Building Collabora Office for iOS
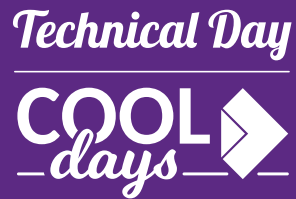
Patrick Luby
Software Engineer
patrick.luby@collabora.com

Collabora Online

Technical Day COOL days

LibreOffice Technology

Spellchecking an Impress document on an iPad

History of the iOS app

- Proved to be very challenging to make a large, complex desktop application like LibreOffice run on mobile devices:

  - Required a huge amount of effort by a group of very talented engineers working over a decade

  - Needed to make massive changes to the LibreOffice code to deal with many mobile device hardware and operating system limitations

  - Needed to replace the LibreOffice C++ user interface with one that can adapt to small, rotatable touchscreens

- LibreOffice's VCL replaced by Collabora Online

  - Adfinis and Collabora created the iOS app in 2018 and 2019 to render the iOS app's user interface using the Collabora Online code
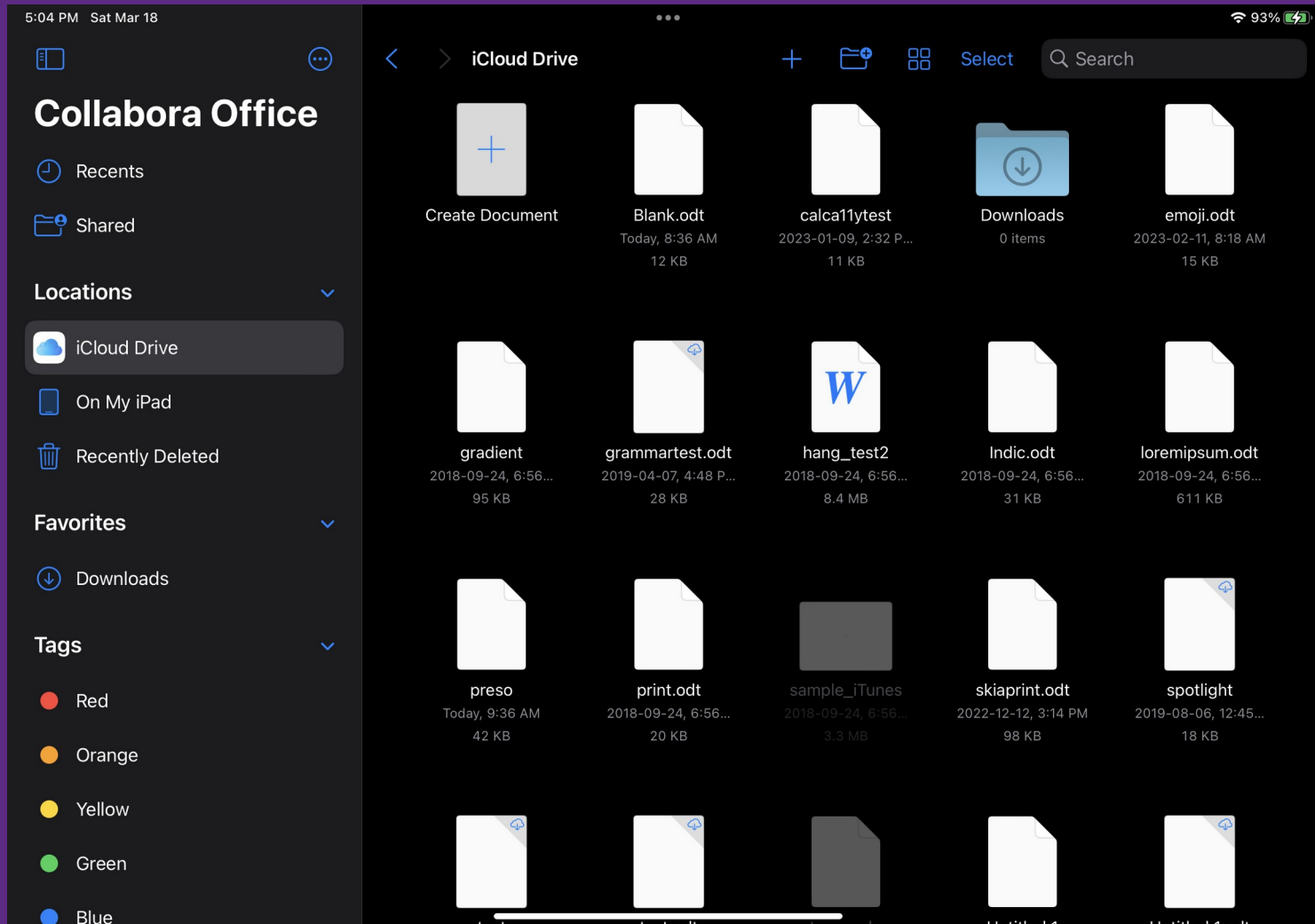
The iOS app substitutes LibreOffice's Startcenter with a native document browser view

Try out the latest beta version

- Skip the hassle of building the iOS app

- Register for free through Apple's TestFlight program

- Install the iOS app:

  - Install Apple's TestFlight app on your iOS device

  - Launch the TestFlight app and login with your Apple ID

  - Install the latest Collabora Office beta version

  - File bugs in Collabora Online's GitHub issues
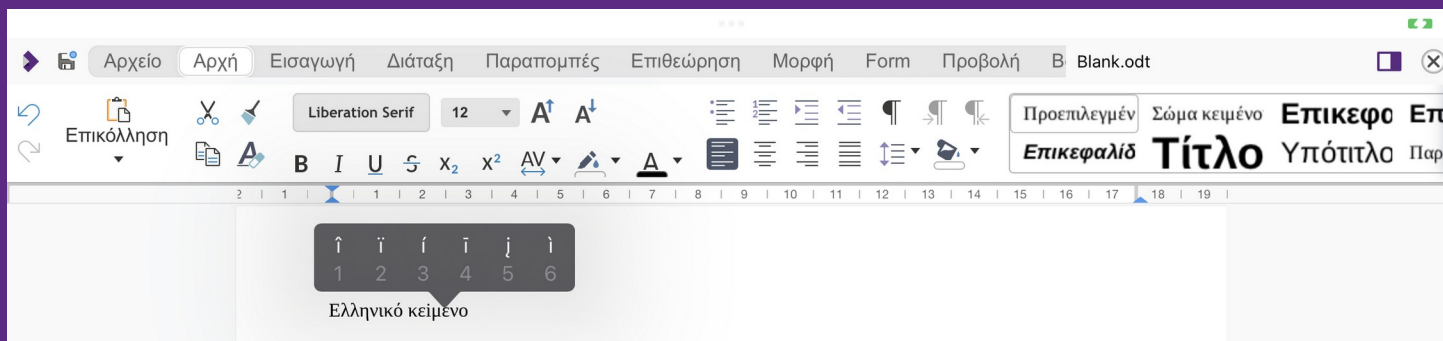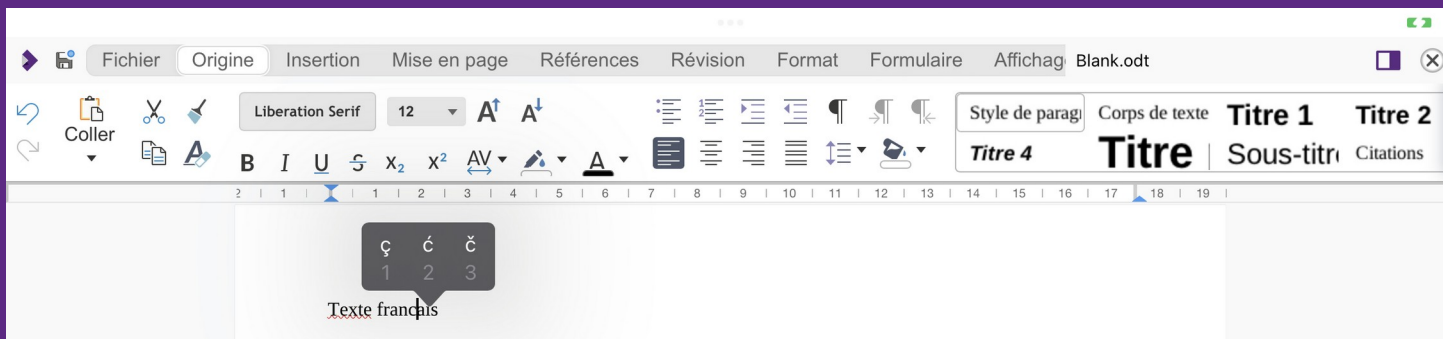
The iOS app displaying some of LibreOffice's many localizations with Collabora Online's custom HTML layout

Build prerequisites

- The iOS app can now be built entirely on macOS

- Prerequisites:

  - An Apple ID that is a member of the Apple Developer Program

  - Install LibreOffice LODE and use it to git clone the LibreOffice source code

  - Install MacPorts and some MacPorts packages

  - Install some Python modules

  - Download the POCO source code

  - Download the zstd source code

  - git clone the Collabora Online source code

You can debug the Collabora Online HTML and JavaScript code using Safari's Web Inspector. The iOS app creates a new WKWebView when a document is opened.

You can debug the iOS app, Collabora Online server, and LibreOffice code in Xcode. To monitor messages between the iOS app and JavaScript, use "To Online:" or "To JS:" as the output filter.
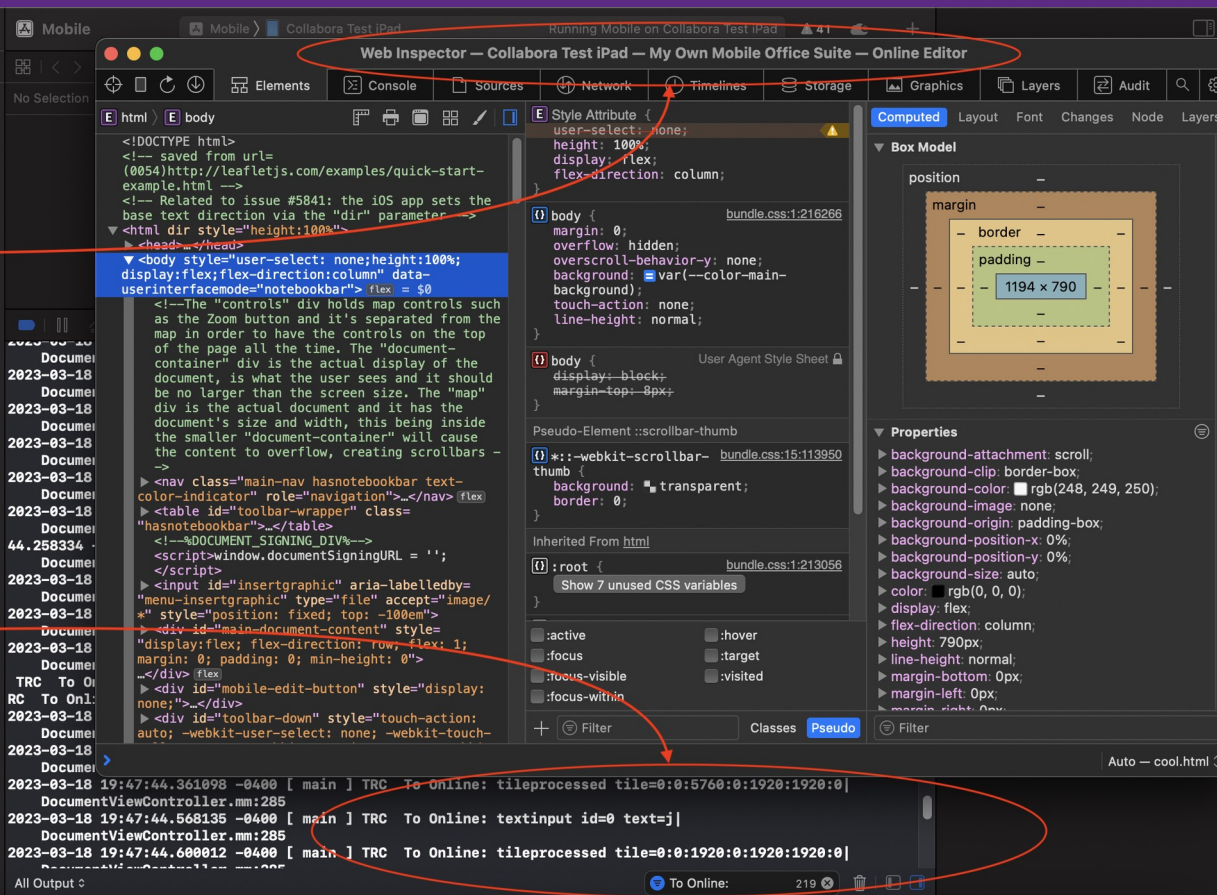
Debugging the iOS app with Xcode and Safari from macOS

8/14

Building the iOS app

- Follow the iOS app build steps and build in the following order:

    - Build LibreOffice (several hours)

    - Build and install POCO (a minute or two)

    - Build and install zstd (a minute or two)

    - Build Collabora Online (a few minutes)

    - Build the iOS app and launch it on an iOS device (a few minutes)

- Only building the iOS app is done in the Xcode application. All others are built in the Terminal application.

Xcode requires that your Apple Team ID has a unique bundle ID
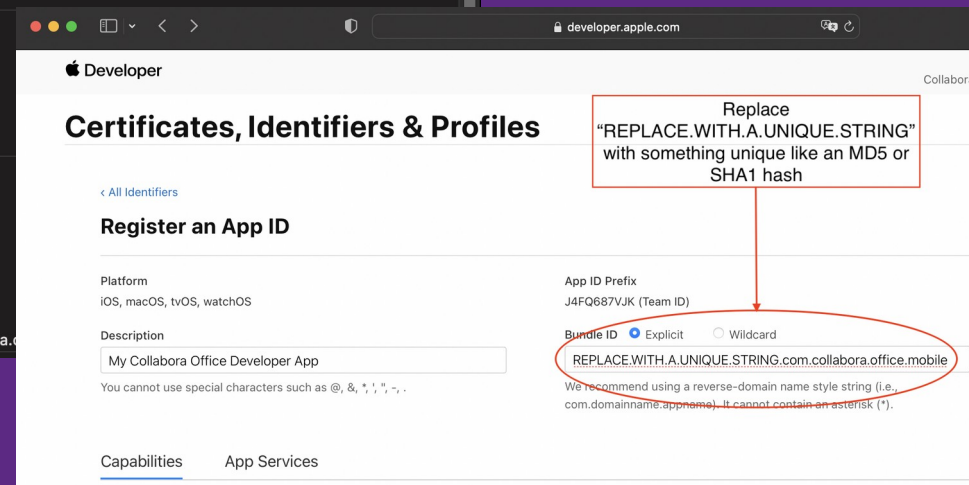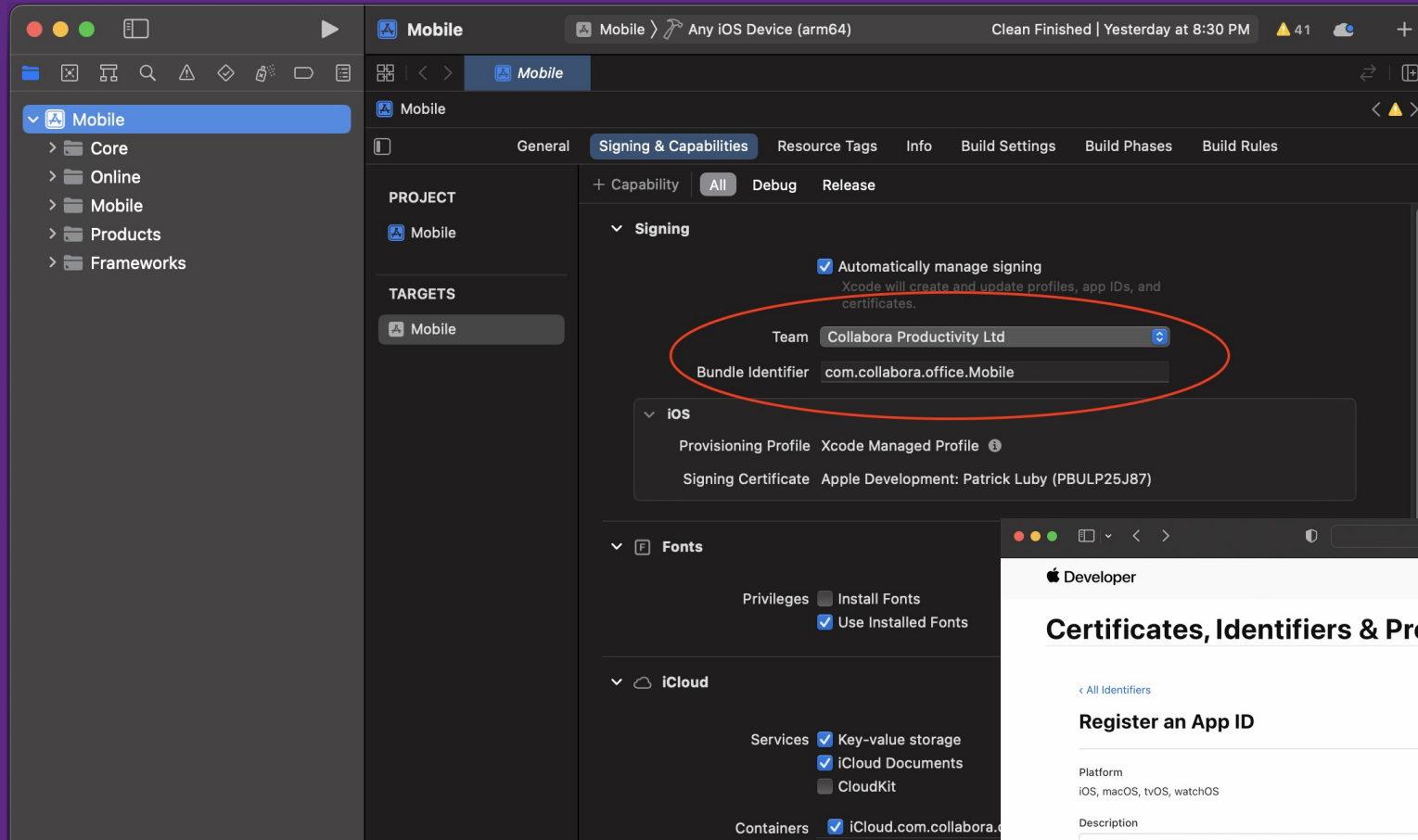
Xcode common problems

- Xcode configuration

  - In Xcode's Accounts preferences, you must be signed into an Apple ID that is a member of the Apple Developer Program

  - In the Xcode project's Signing & Capabilities settings, you must change the Bundle Identifier to a unique bundle ID. To obtain a unique bundle ID, login to your Apple Developer account and create a unique bundle ID in Certificates, Identifiers & Profiles. Be sure that the Fonts and iCloud options are both checked in the Capabilities section.

- Running the app

  - The iOS app can only be run on an iOS device

  - Running it using "My Mac (Designed for iPad)" is currently unstable

  - It will not run in a simulator unless LibreOffice is built for x86_64
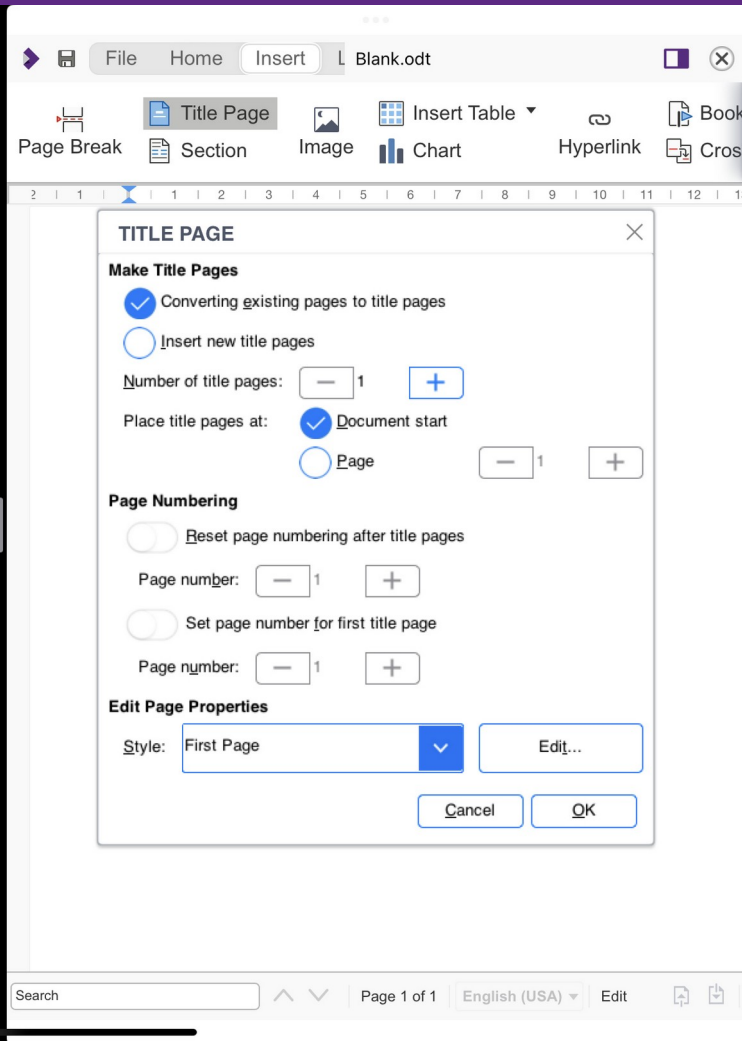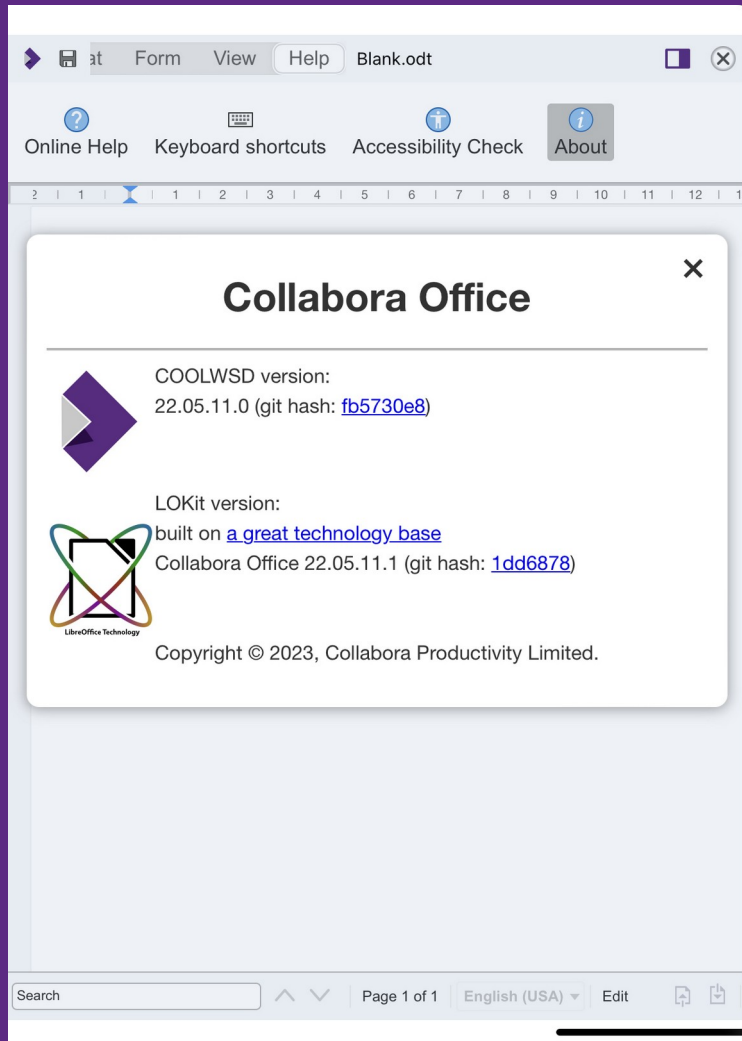
On the left: Collabora Online dialog rendered to HTML

On the right: LibreOffice dialog rendered to a PNG image

What's next?

- State of the iOS app

  - Architecture is now fully implemented and very stable

- What we are working on now

  - Fix usability and "fit and finish" bugs

- Ideas for the future

  - Replace LibreOffice dialogs rendered as PNG images with Collabora Online HTML dialogs

  - Improve right-to-left (RTL) layout

Thank you!

By Patrick Luby

@CollaboraOffice
hello@collaboraoffice.com
www.collaboraoffice.com

Collabora Online

Technical Day
COOL days

LibreOffice Technology