Get the code and presentation

Tim Mackenzie

http://ProjectJourneyman.com/dcc12

Managing Multiple Android App Markets with Conflicting Requirements

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This Presentation (slides, code, additional info):

http://ProjectJourneyman.com/dcc12

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Desert Code Camp

Where are we again? Who is this presentation for?

- Primarily, developers and publishers
  - Increase reach and impact of an Android app
    - (read: more revenue from an existing app)
  - Frustration/confusion with 3rd party markets
  - Constrain costs to engage these app markets

What we're going to cover

Costs and benefits to tailoring your app

Some of the most common conflicting requirements

Some potential solutions

What you'll leave with

An idea of why/if you should pursue deployments to different Android app stores

A solid understanding of where the requirements for Android app stores differ

An idea of what can be done to reduce effort and complications involved with compliance

Who am I? Why should you listen?

SimplifyNow Software.com

- Escaped cubicle to run a small business doing Android development, research, and consulting

- Author of the Android Market Alternatives report

- Direct experience distributing through a number of Android app stores

- Desire to share this knowledge and save others from having to do the same research

ProjectJourneyman.com

Who are you? Audience Survey

- Experiences and needs of you, the audience
  - Your role
  - Your organization
  - Your platforms
  - Your frustrations

Ask Questions

- You're here to learn – if you have questions, feel free to ask them

Background: What do I mean by "Multiple App Stores"

- Android users have choices where to get apps.

- This can be good and bad for developers and app publishers.

- Not all devices are tied to Google Play

- More effort to release to all Android channels

More Background

- App ecosystem is dynamic

- Not likely to stabilize out to a single winner

- Must deploy to sole-source providers to reach those customers

Business Impacts

- Adding support for additional app stores increases costs

- Maximizing ROI involves finding app stores with the best results for the least effort.

High Profile Markets

Google Play (formerly the Android Market)

The Amazon Appstore
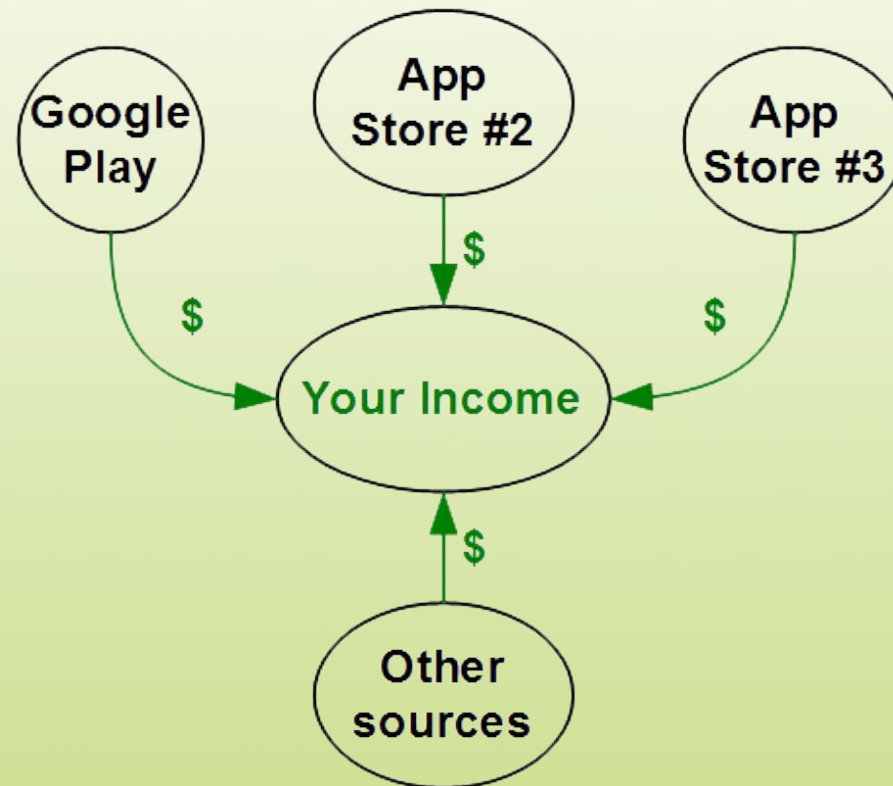
The Nook Store

BlackBerry AppWorld

Samsung Apps

Several others will be covered in passing

Costs and Benefits

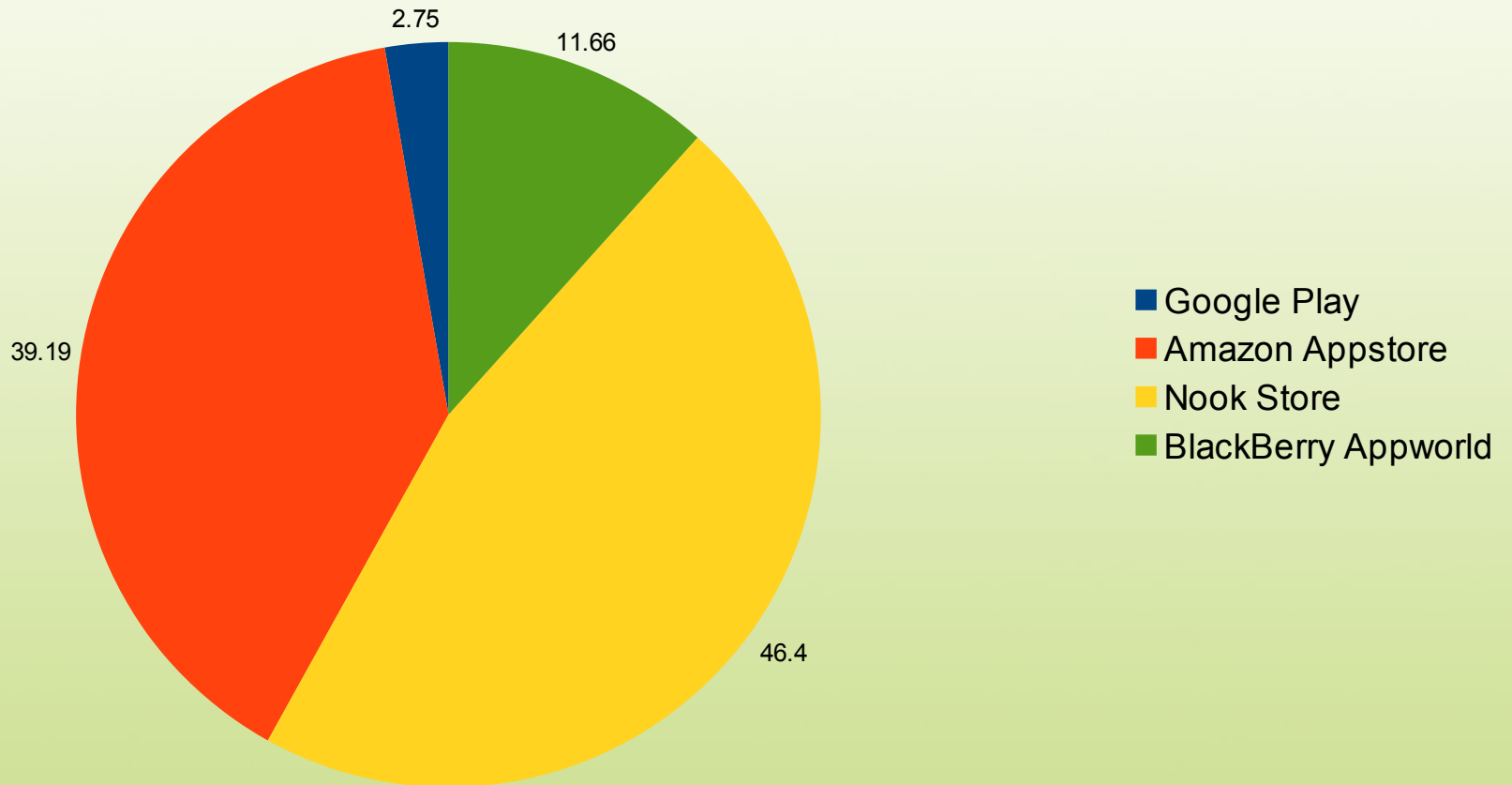There had better be a reason for doing this.

Multiple Streams of Income

Benefits

- More users, downloads, and sales

- Brand ubiquity

- Search engine presence

- User experience across all devices

# 30 Day Sales Revenue
From a recent app launch (Early 2012)
Be aware, results may not be typical

2.75

11.66

39.19

46.4

- Google Play
- Amazon Appstore
- Nook Store
- BlackBerry Appworld

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30 Day Total Revenue
From a recent app re-launch (October 2012)
Be aware, results may not be typical

Pie chart values: 3.5, 10.6, 10.6, 1.4, 73.9

Legend:
- Google Play
- Amazon Appstore
- Nook Store
- BlackBerry AppWorld
- Samsung Apps
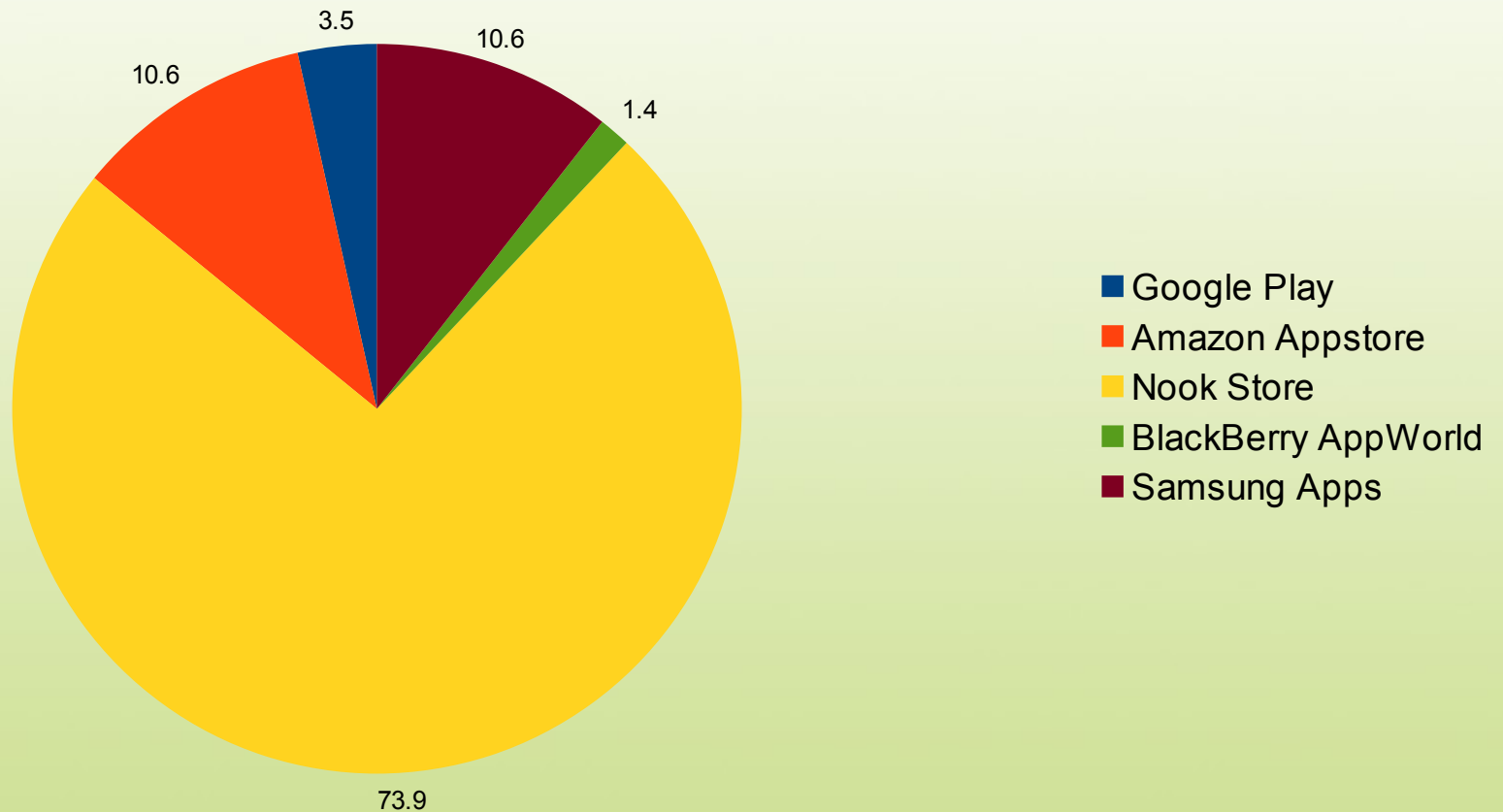
Costs

- Initial development costs

- Maintenance costs

- Decisions – the road not taken

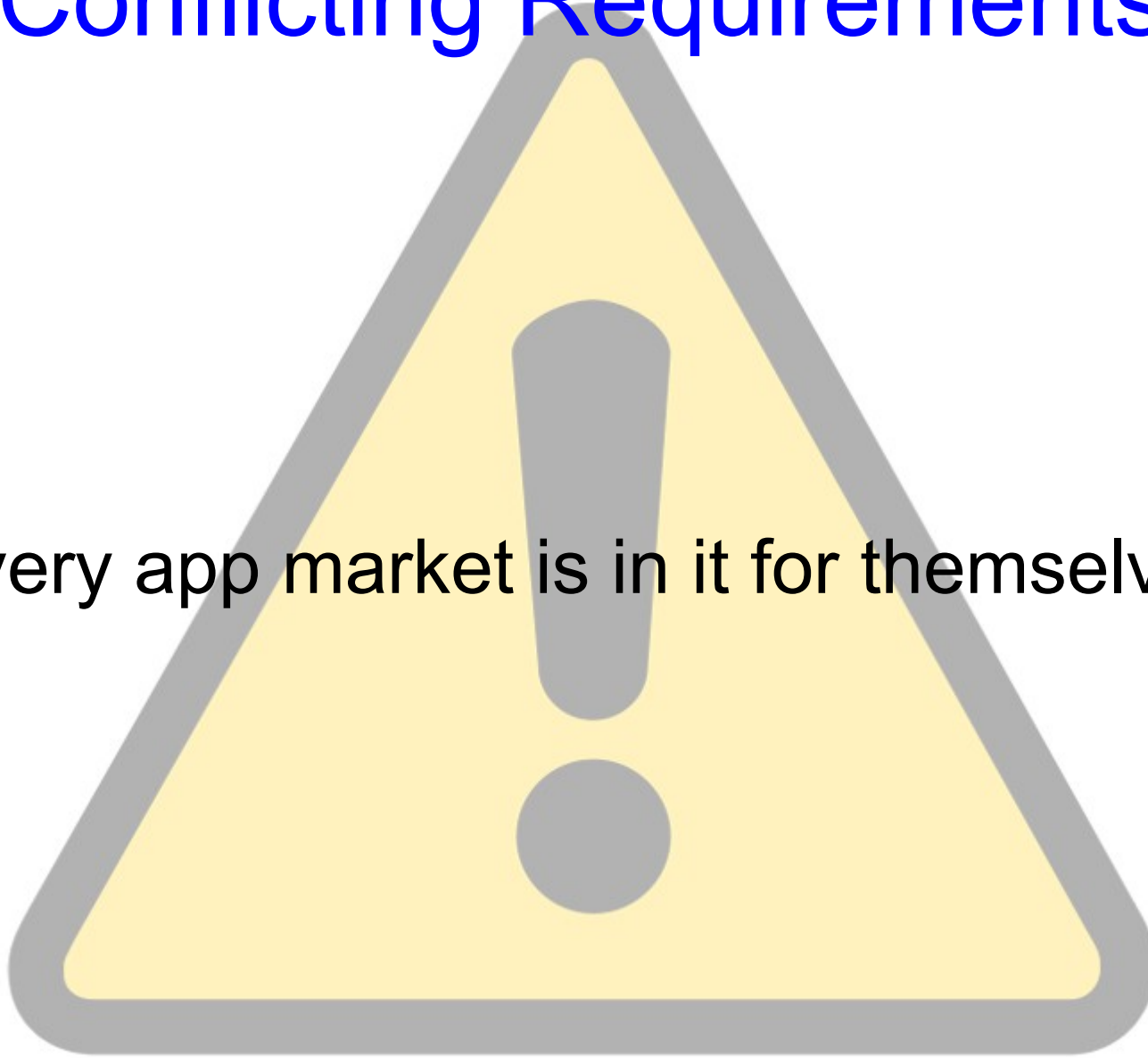- Internal testing/QA

- Account fees for app stores

More Costs

- The costs of failed QA compliance
  - Time
  - Effort

Conflicting Requirements

Every app market is in it for themselves

Types of Conflicts

- Market linking

- In-app billing

- Licensing/DRM/Copy protection

- Use of hardware and software APIs

- QA requirements

Not all Requirements are Bad

➕ Good Requirements

- Result in a higher quality app for all
- Related to user experience

✖ Conflicting Requirements

- Specific to business needs of that app store
- Don't improve quality of app

Summary of Requirements

- Evaluate your external requirements (hardware, software, APIs, services)

- Any dependency can affect ability to deploy to new Android app markets

Solutions

There's gotta be some hope, right?

No Silver Bullet

Unless you get one at the bar

Categories of changes

- External

  – Deployment assets
  – Marketing

- Internal

  – Affects the .APK

Changes inside your app

- Upgrade dialogs within app

- "Other apps by this dev"

- Shared links (SMS, social media, etc.)

- Integrated advertising

- In-app billing

- Licensing/DRM

- External storage media access

- Mapping

Desired Criteria

- Low effort for continual re-deployment

- Low maintenance overhead

- Low setup costs

- High reliability for compliance

Toolbox

Library Projects! (they're your friend)

- Single point of maintenance for common code.

- Make multiple implementations that can be used interchangeably

For more, see:

https://developer.android.com/guide/developing/projects/projects-eclipse.html

Code!

- Code from this presentation is available at:

  - https://GitHub.com/TimMackenzie

- Links to the code, as well as this presentation are also available at:

  - http://ProjectJourneyman.com/dcc12

Market Linking

- Very common requirement, but one of the easier issues to resolve

- Must link within the target app store for ALL outgoing links

  - Failure to do so may result in QA rejection

  - Mobile ads may or may not cause problems

Linking Options

- Auto-detect the installed app markets

    - One build

    - Problematic

- Static behavior at build time

    - Requires separate builds

    - More reliable

Linking Mechanism
<URL prefix><package name>

Google Play prefix:

- market://details?id=

- http://play.google.com/store/apps/details?id=

Amazon Appstore prefix:

- amzn://apps/android?

- http://www.amazon.com/gp/mas/dl/android?p=

Samsung Store prefix:

- samsungapps://ProductDetail/

Nook Linking Mechanism

\<URL Prefix>\<App EAN>

Nook Prefix (web only):

- http://nookdeveloper.barnesandnoble.com/tools/dev/linkManager/

BlackBerry Linking Mechanism

<URL Prefix><App ID>

BlackBerry Prefix:

- appworld://content/

- https://appworld.blackberry.com/webstore/content/

Linking to All Apps by Developer

Amazon Appstore

- <prefix><packageName>&showAll=1

Google Play

- <prefix><vendorID>

BlackBerry Appworld

- <prefix><vendorID>

Samsung Apps

- <prefix><Developer Name>

Android Market Manager

https://GitHub.com/TimMackenzie/AndroidMarketManager

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Android Market Manager Features

- Market-specific logic is encapsulated

- Automatically use correct linking to take user to *their* app market

  - For just this app

  - For all apps (by developer ID)

Android Market Manager Test
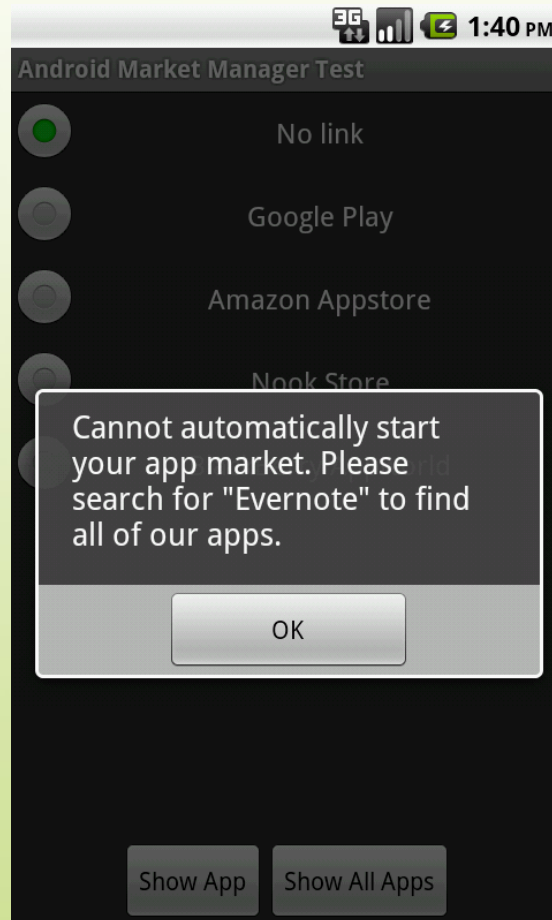
```
AMMLinks.marketShowApp( this,
                        getRadioSelection(),
                        APP_PACKAGE,
                        NOOK_EAN,
                        BBID,
                        DEVELOPER_NAME);


AMMLinks.marketShowAll( this,
                        getRadioSelection(),
                        GOOGLE_DEVELOPER_ID,
                        AMAZON_DEVELOPER_ID,
                        BB_DEVELOPER_ID,
                        DEVELOPER_NAME);
```
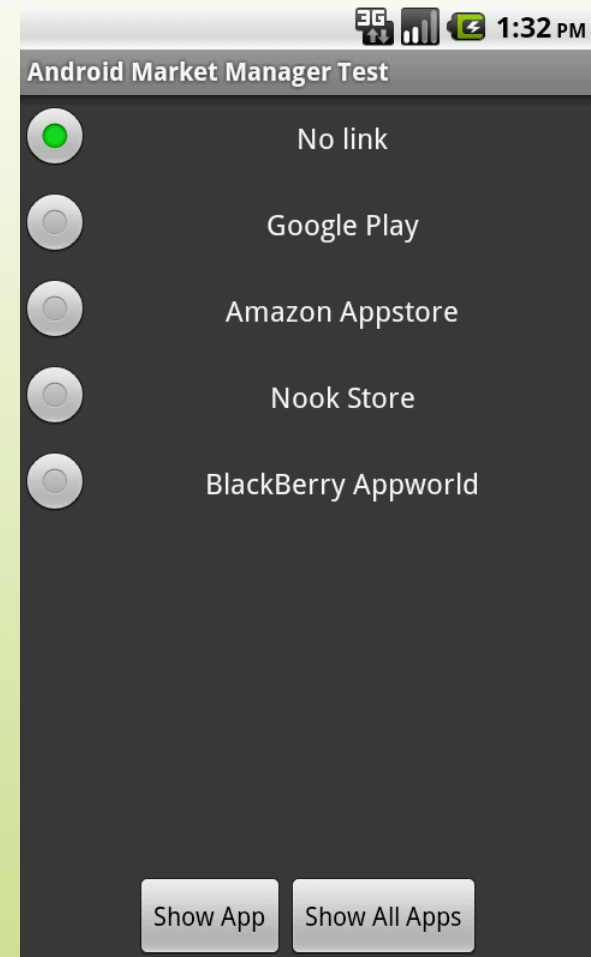
Fallback Plan

In-App Billing

- More challenging issue to resolve

- Most of the big players have their own solution, and want you to use it

- Beware of vendor hype – don't violate terms of your app markets

Handling In-App Billing

- Focus on selected markets

- Either:

  - Build library projects that can be easily swapped out

  - Bundle all solutions together and add logic to execute correct one

Licensing, DRM, Copy Protection

- Also a difficult technical problem to resolve

- Optional to implement

- All market-supplied DRM solutions are incompatible with other markets

Don't Do It!

- For smaller developers, this may be an expensive burden

- If you must, investigate either:

  - Library projects to isolate licensing code

  - A market-independent licensing solution

Incompatible Hardware

- No way around it – if your app REQUIRES a missing hardware feature, this isn't a good market for this app

- Some markets have soft limitations – Amazon supports devices other than Kindle Fire

- Some markets have hard limitations, such as Nook and BlackBerry (for Playbook)

Inaccessible APIs

- Most Google-related apps are unavailable on non-"Google Experience" devices

- Some services have alternatives that work on all platforms (e.g. Bing Maps)

- Some features are just plain not available

Handling Incompatible Hardware/Software

- Make hardware optional if possible

- Where possible, investigate cross-platform APIs

- Implement device/platform-specific workarounds as necessary

More Problems?

- Sharing data between apps

- SD Cards and media

- Usability requirements

- Text-to-Speech (TTS) & Speech-to-Text (STT)

- Other problems-to-be-found

Deciding Which Markets to Pursue

Unless you have unlimited time.

Evaluate New App Markets

- MANY app markets out there

- Not all of them are worth your time

- Need criteria to help decide

Evaluation Criteria

- Language

- Download counts

- Fees

- Handling of different Android versions

- Difficulty to deploy

- Payout thresholds (for paid apps)

- Target demographic

Go-No Go decisions

- High-Impact markets
  - Google Play (previously the Android Market)
  - Amazon Appstore
  - Nook Store
  - Blackberry Appworld
  - Samsung Apps
- Others to pursue (several are worthwhile)
  - Per your needs (free/paid, localization, target demographic, etc)

Conclusions

If nothing else, your takeaway is that there were some conclusions

Summary

- There are costs and benefits associated with deploying to different Android app stores

- Many markets have requirements that conflict with each other, which requires some planning

- There are a few ways to reduce the costs related to development and compliance

Your Thoughts?

Feedback

Your experiences

http://ProjectJourneyman.com/dcc12

Local Developer Groups

Phoenix Google Developer Group

http://phoenix.gtugs.org/

Phoenix Mobile Meetup

http://www.meetup.com/phxmobi/

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