

Building Collabora Office for iOS

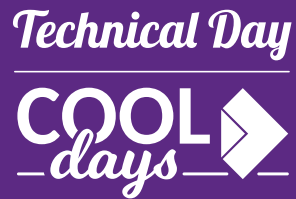
Patrick Luby

Software Engineer

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Collabora
Online



File Home Insert Layout Review Format View Help 2023_COOL_Days_Patrick

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Paste

B I U A

Text Box Shapes Connectors Image

Building Collabora Office for iOS

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Software Engineer
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History of the iOS app

- It proved to be very challenging to make a large, complete developer app like this. **LibreOffice** is a complex project with many dependencies and a large amount of effort by a group of very talented engineers who have been working on it for many years.
- Need to make sure the app is built for the right architecture and is compatible with the hardware and software it will run on.
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Try out the latest beta version

- Step 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 log in with your Apple ID
- Install the latest **Collabora** Office beta version
- File bugs in Collabora Office's GitHub issues

Build prerequisites

- The iOS app can only be built using Xcode
- Prerequisites
- Any Apple ID that is a member of the Apple Developer Program
- Install Apple's Xcode software to get the iOS development tools
- Install Xcode and the necessary components
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Building the iOS app

- Follow the iOS app build steps and build in the following order:
- Build **LibreOffice** (on macOS)
- Build and install **LibreOffice** (on macOS or iOS)
- Build and install **Collabora** (on macOS or iOS)
- Build **Collabora** (on macOS or iOS)
- Build the iOS app and deploy it to an iOS device (or use TestFlight)
- Only building the iOS app is done in the Xcode application, all others are built in the Terminal application.

Xcode common problems

Collaborate

Collator

Ignore All

Word is English (USA)

Paragraph is English (USA)

Collabora Online

Technical Day

COOL days

LibreOffice Technology

Collabora Productivity

Powered by the Collabora Office for iOS

Search

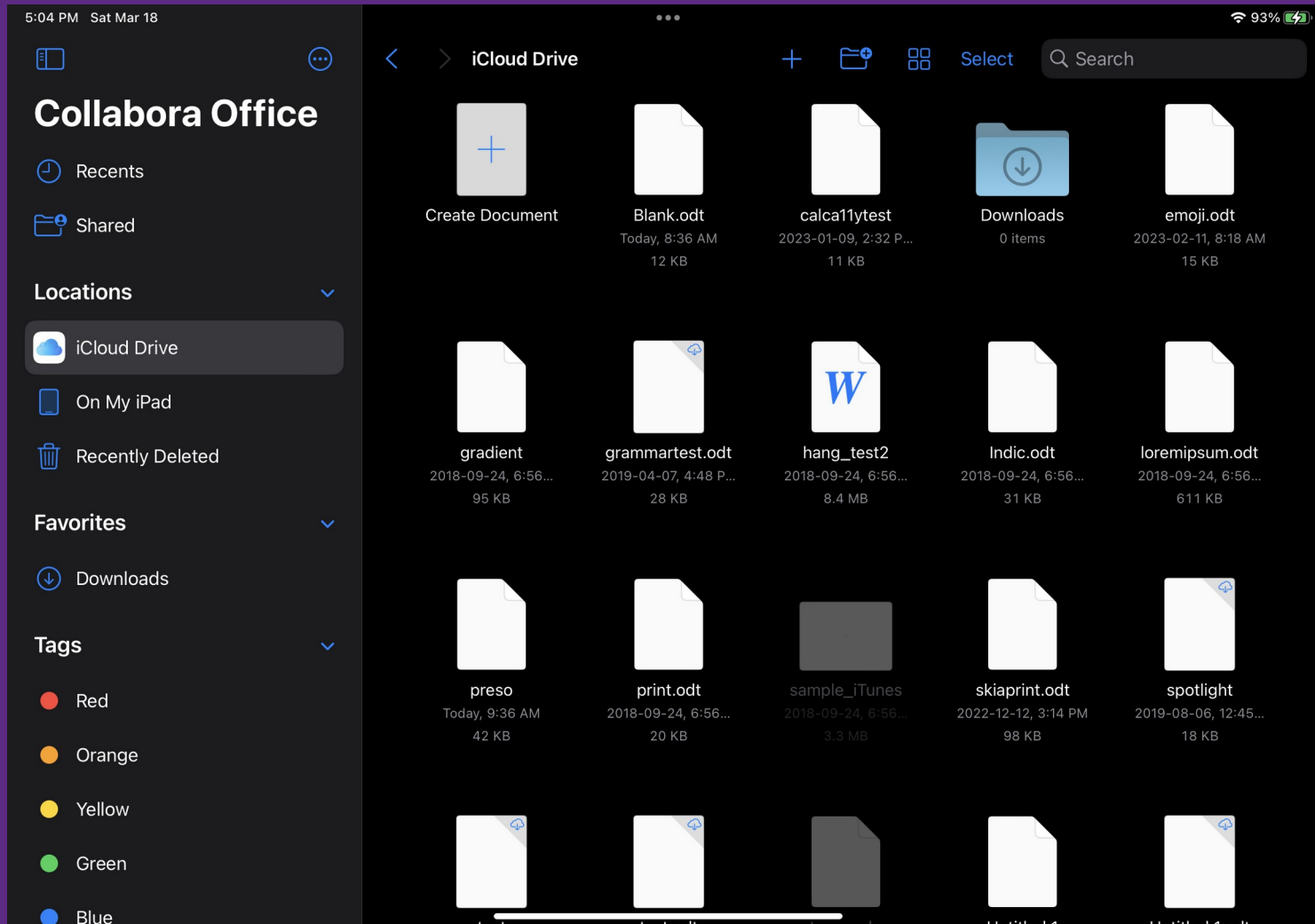
Slide 1 of 9 English (UK) Edit

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

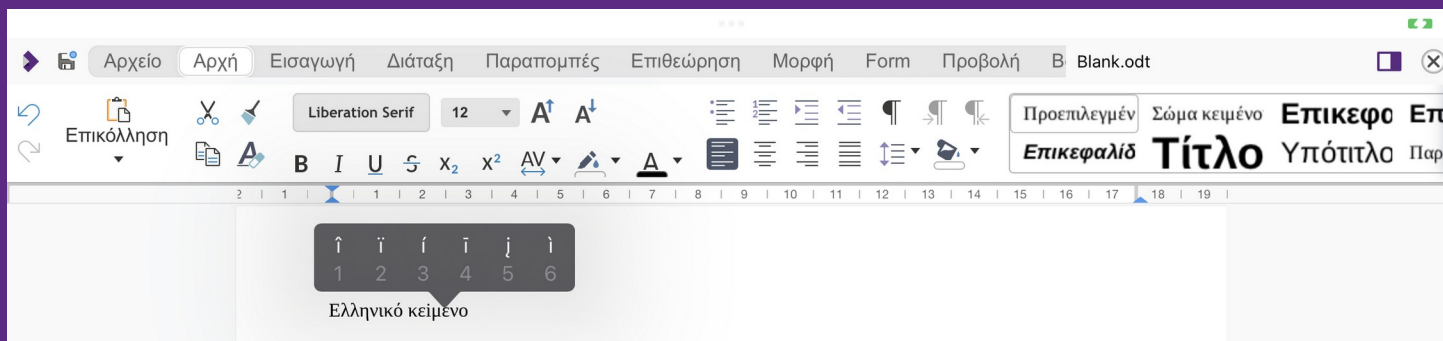
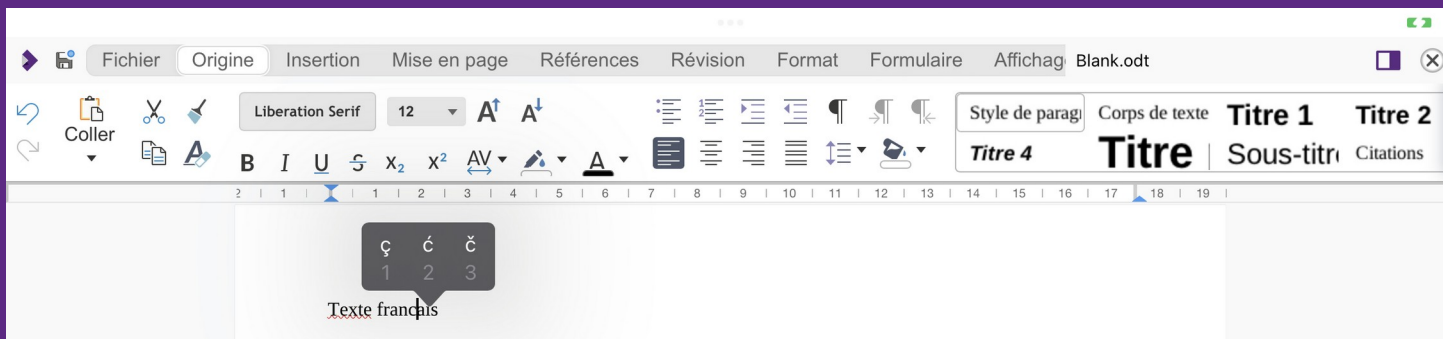


The iOS app
substitutes
LibreOffice's
Startcenter
with a native
document
browser view



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
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The iOS app displaying some of LibreOffice's many localizations with Collabora Online's custom HTML layout



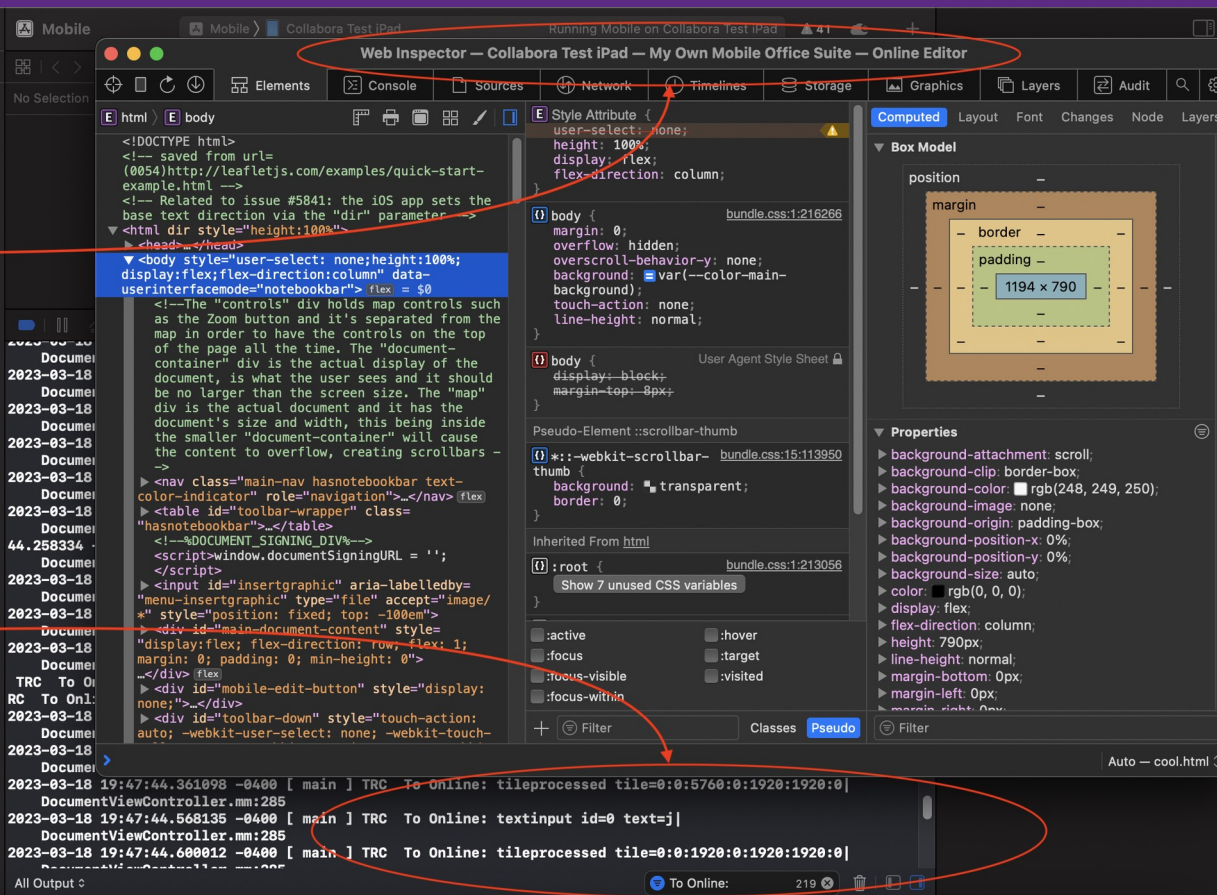
Build prerequisites

- 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 POCC 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.

No Filter Results

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.



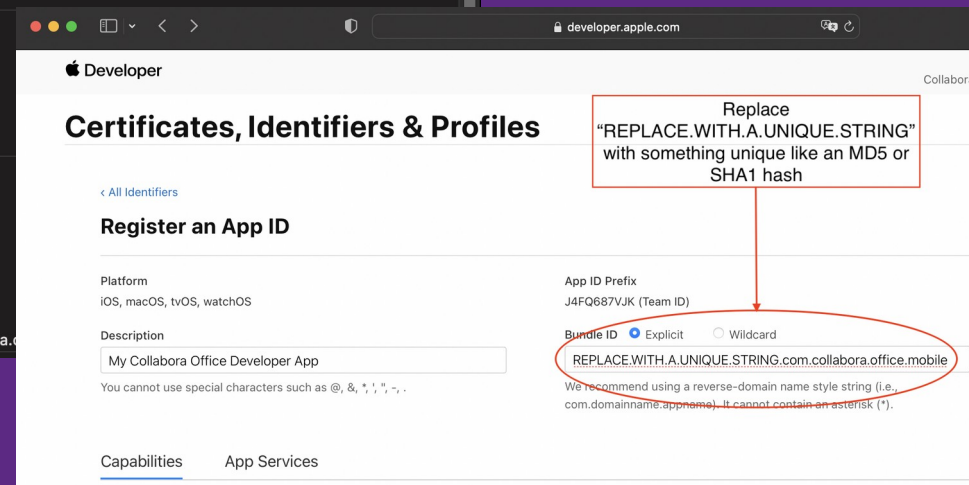
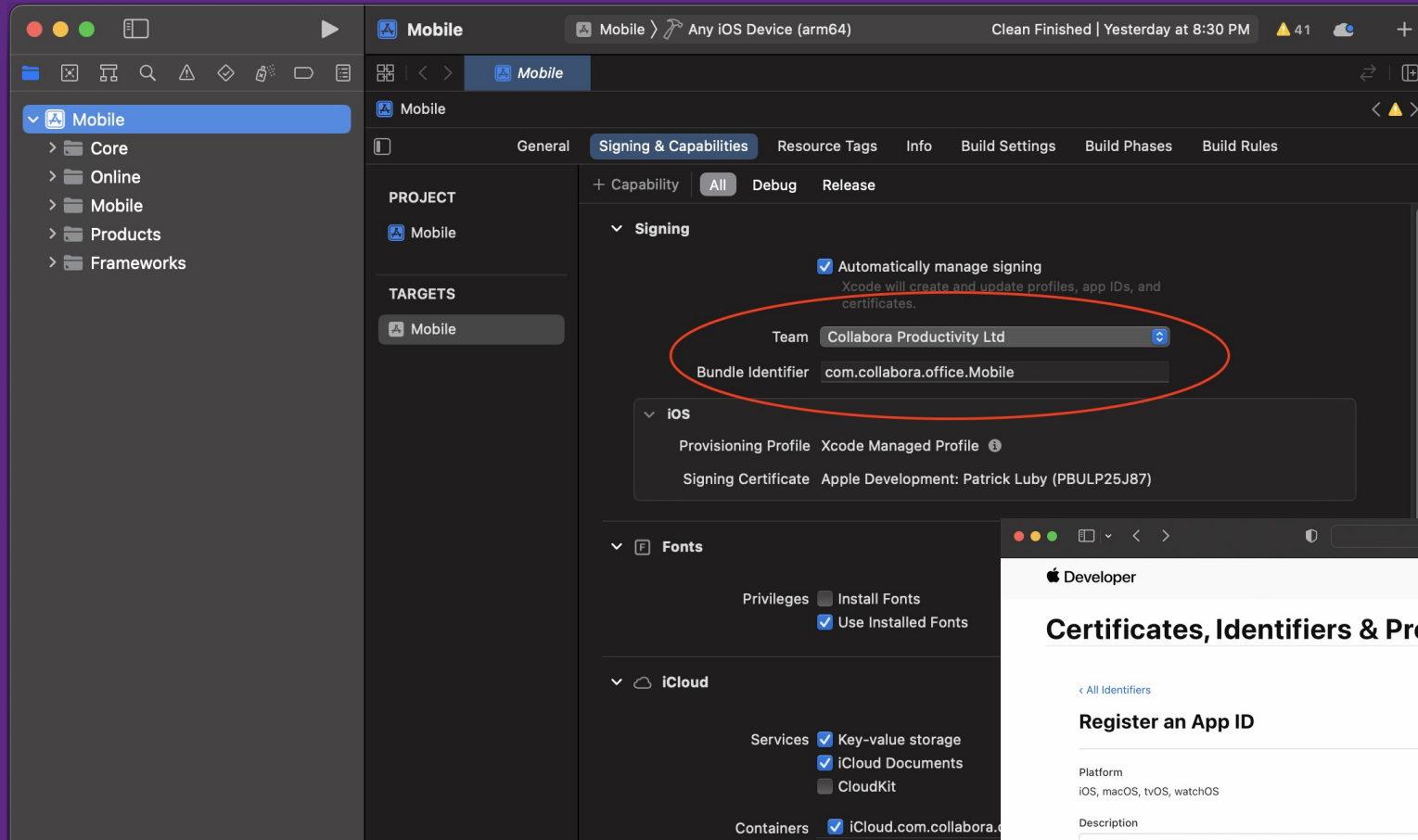
Debugging the iOS app with Xcode and Safari from macOS



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.

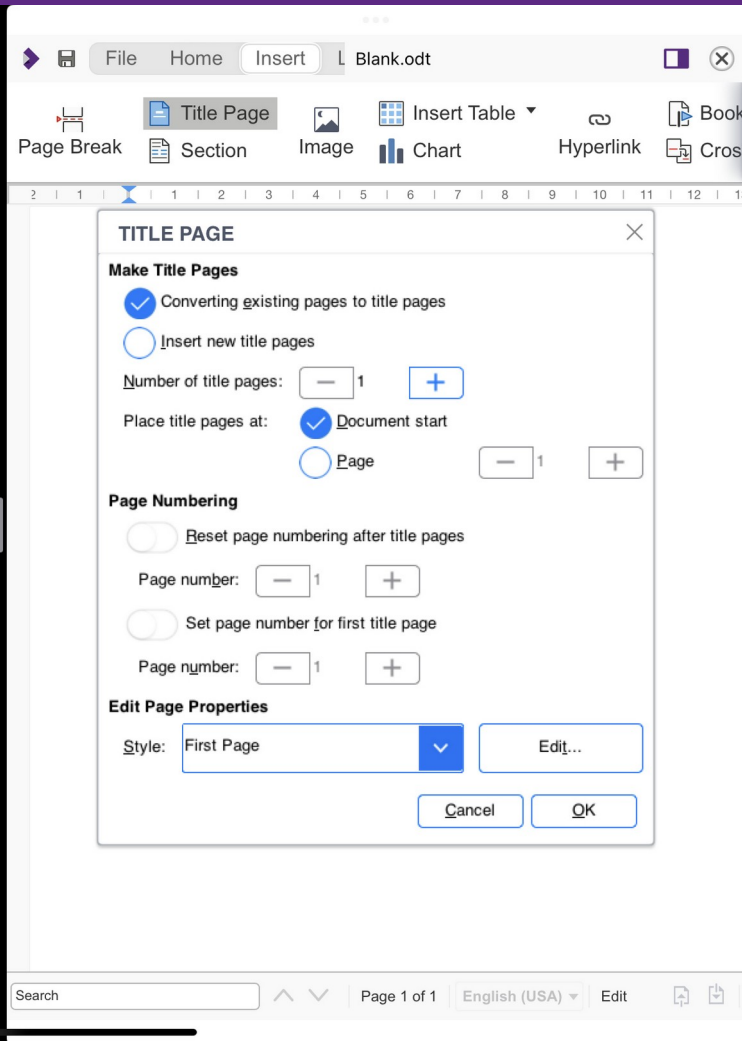
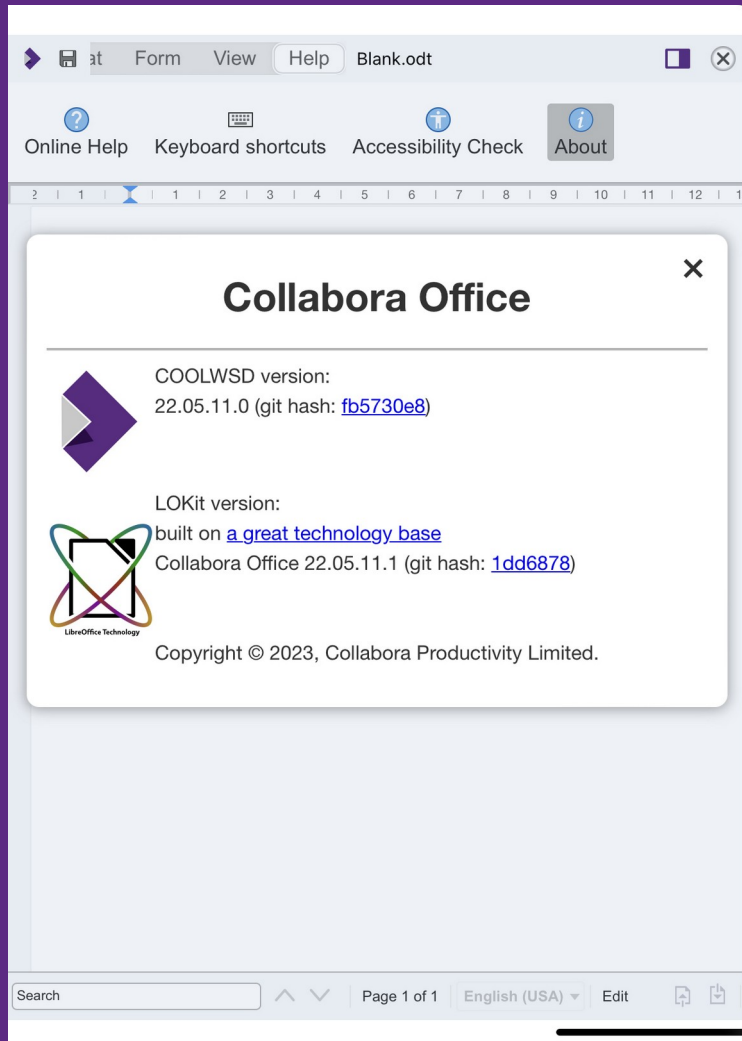
Xcode
requires that
your Apple
Team ID has a
unique
bundle ID





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

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