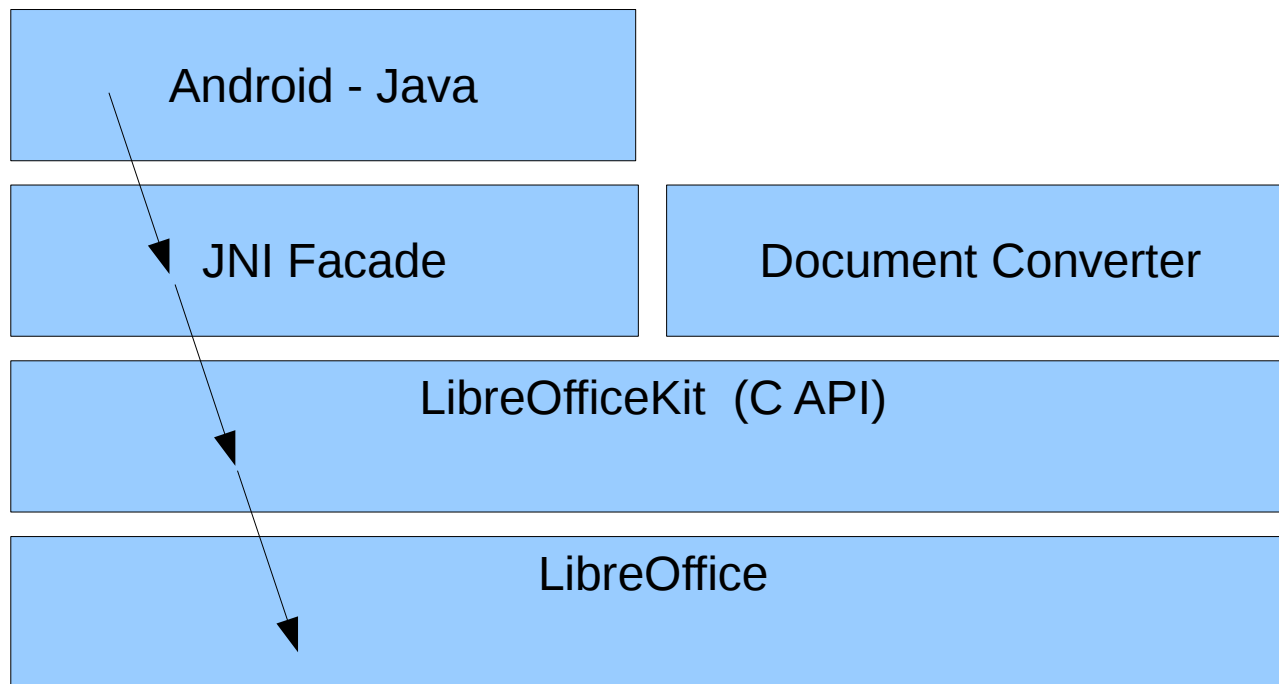
# Infrastructure work

- Infrastructure to build LibreOffice on Android (cross compile)
- Stripping down the libraries (reach 50 MB limit on Google Play)
- Fold all libraries to a single one (Android limitation)
- Mostly done by Tor Lillqvist

# Communication with LibreOffice - LibreOfficeKit

- Provide a small C API on top of LibreOffice
- First used for document conversion
- Later extended with Tiled rendering and Document API
- By Andrzej Hunt (GSoC)

# LibreOfficeKit



# Tiled Rendering

- Render document as tiles (fixed sized bitmaps - usually 256x256)
- Initially done for Writer
  - By Jan Holesovsky (Collabora)
- Extended for Impress and Draw
  - By Andrzej Hunt (GSoC)
- Calc problematic



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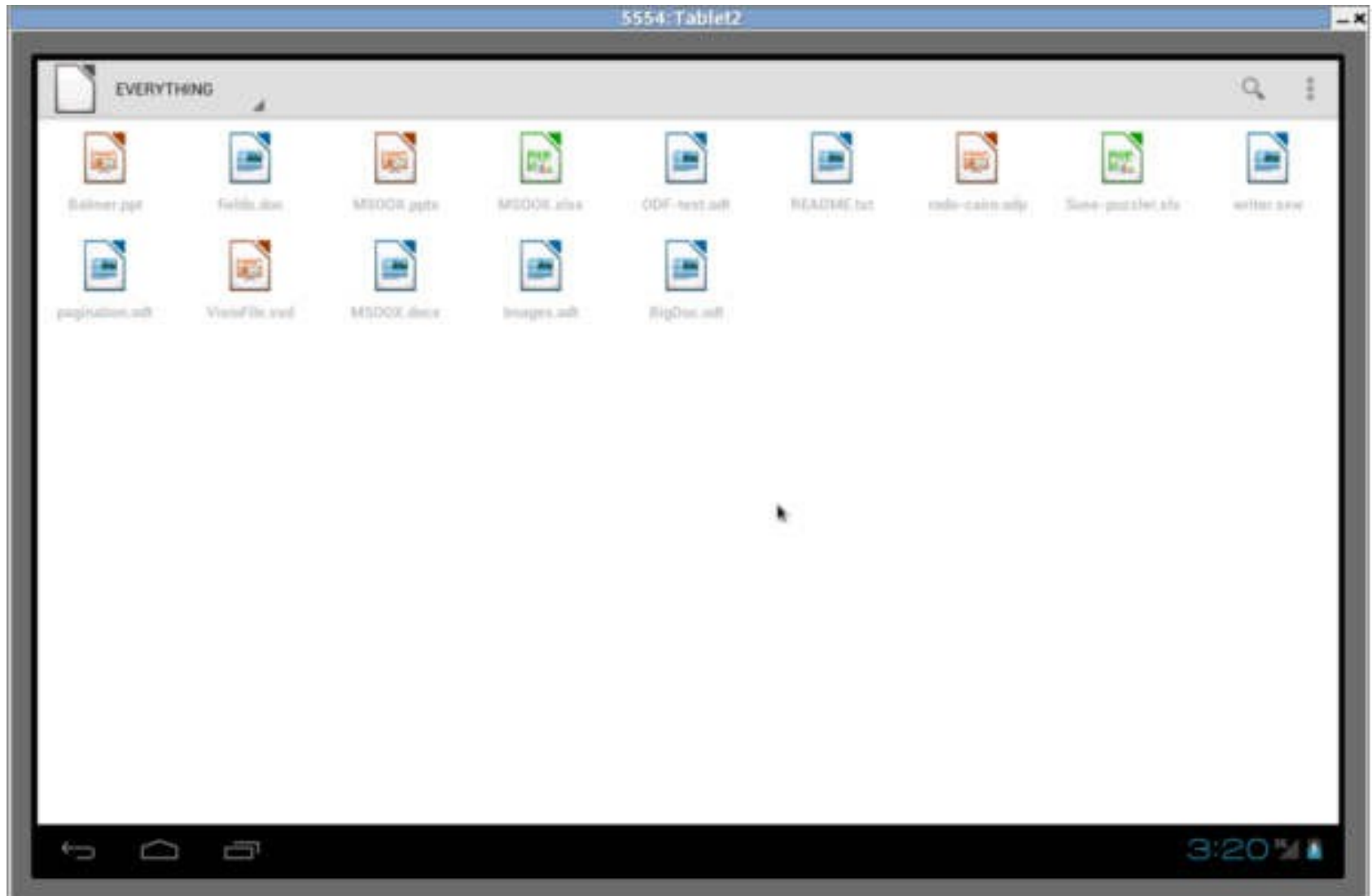
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# Document Browser

- Need a way to show available documents
- Used in an early prototype
- Started by Ian Billet (GsoC)
- Extended by Jacobo Aragunde (Igalia)



# Document Browser



# LibreOffice Viewer

- Sponsored by Smoose
- Base on early version of Fennec (Firefox for Android)
- Use JNI facade to communicate with LibreOfficeKit
- Tile life cycle

# Releases

- Available in Google Play
  - <https://play.google.com/store/apps/details?id=com.collabora.libreoffice>
- ... and on F-Droid
  - <https://f-droid.org/repository/browse/?fdid=com.collabora.libreoffice>

# Missing feature: editing

# Editing

- Sponsored by “The Document Foundation”
- Make the basis needed for editing

# New features for document browser

- Document sharing added
- Support for cloud storage
  - OwnCloud provider
- Done by Jacobo Aragunde (Igalia)
- See Blog for details:  
<http://blogs.igalia.com/jaragunde/>

# Text Input

- Handling of soft keyboard text input
- Send characters to LibreOffice
- Unicode support
- Enter, backspace, etc need special treatment
- Multi char input (dictionary input)

# Overlay

- Overlay to draw on top document:
  - Cursor (blinking)
  - Cursor handle
  - Selection rectangle
  - Selection handles (Text / Graphic)



# Tile life cycle

- Initial render with invalidation
- Change happens (char added / deleted)
- LO sends an invalidation rectangle
- Rerender tiles that intersect the rectangle

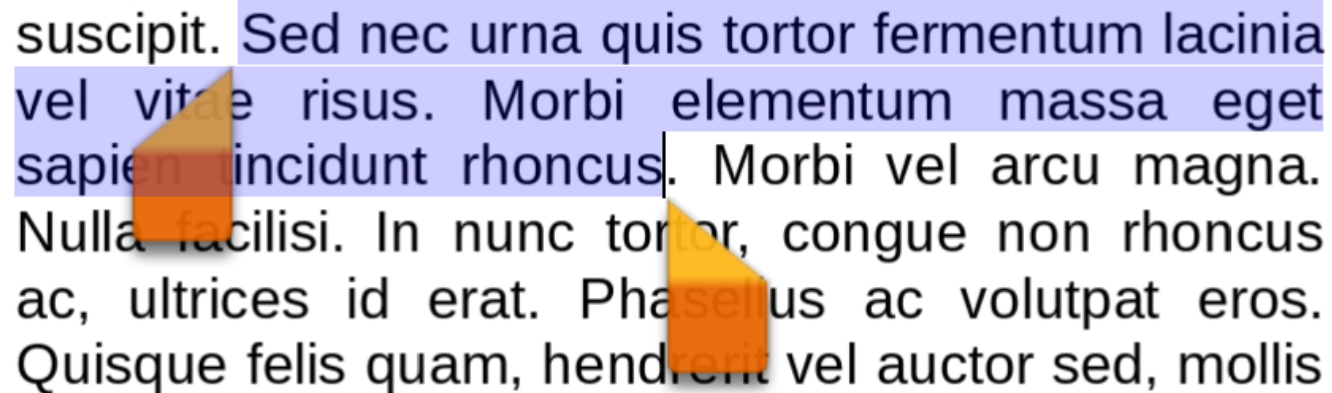
# Cursor

- Blinking cursor – LibreOffice provides the position
- Cursor handle to move the cursor around the screen



# Selections

- LibreOffice reports selection start / end positions and selection rectangles (for overlay)
- Changing handles reports new start / end positions back to LibreOffice



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The image shows a text editor window with a selection of text highlighted in blue. The selection starts at the beginning of the second line and ends at the end of the third line. Two orange handles are visible: one at the start of the selection on the second line and another at the end of the selection on the third line. The text is Latin placeholder text.

# UNO commands

- Bold, italic, colors, etc. are handled via UNO commands
- Need to send them to LibreOffice (to signal that we want bold text)
- Also need to retrieve them (cursor is over a bold text)

# Demo

# Some info

- About LibreOffice on Android
  - <http://wiki.documentfoundation.org/Development/Android>
- Progress covered in blog by Miklos Vajna (Collabora)
  - <http://vmiklos.hu/blog/>
- Get involved with LibreOffice
  - <http://www.libreoffice.org/community/get-involved/>