Java on iOS
SDJUG 2014
INTRODUCING J2OBJC & ROBOVM
MULTI-PLATFORM DEVELOPMENT?

Reuse as much code & components as possible between different "mobile" platforms
It is hard!

- Develop several native apps ("reuse concepts", mobile GW)
- HTML5/JS based hybrid apps (e.g. Cordova, Appcelerator)
Other choices

- MDSD/MDA model driven approach (e.g. iphonical, applause)
  - JavaScript to native bridge (e.g. Transit)
- Commonly used C/C++ libraries (with NDK)
But, can I run Java on iOS?
Yes, absolutely!

* Transpile code: J2Objc, XMLVM
* Cross-compile code: Xamarin (C#), RoboVM (Java)
LOOK AT J2OBJC

- Transpiler: Java source code to Objective-C source code
- Open source project from Google
- Used in Google Drive
- Write non-UI (such as data access, or application logic) in Java
J2OBJC SUPPORTS "MOST" JAVA LANGUAGE AND RUNTIME FEATURES

- exceptions
- inner & anonymous classes
- generic types
- threads
- reflection
J2ObjC is currently between alpha and beta quality.
$ j2objc HelloWorld.java
translating HelloWorld.java
Translated 1 file: 0 errors, 0 warnings

=> HelloWorld.m, HelloWorld.h
Compile translated file

$ j2objc -c HelloWorld.m

Build an executable

$ j2objc -o hello HelloWorld.o
$ ./hello HelloWorld
hello, world
HOW TO INTEGRATE IN DEVELOPMENT?

1. External build
2. Xcode build rule
LOOK AT SOME EXAMPLES
(LIVE DEMO)
ABOUT ROBOVM

Our mission is to bring Java to iOS and to do it properly. We empower the Java developer.
LOOK AT ROBOVM

- Cross-compiler: Java bytecode into native ARM or x86 code.
- Open source project driven by Trillian Mobile AB
- Used in many mobile games (libGDX)
- Build complete iOS Apps using native UI's and full hardware access
OPEN-SOURCE

The compile time tools are GPLv2 licensed.

Runtime code is licensed under business friendly licenses, mostly the Apache License v2.0.

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ROBOVM FEATURES

- Currently based on Android Java Runtime
- Eclipse integration (Plugin)
- Create App Store ready apps
http://www.robovm.com
RoboVm probably not production ready but used successfully anyways
ECLIPSE PLUGIN AVAILABLE IN MARKET

http://download.robovm.org/eclipse/
EXAMPLES

$ ~/Development/robovm/robovm-1.0.0-alpha-04/bin/robovm -verbose -cp bin/ HelloWorld

=> *.o file created plus executable
LOOK AT SOME EXAMPLES
(LIVE DEMO)
THANK YOU!

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Mobile Enterprise & Adaptive Enterprise
ARCONSIS - SERVICES

- iOS & Android trainings (arconsis academy)
- Mobile development (native + mobile web)
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