

# Writing Android applications with Python and Qt Quick



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# Overview

- aim
- components
- from zero to here ~~to~~ APK
- not just a proof of concept
- resources

# Aim

- making it easy write Python applications for Android
  - using easily available tools
- using a fast & powerful GUI library with good Android support
- the end result should be a standalone Android Package (APK) with no external dependencies
  - can be installed on any Android device without root, can be distributed in app stores, etc.

# Components

- Python 3.4
  - needs to be compiled for Android and bundled
- Qt 5.3 for Android
  - from Qt Android SDK, needs to be bundled
- PyOtherSide
  - Python ↔ Qt Quick 2.0 bindings
  - built against the Python and Qt and bundled
- application code (Python & QML code)
  - bundled with the rest

# From zero to ~~hero~~APK

- statically cross-compile Python 3 for Android using the Android NDK
- statically compile PyOtherSide against the Android Python build and bundle the Python standard library inside the PyOtherSide binary as a zip file in a Qt resource
- move the libpyotherside.so to the relevant import dir
  - like: /opt/Qt5.3/5.3/android\_armv7/qml/io/thp/pyotherside
- use the Qt 5 Android SDK to make a QtQuick application - the SDK will handle bundling the PyOtherSide binary automatically, application files are bundled in Qt resources
- full guide:
  - <https://github.com/thp/pyotherside/blob/master/docs/index.rst#building-for-android>

# Not just a proof of concept

- gPodder
  - a comprehensive podcast player
  - the first application using this method
  - already published on Google Play
    - <https://play.google.com/store/apps/details?id=org.gpodder.android>
- modRana
  - a flexible navigation system
  - the second application using this method ;-)
  - available from:
    - <http://modrana.org/packages/android>
  - soon also from Google Play and other Android stores

# Resources

- the full guide:

<https://github.com/thp/pyotherside/blob/master/docs/index.rst#building-for-android>

- working Python 3.4 for Android

<https://github.com/thp/python3-android/tree/fixes>

- Qt 5 for Android

<http://doc.qt.io/qt-5/androidgs.html>

- PyOtherSide project

<https://github.com/thp/pyotherside>

<http://pyotherside.readthedocs.org/>

- gPodder Android project for QtCreator

<https://github.com/gpodder/gpodder-android>

- modRana Android project for QtCreator:

<https://github.com/M4rtinK/modrana-android>

these slides:

<https://m4rtink.fedorapeople.org/devconf2015>