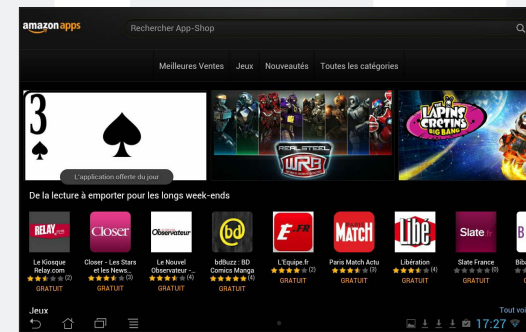
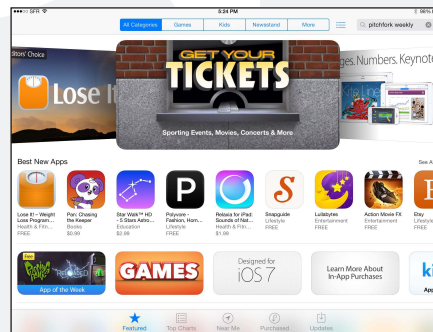
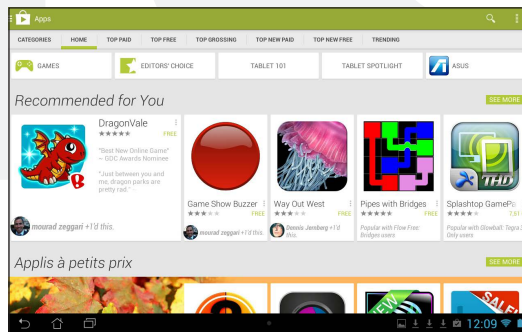


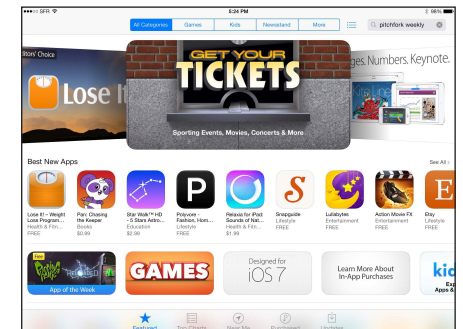
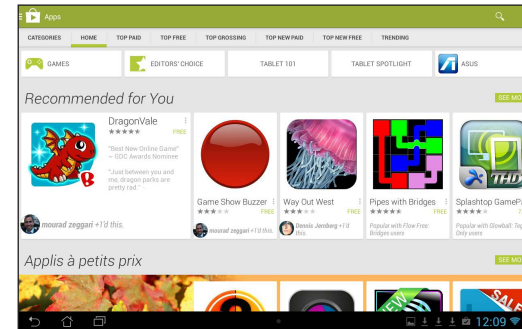
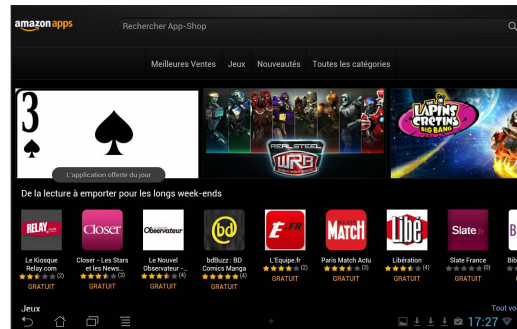
# Google vs. Apple vs. Amazon: The 2013 **App Store Maturity Shootout**



**Pfeiffer**  
Report  
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# Introduction



Apps are essential. **When we buy a tablet or a smartphone, it is a world of apps we are acquiring;** by that token, the app store's efficiency in pinpointing exactly the right apps for our needs is paramount to the overall value of a device.

## **But how good are they?**

This report answers two simple questions: first, **how mature are the three major app stores,** and, more importantly, **how good could they be?**

The answers may surprise you...

This report analyzes the three major app providers for smartphones and tablets, the **iOS App Store** from Apple, **Google Play (Apps)**, and the **Amazon Appstore**.

**All app stores provide the same core functionality:** they display apps listed in order of popularity, organizing them in a basic set of categories, and sorting them according to a fixed set of criteria ("most popular free"; "trending") and add a certain number of handpicked apps to the mix.

This report looks at **what lies beyond this core functionality.** How do app stores help you mine the amazing variety of apps that is out there?

Simply put, the mature app store should not be envisioned as a simple market place to purchase apps, but as **a tool that empowers you to reach the full potential of your**

**device—whatever your interests or level of expertise.**

We need to go back to the main problem that needs to be solved: **to guide you through the maze of hundreds of thousands of apps to the ones that correspond to your specific needs at a given point in time.**

Simply displaying rows and rows of popular apps just doesn't seem good enough anymore.

And once you start imagining what *could* be there, you realize that **none of the current instances come even close to providing the features a mature app store could provide.**

Perhaps the role of this report is also to act as a reminder **of what's still missing...**

# Research Overview

To analyze and rate the maturity and sophistication of the available app stores we used four specific research angles: **search**, **discovery assistance and content curation**, the **App Store Maturity Evaluation Grid**, and App Store User Experience Friction, or **App Store UXF**.

All of these aspects were rated based on the **2013 App Store Reference Definition**, an idealized set of features for a mature, sophisticated app store developed by Pfeiffer Consulting, making it possible to quantify the maturity of currently available app stores in a more objective way, by comparing them not only to their direct competition, but to an independent reference. **Details**

## Search

All app stores support search, yet there are significant differences in the sophistication of app store search.

To rate the search function, we established a **detailed analysis grid** that surveyed the search capacities of each app store in terms of complexity and sophistication of search supported.

The following aspects of app store search were covered: **Natural language search**, support for **search operators**, correct search despite **typing mistakes**, **advanced search** restricting search results to **specific categories and criteria**, **refining search results** according to one or multiple criteria as well as sorting search results by specific aspects, etc.

## Discovery Assistance

Guiding the user to exceptionally useful or interesting apps is one of the key areas where app stores can add value for the user.

The survey of discovery assistance and app store content curation is based on the 2013 App Store Reference Definition and empirically surveys the following aspects: **clear distinction between tablet and phone apps**, number of **specially selected groups** of apps, number of **specially selected apps**, app suggestions based on **specific user needs, interests or professional activities**.

## App Store Evaluation Grid

The App Store Evaluation Grid allows researchers to rate app store maturity according to a list of eight criteria based on the App Store Reference Definition.

In a nutshell, **the App Store Evaluation Grid provides a clearly defined and graded set of criteria** that are then mapped to a rating for each attribute, providing an overall maturity score for the app store.

## App Store UXF

User Experience Friction (UXF) exists for app stores as much as it does for devices and operating systems, and in some cases it can take a serious toll on the user experience of using an app store.

Basically, UXF occurs whenever a device does not do what you expect it to do, lacks a key feature that should be available, or slows you down or frustrates you in any perceptible way.

**For this survey we took only the high profile UXF factors of app stores into account, and rated them.**

# Search

Search is one of the most important features in an app store, and there is no doubt that all of the providers are spending a considerable effort on optimizing the search engines built into their app stores. Yet a lot of these efforts, such as ranking

algorithms, remain hidden from the customer, **while relatively basic user-centric search functionality may not be supported** - not even from companies as experienced in search as Google. **Detailed results are [here](#).**

The analysis of the search function in App Stores was based on five key criteria (natural language search, support for search operators, searches containing typos, advanced search options, etc.)

The results show that **all three app store providers could do much better** in terms of user-focused search options.

Amazon Appstore	Google Play (Apps)	Apple iOS App Store	App Store Reference
<b>Search Rating: 14/100</b>	<b>Search Rating: 33/100</b>	<b>Search Rating: 25/100</b>	<b>Search Rating: 100/100</b>
<b>Amazon's App Shop search engine realizes the lowest score in the search benchmark:</b> search operations containing typing mistakes (an extremely frequent occurrence) are unknown, there is no support for natural language search, or for any advanced search operations.	Not surprisingly, Google Play has the highest score in the search category, yet the creator of Android <b>completely lacks natural language search</b> (i.e. "What is the best app for 6th grade math?") and, surprisingly, <b>does not support advanced search criteria</b> , focusing the range of search operations to specific criteria.	<b>Search options in the Apple App Store are very limited</b> , notably lacking support for even the simplest search operators, and faring much less well than Google on searches containing typos. <b>Natural language search is completely absent.</b>	<b>A perfect score would require:</b> <ol style="list-style-type: none"><li>1) Natural language search</li><li>2) Boolean search (for instance "Football NOT games")</li><li>3) Searches containing typing mistakes</li><li>4) Advanced search operations (restrict range of search results)</li><li>5) Sorting of results following multiple criteria</li></ol>

App Store Search Sophistication Comparison **Higher is better**



# Discovery Assistance and Content Curation

Beyond popularity ratings, what do the app stores offer to enhance **serendipitous discovery of apps** for a great variety of users and interests? This benchmark empirically surveyed the number of specially featured apps, number of groups of apps for specific needs and activities, as well as number of subcategories.

**Results vary greatly.**

Helping the casual user discover apps that he would never have thought about is one of the most crucial aspects of a mature app store: **aiding and guiding the user to the most useful app**, whatever his background or his specific needs at the moment.

We analyzed what the three contenders have to offer. **Detailed results are [here](#).**

Amazon Appstore	Google Play (Apps)	Apple iOS App Store	App Store Reference
<b>Discovery score: 8.4/100</b>	<b>Discovery score: 2.25/100</b>	<b>Discovery score: 44/100</b>	<b>Ideal score 100/100</b>
Amazon's Appstore is relatively new and significantly lags behind Google and Apple in terms of overall available apps. In terms of discovery assistance and content curation for apps, <b>Amazon offers a somewhat more sophisticated structure and organization than Google.</b>	Google has been pushing its on-line market place for Android very hard over the past two years, yet in its current state, <b>Google Play offers almost no informed guidance to help users find apps that are specifically tailored to their needs.</b> The Android app store offers just 36 specially selected app groups and sub-categories, and only 235 specially selected apps.	Of the three app stores surveyed here, <b>Apple offers by far the largest number of specially selected groups of apps, and over 3,500 specially selected apps</b> that cover a wide range of interests and application areas. <b>Nevertheless, Apple significantly lags behind the App Store Reference.</b>	<b>A perfect score would require:</b> <b>1)</b> sophisticated, multi-level categorization <b>2)</b> App selections for a comprehensive range of interests and occupations <b>3)</b> App Store sections for a comprehensive range of user needs and activities <b>4)</b> Wide range of specially selected groups based on usage trends and user needs.

App Store Discovery Assistance Comparison **Higher is better**



# App Store Evaluation Grid

The App Store Evaluation grid provides a unified score based on eight key characteristics that are individually rated on a scale of 1 to 5.

Detailed results are [here](#).

The eight characteristics analyzed here are **the key aspects that differentiate a mature app store from the baseline functionality prevalent today.**

Areas analyzed include content curation and presentation of individual apps, among others.

Amazon Appstore	Google Play (Apps)	Apple iOS App Store	App Store Reference
Overall rating: <b>40/100</b>	Overall rating: <b>42,5/100</b>	Overall rating: <b>67,5/100</b>	Ideal score <b>100/100</b>
Despite its position is a market leader in on-line commerce, <b>the Amazon Appstore remains limited in scope:</b> the selection appears much more limited than on Google Play or Apple's App Store; there is no clear indication which apps have been optimized for tablets, and there are very few specially selected apps and groups to target specific interests and uses.	Google Play offers <b>only very basic qualitative enhancements</b> to baseline app store functionality; tablet-enhanced apps are not clearly identified; there is a lack of independent editorial content and recommendations other than user comments, and only very basic selections and groupings of apps according to the needs of specific users.	While <b>Apple's app store is ahead of the competition</b> in several areas of the App Store Evaluation Grid, <b>its reach could be expanded significantly</b> by adding proper reviews and recommendations, as well as app-related editorial content that would transform the algorithm-driven store of today into a more valuable resource on apps.	<b>A perfect score would require:</b> <b>1)</b> clearly labeled tablet-specific apps; <b>2)</b> clearly recognizable professionally developed apps; <b>3)</b> excellent documentation of individual apps; <b>4)</b> excellent search environment; <b>5)</b> editorial content and recommendations; <b>6)</b> activity based groupings and selections; <b>7)</b> intelligent discovery assistance

App Store Evaluation Grid Score **Higher is better**

Amazon Appstore

Google Play (Apps)

Apple iOS App Store

App Store Reference

# App Store UXF

UXF (User Experience Friction) occurs whenever a device or service does not do what you expect it to do, lacks a key feature that should be available, slows you down or frustrates you in any perceptible way.

For this survey we took only the most obvious UXF factors of app stores into account, and rated them.

**Detailed results are [here](#).**

Yes, User Experience Friction also exists in app stores, as this survey documents. Looking at the UXF findings in detail **allows us to underline some of the issues in app stores that we have long overcome in stores for physical goods**, such as regional lock-in, i.e. the fact of forcing a user to shop at a specific local store, rather than letting him decide on his own where he wants to shop.

Amazon Appstore	Google Play (Apps)	Apple iOS App Store	App Store Reference
<b>UXF Factor:</b> <b>26</b>	<b>UXF Factor:</b> <b>14</b>	<b>UXF Factor:</b> <b>24</b>	<b>Ideal score</b> <b>0</b>
<b>Amazon has the highest UXF score in this research</b> , which is surprising, given Amazon's long-standing experience in on-line commerce. Particularly noticed were aspects like regional lock-in, which, ironically, does not at all occur in Amazon's traditional web-sites.	<b>Google Play scores the lowest UXF rating:</b> while the store lacks the depth of Apple's App Store, it has <b>a coherent, easy to navigate structure</b> that avoids some of the inconsistencies one can notice at Apple. This does not mean that it <b>doesn't have some serious UXF issues</b> as well, such as regional lock-in, for instance.	Apple has a surprisingly high UXF score, linked to <b>usability issues and a somewhat overpowering app store structure</b> that is not differentiated enough to support the diversity of apps and special user needs that are being addressed by app developers.	<b>A perfect score would require:</b> The ideal score for UXF is of course zero—no occurrences of user experience friction. But while a completely frictionless user experience is hard to imagine, <b>none of the UXF occurrences surveyed in this research should occur in a mature app store.</b>

App Store User Experience Friction Comparison **Lower is better**

Amazon Appstore

Google Play

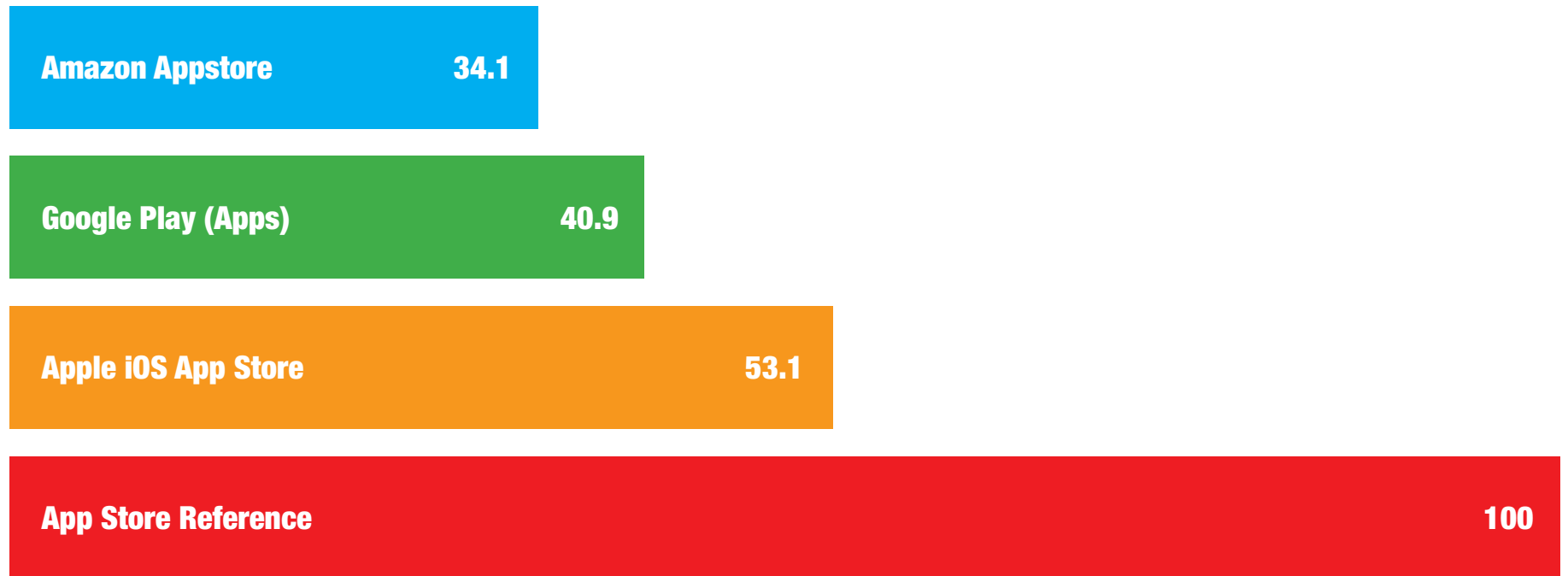
Apple iOS App Store

App Store Reference

# Overall App Store Maturity Index

The combined results of the four different benchmarks and evaluations underline two key findings: **1) Apple is so far clearly ahead of the competition in terms of overall app store maturity** and **2) None of the app stores come even close to the ideal score at this time.**

Overall App Store Maturity Index **Higher is better**



**How the overall results were calculated:** Each category was assigned the same weight in the overall score, i.e. 25%. An ideal score of 100 was assigned for each category (which currently no app store approaches at this point). The User Experience Friction index was input as a negative number, i.e. deducted from the ideal score. The final score is the average of the results for each category.



# Overall Results by App Store

By and large, **Apple comes out as the winner of the 2013 App Store Maturity Shootout**, but that should not distract from the fact that none of the contenders come even close to reaching the kind of maturity that users should be entitled to expect in this rapidly developing market. **The preoccupying question remains: what long-term effect will this lack of maturity of the app stores have on the market and development of apps over time?**

## Amazon Appstore

App Store Maturity Index: **34.1/100**

With a total number of apps that is less than one-tenth of the number of apps available on Google Play or the iOS App Store, Amazon is a distant third in overall importance.

In its current state, **the Amazon Appstore for Android looks more like a recycling effort of the Appstore for Kindle than an effort to run head-to-head with Google for Android apps.**

In terms of overall maturity as well, Amazon's appstore is a bare-bones affair that offers little of the sophistication Amazon manages to bring to its other e-commerce properties. This is surprising, since Amazon clearly tries to present its Kindle devices as a mature content platform, yet does not even make the effort of presenting reading-related apps like digital magazines in a more compelling way.

## Google Play (Apps)

App Store Maturity Index: **40.9/100**

Google is clearly hard at work to make Google Play a universal platform for all digital content, ranging from books, music and films to apps for Android.

The App section—which was the only one analyzed for this report—is **well thought-out and structured for an almost completely algorithm-based storefront, but clearly needs significant injection of human content curation to make it more compelling** and to do justice of the range of apps that must be available in the store.

**The fact that there is still no clear distinction between tablet and smartphone apps is a serious drawback** for tablet users, since tablet-optimized apps are very hard to find in the overwhelming number of phone apps.

## Apple iOS App Store

App Store Maturity Index: **53.1/100**

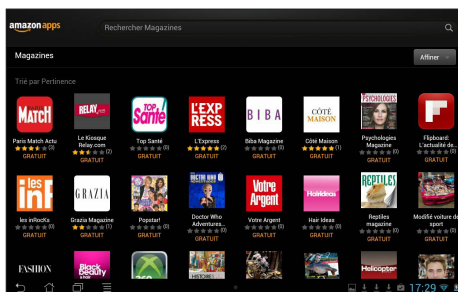
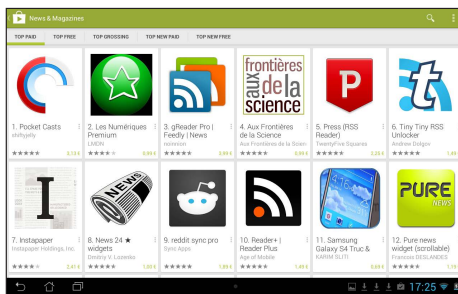
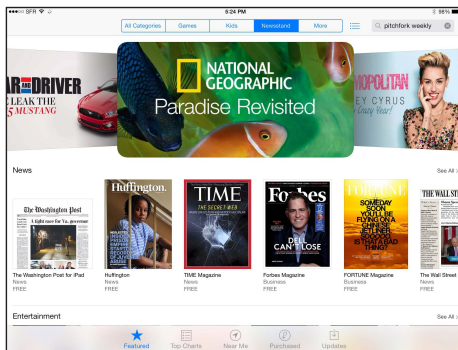
While **Apple has currently the most mature app store**, the company **does not manage to completely open up the potential** of its app environment.

The impression created by Apple's app store is that there is a great diversity of useful apps there—**yet the company falls distinctly short of making the app store a place one would like to visit for its own sake**, to find out more about apps and trends in this market.

This is regrettable, since Apple is in a unique position, both in terms of user base and resources, to create an environment that would truly set its platform apart.

**What really sets the iPad apart from the competition is not hardware any more, but the impressively rich device universe.**

One may wonder if Apple has fully embraced this notion.



# Analysis

If there is one thing to take away from this research, it's the following: **There are many major aspects of app stores that are often overlooked,** and many others that nobody—at least none of the 3 app providers we analyzed here—seems to have taken a noticeable interest in.

Perhaps this report will help to increase awareness and get the discussion going...

When you spend a lot of time analyzing and comparing app stores, a few dominant themes start to emerge.

## **1) It's not the number of apps that counts...**

**Bragging about the total number of apps the way app store providers sometimes do is pointless.** Amazon “only” has 85 000 apps it seems, yet it could be the very best app store on the planet—if *they were the right apps*. The proud claims about the number of apps available we get from Apple and Google have only one primary function: to show developers and users that their platform is thriving, to make sure they go on developing for it, and, if possible, to give it priority over the competition.

## **2) Do we know what is really on offer in each store?**

It would be a fallacy to assume that, **since Apple and Google both claim comparable numbers of available apps, that the apps in question are more or less the same on each platform.** Of course there is a lot of overlap, especially in highly popular apps such as top-rated games

or popular social media apps, but take a close look at the app stores and you realize: **they are not really offering the same apps at all.**

This is not *per se* very surprising—different tools and work environments yield different results. The Mac inspired different programs to the PC, and from what we have seen in our research, the same is true for iPhone and iPad compared to Android.

## **3) Current app store implementations do not reflect the real challenges.**

The important question that needs to be answered is: What is really happening in the market?

At first blush, you can't blame the app store providers for not doing their job. All Google, Apple and Amazon are trying to do is sell apps to add value to the tablets they offer.

How do they do this? The way any reasonable programmer would go about it, by creating a sophisticated database that allows users to search for names and keywords. To make it easier to spot potentially interesting apps, they implement sophisticated sorting algorithms that will make the most popular,

# Analysis

(continued)

highest-grossing or best-rated apps float to the top of lists.

There is nothing inherently wrong with this approach—if it weren't for the basic nature of app development and the increasingly important role apps are playing in the most diverse aspects of our lives.

**But this is ignoring the underlying trends: as a development platform, apps have redefined what can be achieved through programming, and, more importantly, who can achieve it.** Tens of thousands of people who would never have written a computer application now create apps. And they all post their new creations in the app stores, which, by and large, is the only way to promote and sell an app.

**With great power comes great responsibility**

**And that's where the challenges—and the responsibility—for the Apples and Googles of this world resides:** By having created an open platform that they are the only ones to administer, their responsibility to users as well as developers **is not only to sell an app** based on whatever

may be popular at a given moment; **their responsibility is to inform about and make accessible** everything that is actually available but may not be easy to find.

In short, ideally, an app store should not only be a store, but also a library—not to mention a unique source of information on apps, since other comprehensive sources of information can't really exist without the direct involvement of the key app store providers.

This is particularly true for Apple: Not only has the company invented the app store, but **as the exclusive provider of apps for its platform, Apple has a huge responsibility to users and developers alike.**

Apple is doing a lot of marketing to promote the app store and exceptional apps, **but a lot more needs to be done to give justice to the true potential of apps,** to the huge amount of creativity that went into creating all those hundreds of thousands of programs.

**The current implementation of the app stores out there is only a pale shadow of what a sophisticated resource could be.**

## Protecting the future

Why is this so important? Simple: **Current app stores do not fully reflect the breadth and richness of apps that are out there.** They work fine if all you are interested in is the next bestselling game. If, on the other hand, you are talking about a truly original app—one that will drive the platform forward if it gets widely used—than the chances of being discovered are slim.

Do we know how many unrecognized gems there are in app stores? Of course not! That's the point: currently we have no way of discovering them—even if we are willing to look for them.

But finding original apps is not the only issue. Apps increasingly cover highly specialized areas. Education, research, thousands of specialized professional areas, passions, interests. How do you find out about all these apps? Well, unless somebody tells you about them it is challenging: there may be the app that really changes your life out there, and you have no way of finding it.

In term, **this lack of organized information on apps could have dire consequences**

# Analysis

(continued)

**for the market on the whole**, stifling the originality of cutting-edge developments by favoring only highly popular items.\*

Just as with show-business and movies, **it's the small independent developers that drive the platform forward.** And if they have no way of being discovered they might just run out of steam. This is already a growing problem in the crowded market for digital magazine apps.

But how *can* they be discovered, if the app store providers don't make more of an effort?

#### **4) You can't automate excellence**

**Human intelligence and creativity:** that's what would be needed to turn current app stores into mature resources, which would be a pleasure to use and visit, and which would draw visitors not only to buy, but to find out more about apps. Yet that's what seems to be sorely lacking today.

What makes this situation so absurd is that

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\* Of course social media are playing a big role in the discovery process of all kinds of on-line content, including apps. But however handy, Twitter and Facebook cannot replace proper referencing, cataloging and organization of millions of apps.

quite ironically, Apple and Google must be investing heavily in human intelligence to screen and approve the thousands of apps posted every day. Couldn't they invest a little bit more human creativity into making the app store more interesting and useful?

All this would not be so much of a problem if there were other sources of information available that do the hard work of digesting, analyzing and reviewing the glut of new apps coming out every day. Nobody expects to get music reviews on the iTunes Store—because there are so many excellent music resources that do a much better job reviewing music than Apple could ever do. *But music is an open market-place, and apps are not...*

#### **5) In an ideal world...**

**The ideal app store is one that is not limited to one platform.**

What really needs to happen is to find a way **to compare the apps on different platforms.** Which is the better environment if you are trying to get your kid the best apps to help with his education? If you are managing a small business, trying to learn an instrument or working as researcher, where will you find

more useful apps?

**In a world of commoditized hardware, apps and the device universe are the only thing that counts in the long run, the only true differentiator between competing platforms,** yet providing meaningful information would be so work-intensive that it would require serious funding.

**In an ideal world, Google, Apple and Amazon (plus a few high-profile app developers) would get together to collectively finance and support an independent resource** that would start creating a reliable, platform-independent information base about all apps. A resource that could independently rate and review all apps, compare platforms, recommend best apps for each use. And, more importantly, an organism that would help define future requirements so that apps can grow up into a mature, fully understood resource.

**How likely is this to happen? Having watched the companies involved for many years, I have my doubts...**

Andreas Pfeiffer, November 2013

# The App Store Reference Definition

Given the increasingly important role they are going to play in the value we derive from our devices, **how good could app stores be** in order to truly help us unlock the incredible potential of those millions of apps out there? To answer this question, Pfeiffer Consulting has created the **App Store**

**Reference Definition:** a clearly defined **list of features an ideal, sophisticated app store could provide.** Needless to say, this is a work in progress: this definition is bound to evolve and expand as the universe of apps becomes more and more sophisticated. For more information contact [research@pfeifferreport.com](mailto:research@pfeifferreport.com)

## Key Features of App Store Maturity

Mature, sophisticated **multi-level categorization**

Sophisticated ways of **listing, sorting and viewing apps**

Sophisticated, advanced **search options**

Sophisticated **discovery mechanisms** for apps and content

**Expert ratings, independent reviews and pervasive editorial guidance**

**Activity-specific and needs-based** organization of app store and app recommendations

Sophisticated **in-store app-demonstrations, preview** and support for **demo versions**

...

## A change of focus is needed

The app store as we know it today has been invented by Apple, and is a direct descendant of the widely used iTunes store for music and video: the organization of content is similar and uses the same basic rating and sorting mechanisms.

There is, however, a significant difference between an on-line content store and a place where you purchase apps: **when you purchase a song or rent a movie, it is likely that you already have a good idea what you are looking for before you log into the on-line store:** there are thousands of very popular blogs, websites and news sources that inform about music and other media, indispensable sources of information to find out what new film or album has just come out.

The same is not true for the app store: except for the few bestselling games and virally popular apps, most users do not have a clear idea of what apps are available before they visit an app

store. This means that **the app store has an essential role to play in guiding and informing the user** that content-centric sites do not have to fulfill.

## A new world is unfolding

The other easily overlooked aspect of app stores are apps themselves, or rather the tremendous evolution in terms of sophistication apps have gone through over the past few years. Driven by the massive adoption of tablet devices, the development of tablet apps for a vast array of specialized areas, ranging from education on every level to scientific, professional and entertainment uses, **apps have redefined what can be achieved computing.**

By comparison, the app stores that serve all these amazing apps to the public have barely evolved, and this brings us to the key question of this report: **what kind of service could an app store really provide** if it were to do justice to evolution and the variety of apps that are available?

The 2013 App Store Reference Definition outlines a first set of criteria developed through the research into app stores Pfeiffer Consulting has conducted over the past year.

This is a first step, of course: the reference definition is bound to evolve and expand as usage of apps becomes even more diversified.

**(For a detailed list of the 2013 App Store Reference Definition please refer to the table next page.)**

# 2013 App Store Reference Definition - Release 1.1

## General considerations

- ▶ Pervasive, clearly labeled distinction between phone and tablet apps
- ▶ Pervasive, clearly labeled distinction between professionally developed and supported apps and amateur/fan apps
- ▶ Access to complete catalog of apps, with comprehensive sorting and selection criteria
- ▶ Pervasive support for rich, multi-level categorization
- ▶ Pervasive support for demo-versions that disappear from purchase history if not definitely acquired
- ▶ Support for management of purchase history
- ▶ Unlimited access to app stores from different countries

## Search

- ▶ Natural language search
- ▶ Support for comprehensive range of search operators
- ▶ Support for search containing typing mistakes
- ▶ Support for advanced search options
- ▶ Support for refining and sorting primary searches
- ▶ App-specific search functionalities

## Presentation

- ▶ Distinct store sections for key areas of activity and user interest
  - » Possibility to limit search to specific store section or category
- ▶ Support for comprehensive selection of listing display options

- ▶ Sophisticated sorting options for search results and listings
- ▶ Support for multiple resolution representation for apps
- ▶ Sophisticated representation of individual apps
  - » In-store demo
  - » Video sequences
  - » Independent reviews and ratings
  - » User ratings
  - » Clear, structured description to present app
- ▶ Pervasive support for in-store demo
- ▶ Pervasive support for independent reviews and ratings
- ▶ App comparison mechanism: support for feature-to-feature comparison of similar apps
- ▶ Rating based on independent reviews
- ▶ In-store discussion groups
- ▶ Ubiquitous, coherent structure for App descriptions

## Content Curation

- ▶ Pervasive high quality, vendor-independent editorial content
  - » Editorial reviews and recommendations
  - » In-depth analysis of trends and over-arching app-related topics
  - » Pervasive editorial guidance for all store sections
  - » Independent app comparisons and bench tests
- ▶ Comprehensive resource center for app-related third-party resources

# Search Benchmarks: Detailed Results

To rate the search sophistication of app stores we established a set of 5 distinct criteria, which were the individually tested and rated. Each criterion had an ideal score of 20, giving a perfect score of 100 for the complete search rating grid

## 1) Natural language search

This test surveyed the capacity of the search engines to deal with search queries formulated as direct questions, such as “What is the best app for 6th-grade math?”.

**None of the surveyed app stores support this possibility.**

## 2) Search queries containing typing mistakes

According to Google, over 50% of search queries contain typos. This test surveyed the search results returned by the app store search engines based on a list of 10 misspelled word (“desgin” instead of “design” for instance). **Google Play is leading in this field, followed by Apple.**

## 3) Support for search operators

These tests covered the support for the most common search operators such as +, -, AND, OR, as well as quotes to define multiple-word search queries. Five different searches were conducted. **Google has the highest score in this test, while Apple’s App Store currently offers no support for common search operators**

## 4) Advanced search options

This test analyzed the support for advanced search options, such as limiting search to a specific time, type of app, category or other criteria. **None of the surveyed app stores support this possibility.**

## 5) Refine search results

This test analyzed the possibilities app stores offer to refine initial search results by sorting them according to one or multiple criteria (e.g. Show only apps that are appropriate for a specific age group and cost less than \$2). **Apple offers the widest range of options in this field, followed by Amazon. Google Play currently does not support this possibility.**

App Store Search Sophistication: Detailed Results				
	Amazon Appstore	Google Play (Apps)	Apple iOS App Store	Ideal Score
Natural language search	0	0	0	20
Search queries containing typing mistakes (positive results)	5	15	0	20
Support for search operators	0	18	8	20
Advanced search options	0	0	0	20
Refine search results	9	0	17	20
<b>Total Results</b>	<b>14</b>	<b>33</b>	<b>25</b>	<b>100</b>

# Discovery Assistance and Content Curation: Detailed Results

In order to quantify the discovery help current app stores provide, we used a purely empirical method: we established a precise count of the number of curated elements that are destined to help users navigate the vast number of apps available today.

## 1) Sub-categories

All app stores offer by and large the same basic categories of apps. (Education, Games, Economy and Finance, Fitness etc.) Where the app stores differ significantly are sub-categories, additional elements that allow users to find the right app. As an example Apple's app store divides the Education category into further categories such as *Middle & High School* and *Preschool & Elementary*. **The survey counted the total number of sub-categories present in each app store. Apple was leading in this field, with 384 sub-categories, while Google Play (Apps) only offers 8 sub-categories.**

## 2) Specially selected groups of apps

The second element of discovery assistance were specially selected groups of apps, ranging from *Staff Picks* to highly activity specific groups of apps, such as *Apps for Healthcare Professionals*. **We surveyed the total number of specially selected groups of apps. Amazon had the lowest score in this category, followed by Google and Apple.**

## 3) Specially selected apps

The final element of discovery assistance that was surveyed were specially presented apps that guide the user towards a curated selection of particularly interesting apps. All app

stores offer some specially featured apps, but in most cases these selections are limited to top-ranking categories such as games. Currently only the Apple app store extends the process of selection deep into the considerable variety of categories, sub-sections and groups. Amazon has the lowest score in this category, followed by Google Play (Apps). Apple's app store features over 15 times more specially selected apps than the closest competitor.

App Store Discovery Assistance: Detailed Results				
	Amazon Appstore	Google Play (Apps)	Apple iOS App Store	Ideal Score
Number of sub-categories	118	8	384	500
Number of specially selected groups of apps	7	28	176	1,000
Number of specially selected apps	99	235	3773	10,000
<b>Total Results</b> <small>(average of results, expressed as percentage of ideal score)</small>	<b>8.43%</b>	<b>2.25%</b>	<b>44.04%</b>	<b>100%</b>



# App Store Evaluation Grid: Detailed Results - Amazon Appstore

The App Store Evaluation Grid was defined by Pfeiffer Consulting to provide a way of rating empirical observations of app stores. It takes **eight key app store characteristics**, and asks the researcher to rate every single one on a scale of 1 to 5, the higher number being a better score.

Once completed, the App Store Evaluation Grid **provides an overall score of a specific app store** that can be documented and compared with others.

<b>App Store Evaluation Grid: Amazon Appstore</b>					
<b>Total Score: 16/40</b>	<b>1 (worst)</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 (best)</b>
Clearly labeled tablet-specific apps	very few	few	some	most	all
Clearly recognizable professionally developed and supported apps	very few	few	some	most	all
Documentation of apps	minimal	user ratings only	Short description and user ratings	short description, user comments and representative screenshots	Reliable independent review and recommendations
Search environment	minimal	basic	ok	very good	Excellent
Editorial content and recommendations	minimal	some generic	pervasive generic	some specialized	pervasive and specialized
Needs- and activity-based selection and categorization	very little	little	generic	some sophisticated	pervasive and sophisticated
Needs- and activity-based groupings and selections	very few	few top-level	some top level	some multi-level	pervasive and multi-level
Intelligent discovery assistance	minimal	search and basic categorization	some in-context suggestions	dedicated tool	pervasive assistance

# App Store Evaluation Grid: Detailed Results - Google Play (Apps)

The App Store Evaluation Grid was defined by Pfeiffer Consulting to provide a way of rating empirical observations of app stores. It takes **eight key app store characteristics**, and asks the researcher to rate every single one on a scale of 1 to 5, the higher number being a better score.

Once completed, the App Store Evaluation Grid **provides an overall score of a specific app store** that can be documented and compared with others.

App Store Evaluation Grid: <b>Google Play (Apps)</b>					
<b>Total Score: 17/40</b>	<b>1 (worst)</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 (best)</b>
Clearly labeled tablet-specific apps	very few	few	some	most	all
Clearly recognizable professionally developed and supported apps	very few	few	some	most	all
Documentation of apps	minimal	user ratings only	Short description and user ratings	short description, user comments and representative screenshots	Reliable independent review and recommendations
Search environment	minimal	basic	ok	very good	Excellent
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Needs- and activity-based groupings and selections	very few	few top-level	some top level	some multi-level	pervasive and multi-level
Intelligent discovery assistance	minimal	search and basic categorization	some in-context suggestions	dedicated tool	pervasive assistance

# App Store Evaluation Grid: Detailed Results - Apple App Store

The App Store Evaluation Grid was defined by Pfeiffer Consulting to provide a way of rating empirical observations of app stores. It takes eight key app store characteristics, and asks the researcher to rate every single one on a scale of 1 to 5, the higher number being a better score.

Once completed, the App Store Evaluation Grid provides an overall score of a specific app store that can be documented and compared with others.

App Store Evaluation Grid: <b>Apple iOS App Store</b>					
Total Score: <b>27/40</b>	1 (worst)	2	3	4	5 (best)
Clearly labeled tablet-specific apps	very few	few	some	most	all
Clearly recognizable professionally developed and supported apps	very few	few	some	most	all
Documentation of apps	minimal	user ratings only	Short description and user ratings	short description, user comments and representative screenshots	Reliable independent review and recommendations
Search environment	minimal	basic	ok	very good	Excellent
Editorial content and recommendations	minimal	some generic	pervasive generic	some specialized	pervasive and specialized
Needs- and activity-based selection and categorization	very little	little	generic	some sophisticated	pervasive and sophisticated
Needs- and activity-based groupings and selections	very few	few top-level	some top level	some multi-level	pervasive and multi-level
Intelligent discovery assistance	minimal	search and basic categorization	some in-context suggestions	dedicated tool	pervasive assistance

# UXF Details (by app store)

The following pages provide a detailed list of the occurrences of UXF revealed by this research.

The benchmarks are using a basic weighting system that rates any UXF occurrence on **a scale from 1 to 10**, the lower numbers corresponding to UXF elements that are noticeable, but do not have long-term impact; higher numbers are for UXF occurrences that remain noticeable, confusing or annoying even once the user has grown accustomed to the device or service. (As an example, a confusing icon design would be rated as a low UXF number, while aspects such as the absence of a

Home button would be rated as a high UXF number, since it continues to create friction throughout the lifespan of the device.)

It is of course up to the user to decide whether these instances of user experience friction are perceived as important or not. **But there is no doubt that they exist:** all of the UXF occurrences listed here are clearly perceptible, as this documentation shows.

## Amazon Appstore 26

### No access to app stores from different countries

If you want to purchase something from Amazon's on-line store anywhere in the world, there is in most cases no problem: as long as you pay for delivery Amazon will be glad to sell you what you wish to buy. This is not the case for the app store: you do not have the choice, for instance, to go to Amazon.com when your account is registered in France.

UXF Rating: 5

### No access to free apps without entering payment information

Unlike Apple and Google, Amazon does not let you download free apps until you have registered a valid form of payment. This can be annoying even for experienced users.

UXF Rating: 8

### No search history

Unlike Apple and Google, Amazon does not preserve the list of searches you have made in the Amazon Appstore. This can be annoying even for experienced users.

UXF Rating: 4

### Calling user opinions "reviews" is misleading

Like Apple and Amazon, Google calls user opinions "reviews". But while some opinions are useful and well formulated, many of them are along the lines of "woah! love that app" or "Total c\*\*p! Don't buy!"

Not to diminish the obvious value of user feedback, calling them "reviews" sounds like something these opinions clearly are not.

UXF Rating: 2

### Tapping in search field erases previously typed text

The Amazon Appstore erases previously typed text in the search field as soon as one taps in the search field. This means it is impossible to correct an erroneous entry, or to append a term to a previous search. This can be annoying even for experienced users.

UXF Rating: 5

### Use of wish-list is confusing

While Amazon's Appstore provides a wish-list for items one might want to consider in the future, accessing it is a complex, multi-step procedure.

UXF Rating: 2

## Google Play (Apps) 14

### Combining apps with music, films and books in one appstore can be confusing

In an attempt to make Google Play a one-stop destination for all digital goods Google has on offer, Google Play, unlike Apple's or Amazon's app stores, always displays films, apps, music and books in the same storefront.

While one can understand the marketing rationale behind this decision, this can be

inconvenient or confusing

UXF Rating: 3

### No access to app stores from different countries

Like Amazon, Google does not give you any choice as to the app store you want to access: Google Play detects the local IP-address of your Internet connecting and displays offers from that country. This can be annoying, since it makes it impossible to even explore what is on offer in other parts of the world.

UXF Rating: 5

### No way of searching only in one category

Google Play's search function will always search the entire store, not only the category of apps one has navigated to. This can be annoying even for experienced users.

UXF Rating: 4

### Calling user opinions "reviews" is misleading

Like Apple and Amazon, Google calls user opinions "reviews". But while some opinions are useful and well formulated, many of them are along the lines of "woah! love that app" or "Total c\*\*p! Don't buy!"

Not to diminish the obvious value of user feedback, calling them "reviews" sounds like something these opinions clearly are not.

UXF Rating: 2

## Apple App Store 24

### Overall app store structure is confusing

While Apple's app store is clearly the richest in terms of groups and featured apps, this comes at the cost of a somewhat confusing and overwhelming overall structure of the store, which makes it sometimes difficult to find one's way back to a section one had just been visiting a few minutes before. This can be confusing even for experienced users.

UXF Rating: 5

### Wish-list icon is confusing

The wish-list of apps one wants to earmark for possible future purchase is situated right next to the search field, and looks like a menu. Even after having understood its meaning, it can happen easily that one taps it trying to get to the list of categories, for instance.

This can be annoying even for experienced users.

UXF Rating: 5

### Wish-list doesn't work on iPad

In our tests, the wish-list did not function on iPads: the wish-list menu was present, but it was impossible to add items to it, since the necessary icon for doing so never properly appeared. This can be annoying even for experienced users.

UXF Rating: 3

### User interface has usability issues

The iOS 7 user interface of the app store has some annoying usability issues. Pop-up windows that display information about a specific app, for instance, have no "close" or "back" button, requiring the user to tap outside of the box to close it. This is unintuitive and does not respect well-established user interface practices.

UXF Rating: 5

### No way of searching only in one category

The search function in the iOS App Store will always search the entire store, not only the category of apps one has navigated to. This can be annoying even for experienced users.

UXF Rating: 4

### Calling user opinions "reviews" is misleading

Like Google and Amazon, Apple calls user opinions "reviews". But while some opinions are useful and well formulated, many of them are along the lines of "woah! love that app" or "Total c\*\*p! Don't buy!"

Not to diminish the obvious value of user feedback, calling them "reviews" sounds like something these opinions clearly are not.

UXF Rating: 2



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