



# ADVANCED APP STORE OPTIMIZATION

A COMPLETE  
GUIDE TO

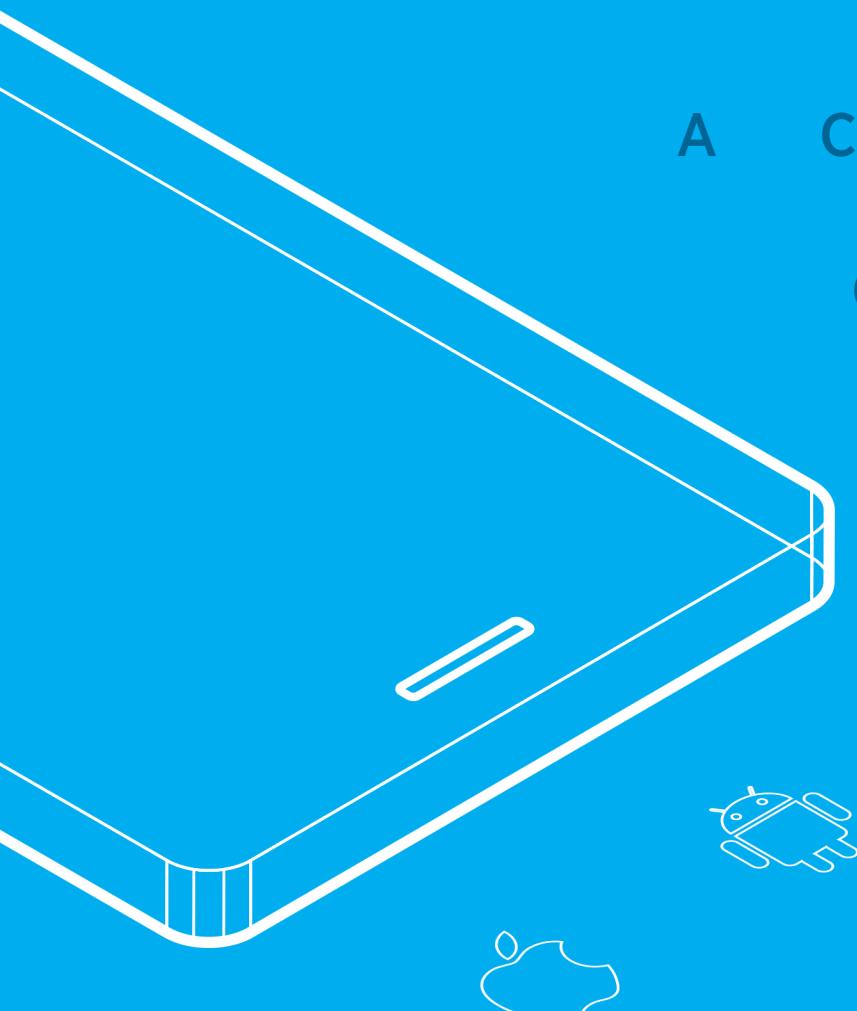
ASO

2018

EDITION

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# 01

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## INTRODUCTION

# 01

## INTRODUCTION

### About the Authors

With app stores nearing their tenth anniversary, the field of App Store Optimization (ASO) has matured, albeit with added complexity. According to Apple, app store search accounts for 65% of all installs, and nearly half of that traffic comes from generic searches, with a little bit over half coming from specific searches for brands (e.g. “Facebook”), app names, and typos or misspellings.

To help ASO practitioners, from those just starting out with ASO to seasoned veterans solidifying their grip on what ASO is and how to be successful at it, Moritz Daan from Phiture in Berlin and Gabe Kwakyi from Incipia in Detroit have partnered to write this comprehensive guide to ASO.

Daan and Kwakyi have built up an extensive and intimate knowledge on the inner-workings of ASO over the years. They've condensed their knowledge into this book, along with content from eight contributors, plus insights from numerous other ASO industry experts.



Moritz Daan and Gabe Kwakyi

Moritz, who previously founded and sold two online gaming companies, started working in a full-time ASO role at SoundCloud in 2014 when the term ASO had just come into swing. One of his first projects at SoundCloud was building out an A/B testing platform for testing App Store assets (in those days Google Play Store listing Experiments and third party services like TestNest weren't around yet). Moritz soon moved on to lead a growth team focused on International Growth at SoundCloud. In 2016, he started his own mobile growth consultancy with mobile industry veteran Andy Carvell: Phiture. With Phiture, he's helped over 30 apps set up their ASO strategies.

Gabe is Co-Founder and CEO of Incipia, a mobile app agency that builds and markets apps for companies and entrepreneurs. Incipia has worked with apps of myriad categories and sizes, from indie developers to top 100 country free-charting apps, to optimize their ASO and paid app marketing efforts, including Keepsafe, 5miles, Wordscapes, and WeatherBug. Prior to Incipia, Gabe worked as a veteran search advertising account manager at Microsoft Bing Ads, helping clients such as Airbnb, the NHL, and Spotify to optimize their PPC budgets, managing more than \$21 million in annual PPC spend.

## What to Expect from this Book

In preparation for this book, we built a framework that we call the App Store Optimization (ASO) Stack, which we introduce in the first chapter. The ASO Stack is a perfect framework for people just starting out with ASO to quickly gain an understanding of what elements play a role in ASO. The framework also aims to help the expert take a step back and analyze their own strategy for further opportunity with a fine-tooth comb.

When Apple announced iOS 11 in June 2017, it quickly became clear that the implications on ASO of Apple's new OS were massive. While this book was close to being completed, we decided to take the time to make some edits and additions with iOS 11 in mind and summarized all of the important changes, their implications, and even some post-iOS 11 updates in the chapter [Getting ready for iOS 11](#).

For the subsequent chapters we'll go in-depth on the two main goals for ASO. In Chapter 5 we discuss **Increasing Visibility** of your listing in the app stores; this includes everything from keyword optimization to features and even category optimization. In Chapter 6 we cover **Increasing Conversion** of anyone who generates a new impression for your store listing, by optimizing all of the assets at your disposal.

In addition to the core themes of increasing visibility and conversion, we discuss several other topics vital to achieving success in ASO:

- **Visual Word Recognition**, i.e. how to increase keyword rankings by having more people convert on a certain keyword search term.
- **Localizing** app store presence to increase visibility and conversion.
- **Ratings & Reviews**, one of the most important factors in convincing people to download, as well as giving a good signal to ranking for the app store algorithms.
- **Android 3rd party** alternatives to increase your share of total available downloads.
- **Black Hat ASO** and where to draw the line.
- **ASO tools**, including a list of free and paid tools and their use cases for your review.
- Factors **Outside of the Store** which can influence ASO success, plus neighboring themes such as App Packs.

Thank you for joining us! Your work in sharpening your ASO skills has just begun, and we promise to leave you with much food for thought in the coming pages.

Along the way, keep an eye out for special icons, which denote topics of particular interest, including:



**Beware:** These tips help you avoid problems or challenges one may face in managing ASO.



**Pro Tip:** These tips call out tactics that are unique or generally not common knowledge.



**Case Study:** Case studies provide real-world examples exploring the ASO topic at hand.



**Further Reading:** In this section, we offer additional resources for learning about ASO.



Denotes Android content



Denotes iOS content



Denotes iOS 11 content

02

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THE APP STORE OPTIMIZATION STACK

# 02

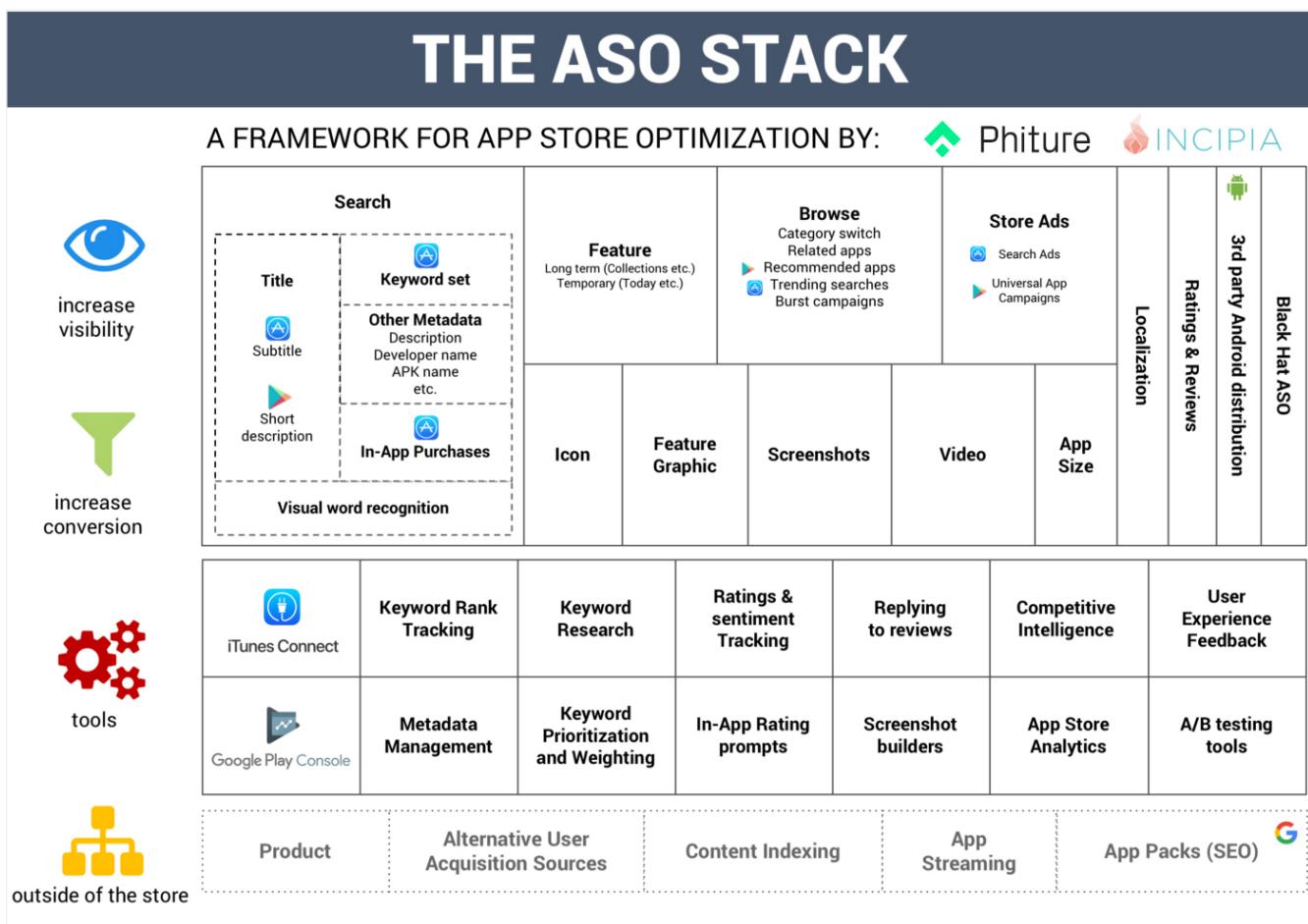
## THE APP STORE OPTIMIZATION STACK

Before diving into the content, let's take a moment to explore the App Store Optimization Stack (**ASO Stack**) a bit further.

The ASO Stack is a cheat sheet for ASO practitioners who want to better understand what levers they can pull to improve their App Store presence. Here we present a bird's-eye view of the world of ASO; throughout the chapters, we progressively unpack the stack, bringing the view down to the squirrel's-eye view.

In this book we aim to give you actionable guidance on how to effectively optimize each of the elements:

- 01. Increase visibility:** How to get your app in front of more people inside of the store.
- 02. Increase conversion:** How to convince people to download your app.
- 03. Tools:** How ASO tools can help you speed up and optimize your App Store presence.
- 04. Outside of store:** What impact outside influencers have on ASO and how they overlap with your ASO work.



The ASO Stack: Download at [asostack.com](http://asostack.com)

Phiture partner and former SoundCloud mobile growth lead Andy Carvell created the [Mobile Growth Stack](http://mobilegrowthstack.com) marketing framework [<http://mobilegrowthstack.com>] to help apps develop a holistic mobile growth strategy. App developers, marketers, and growth practitioners went on to use the framework for their day-to-day growth activities by [color-coding the individual boxes \[https://mobilegrowthstack.com/https-mobilegrowthstack-com-how-to-implement-the-mobile-growth-stack-fdb5c57a98f1\]](https://mobilegrowthstack.com/https-mobilegrowthstack-com-how-to-implement-the-mobile-growth-stack-fdb5c57a98f1).

We built the standalone ASO Stack to offer ASOs the same convenience of a simple and lightweight framework that is updated regularly as the App Stores change. You can always find the latest version of the ASO Stack on [asostack.com](http://asostack.com).

## The Building Blocks of the ASO Stack

The ASO Stack is divided into four main horizontal layers, which each contain a number of boxes:

### 1) INCREASE VISIBILITY

How to get your app in front of more people inside of the App Store.

The first goal when doing ASO is to increase your app's visibility within the stores. You can do that by getting it in front of more people who are trying to discover new apps or games, or who are searching for a specific app title. Typical initiatives to increase visibility are keyword optimization, Search Ads (which are paid but also affect organic search),

getting a spot in the top charts of a category/country, or getting a Feature spot from Apple or Google. Each of these activities is symbolized by a box in the ASO Stack. These initiatives aimed at increasing visibility are covered in [Chapter 5](#) of this book.

## 2) INCREASE CONVERSION

[How to convince people to download your app.](#)

The second layer of the ASO Stack deals with increasing conversions, which is required in order to turn new visitors into actual active users. Given that the algorithms of Apple and Google consider whether or not your app is able to convert visibility into users and reward those that can, improving your conversion rate will pay back into increased visibility as well. Typical conversion rate optimization activities are improving assets such as icons, screenshots, videos, copy, and providing high quality localization.

Conversion rate optimization (CRO) tactics are laid out in [Chapter 6 of this book](#), and include many examples for best practices as well as how iOS 11 has changed CRO.

**Vertical boxes:** In addition to the horizontal layers there are vertical columns describing store-related activities that impact both Visibility and Conversion alike: Ratings & Reviews, Localization, 3rd party stores (Android), and Black Hat tactics.

## 3) TOOLS

[How ASO Tools can help you speed up and optimize your App Store presence.](#)

This third layer lists ASO tools that enable you to do ASO faster and more efficiently, as well as tools that help out where the App Stores lack testing functionality or sufficient insights.

We cover the most important [ASO tools in chapter 11](#). We've also reached out to the providers of the tools for information on tool functionality, in order to give you the most update information on each tool and its functionality.

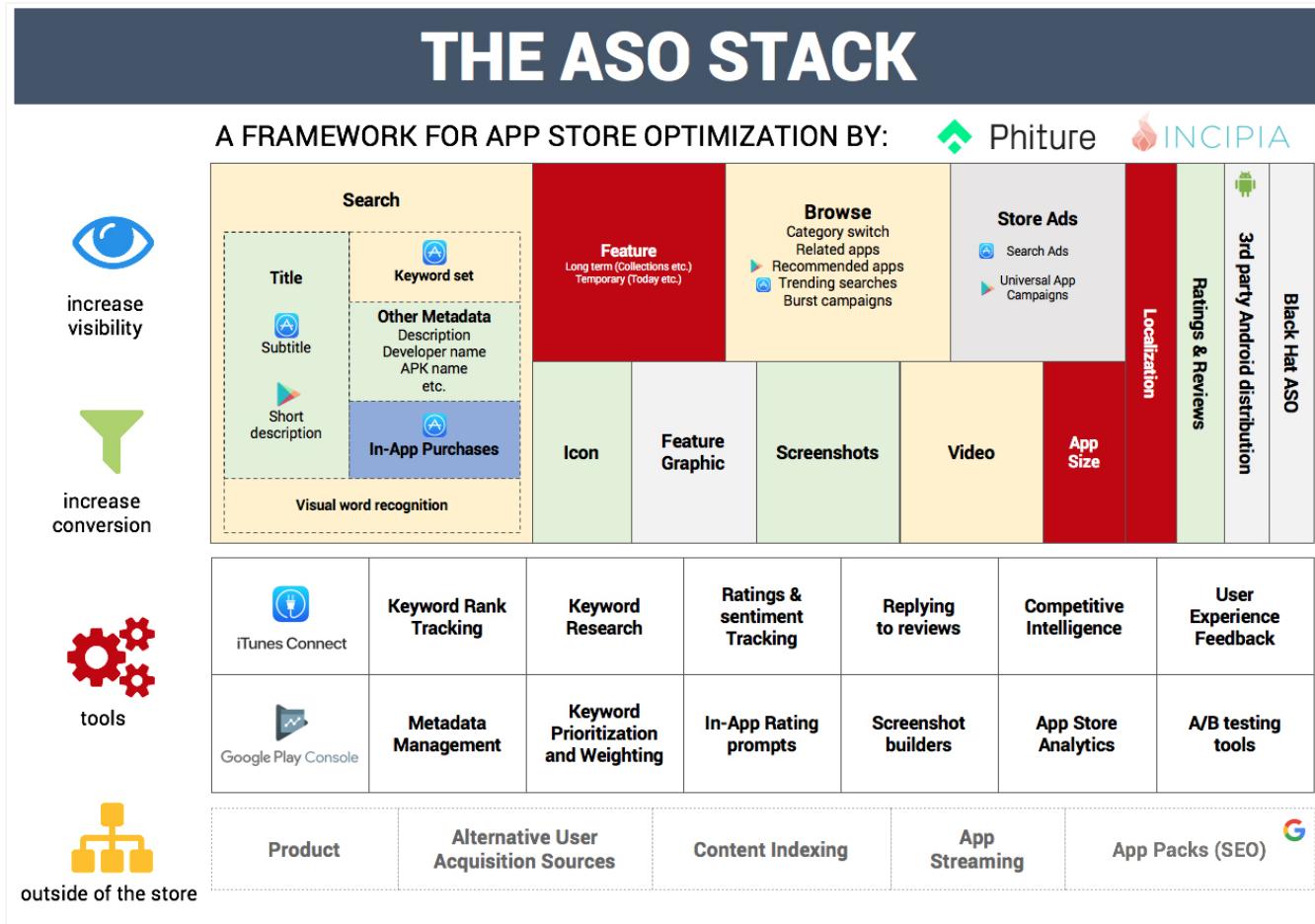
## 4) OUTSIDE OF THE STORE

[What impact outside influences have on ASO.](#)

Finally, there are things that have a strong impact on App Store Optimization, but are often out of the actual scope of App Store Optimization. We cover these areas in the [12th chapter of this book](#). Notably, this includes the app product itself (engagement, retention, etc.), context indexing, user acquisition, as well as the web search presence of an app (e.g. Google App Packs).

# How to Apply the ASO Stack

Similarly to the Mobile Growth Stack, you can work systematically through the ASO stack and apply color-coding to each element in order to create a report card on the current status of your ASO work.



Example of a report card for an iOS app where the Android specific boxes are not applicable

Green—The activity is well-executed and producing a strong, measurable impact.

Yellow—The activity is being executed, but with some difficulties.

Red—The activity is failing to deliver satisfactory results, or isn't measured properly.

Gray—The activity is not applicable for your ASO strategy at the present time.

Blue—More information is needed to determine whether this is worth pursuing for your ASO strategy.

A report card will give you an idea of what you need to focus on next. Because ASO is a long-term play, nearly all of the different activities will influence one another.

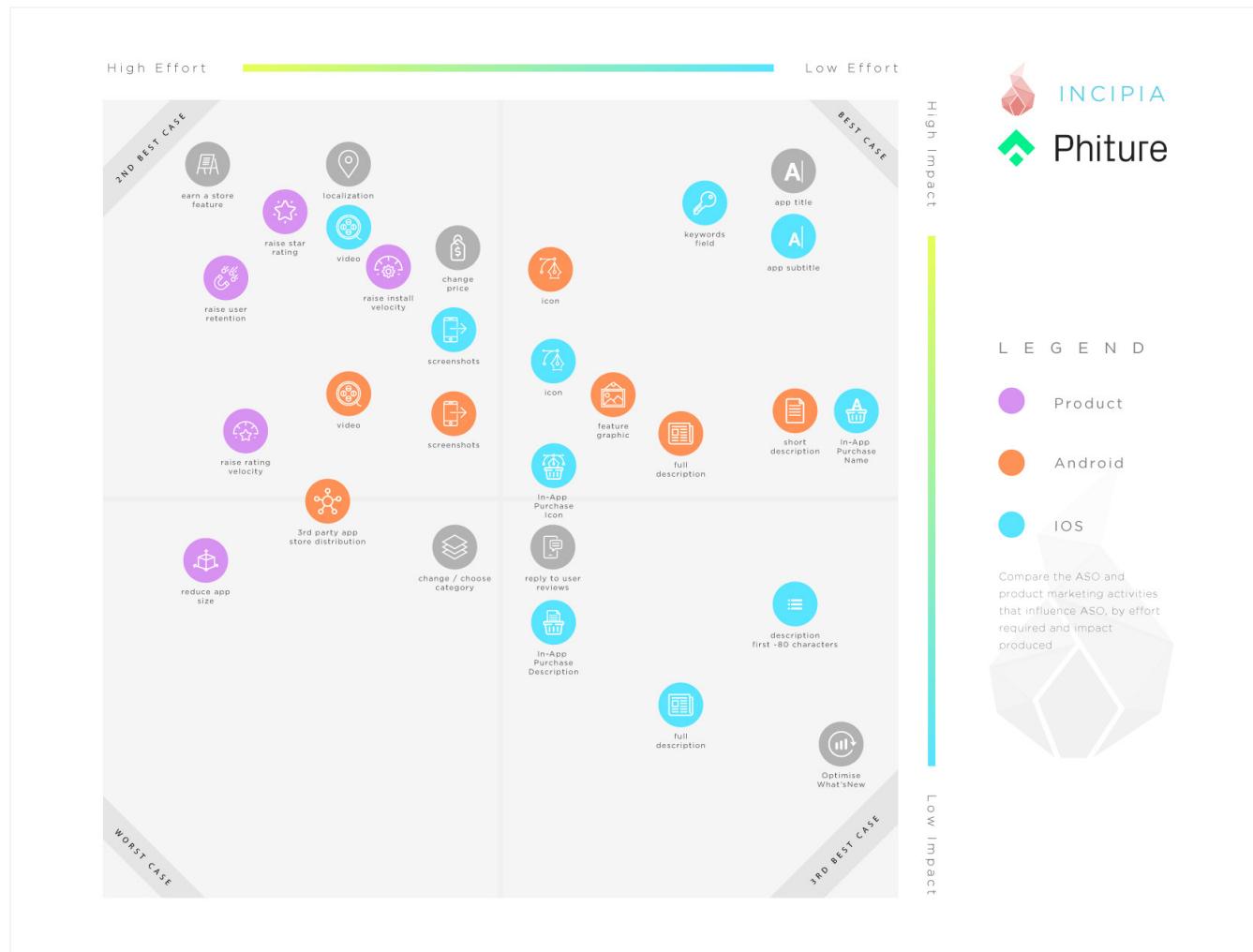
A better conversion rate will give you a better shot at increasing visibility. Increasing visibility will provide you with valuable learnings on your users' preferences (e.g. top keywords), which can in turn lead to better conversion optimization.

Using the ASO Stack helps you to continuously improve on these activities, because it shows you in one glance how all the pieces of ASO are linked together.

## The ASO Impact Chart

Before getting to work on the areas identified in your report card, it's worth considering the impact vs. effort breakdown

for each of the major ASO initiatives, in order to identify the most low-hanging fruit. Some activities may take a long time or more effort to produce a measurable impact, while others can yield larger results with much less effort.



The ASO impact chart ([download the chart here \[ https://incipia.co/library/app-store-optimization-activities-impact-chart-light.png \]](https://incipia.co/library/app-store-optimization-activities-impact-chart-light.png))

Incipia has created the **ASO impact chart** to give you a bird's-eye view on effort vs. impact for typical ASO activities.

While managing ASO ultimately means putting in the effort, smart ASOs will begin with the low-hanging fruit and gradually work toward the higher effort, higher reward items. For example, **Keyword Optimization (KWO)** can be done by the responsible person for ASO ("the ASO") and marketing department without the need for developers or designers.

The main content of this book starts with KWO alongside other measures to increase visibility, which can be tackled right away and are a long-term effort. After that, we'll move on to topics such as **Conversion Rate Optimization (CRO)**, [ratings and reviews](#), and more.

Ahead of visibility, it's important to cover one more introductory topic—[Roles and team structure in ASO](#)—which, if overlooked, can have a detrimental impact on the success potential of an app's ASO.

# 03

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GETTING READY FOR IOS11

# 03

## iOS 11 AND MORE

"I know iOS 11 is big, but just how BIG is it?"

iOS 11 offers app marketers and developers one of the biggest updates to the App Store since its inception. The following is a summary of the broader impact that iOS 11 represents, as well as specific changes between iOS 10 and iOS 11. We will dive deeper into the mechanics of optimizing for iOS 11 throughout the book, with iOS 11 sections clearly called out with this marker:



## iOS 11 Paradigm Shifts

iOS 11 truly does herald a fundamental shift in the way that app discovery and ASO work. Here are five paradigm changes brought by iOS 11:

### The New Search Results Page (SRP)

The new search results page poses three high-impact changes to be aware of over iOS 10, including:

01. Drastically increasing the **importance of using a preview video**. Whereas preview videos in iOS 10 required a user to tap in order to play the video, with videos playing on mute, now every user will see and watch at least a portion of your video, just as users currently consume more videos on Facebook and Instagram. Apps without videos will not only lose the opportunity to tell their story in a dynamic manner, but also suffer a competitive disadvantage vs. apps that do use videos.
02. **Placing In-App Purchases (IAPs) and editorial content** into the search results is Apple further monetizing a massive-volume avenue in store-based app discovery. This promotes IAPs not just into the product page in a more visual fashion, but also as a large surface area keyword search result will enable apps to capture more

downloads and more revenue by greatly expanding the real estate they earn in the App Store. This is only available if an app has IAPs.

- 03.** By moving from two screenshot/video tiles to three and shrinking the size of each result, the repercussion of these two changes is that the size of the screen that **competitive apps** take up increases. This will ratchet up the level of competition that apps can expect from peers. With apps creeping more into view while users are looking at other apps (and preview videos auto-playing once in-view), each app will now have more competition to contend with, and apps which are able to produce more eye-catching and appealing assets stand to gain. This represents an especially challenging shift for brands, which stand the most to lose from a degrading of their hard-earned branded search real estate.

## Broader Product Page Visuals

The product page now offers developers a massive opportunity to tell the story of their app with a much wider canvas, due to the ability to use up to **three preview videos**, plus **screenshots** and **In-App Purchase icons**.

Allowing up to three preview videos triples the total video time that developers sell apps, at no loss to the number of supplemental screenshots. How to make the best use of the three preview videos will take some time to fully uncover, but the opportunity is a broad one for the savviest of app marketers/branding managers.

IAP icons also provide an extra outlet for creativity and for retaining users on the product page for longer, with each IAP able to tell its own mini-story through a 45 character description, name, and icon.

## Promoted In-App Purchases

Allowing apps control over promotion of up to 20 IAPs—each outfitted with a name, description, and icon into the rest of the App Store and beyond the app’s product page—increases the **store visibility** an app can obtain **by 20x** (plus potential for even more visibility via featured placements) and widens the ASO-based acquisition funnel. This means that the ASO’s job also expands to not only maintaining and optimizing visibility/conversion for one app, but doing the same for each of their promoted IAPs through A/B testing and pre-post analysis.

Additionally, whereas in iOS 10 IAPs would only rank if the user typed in an [exact match search] (e.g. “500 gems”), in iOS 11, IAPs now rank for partial keywords and can rank for permutations of the app’s ranking keywords (at least to some degree, such as “gems” or “clash gems” in addition to “500 gems”).

## Feature-First

By adding the brand-new **Today** tab plus **two more feature tabs** and placing editorial copy even in search results, Apple boosts the share of prime App Store impression real estate that featured apps receive.

Additionally, moving the top charts into an embedded view within the apps/games tabs is sort of like placing the Duty-Free shop at the entrance to the airport. With this move and by continuing to start users off on the Today feature tab, Apple is able to feature even more apps to users, even if they are only interested in finding the most popular apps or searching for a particular keyword/app.

## Pressure on Google Play

Not only do Apple’s changes bring benefits to iOS apps, but they also put pressure on Google to implement an update to its store and app discovery model. In fact, Google released a longer title at a conspicuously similar time to Apple’s

iOS 11 announcement, and soon after officially announced a move to take more control over AdWords app campaigns by making its UAC (Universal App Campaign) product the only app ad product, which was not entirely dissimilar to Apple's concentration of store impressions into its featured content, or Apple's late 2017 Search Ads Basic product release.

That said, Google did not take action when Apple reduced its revenue rake from 30% to 15% after apps attain one year's worth of subscription charges from a user.

Keep your eyes peeled for Google's next big move.

## What's New in iOS 11

Much of the iOS 11 update includes changes to the UX and UI of the App Store itself. These changes represent not just a facelift in the App Store, but a shift in the way that ASO is managed. From changing the navigation bar, to increasing the number of variables placed in the search results page, to adding brand new ways to purchase digital goods and more, it is important to understand the scope of influence that iOS 11 has. Here is a side-by-side comparison of changes affecting ASO in iOS 10 vs iOS 11:

| APP STORE ASPECT                                 | IOS 10            | IOS 11   |
|--|-------------------|--|
| Number of screenshots in the search results page | 2                 | 3  |
| Number of featured tabs                          | 1                 | 3  |
| Number of top chart tabs                         | 2                 | 0  |
| Number of preview videos                         | 1                 | 3  |
| Preview videos auto-play on mute?                | no                | yes  |
| Top Chart rank shown in product page?            | no                | yes  |
| Eligible search results                          | apps, search ads  | apps, search ads, in-app purchases, developer pages, editorial content |
| In-App Purchase assets                           | name              | name, description, icon  |
| Ratings shown                                    | current, all time | alltime  |

*A comparison of several App Store aspects, iOS 10 vs. iOS 11*

## Featured Tabs

One of the most noticeable changes is that the featured tab has been revamped and split from one tab into three separate tabs:

- 01. Today:** A featured tab for the highest feature visibility apps/games.

**02. Games:** A featured tab just for games.

**03. Apps:** A featured tab just for non-game apps.

Users initially land on the Today tab and have the option to delve more into games or apps in the next two tabs.

The Today tab allows Apple to call special attention to apps, games, app themes, and developers in greater detail and focus than the other featured tabs. Apple accomplishes this premium experience via placement (the default tab in the App Store), size of placement (the average feature square size in the Today tab is the size of about 3 rectangles in the games/apps tabs), and an expanded UI (allowing the developer to tell a story using lots of text and multiple visual assets). The Today tab also highlights an app or game of the day, and indexes each previous set of Today features in a vertically scrollable list.

So far, each day in the Today tab is organized into the following:

**01. Editorial spotlight:** A showcase piece on one developer (e.g. the creators of “Rick and Morty”) that includes images and text, plus a link at the bottom to share the story or download the developer’s app.

**02. Themed app collection:** A set of apps that follow a common theme (e.g. “make parties less awkward”), with a brief paragraph of text explaining the theme at the start.

**03. App of the day:** A single, showcased app with a few paragraphs of text.

**04. Game of the day:** A single, showcased game with a few paragraphs of text.

**05. The Daily List:** A list of generally featured apps.

**06. Quick Look, optional:** A single app with a story of text and images that includes a link to download the app (e.g. ride for a cause, Lyft).

**07. Featured In-App Purchase, optional:** A showcased In-App Purchase.

The apps and games tabs contain similar content to the featured tab in iOS 10, but with less content and a horizontally scrollable list. Critically, the top charts are also embedded in the apps/games tabs. Additionally, in iOS 11, featured apps can earn a video placement instead of just a static banner, and In-App Purchases can be featured.

The segmentation of apps vs. games will also allow for a higher conversion rate for the apps that appear in each tab, as users are no longer forced to sift through apps to find games, or vice versa. The same conversion rate boost should also be recognized by reducing the total number of features and increasing the size of each feature placement.

App subtitles also show in the featured tabs, as well as top charts.

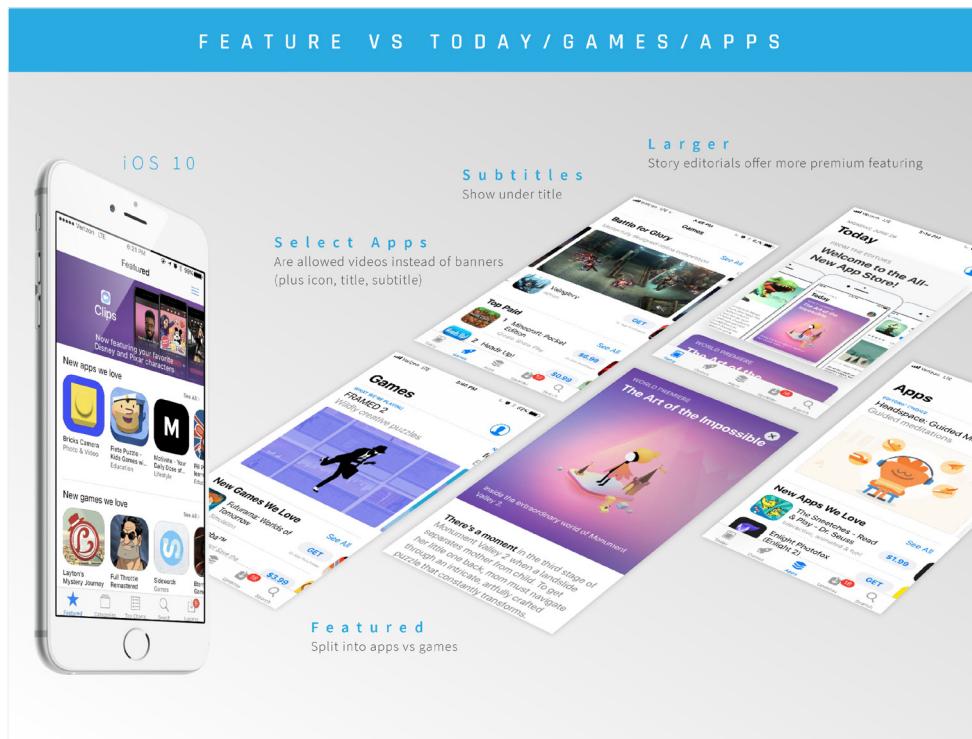
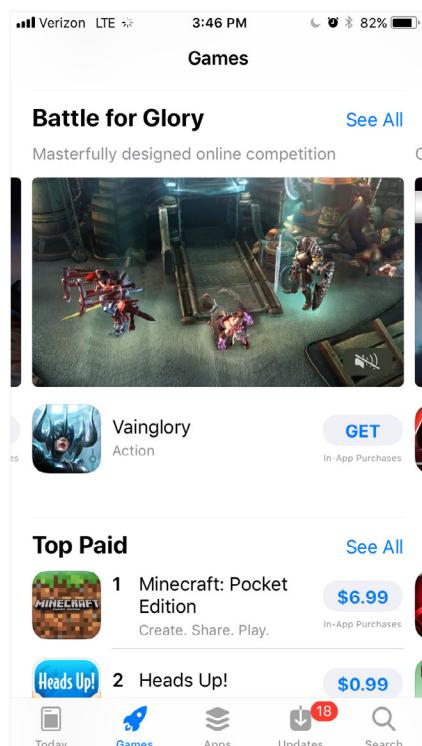
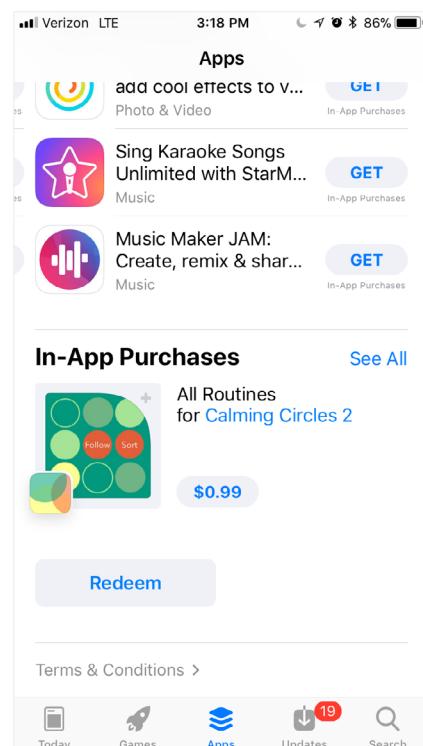


Diagram comparing the featured tabs of iOS 10 to iOS 11



Screenshot showing a featured app with a video



Screenshot showing a featured In-App Purchase

## Top Charts

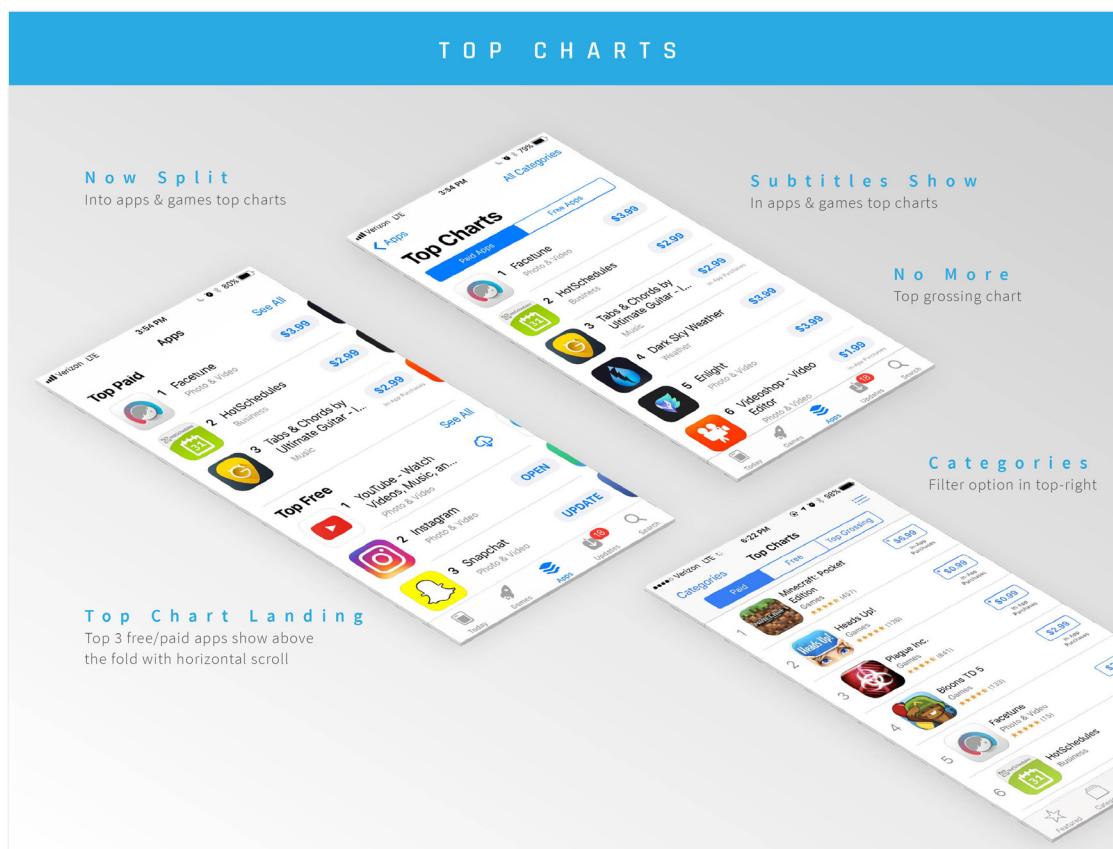
As mentioned, top charts have been relegated in iOS, from their own tab into a space embedded within the games or apps featured tabs.

Top charts have also been converted from a vertical scroll in their embedded view, to a horizontal scroll, meaning that **only the top three paid/free apps/games** now will capture the highest-volume top chart visibility real estate (i.e. above the fold of the top chart). The horizontal scroll also ends after the 12 apps, forcing users to tap into the top chart to see the rest of the top apps.

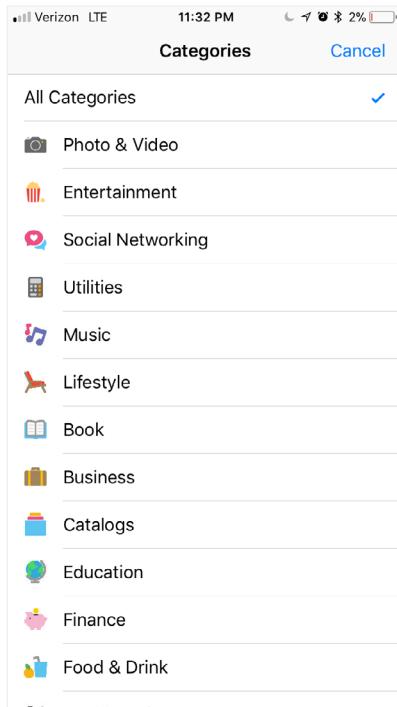
Entering the top chart allows users to see all apps, as well as filter in the same view for different categories.

App icons have been removed from the top chart category icons, replaced by only a default image for each category.

Additionally, there is no more top grossing chart.



*Diagram comparing the top chart tabs of iOS 10 to iOS 11*



*Screenshot showing the top chart category icons, which are now default icons, rather than icons of actual apps*

## Search Results Page

One of the biggest changes is that the new search results page shows three images: when screenshots are portrait mode-based; the first preview video and the first two screenshots; or else three screenshots total. This squeezes the space and makes reading text in screenshots much harder.

Preview videos also now auto-play on mute as soon as the video is within view (unless a video begins playing further up screen, in which case the second video will wait to play until the first has finished). Each app result is smaller, and In-App Purchases, Apple editorial pieces, and developer pages are now eligible to show in the search results page.

Subtitles also appear in the Search Result Page, and related searches have been removed from the U.S. store.

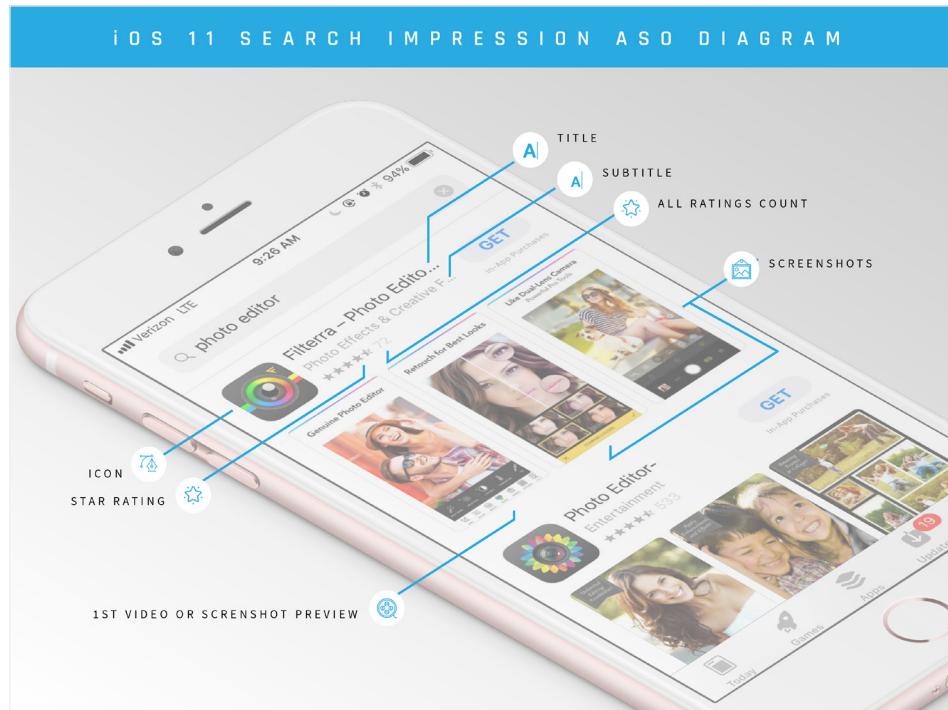


Diagram of the new search results page

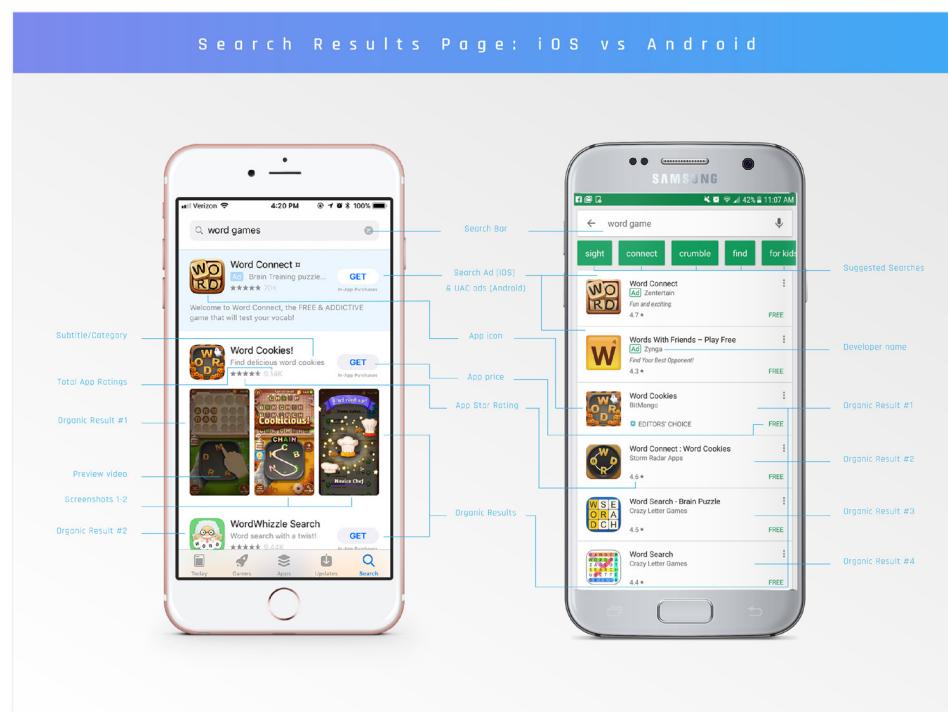
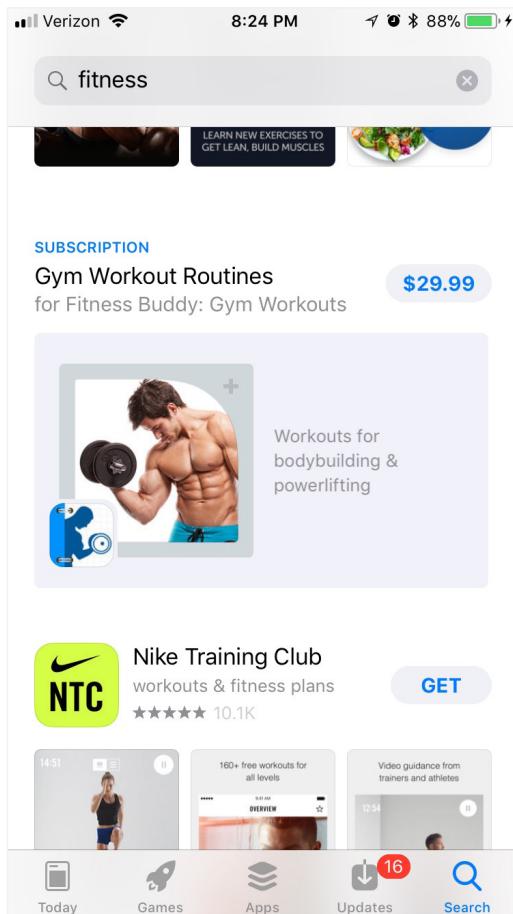


Diagram of search results page for Google Play vs the App Store



*Screenshot showing an In-App Purchase in search results*

## App Product Page

The product page now shows several new data points:

01. The app's **highest** top chart **rank** (if applicable).
02. The app's **subtitle**.
03. The app's **all time ratings** (there are no more current ratings).
04. A 170 character **promo text** that sits separately, on top of the description.
05. An icon, name, and description for up to 20 **In-App Purchases**.

For apps that a user has already downloaded, What's New will appear above the screenshots and below the ratings/reviews for users who have not downloaded the app.

Videos will auto-play on mute in the product page as well, and developers can have up to three preview videos and five screenshots.

In-App Purchases will scroll horizontally just like the top chart view in the apps/games tab.



Diagram comparing the top chart tabs of iOS 10 to iOS 11

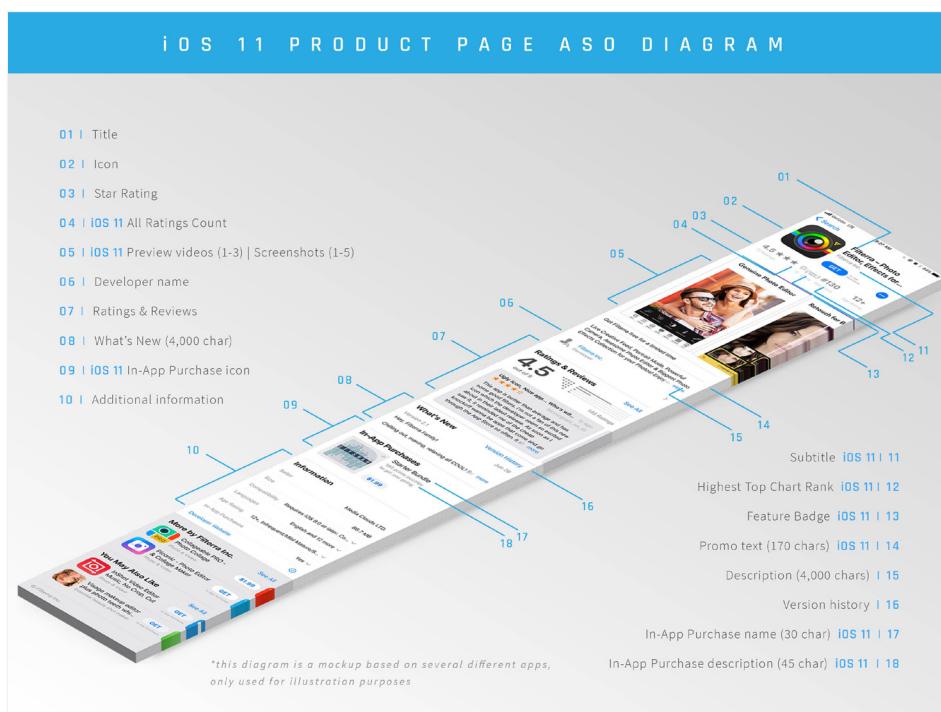


Diagram focusing on the product page of iOS 11

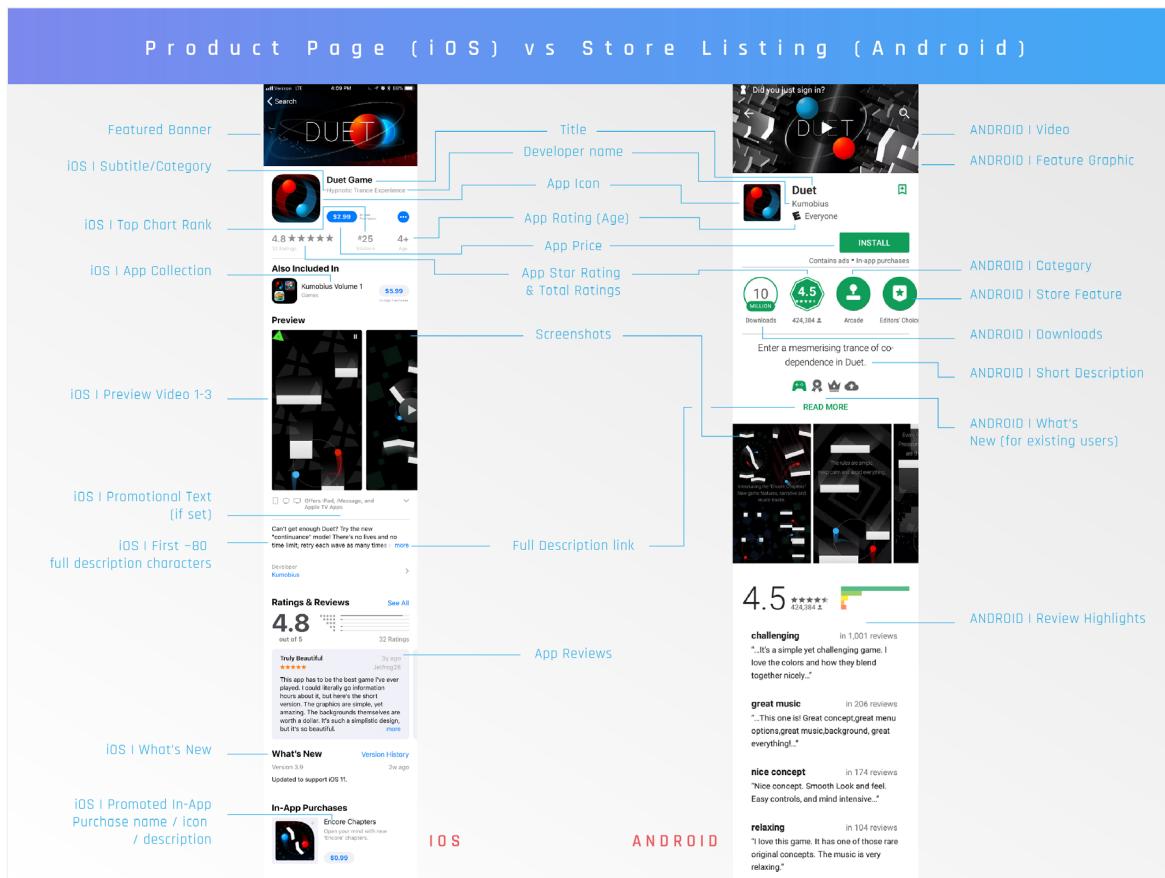


Diagram comparing the product page/store listing of the App Store to Google Play

## Apple Search Ads Creative Testing

In May 2018, Apple unexpectedly released a creative testing functionality for its Search Ads <https://searchads.apple.com/advanced/help/campaign-management/#creative-sets> product.

Mobile marketers and developers can now test different Apple Search Ads assets in the App Store. In the Apple Search Ads interface, you can select which app previews and screenshots are shown in the creative set for your Ad Group or on a Campaign level.

| Ad Group Keywords |          | Creative Sets                             | Reports                  |                         |
|-------------------|----------|---|--------------------------|-------------------------|
|                   |          | Manage Creative Sets <small>②</small>     |                          |                         |
|                   |          | <input type="text"/> Search Creative Sets |                          |                         |
|                   |          | Add Creative Set                          | Actions <small>▼</small> | Filter <small>▼</small> |
| Name              | Status   | Language                                  | Spend                    | Avg CPA                 |
| Default Text Ad   | Eligible | —   | \$217.01                 | \$1.79                  |
| No video          | Eligible | English (primary)                         | \$144.78                 | \$2.68                  |
| Default Image Ad  | Eligible | —   | \$85.76                  | \$3.73                  |

Here you can see a creative set, which uses only screenshots and no preview video, being tested.

Though this new option in Search Ads gives publishers a way to test creatives in conjunction with positioning and targeting directly in the App Store without using external services and their landing pages.

There are some caveats, however:

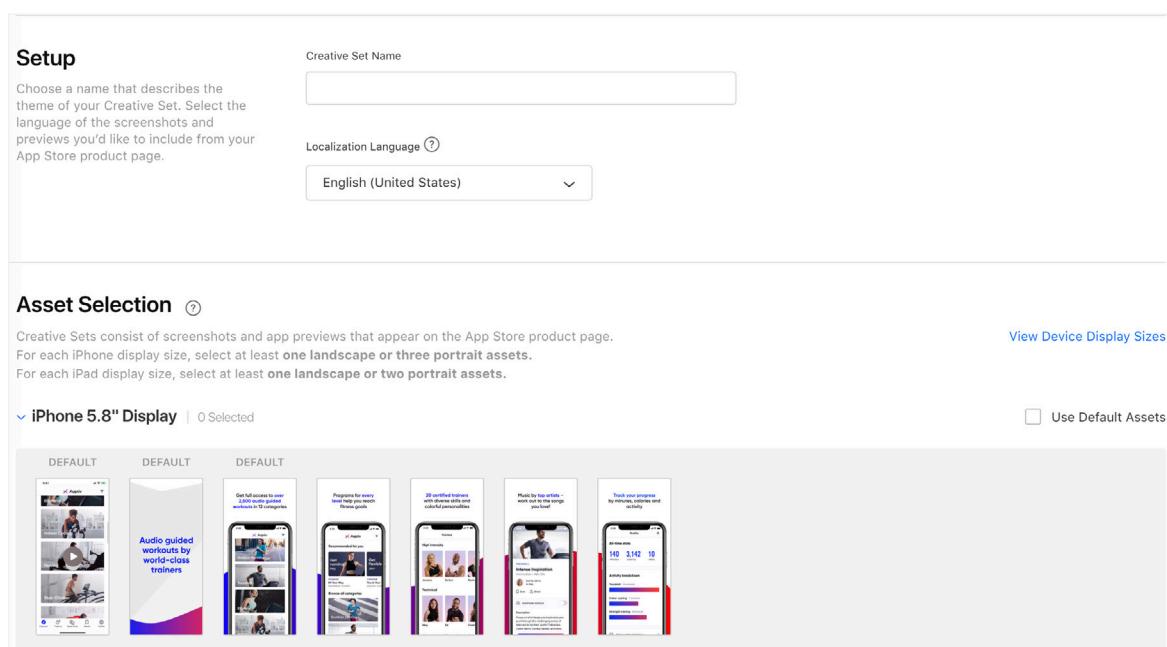
This is not a proper A/B testing functionality (like what Google Play offers). The test is limited to Search Ads creatives, and there is still no way within the Store to A/B test the Store Page itself.

All the assets need to be uploaded and approved in iTunes Connect (max 10 images). This also means that marketers need to wait for an app update to submit and test new creatives.

Still, it allows for creative testing by switching in and out pre-approved screenshots and videos on a Search Ads Ad Group, and then monitor real app store conversion of different ad groups over time.

After setting up the different Creative Sets, developers will be able to measure how different Creative Sets are performing.

Due to Apple now splitting up default text and visual ads, apps get a better understanding on how text ads are performing. The default text and visual ads can't be paused unfortunately.



Here are some things this new feature allows to test:

01. Different copy on the same screenshots
02. Video vs. Screenshots: the use of no video with 3 screenshots, 1 video with 2 screenshots, just a landscape video etc.
03. Ad groups that have different gender targeting with different creatives (ie. a dating app showing different genders in different ad group settings)
04. Different creatives for different times of day (ie. a fast food chain showing breakfast options in the morning and dinner options at night)
05. Different creatives for existing / new users (ie. showing a promotion to existing users and more value

propositions)

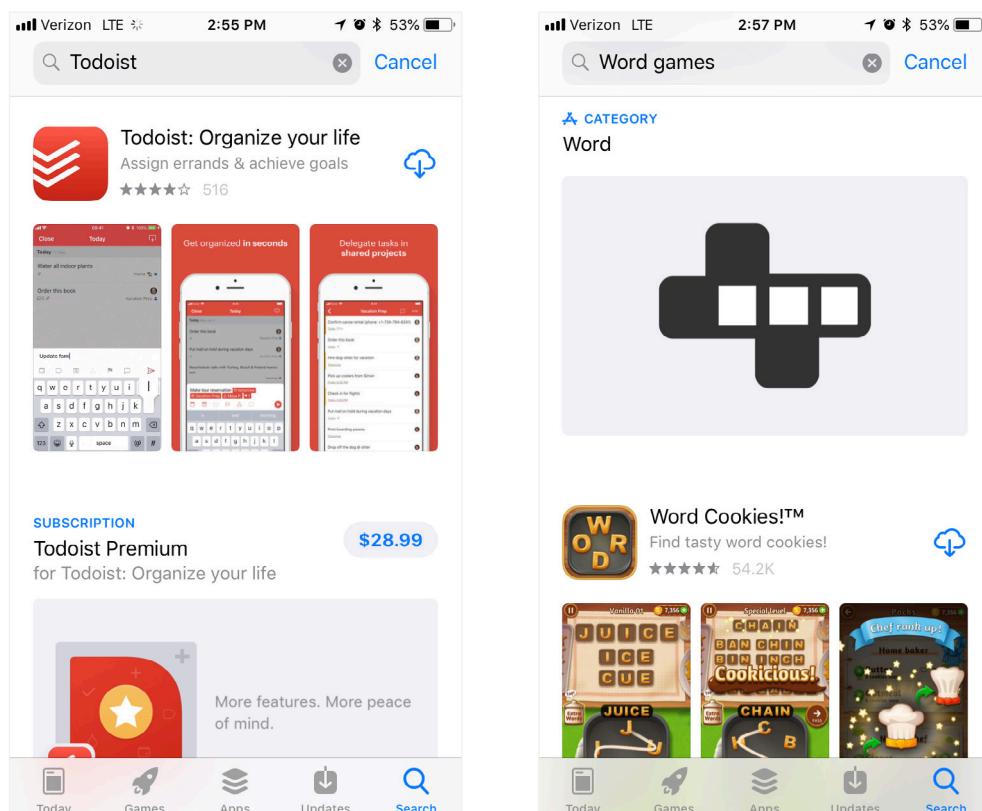
- 06. Regional targeting (ie. a food delivery app showing food deliveries in SF vs. New York)
- 07. Highlighting different value propositions of the app for different ad groups with search terms related to those value propositions (ie. a booking app showing hotels instead of flights for ad groups that target people looking for hotels)
- 08. Showing different creatives for your brand keyword campaign in the Search Ads than in your organic Store listing give you the ability to show up to 6 different screenshots in the results

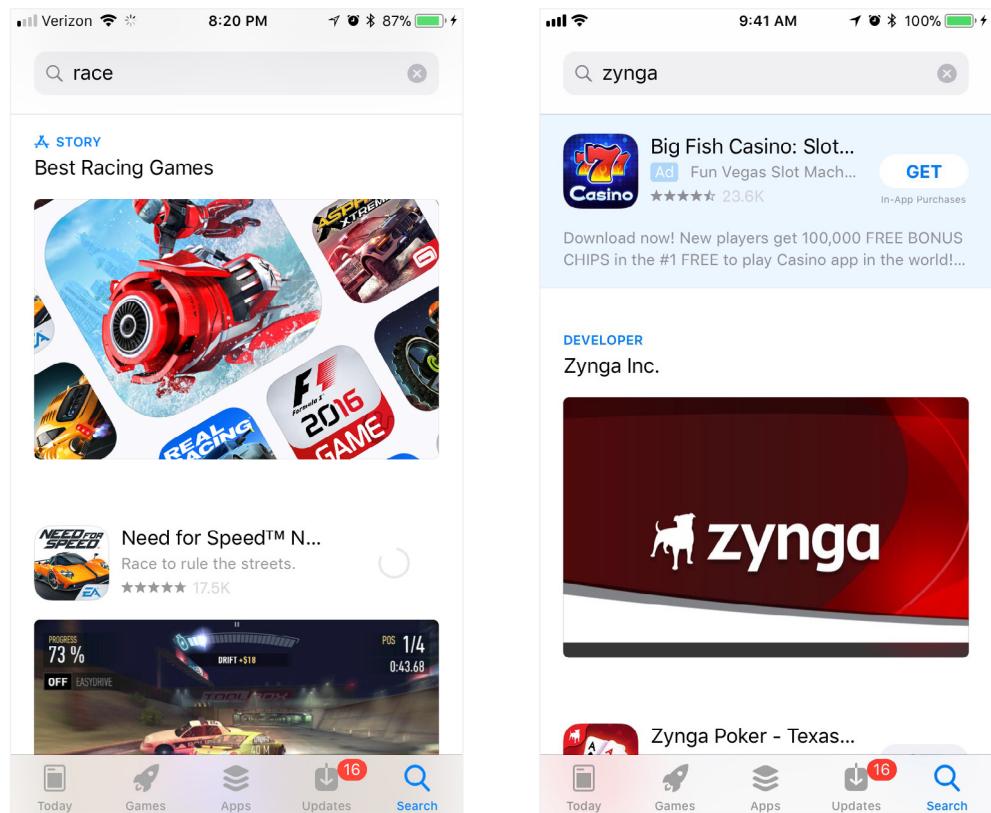
These tests could not only help app marketers to optimize their paid Search Ads presence, but also affect the impact on ASO when the learnings can be systematically applied to the organic store listing.

## Some Data on iOS 11

As this book was originally published prior to the launch of iOS 11, we have released some updates to the content in order to stay on top of the latest trends. Here is some data and insights on how the changes in iOS 11 have panned out:

- 01. In addition to the new developer pages, such as Zynga's below, editorial results have begun appearing in non-branded keyword search results, such as this collection of "our favorites" racing games below. Apple has also placed (clip art quality) category results in the rankings for category searches, such as a search for "word games."

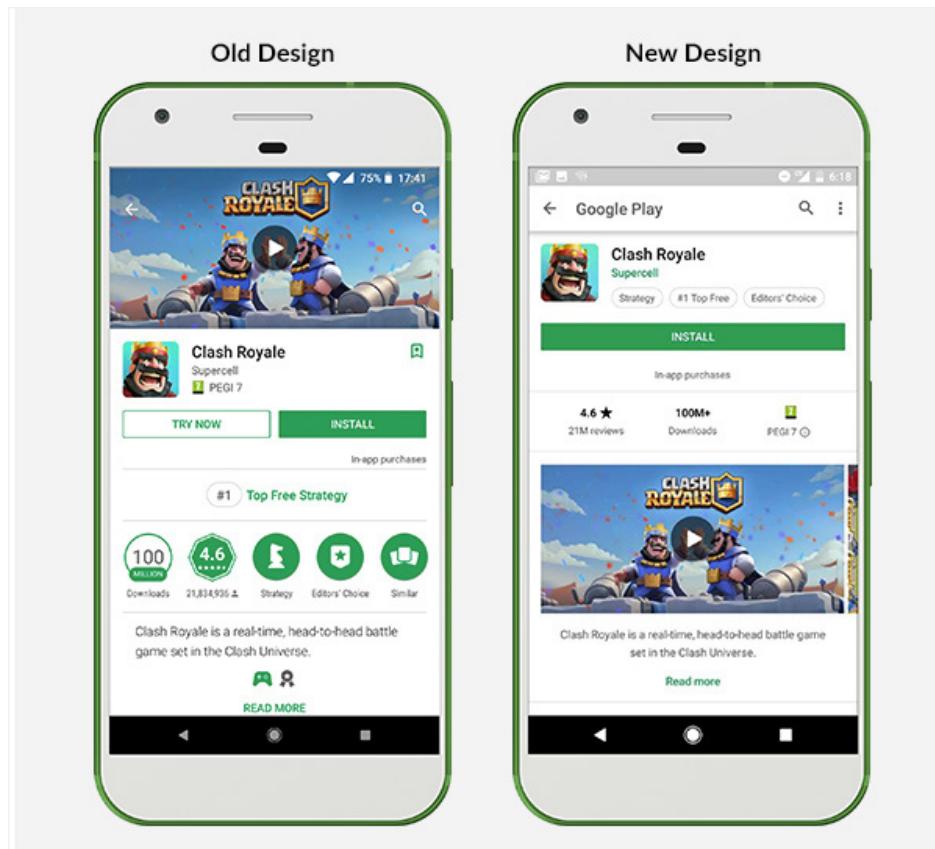




02. Per a [TechCrunch article](https://techcrunch.com/2017/11/10/apples-ios-app-store-adds-weekend-deals-to-boost-app-downloads/) [https://techcrunch.com/2017/11/10/apples-ios-app-store-adds-weekend-deals-to-boost-app-downloads/], Apple has begun offering a “this weekend only” today feature, where apps can offer limited time discounts on services. This action indicates Apple’s willingness in iOS 11 to push more curated content and explore new ways to encourage users to download (or pay for) apps that it wants to feature/promote.
03. With regard to the success of Apple’s new Today tab, several sources have found it to help drive massive increases in downloads for featured apps. According to an [Apptopia](https://blog.apptopia.com/new-app-stores-app-of-the-day-gets-an-average-download-boost-of-1747) [https://blog.apptopia.com/new-app-stores-app-of-the-day-gets-an-average-download-boost-of-1747] study cited in a [TechCrunch article](https://techcrunch.com/2017/10/24/apples-app-of-the-day-featuring-boosts-downloads-by-1747-games-by-792/) [https://techcrunch.com/2017/10/24/apples-app-of-the-day-featuring-boosts-downloads-by-1747-games-by-792/], the today feature has racked up an average increase in downloads of 1,747% for apps and 792%. Incipia internal data pegs the increase at around a 1,000% the normal rate of daily downloads.
04. Also according to Incipia research, iOS 11 portrait screenshots have been found each to be 33% smaller than iOS 10 screenshots (3 screenshots in iOS 11 vs 2 in iOS 10), underscoring the need for significantly larger captions. Furthermore, each in-focus app result when scrolling through results in iOS 11 is only 25% larger than the competitive result in iOS 11, compared to 78% larger in iOS 10. This means that not only is conversion rate optimization more important for ASO, but it also leads the need to run defensive branded search ads campaigns as well, as well-designed search ad results can siphon away crucial branded downloads.
05. According to discussion in the ASO Stack Slack group, many app marketers and developers have found that testing app preview videos against no preview video has lead to no improvement, or even a decrease in conversion rate.
06. Per Incipia research, a sampling of the top 10 app results for 10 randomly selected keywords revealed that

only 3 of the 100 results was a promoted In-App Purchase. This indicates that promoted IAPs may not be valued enough by developers to bother implementing, and or that promoted IAP are a massively underutilized opportunity. Optimizing for Promoted IAP is covered in more depth at the end of Chapter 5: Increasing Visibility and in a case study in Chapter 6: Increasing Conversion.

## Expected Google Play Store Listing Redesign



*Image credit: StoreMaven [<https://www.storemaven.com/google-play-store-redesign-impact-on-aso-and-developers/>]*

In spring of 2018, rumours and screenshots of a Play Store redesign were cropping up. By mid-year, these quite fundamental changes were shown to more and more users and are expected to be rolled out to all Android users sometime later this year.

## Feature Graphic Gets The Axe

From an ASO perspective, this is the biggest change - the Feature Graphic as the central graphical element, and first thing store visitors see when looking at an app page, is apparently going away.

Experts agree that this asset had the single biggest impact on on-page conversion. It also provided apps with a blank canvas to experiment with different call to actions, brandings or moods.

In its place, the screenshots are moving up on the screen real estate.

## Store Badges Get a Cleaner Look

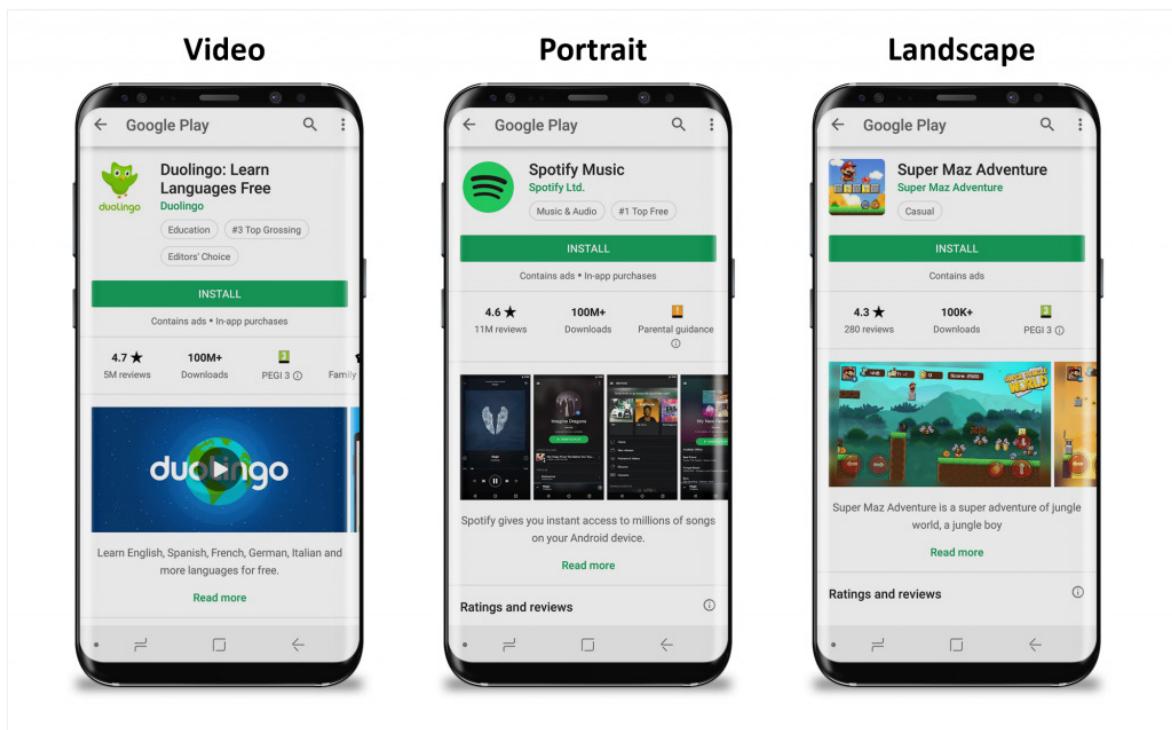
Google Play's Downloads, Ratings and Category Badges that used to take up a lot of space (similar size to app icon) are getting trimmed down.

## Screenshots and Video

With the space freed up, Screenshots move up on the page and increase in importance. This could mean that users will more likely explore and scroll through different screenshots than before.

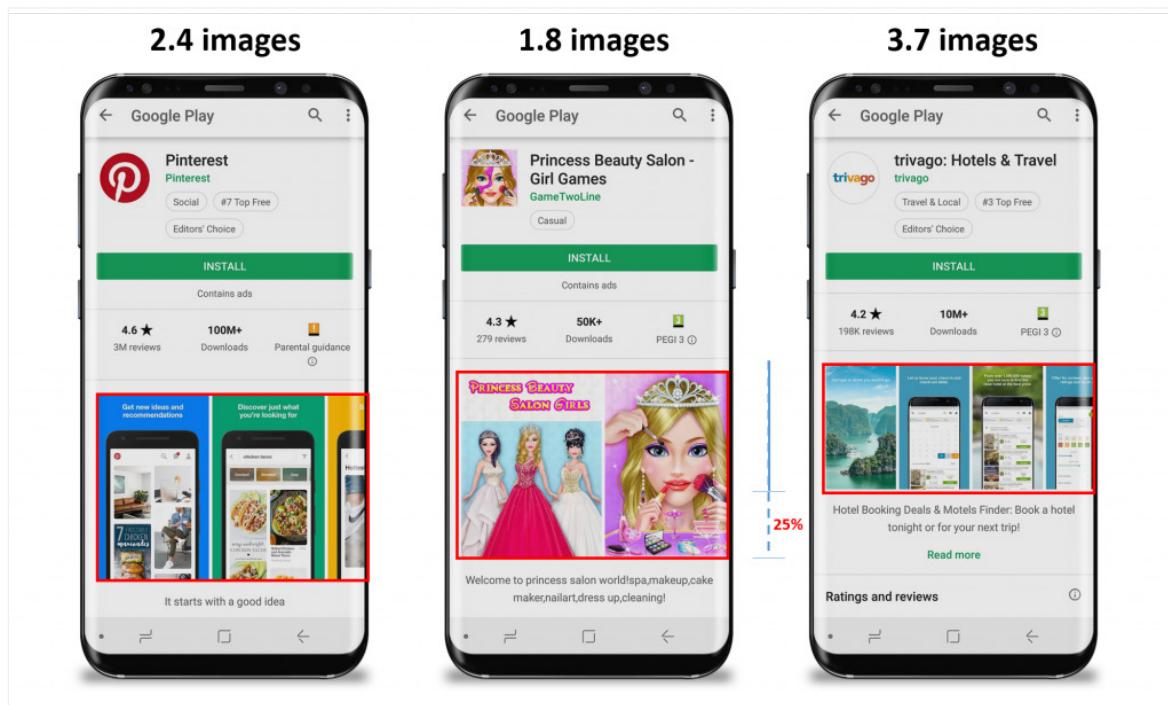
This also means that for apps that feature a video in their listing, the video now moves to the first place in the gallery as the first asset users see.

With video moving from the Feature Graphic placement to the gallery, apps can hope for increased watch rates because of the more explorative context.



*Image credit: Moburst [<https://moburst.com/google-play-just-changed-everything/>]*

In Google Play, it is possible to upload any image. It can be portrait or landscape at any width or resolution. The different image ratios and resolutions will affect how the screen real estate will be used. As moburst pointed out (<https://moburst.com/google-play-just-changed-everything/>), this causes some apps to show only two images before scrolling, and others almost four.



*Image credit: Moburst [https://moburst.com/google-play-just-changed-everything/]*

## Feature Graphic Gets The Axe

The developer name becomes clickable - a separate Developer page opens up a new space for promotion.

Apart from these big changes, Anatoly Sharifulin listed a few more detailed ones, especially interesting for games on the App Follow Blog: (<https://blog.appfollow.io/google-play-changes-from-aso-point-of-view-c7b38db9cd30>)

01. **Recommendations:** More game genres (from 70 to 200) allowing Google to suggest more relevant apps and games.
02. **Editor's Choice:** The Editor's Choice tab design is now different than the Recommendations tab.
03. **'Premium' games tab:** Giving paid games more exposure.
04. **'New' tab for games:** The best new games will be featured in the "New" tab.
05. **Search suggestions:** Users will be able to filter search results. After looking for "racing games", users will get an option to add a tag—for example, "motorcycle".
06. **Milestones for games with Pre-registration:** Developers can define a pre-registration milestone and unlock new content if the goal was reached.
07. **News and updates from installed games:** Google Play will announce events in installed games: new content updates, limited-time campaigns.
08. **What's New:** Users will see "What's new" release notes right after the Short Description if a game or an app is

installed. The notes have also been added to the Updates tab.

# 04

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ROLES AND TEAM STRUCTURES IN ASO

# 04

## ROLES AND TEAM STRUCTURES IN ASO

“What does a successful ASO team structure look like?”

Having the resources to manage an ASO strategy requires the combination of a multitude of unique functional areas. While management of ASO at a larger marketing operation (e.g. a game studio) may be spread between several people, at a smaller marketing operation (e.g. an independent developer), one person may have to fill each role as best he or she can, or else decide to outsource one or more roles. In any case, knowing about all of the unique roles that exist within the remit of ASO can help you plan, delegate, and prioritize ASO at your marketing operation, whatever the size:

- **Keyword research:** Pulling keyword ideas from myriad sources, prioritizing a full keyword list into an app’s limited metadata space, analyzing changes in keyword rankings based on ASO, and determining the next course of action all belong to one of the most fundamental and more scientific roles in ASO: the keyword researcher.
- **Copywriting:** Copywriting comes into play not only in figuring out the best text to use in a text-based metadata element, but also in the overlaid text on visual elements such as screenshots, and even writing the text to be used in review prompts.
- **Graphic design:** A core component of every ASO strategy, graphic design is a mix of scientific direction and art-led creativity. It is key to improving your app’s conversion rate by making a good first impression and standing out from the crowd. While basic visuals (e.g. the actual screenshot of an app) may sometimes suffice, custom designs often make a critical difference in driving ASO results.
- **Video production:** The product of another scientifically-informed, art-led role, a well-made video stands to significantly improve an app’s conversion rate, especially in the wake of iOS 11; however, the opposite is also true, as poorly made videos often harm conversion rate. This means that an expert’s eye is truly valuable in leading the role of video production.
- **Analysis/data science:** Ranging from the simple end of measuring the change in installs after an optimization, to ingesting data from multiple ASO data sources across multiple countries, the analyst must help inform the ASO lead in targeting, reporting, and continuous optimization.
- **Development:** Without the blood, sweat, and time of developers, there would be no ASO; yet a developer’s role is not finished once the app is launched. To ensure the success of an app, the developer(s) must maintain

and grow the app by adding features, fixing bugs, reducing file sizes, implementing technology such as engagement SDKs for the ASO lead, and leveraging other technologies such as Apple's iOS 10.3 review prompt.

- **Customer service:** The best products are those made by teams who listen to and take care of their customers by quickly capturing and acting on negative feedback, addressing product needs, and responding to customer service issues in the app and via reviews. As reviews are surfaced in a prominent location for all apps, customer service is an important role for keeping ASO conversion rates high.
- **User acquisition:** The more highly desired a top chart spot or keyword placement is, the higher the level of competition for that ranking, and thus the higher the bar for an app's total user base required to earn that ranking. For apps competing for these top spots, a significant user acquisition effort is a must to support an app's organic ranking power, as discussed in the [Outside of the Store chapter](#).
- **User retention:** Related to user acquisition, user retention has taken on a larger and larger importance as the ranking algorithms factor more and more for active and retained users, versus simple install states. Without retaining users, an app has little chance of earning or maintaining a top rank spot.
- **Project management:** In some cases, such as a large app that is localized in many countries, a project manager role may be required in order to oversee the various projects and coordinate communication between the various individuals owning each aforementioned ASO-related role. Project managers take ownership for keeping the entire operation on the right track and running smoothly.

05

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INCREASING VISIBILITY

# 05

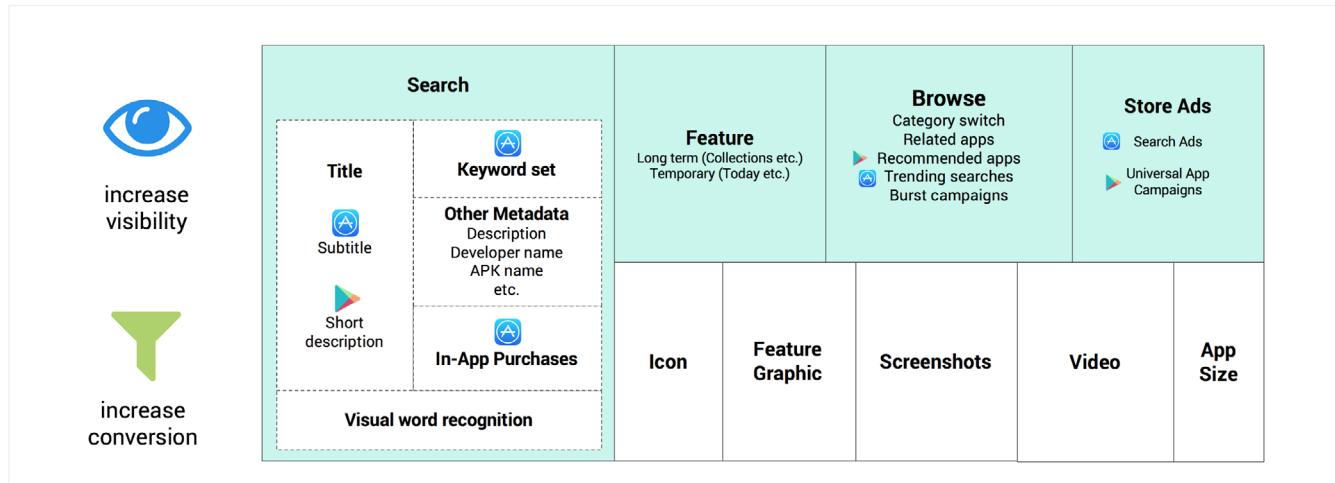
## INCREASING VISIBILITY

“How do I get more people to be aware of and download my app?”

### Introduction

As the starting place for ASO, improving your app's visibility in the App Store is of paramount importance and can occur from several specific activities. In this chapter we describe all the ways you can get in front of a potential customer from within the App Store.

Following the ASO stack, in the first two subchapters we will talk about how to increase visibility on **Search** through keyword optimization and how you can leverage more **Feature**-traffic by pitching Apple & Google. Following that, in the third subchapter, we will discuss more briefly what other levers you can pull to increase other casual **Browse** traffic. The last subchapter tackles **Store Ads** which, while not an organic ASO topic, definitely has to do with optimizing your paid visibility within the App Stores.



# Increasing Search Visibility Through Keyword Optimization

“How do I find and implement the right keywords for my app?”

## Introduction to Keyword Optimization

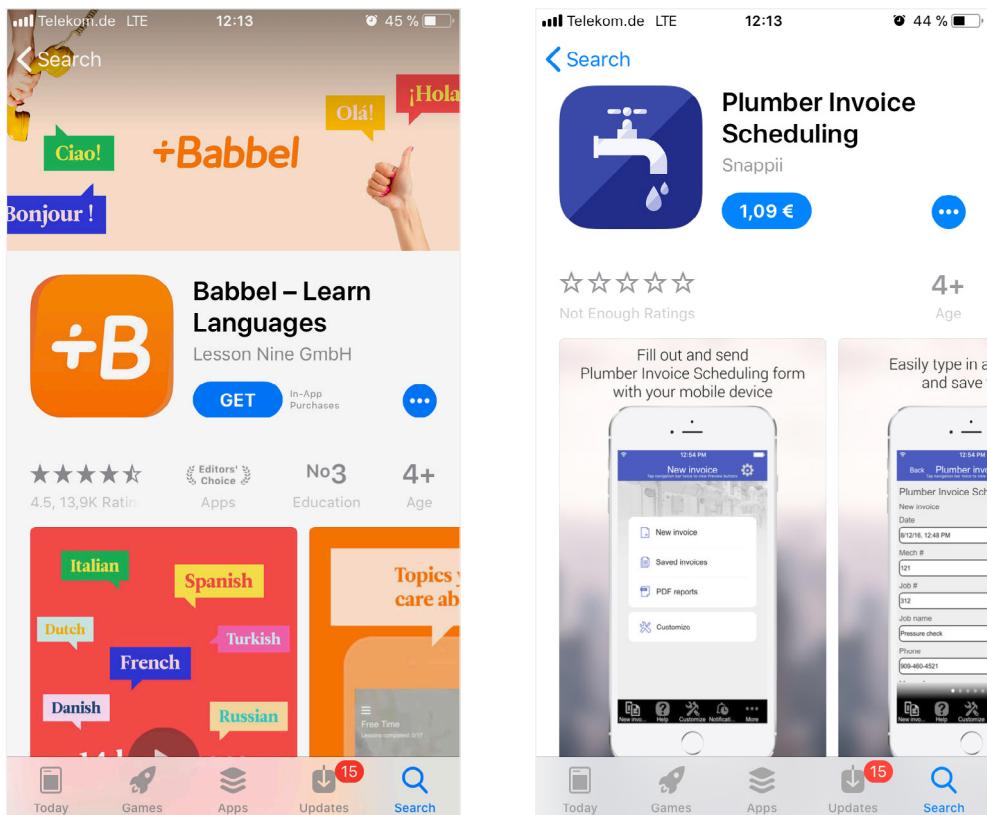
Just about every app can benefit from Keyword Optimization; it's just a matter of finding the right keywords. To get there, however, it's important to understand first of all what words people would use to search for your app if they didn't know it existed.

Asking the following questions can help with this assessment:

- Does your app solve a certain need? (e.g., “**flashlight app**” or “**baking recipes**”)
- Is the market for this app already well-defined? Do people already know how to search for it? For example, “**period tracker**” is a well-known use case and keyword search term, so period tracker apps will benefit from tapping into this awareness. Whereas for a niche use case like “**plumber invoice scheduling**,” people would probably have to be educated first of all that there actually is a reason (i.e. an app) to search for **plumber invoice scheduling**; this involves educating users by tapping into similar, but more general keywords like “**invoice**.”
- For games: does your game belong to a certain category of games that people know to search for? (e.g. “**puzzle games**”)

If the answer to all of these questions is no, keyword optimization can still help your app leverage search traffic to some extent. That said, building awareness for your app's use case in this scenario will also require supplemental external/inorganic sources of traffic in order to achieve rank on similar, but more general (and thus more competitive) organic keyword downloads.

To recap, while nearly all apps may benefit from keyword optimization, it's important for expectation-setting purposes to understand that apps which solve specific, well-known needs will see the most significant visibility benefits from keyword optimization. This is because the nature of keyword searches in the App Store are “shorter tail” (e.g. invoice) and less likely to be web keyword searches to be “longer tail” (e.g. plumber invoice scheduling).



Babbel (left) will see a bigger benefit from keyword optimization, while Snappii's app (right) will see benefit less from keyword optimization.

## Understanding the Search Algorithm

Understanding the inner workings of the App Store ranking algorithms is the million dollar topic, and one that puts the ASO industry at constant odds against Apple and Google, in order to capture clues, tips, and tricks.

There are three things to consider when looking at the question of how the algorithm ranking algorithms work, and whether your app will rank for a keyword, and if so how well:

**01.** Are you **eligible** to rank for a certain keyword?

- Often this requires specifying the keyword in your app listing's metadata.

**02.** How **relevant** is the given keyword to your app?

- While influenced by “secret sauce” factors, this is mostly defined by the location where the keyword sits in your metadata.

**03.** How much ranking **strength** does your app have for the keyword?

- Strength is defined by factors outside of your metadata, such as install conversion rate and keyword retention.

## KEYWORD RANKING ELIGIBILITY AND RELEVANCE

Now, imagine if App Stores were to suddenly start with a clean slate by losing all of their historical data; how would they decide on how to list the results for a keyword search query of, say “photo editor”?

The first step Apple and Google take in determining search results is to identify **which apps are eligible to show for the keyword**, based on the metadata all apps provide. That is, whether or not the keywords “photo” and “editor” are contained within an app’s metadata.

The next step would be to decide how much **relevance** your application has for the specific keyword. To unpack this second step, the algorithms primarily look at the **location** of a specific word in an app’s metadata in order to determine the relevance. As a rule of thumb the algorithms look at:

01. How visible the metadata is (e.g. app title has a higher visibility than the keywords field).
02. How many characters a piece of metadata allows (e.g. the App Store title only allows 30 characters).
03.  How often those keywords appear throughout your metadata (Google-only).



**Pro tip:** *Keywords mentioned frequently, earlier in the full description on Google Play have been found to be considered more relevant, and thus earn a better rank than those found in later lines in the description. For example mentioning the word “restaurants,” five times in the first few sentences of your long description would assign your app a better relevance weight in the Google Play Store algorithm for restaurant, than mentioning the keyword the same number of times, but throughout the entire long description.*

The following factors are commonly accepted as keyword ranking signals throughout the ASO industry:

| Keyword Eligibility & Relevance |                       |                        |
|---------------------------------|-----------------------|------------------------|
| ELIGIBILITY                     | Not eligible          | Eligible               |
| RELEVANCE                       | ●○○○○ = low relevance | ●●●●● = high relevance |
| METADATA SOURCE                 | App Store             | Play Store             |
| Title                           | ●●●●●                 | ●●●●●                  |
| Short description               |                       | ●●●●○*1                |
| Subtitle                        | ●●●●●                 |                        |
| Keyword field                   | ●●●○○                 |                        |
| Long description                | ●○○○○                 | ●○○○○                  |
| Developer Name                  | ●●○○○                 | ●●○○○                  |

| Keyword Eligibility & Relevance |               |       |
|---------------------------------|---------------|-------|
| Package Name/Bundle ID          | ●○○○○         | ●●●○○ |
| In-App Purchases                | ●○○○○         | ●○○○○ |
| Primary category name           | ●○○○○         |       |
| Secondary category name         | ●○○○○         |       |
| Similar apps                    | ●○○○○         |       |
| User reviews                    | potentially*2 | ●○○○○ |
| Developer replies to reviews    |               |       |
| What's new text                 |               |       |
| Visual assets: OCR*3            |               |       |
| Visual assets: File names*4     |               |       |
| Backlinks (SEO)                 |               | ●○○○○ |

When it comes to the **relevance** of your metadata for a keyword phrase such as “photo editor” (and this holds true specifically for Google Play metadata and for Apple title/subtitles), the algorithm also assigns more relevance weight if your metadata contains an **exact match**.

\*1. Per above, Mobile Action published a [blog post \[https://www.mobileaction.co/blog/google-play-short-description-keywords/\]](https://www.mobileaction.co/blog/google-play-short-description-keywords/) on the fact that keywords in your short description have a higher impact than your long description.

\*2. While we don't have evidence for reviews being indexed in the App Store, there have been instances in which black hat ASO keyword stuffed reviews appeared in the App Store, preceding an increase in keyword ranking (thanks to Luca Giacomo).

\*3. The idea being that Google might be able to recognize text in the assets that you upload and then indexes you for these, has been disproven.

\*4. A test was run to name files from IMG0001.png to new-keywords-to-rank-for.png and test if Google would pick this up, yet the test failed to produce an improvement in keyword rank.



**Pro tip:** As you can see in the screenshot below, Apple returns all apps in a category if searching for one of the words in the category name. Make sure to count that in when deciding on your category.

| Keywords ⓘ                                 | KEI ⓘ    | Volume ⓘ | Competition ⓘ | ↑ Results ⓘ |
|--|----------|----------|---------------|-------------|
| <input type="checkbox"/> Show starred only |          |          |               |             |
| ☆ trave                                    | [Top 10] | ● 7      | 10            | 99          |
| ☆ travel app                               | [Top 10] | ● 17     | 24            | 100         |
| ☆ travel planner                           | [Top 10] | ● 24     | 34            | 100         |
| ☆ travel planning                          | [Top 10] | ● 6      | 8             | 100         |
| ☆ travel packages                          | [Top 10] | ● 6      | 9             | 100         |
| ☆ travel apps                              | [Top 10] | ● 35     | 50            | 100         |
| ☆ travel                                   | [Top 10] | ● 37     | 52            | 99          |
| ☆ travel agency                            | [Top 10] | ● 7      | 10            | 100         |
| ☆ travel buddy                             | [Top 10] | ● 11     | 16            | 100         |

Screenshot of AppTweak showing ± 158.000 results for all search terms with “Travel” in them, meaning all the apps in the “Travel” category rank for this keyword, plus those that specify it.

Now and then, you may come across a situation where you didn’t specify a keyword but are nonetheless still ranking for it.

Google’s algorithm employs machine learning, including embedding neural network models like skip grams in order to determine relevance associations for keywords beyond metadata (e.g., synonyms, similar context, misspellings/slang, etc.). The algorithm matches similar words and then the search engine ‘guesses’ the intention behind a search. This means that if a search keyword is algorithmically linked to another keyword found in the app’s metadata, it can cause your app to rank for that linked search keyword, even if that keyword itself is not found in your app’s metadata.

Apple has a much simpler algorithm, but also provides several keywords that you didn’t specify in your app’s metadata to rank

## APPLE “FREE” RANKING KEYWORDS IN THE APPLE APP STORE

We’ve found the following keywords to index your app without you needing to specify it:

### Free App Store Keywords

These don’t need to be included in your metadata

| KEYWORD/KEYWORD TYPE | APP STORE  |
|----------------------|--|
| ipad                 | yes (even, say if the app is just an iMessage extension) |
| free                 | yes (but only for free download apps)                    |
| app                  | yes*1  |
| apps                 | yes  |
| iphone               | yes  |

## Free App Store Keywords

These don't need to be included in your metadata

| KEYWORD/KEYWORD TYPE   | APP STORE   |                                      |
|--|---|--------------------------------------|
| primary category word (e.g. productivity, utilities, weather)  | yes   | Spotify Music utilities              |
| second category word (e.g. lifestyle, entertainment, business) | yes   | Spotify Music entertainment          |
| the  | yes   | the Spotify Music                    |
| and  | yes   | Music and Spotify                    |
| for  | yes   | Spotify for Music                    |
| a  | yes   | Spotify a Music                      |
| an   | yes   | an Spotify Music                     |
| by   | yes   | Music by Spotify                     |
| plurals/singulars  | yes   | Spotify Music                        |
| Root > variant   | sometimes   | Spotify Music Player (Play > Player) |
| Variant > root   | seldom  | Spotify Music Play (Player > Play)   |
| misspellings   | mostly  | Spotify Musix                        |
| compound words   | when the keywords (“Audio books”) are part of the title, and in some other edge cases | Audio books <-> Audiobooks           |
| numbers (one-ten; 1-10)  | rarely  | Spotify Music one                    |

\*1. Luca Giacomet correctly pointed out that not in all cases you will rank for keyword + <”free match” keyword>‘app.’ Luca comments “it’s a difficult topic actually. First, these free matches might vanish if the other term accompanying (for which alone you rank) them are not highly relevant to your app. Second, if you look for the results of a generic search and the same generic search with app added, you will notice that Apple roughly shows only 50% of the results overlapping between the two searches, so clearly the match cannot be always automatic.”

### HOW TO FIND OUT WHETHER APPLE MATCHES MY KEYWORD IN PLURAL / COMPOUND?

While Apple is getting better at matching plurals, Apple’s understanding is certainly still far from fully-baked, especially when it comes to non-English searches. Therefore, for best results it is important to test, rather than assuming.

The first test to perform is analyzing both singular and plural variants of the root word (**e.g., fox, foxes**) versions of your keywords, as well as compound words (**e.g., audio books, audiobooks**), using your favorite ASO tool.

| Keywords ?                                 | KEI ?  | Volume ? | Competition ? | Results ? |
|--|--------|----------|---------------|-----------|
| <input type="checkbox"/> Show starred only |        |          |               |           |
| ★ audiobooks                               | Top 10 | ● 46     | 48            | 81        |
| ★ audio books                              | Top 10 | ● 54     | 60            | 79        |
| ★ mice                                     | Top 10 | ● 19     | 20            | 87        |
| ★ mouse                                    | Top 10 | ● 45     | 43            | 79        |
| ★ podcast                                  | Top 10 | ● 57     | 62            | 76        |
| ★ podcasts                                 | Top 10 | ● 53     | 54            | 76        |

Screenshot of AppTweak showing singular/plural and compound word rankings

For this research, it's most important to look at the sheer number of results. In our experience, if a set of one type of variation (e.g. compound words) closely matches the rank of the root word (i.e. the discrepancy is less than 15%), then it's highly likely that they are matched by Apple and that you will rank for both by just specifying one. You can see this being the case for **audiobook & audio books** (compound) and **podcast & podcasts** (plural). The reason for which these variants never match up entirely is because there are likely other matching rules at play. For example, an app may have a very high conversion rate for **podcast**, but not as high for **podcasts**.

Yet for the plural/singular forms of **mice & mouse** for instance, we see a huge discrepancy: only about 50% of the number of apps ranking for **mouse** also rank for **mice**. It's therefore highly unlikely that Apple is matching plurals between the search keywords **mice & mouse**, so to rank well for both terms, you will have to add both variants in your metadata.

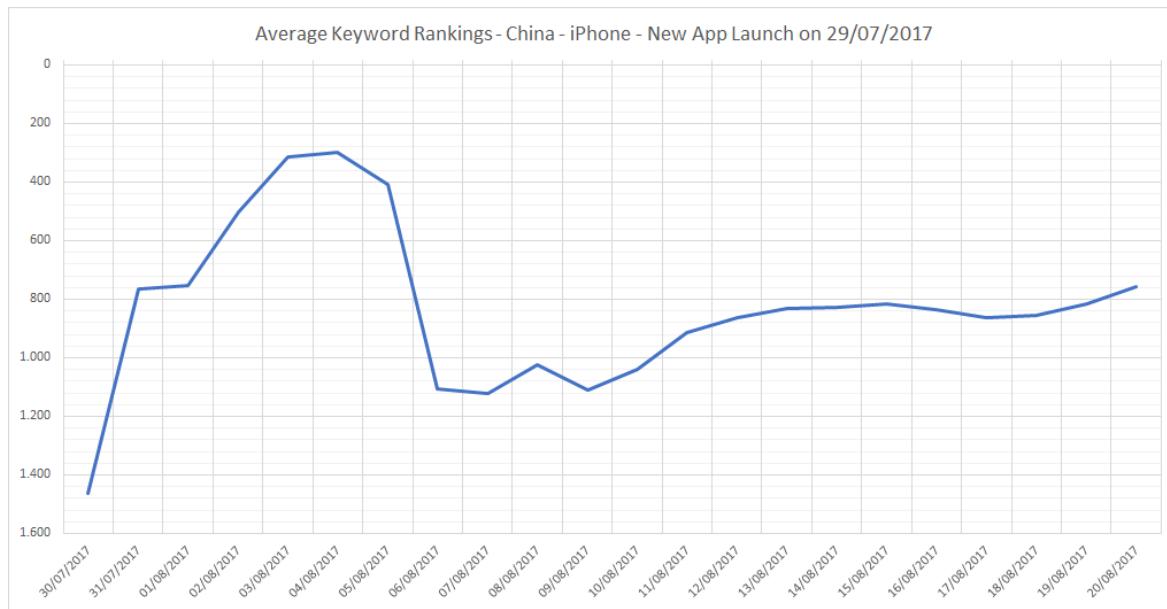


**Beware:** From our experience an **exact match** weighs more than the matching rules that Apple offers. If a keyword is one of your primary keywords, and both bring in substantial volume (i.e. podcast = 62 and podcasts = 53), we suggest that you target both the plural and singular forms in your metadata for best results. Over the course of metadata iterations, you can test to find out whether you're safe to remove plurals, but the safest default mode in this scenario is to add both.

## THE 7-DAY KEYWORD BOOST ON THE APP STORE

The first seven days of your app's launch are not only a testing time for its credibility and ability to flop or fly, but they're also the only time when Apple artificially boosts your app's visibility, and during which your marketing efforts will produce more fruit.

For Apple, it is a guessing game of how good a new app is, as well as how relevant it is to the keywords in its metadata. In order for the algorithm to gauge metrics like retention and conversion rates from search terms, in the first seven days, your app is placed artificially high in the results for keywords you provided.



*Example of a graph supplied by ASO Expert Ido Schoonen, of Lab Cave Games. On the graph you see the initial boost in keyword rank in the first seven days after launch, after which the average keyword ranking drops.*



*In this graph you see the impact that the first seven days after launch had on App Unit volume, filtered for App Store Search.*

To take full advantage of this boost, you could either target vaguely relevant, but super high volume keywords in the pursuit of capturing more downloads, or make sure that you cover the most relevant keywords from the start, so that your performance history on those keywords is high, and your app has a better chance of retaining your high rank for those keywords beyond the seven days keyword boost.

## KEYWORD RANKING STRENGTH

Earlier, we discussed a theoretical situation in which the App Stores began with a clean slate and no ranking history. Lacking historical data to improve the search results, the stores would have to rank apps purely off of their metadata.

But what makes up that historical performance data that Google and Apple do have and do use to serve better quality search results to their searchers?

Here are the factors that the ASO industry has identified as the major ones in Apple's and Google's keyword ranking algorithms, along with a note to indicate which stores utilize the signal:

### Primary Ranking Signals

#### **Stores: Apple + Google**

**App downloads** are the strongest ranking signal, specifically downloads of that app that were sourced from the keyword in question. Moreover, download velocity is a major attribute of overall app downloads. The concept of download velocity will be illustrated in further detail in the subchapter on top chart ranks.

Downloads are especially important for Apple. If a high-volume music app publisher were to decide to insert "Audiobooks" into their title, they would likely pick up a decent rank for that term, just by virtue of having a lot of downloads of the app overall. Because the stores tend to rank high-volume apps for high-volume keywords, indie developers should begin by focusing on long tail or otherwise lower volume, but lower competition keywords.

Another factor of significant influence in the ranking algorithms is having **a high star rating** and a high **velocity of reviews and ratings**. These signals indicate that users are fond enough of an app to take the time to rate it or write a review, and that effort required is what makes this factor a bigger one. Both Google and Apple have officially commented that star ratings, user reviews, and the number of ratings are factors that their algorithms consider when ranking apps.

### Conversion Rate for a Keyword Search Term

#### **Stores: Apple + Google**

One of the leading indicators of whether your app will rank well for a certain keyword is how well your app has historically converted searches into Installs, for that keyword, as a percentage of total changes (i.e. impressions). Apple and Google want to show apps which have a higher likelihood of being downloaded, so that users are satisfied with the store experience, and thus are likely to return to search for and download apps in the future.

### Retention Rate for a Keyword Search Term

 Stores: Google (Apple for retention rate overall)

Over time, Google's keyword ranking algorithm has gradually moved away from leaning so heavily on downloads and download velocity to calculate an app's keyword ranking strength. This came to a head with a Google Android team blog post and algorithm update in late 2016/early 2017, wherein the retention rate of users was officially announced to be a much more important signal for keyword ranking.

While download velocity can still cause initial swings in keyword ranks, the retention of users that download after searching a keyword is the most important long-term signal for keyword ranks in the Play Store. In fact, if your app is unable to retain users, then driving more downloads can be a detrimental signal, causing your app to rank progressively lower for a keyword, as your app proves with more and more data that it is not worthy of being placed in front of future people searching a keyword, because those users will not use the app for long, as compared to other apps downloaded.

While not officially confirmed, most ASOs assume that Apple also employs user retention rate (or at least uninstall rates) as a factor in its keyword ranking algorithm.

### App performance

 **Store: Google**

Announcements by Google indicate that its algorithm also factors for app performance (e.g., crashes/stability or consumption rate of the phone battery), considering it as a potential negative signal, and ranking poor performing

apps lower than others.

#### Additional, unconfirmed algorithm factors put forward by the industry:

- **User engagement with app indexing (Apple and Google):** iOS apps can be indexed in Apple's spotlight mobile search user experience, and Android apps (as well as iOS apps) can be indexed in Google.com. This data offers an off-page signal for determining the quality and popularity of apps, and thus is within the realm of possibility for factoring into in-store ranking, especially for SEO keywords that occur in-store. Additionally, as Apple and Google want to ensure that apps are adopting the latest technology, it may be a positive signal simply to set app indexing up.
- **Does the app have a video (Apple and Google):** For quality productions, preview videos are able to provide users with a better understanding of an app than screenshots, and are recommended in best practices by Apple and Google; thus, the presence of a video could sensibly be used as a favorable ranking signal for keyword ranking, especially with the release of autoplay videos.
- **Is the app localized: (Apple and Google):** It would make sense from a user experience standpoint to rank localized apps before non-localized apps for a keyword search, though this behavior has not been confirmed.
- **Size of app (Apple and Google):** Size can be a subjective measure to use when considering which apps to rank for a keyword, however when considering the fact that users often have limited bandwidth and storage space, it's possible to imagine that size can play a role in determining keyword ranks.
- **App ARPU (Average revenue per user) (Apple and Google):** In a similar vein of thinking to AdWords and Apple Search Ads (i.e. ads from apps with higher bids are shown more than ads from apps with lower bids), Apple and Google earn revenue from paid downloads and In-App Purchases, and thus could reasonably be inferred to favor apps in keyword rankings which earn a higher revenue per user. Indeed, this sentiment is shared by many across the industry.
- **Average app session duration or number of launches (Apple and Google):** As a more in-depth user engagement factor to the less complex (and less telling) number of launches data point, the total time spent in an app or the number of launches could sensibly factor into keyword rankings.



**Beware:** Downloads from one country will not affect keyword (or top chart ranks) in another country. That is, even if an app has one million Installs from the keyword "chat" in the United Kingdom, an app will not automatically earn a higher rank for "chat" in the United States or Canada. However, the keyword field of some localizations can affect an app's relevance for keyword rankings in other countries (see [chapter 8 on localization](#) for more details).

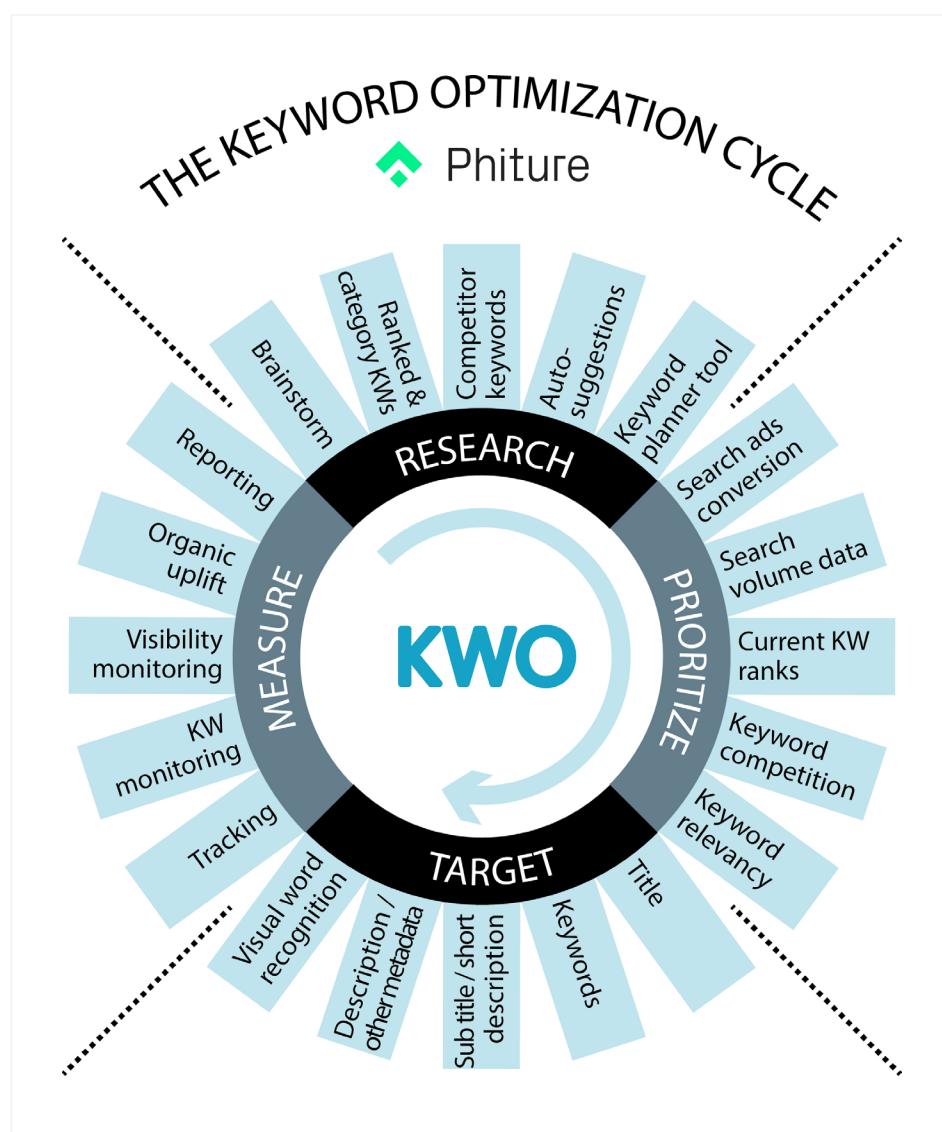
## The Keyword Optimization Cycle (KWO Cycle)

For those apps and games that do stand to benefit from keyword optimization, we'll now go through how to set up a solid keyword optimization strategy based on the framework "**The Keyword Optimization Cycle**" (**KWO Cycle**) by Pablo Penny, Consultant at Phiture.



Pablo Penny is consultant and ASO lead at the mobile growth consultancy Phiture. He has conducted ASO for large clients such as Skyscanner, Axel Springer, Headspace, and Idagio and focuses on developing more analytical methods and frameworks for App Store Optimization. He holds a PhD in Innovation Management from the University of Westminster where he researched startups and lectured on entrepreneurship. Pablo has experience in tech and strategy consulting and is passionate about growing mobile apps through mobile strategy, data analytics, and ASO.

[Twitter](https://twitter.com/vaspab) | [Medium](https://medium.com/@pablopenny)



In the KWO cycle, the four different stages essential to keyword optimization are displayed. The repeat symbol is shown in the middle, as the process of keyword optimization is iterative and continuously tweaking an app's metadata is essential to success.

The four stages have been defined for both App Stores, although some steps are only relevant for one of the two (e.g. keywords field for the App Store).

The four steps of the KWO Cycle include:

- 01. Research** all keywords and place the most relevant keywords into a backlog.
- 02. Prioritize** the backlog based on volume, relevancy, etc.
- 03. Target** keywords by inserting them into your app's metadata.
- 04. Measure** keyword performance, calculating organic uplifting.

## KWO Step 1: Keyword Research



Before you can start drawing people to your App Store and Google Play Store listing by targeting high volume, relevant and low competition search terms, you will need to create a large list of keyword search terms with which people could reasonably expect to find your app.

The initial step in this process is to create a fresh keyword search term backlog. The backlog can be just one column, but you can also expand on this with another column mentioning the source from which the keyword originated. That source might be, for example, "Brainstorming session," "Google Keyword Planner Tool," or "Competitor." Tagging the source of your keywords helps you keep track of what methods you have already tried, and where you sourced the most useful keywords from.

|   | A  | B                          | C                   | D                    |
|---|--|----------------------------|---------------------|----------------------|
| 1 |  Phiture  | <b>Search Term Backlog</b> |                     |                      |
| 2 | <b>Search term backlog</b><br>Put all potentially relevant search terms in here.<br>When done, copy output to ASO tool and go to step 2. |                            | <b>Unique terms</b> | 0                    |
| 3 |  |                            | <b>CSV-Output</b>   | <input type="text"/> |
| 4 |  |                            |                     |                      |
| 5 |  |                            |                     |                      |

Next, we'll cover various ways of finding new search terms for your backlog:

- Brainstorming
- Ranked Keywords
- Competitor Keywords
- App Store Auto-Fill
- Apple Search Ads
- Google Keyword Planner Tool
- Other ways such as surveys, thesaurus, related searches, and reviews

## BRAINSTORMING

Before diving into tools, try creating your initial keyword search terms list based on some common sense. How would you search for your own app?

Here are a couple of pointers to get started:

- Check your existing non-optimized metadata. In other words: what keywords are found within your description?
- Check your website for keywords.
- Get your colleagues into the room and ask them to name some keywords they would search.

Once you have a base seed keywords in your backlog, you can move onto more scalable keyword search term discovery methods.



**Pro Tip:** We have found that a team brainstorm works really well when everyone must independently come up with as many keyword search terms as they can within 5 minutes, physically and individually written down on post-its or paper. Then collect and group each post-it by themes. Apart from the fact that you will find that the important search terms stick out because everyone jotted them down, the grouping will also help find distinct topics and ways how people would discover your app that are useful in your efforts to increase conversion.

## COMPETITOR KEYWORDS

Of course you want to make sure that you're ahead of (or at least not behind) the competition when it comes to ASO. Start by analyzing their descriptions, long and short description, and **especially their titles and subtitles**, in order to get a grip on what keywords might be relevant for your app, too.

|   |  |
|---|--|
|  | Audible – <b>audio</b> books, original series & podcasts |
|  | <b>Audio</b> Books by <b>Audio</b> books                 |
|  | Goodreads – Book Recommendations and Reviews             |
|  | Kindle – Read eBooks, Magazines & Textbooks              |

*Screenshot showing AppTweak competitor title comparison*

While in the Google Play Store you can see exactly what your competitor inputs into their metadata; for the App Store it's a bit trickier. Because iTunes Connect hides the 100-character keywords field, it's a guessing game as to what keywords other apps have used.



**Pro tip:** an easy way to test whether an iOS app ranks for a keyword is by searching the app's brand name (or other individual word that you are certain they rank for), plus the word you want to test. For example, searching "Spotify streaming" will decrypt whether Spotify has the word "streaming" in its metadata.

This is where ASO tools come to the rescue. As ASO tools are often tracking millions of search terms throughout the App Store, they tend to know what terms are used by which apps. By faking a real search request for a term (i.e. "photo editor") and listing who ranks on what position, they infer that an app which is ranking for "Photo editor" but doesn't have that in their title, is actively targeting both "Photo" and "Editor" in the keywords field.

| Keywords of Audiobooks from Audible   |  | Shared Keywords  |  | Keywords of LibriVox Audio Books Free  |  |
|---|--|--|--|--|--|
| <ul style="list-style-type: none"> <li>+ Track these keywords</li> <br/> <li>+ amazon</li> <li>+ hooked</li> <li>+ kindle</li> <li>+ laptop</li> <li>+ listening</li> <li>+ help</li> <li>+ story</li> <li>+ always</li> <li>+ favorite</li> <li>+ offer</li> <li>+ literature</li> <li>+ grey</li> <li>+ busy</li> <li>+ book</li> </ul> |  | <ul style="list-style-type: none"> <li>+ Track these keywords</li> <br/> <li>+ favorite</li> <li>+ offer</li> <li>+ literature</li> <li>+ book</li> <li>+ pleasure</li> <li>+ bookmark</li> <li>+ author</li> <li>+ audiobook</li> <li>+ narrator</li> <li>+ listener</li> </ul> |  | <ul style="list-style-type: none"> <li>+ Track these keywords</li> <br/> <li>+ audible</li> <li>+ domain</li> <li>+ favorite</li> <li>+ volunteer</li> <li>+ playback</li> <li>+ offer</li> <li>+ literature</li> <li>+ lit</li> <li>+ fiction</li> <li>+ accent</li> <li>+ jane</li> <li>+ initiative</li> <li>+ book</li> <li>+ wonderful</li> </ul> |  |

*Screenshot showing the keyword spy feature from Sensor Tower*

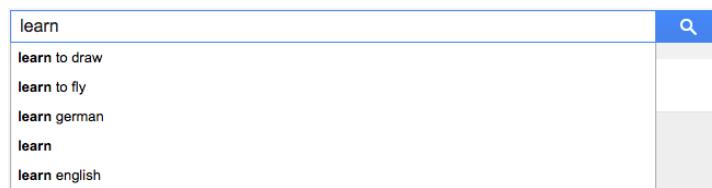
Another method for analyzing competitor keywords is to use an ASO tool in order to "spy" on what keywords they may be using, such as in the above screenshot. Yet, as mentioned in the prior pages, this overview is not complete, as

sometimes you also rank for certain keywords that you didn't specify in your title or keywords field in the App Store (e.g., misspellings, category names, synonyms in the Play Store, etc.). Still, it's helpful to get a good handle on your competitors' strategy and see which keywords they target.

## AUTO-FILL

One of the best ways to find search terms that aren't only relevant, but are also high-volume is to look at auto-fill keyword suggestions in the App Store or Play Store.

While you can find auto-suggestions in the App Store or Play Store on your iOS or Android device, you can also check out [play.google.com](http://play.google.com) from your computer or accessing iTunes from your computer; but beware that the keyword trends can sometimes differ between the mobile and computer stores.



*Screenshot showing a Google Play website keyword search*

Additionally, some ASO tools like Appkeywords.net and Appkeywords.io also offer auto-suggest data:

Keywords found      Keywords selected

**Language learning**

- + language learning apps ↗
- + language learning ↗
- + language learning apps free ↗
- + language learning apps for kids ↗
- + language learning games ↗

**Language learning + " "**

- + language learning apps ↗
- + language learning apps free ↗
- + language learning apps for kids ↗
- + language learning games ↗
- + language learning free ↗

**Language learning + "a"**

- + language learning apps ↗
- + language learning apps free ↗

*Screenshot of appkeywords.net*

Type a keyword

Puzzle

Apple App Store

United States

Go

**Puzzle**

- puzzledom
- puzzle games
- puzzle
- puzzle fighter
- puzzles
- puzzle games for free
- puzzles and dragons
- puzzle games for kids

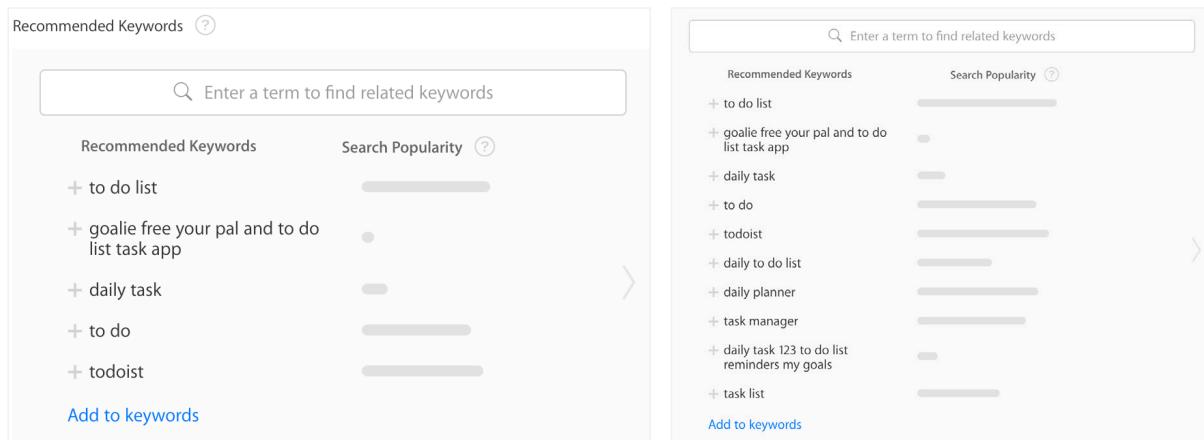
Share this on Twitter

Copy      Export

*Screenshot of appkeywords.io*

## APPLE SEARCH ADS

In addition to using Apple Search Ads for prioritization (covered later on), you can use Apple Search Ads to come up with keyword ideas. When creating a new ad group or adding keywords to an ad group, you can get keyword ideas from Apple.



*Screenshot of Apple-suggested keywords in Search Ads (add keywords to new ad group left, add new keywords to ad group right).*

## GOOGLE KEYWORD PLANNER TOOL

The Google Keyword Planner Tool provides web keyword ideas and traffic estimates and is actually intended to help you build an AdWords campaign. While the traffic estimates are web-based and therefore not super relevant for ASO prioritization, the tool can nonetheless provide some generally helpful keyword ideas based on your seed list.

As the Google Keyword Planner Tool is part of AdWords, you will need to sign up for AdWords first. Once in the keyword tool you can search for keywords based on:

### A description of your product / service

If you enter “food delivery app” you will get the following (701) results, many of which will be relevant to your app, and which you thus should add to your keyword backlog.

| Keyword (by relevance)           | Avg. monthly searches | Competition | Suggested bid | Ad impr. | Add to plan |
|----------------------------------|-----------------------|-------------|---------------|----------|-------------|
| food delivery                    | 201,000               | Medium      | €2.90         |          | »           |
| delivery near me                 | 673,000               | Low         | €2.07         |          | »           |
| delivery                         | 246,000               | Low         | €1.65         |          | »           |
| food delivery near me            | 368,000               | Medium      | €2.05         |          | »           |
| delivery food                    | 49,500                | Medium      | €2.19         |          | »           |
| grubhub                          | 1,220,000             | Low         | €0.54         |          | »           |
| restaurants that deliver near me | 90,500                | Low         | €1.84         |          | »           |
| order food online                | 18,100                | High        | €2.76         |          | »           |
| delivery food near me            | 165,000               | Low         | €2.11         |          | »           |

Screenshot of the Google Keyword Planner Tool

## Your website

The Google keyword tool will pull in keyword ideas directly from your website content.

## A specific product category

The Google keyword tool can also create keyword ideas based around product categories.



**Pro tip:** For those who don't have access to an AdWords account, "Google Trends" is available without the need to log in to AdWords or even have a Google account. Google Trends is covered in [chapter 11](#).

## OTHER SOURCES FOR KEYWORDS: SURVEYS

The risk of the purely finding search terms within the team or by yourself is that you represent only one slice or a few slices of your target customer. Additionally, you and your team may be so tied up in your own product that you may be susceptible to perspective bias, and identify search terms which are not entirely representative of how users will behave "in the wild."

Surveying existing users or potential users on how they would search for an app like yours can often give you refreshing insight into how people search for an app that solves their need/urge.

Take for example a VPN app. A developer might think that users who are actually in need of your app search technical terms, such as "VPN," "virtual private network," "change IP," etc. While these will indeed be your most qualified searches, the concept of VPN and IP are known to just a fraction of your total would-be users. Running a survey could, for instance, uncover that a lot of people would actually search for terms like "unblock netflix" before stumbling across a VPN.



**Pro Tip:** Ideally, you'll want to run this survey by a slice of your target audience that isn't familiar with your app yet. Try the following:

1. Set up a survey via UserTesting (\$\$\$) or Mechanical Turk (\$).
2. Describe a couple of scenarios in which the user might actually **need/want** your app. For example, if you have a VPN app, describe the following problem statements.

"You want to be able to surf the web without anyone knowing about this"

- **Try to avoid naming the issue with a common term, such as "anonymous" as this will prime your respondents and interfere with their suggestions.**

"You can't access television from some European countries as they restrict this."

- **In the case of a game, you can also show screenshots or a video.**

3. Ask your respondents how they would search for an app that would solve the stated problem.

4. Categorize and quantify the respondents' answers. **That is, do a lot of people answer with "Unblock netflix" or "Unblock youtube" or are they going straight in with search terms like "VPN?"**

When it comes to running the survey, you can basically ask anyone on the street, or even better, if your company does user tests on a regular basis, try to squeeze it in during one of the surveys you ask your beta testers.

If you want to run your survey via Mechanical Turk or in Europe: Clickworkers - follow [Jay Van Buiten's step plan](#) [<http://appstoreoptimization.tumblr.com/post/152647242808/optimize-your-app-store-keywords-and-2x-your>].

## OTHER SOURCES FOR KEYWORDS: THESAURUS

If you want to search for groups of synonyms and related concepts, you can also use a thesaurus.

Onelook.com and WordGrabBag.com have thesaurus functionality that you can use to find synonyms:

**newspaper**

# OneLook

*Thesaurus*

**newspaper:** a newspaper as a physical object; a daily or weekly publication on folded sheets; contains news and articles and advertisements; a business firm that publishes newspapers; cheap paper made from wood pulp and used for ... [more definitions...](#)

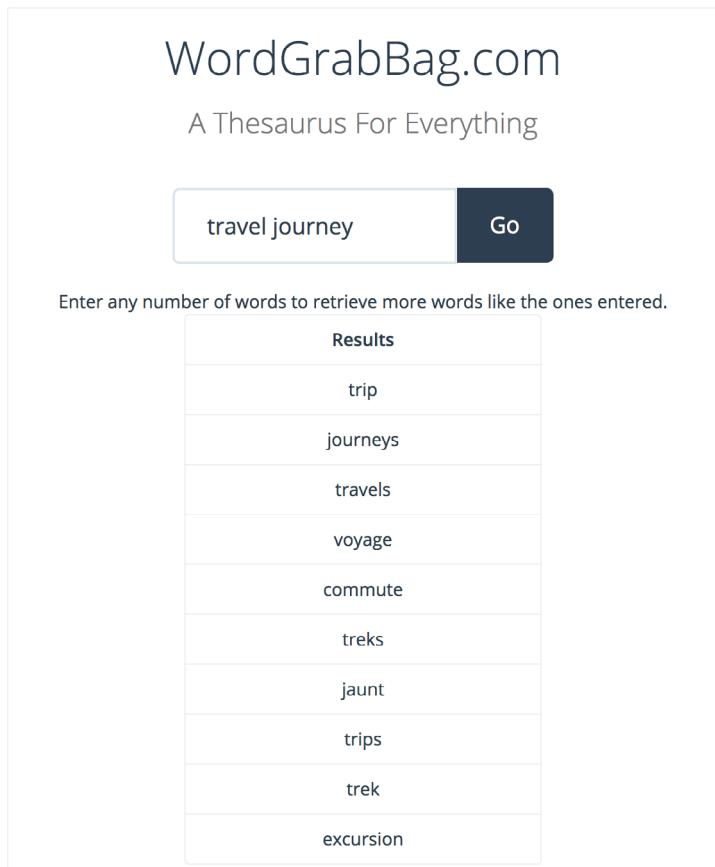
[usage examples...](#)

Showing words related to **newspaper**, ranked by relevance.

All | Nouns | Adjectives | Adverbs | Verbs | Show filters | Alphabetize

|                        |                |              |                  |                       |
|------------------------|----------------|--------------|------------------|-----------------------|
| 1. paper               | 21. press      | 41. logs     | 61. present      | 81. weeklies          |
| 2. newsprint           | 22. newsletter | 42. Prensa   | 62. tabloid      | 82. trade magazine    |
| 3. newspaper publisher | 23. journals   | 43. duck     | 63. editorial    | 83. pulp magazine     |
| 4. magazine            | 24. Gazette    | 44. pao      | 64. newspaperman |                       |
| 5. papers              | 25. newscast   | 45. log      | 65. freesheet    | 84. editions          |
| 6. newsstand           | 26. bulletin   | 46. doodle   | 66. subeditor    | 85. redtop            |
| 7. reporter            | 27. report     | 47. everyday | 67. publisher    | 86. mastheads         |
| 8. periodical          | 28. reporting  | 48. tooth    | 68. obituary     | 87. periodicalist     |
| 9. journalism          | 29. diary      | 49. periodic | 69. columnist    | 88. yellow journalism |
| 10. journalist         | 30. official   | 50. bao      | 70. newsroom     | 89. publications      |

Screenshot: Onelook.com



Screenshot: [WordGrabBag.com](http://WordGrabBag.com)

## OTHER SOURCES FOR KEYWORDS: REVIEWS

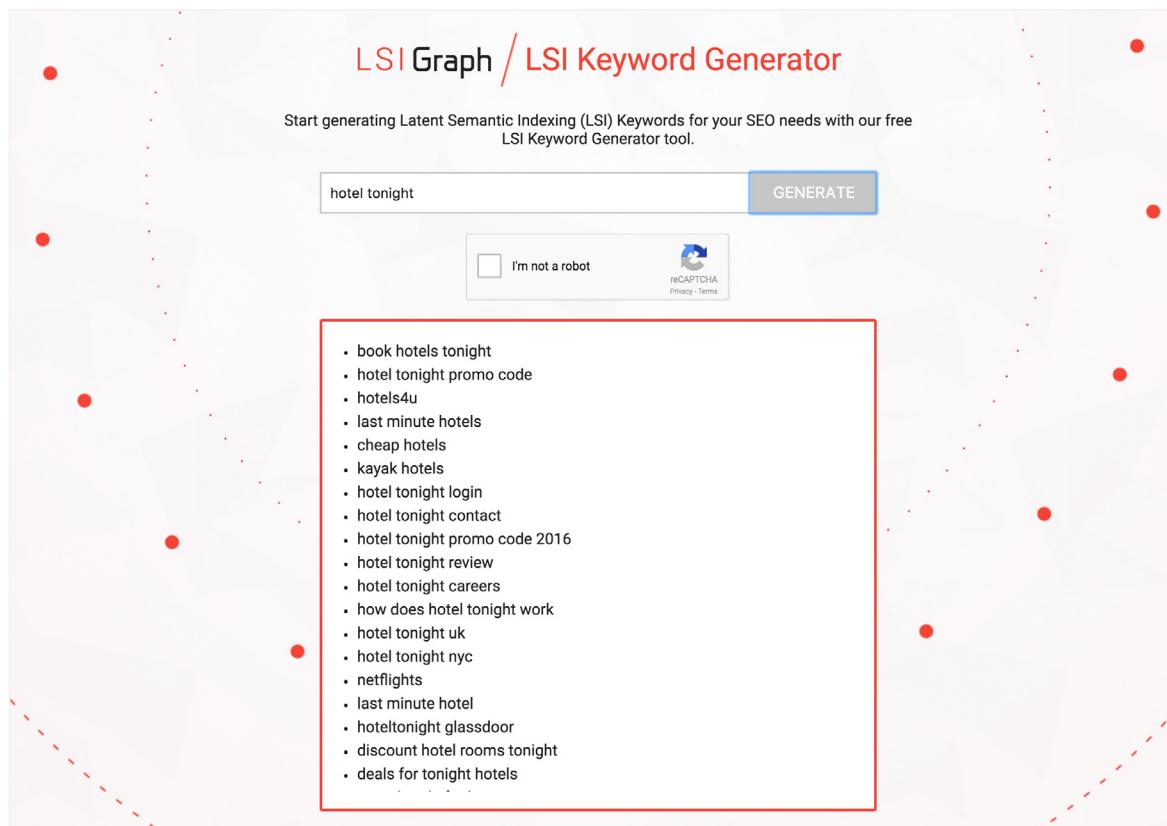
If you don't want to go through the hassle of surveying potential users, see how existing users describe your app or a competitor's app in their reviews.

For example, you might find that if you own a travel app like SkyScanner or KAYAK, reviewers might use the phrases "multi-city trips" in their reviews. This might very well be a keyword search term that could need to be added to your search term backlog if it's relevant to you.

Some ASO tools like SensorTower, Mobile Action, as well as the Google Play Console provide reports on the density of certain popular words in reviews. Tools that try to understand the semantic level of words, such as AppBot, provide even stronger insight into what your users might be looking for in your app.

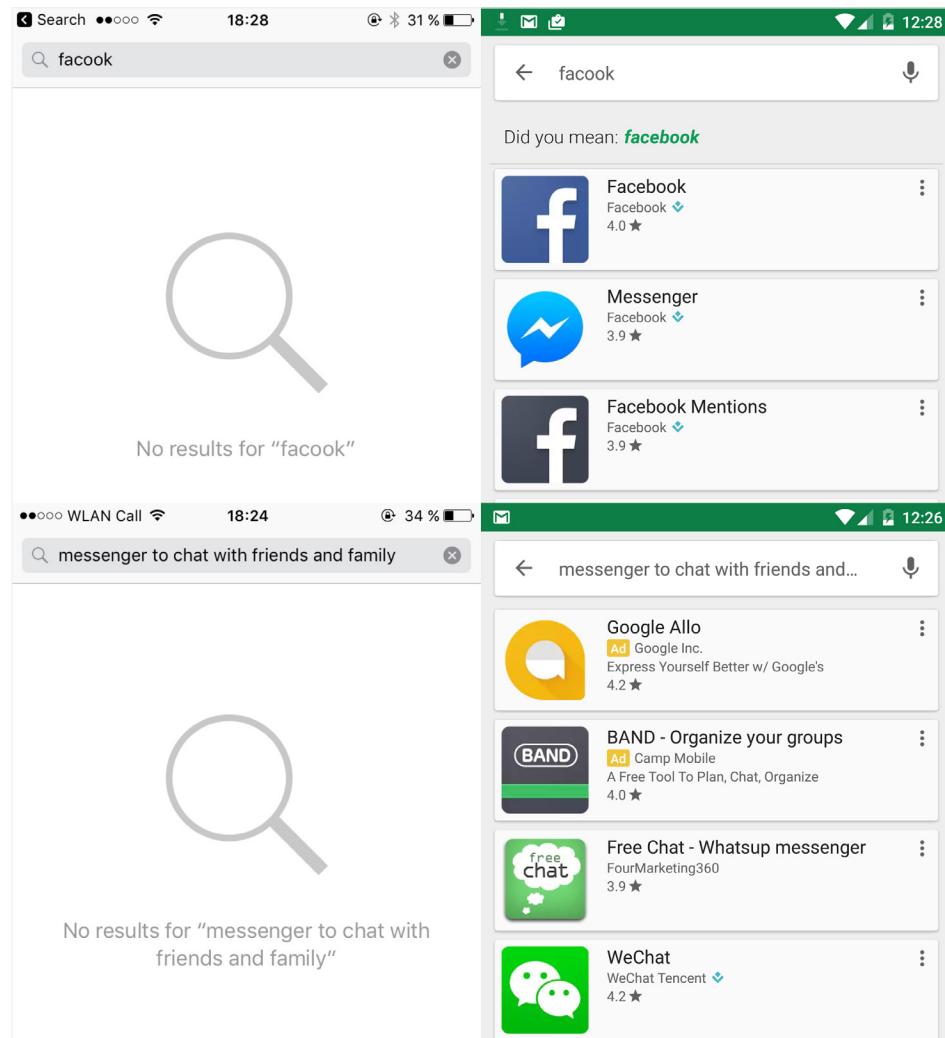
## LATENT SEMANTIC INDEXING

**Latent semantic indexing (LSI)** is used by Google and other search engines. LSI keywords are semantically similar. This doesn't mean they are the same, synonyms or even that they are similar in meaning. The idea is that the search terms are nevertheless related at some core, relevant level. You can use LSigraph.com to find these related concepts.



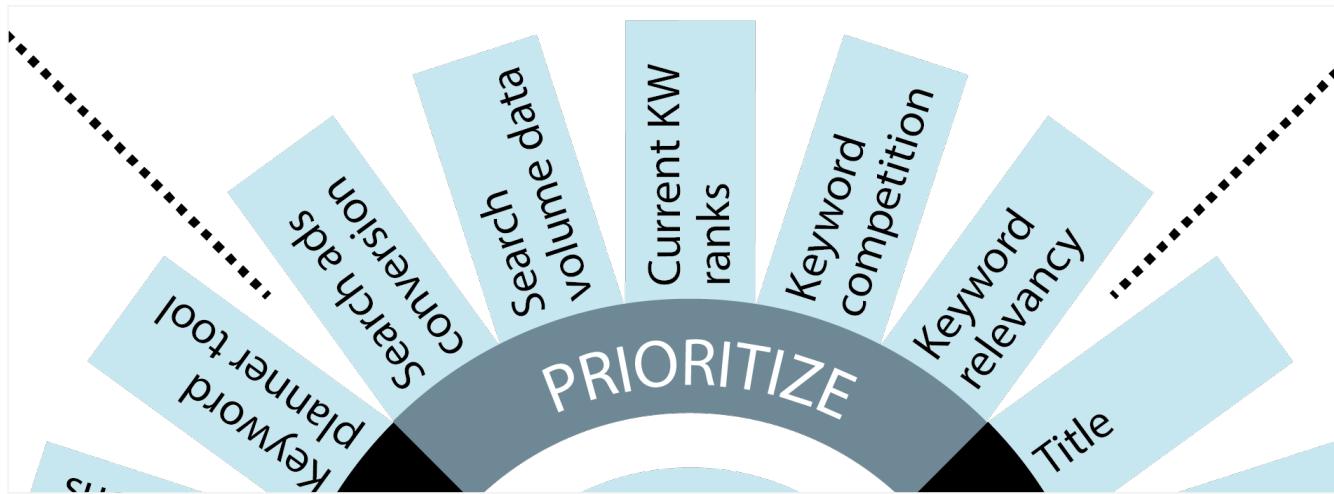
Screenshot: [LSIgraph.com](http://LSIgraph.com)

While the Google search algorithm is extremely involved when it comes to latent semantic indexing (they are after all a search engine), so far the App Store is still lagging far behind (as of June 2017).



*Screenshot depicting Google's ability to return relevant search results for search terms the apps themselves haven't specified in their metadata.*

## KWO Step 2: Prioritize



In the previous step we described how to compile a large backlog of potentially relevant keyword search terms. In this chapter, we'll discuss how to grade those search terms and generate a prioritized list of keywords, based on metrics such as volume, competition, and relevancy.

### SEARCH ADS CONVERSION DATA

It seems a bit counter-intuitive, but Search Ads have brought a lot of good for data-driven ASO. Sure, in terms of organics you may be feeling the pain of Apple adding the search ad slot front and center in the search results, and you are not alone. But the data that Apple started returning with the introduction of Search Ads can really give you a competitive edge. This includes the higher-level search popularity scores that Search Ads has brought, as well as one level deeper by providing what we call “Search Ads conversion” data: your **ability to convert a search query** to a (paying) user. This was first reported by Thomas Petit just days after the launch of Apple Search Ads.

Take for example a fitness app. You may see that “fitness app” brings in more search volume than “weight loss tracker”. However, with a bit of Search Ads budget and data from a mobile measurement partner (MMP), you may see that “weight loss tracker” actually brings in higher LTV users than “fitness app.” You may therefore want to prioritize this search term in your ASO strategy, rather than the higher volume and likely more competitive “fitness app” search term.

| SEARCH TERM         | BUDGET   | IMPRESSIONS | INSTALLS | CPI/CPA | ARPU    | REVENUE  |
|---------------------|----------|-------------|----------|---------|---------|----------|
| Fitness app         | \$ 2,500 | 500,000     | 5,000    | \$ 0,50 | \$ 1,00 | \$ 5,000 |
| Weight loss tracker | \$ 500   | 100,000     | 1,000    | \$ 0,50 | \$ 8,00 | \$ 8,000 |

*An over-simplified example of what your MMP might return, illustrating the outcome (prioritizing search terms as keywords, based on their value to your marketing strategy).*

Without an MMP you can still look at the metrics that Apple provides out of the box. The metrics Tap-Through-Rate (TTR) and Conversion Rate (CR) on a search term level can be a good indicator for relevancy of a certain search term.



**Beware:** Apple reports on downloads, which are not the same as first-opens. This will cause a discrepancy between conversions recorded by Apple (whether via the Search Ads UI or via the attribution API) and Installs or first-opens recorded by your MMP. Thomas Petit from 8fit estimates the discrepancy somewhere between 25-50%, and Incipia pegs this discrepancy at ~56%. Also, Apple's conversion click-through attribution window is 30 days, meaning that a keyword which has displayed an ad, say no later than on June 1, can still record a conversion on June 28.

## SEARCH VOLUME DATA

Whether or not you should include a search term in your ASO keyword strategy depends first and foremost on whether people are actually searching for that term in the App Store. While for web, approximate search volumes have been provided by Google to help advertisers spend more on search ads, the Google Play Store and the Apple App Store have been a black box for a long time.

For this reason, in the early days of ASO, experts used data from the Google Keyword Planner tool to estimate search term volume. As we'll see, even up until today in the world of search popularity, some ASO tools still use web-based data at least partially in their traffic scores. While this may seem sensible at first, search behavior on a small screen with onscreen keyboard will by definition be different from desktop searches. To cope with this, you can filter web data for mobile web rather than computer-based web. Yet even then, people still search entirely differently in mobile web than in the App Stores. On the web, one might search for a "**Smoked Salmon Pasta Recipe**" and indeed, the Google Keyword Planner Tool shows thousands of monthly web searches. But hardly anyone would search like that in the App Store. An App Store-type search would look more like "**recipe**," or perhaps a bit more specific, such as a "**pasta recipe app**."



**Pro Tip:** One useful tactic that you can use to make the Google Keyword Planner more relevant for app traffic is to add "+ app" to web keywords. People don't search in the App Store for a "Plumber," but they do on the web. Using web search volume data could mislead you into thinking that there are a lot of users search for "plumber" in the App Store; by adding the word "+app," you will get more directionally accurate data. Don't use this data for looking at the absolute searches, but do use it to make relative scoring decisions for your backlog keywords.

Fortunately for ASOs, Apple offers valuable insights into App Store search behavior, using the following two metrics:

**Priority:** While search popularity has been the talk of the town, the priority data point has been available for years, and is a hidden gem, hardly discovered by ASO experts.

**Search Popularity:** Introduced with Search Ads, and the most popular method for prioritizing App Store keywords.

We'll discuss these two metrics first and then show you what most tools are using for their own search volume scores.

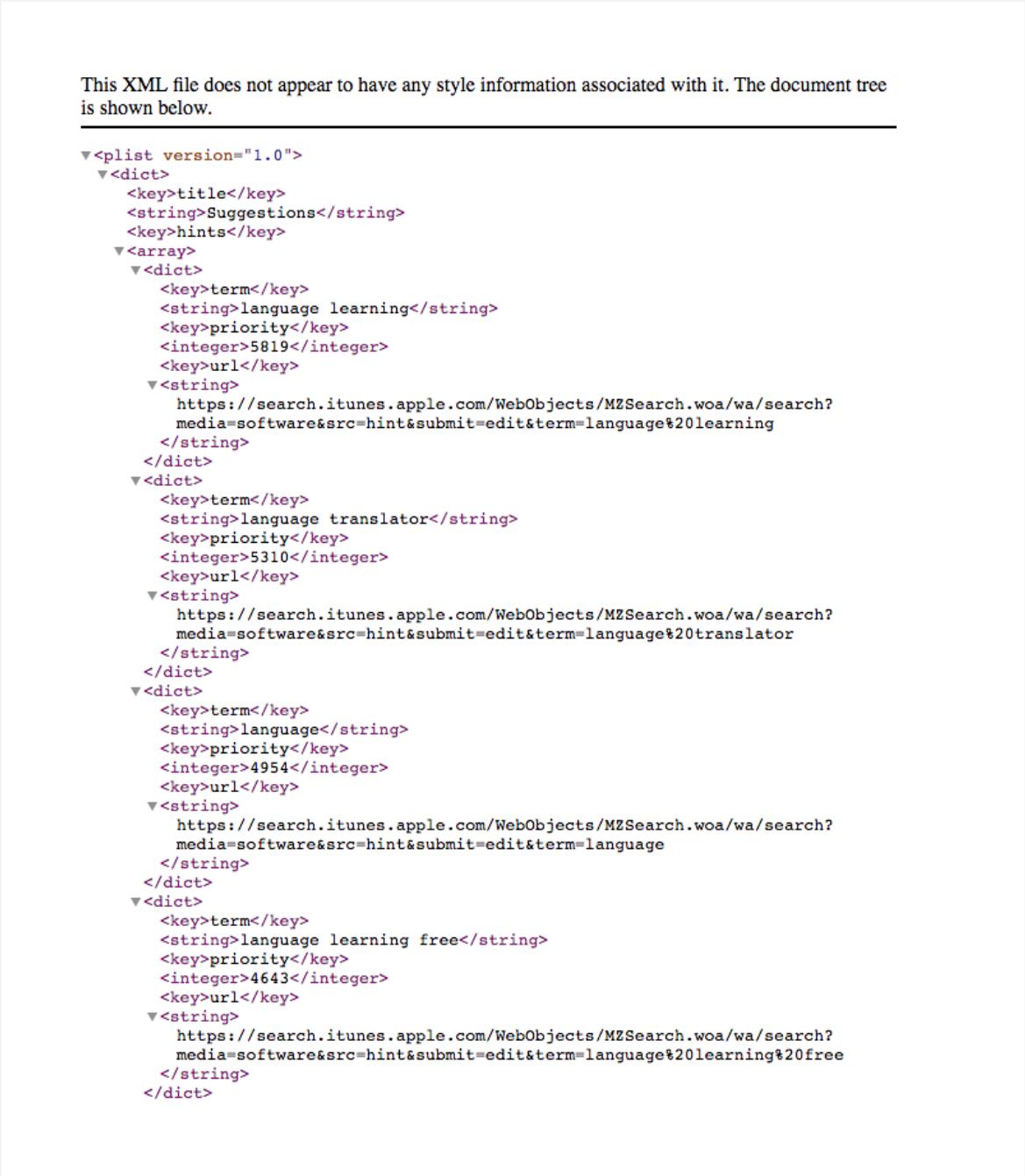
## APPLE PRIORITY INDEX

Let's start with the **Priority** index, which comes from a call to the iTunes Search API. It's been around since at least 2014 and it offers insights in the order in which auto-suggestions are displayed. All appearances in these auto-suggestions get a priority score from Apple. These correlate strongly with Search Popularity, but not 100%, partially that is also because not all search terms are displayed.

Sample call:

<https://search.itunes.apple.com/WebObjects/MZSearchHints.woa/wa/hints?clientApplication=Software&e=true&media=software&term=language>

Sample response:



This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<plist version="1.0">
  <dict>
    <key>title</key>
    <string>Suggestions</string>
    <key>hints</key>
    <array>
      <dict>
        <key>term</key>
        <string>language learning</string>
        <key>priority</key>
        <integer>5819</integer>
        <key>url</key>
        <string>
          https://search.itunes.apple.com/WebObjects/MZSearch.woa/wa/search?
          media=software&src=hint&submit=edit&term=language%20learning
        </string>
      </dict>
      <dict>
        <key>term</key>
        <string>language translator</string>
        <key>priority</key>
        <integer>5310</integer>
        <key>url</key>
        <string>
          https://search.itunes.apple.com/WebObjects/MZSearch.woa/wa/search?
          media=software&src=hint&submit=edit&term=language%20translator
        </string>
      </dict>
      <dict>
        <key>term</key>
        <string>language</string>
        <key>priority</key>
        <integer>4954</integer>
        <key>url</key>
        <string>
          https://search.itunes.apple.com/WebObjects/MZSearch.woa/wa/search?
          media=software&src=hint&submit=edit&term=language
        </string>
      </dict>
      <dict>
        <key>term</key>
        <string>language learning free</string>
        <key>priority</key>
        <integer>4643</integer>
        <key>url</key>
        <string>
          https://search.itunes.apple.com/WebObjects/MZSearch.woa/wa/search?
          media=software&src=hint&submit=edit&term=language%20learning%20free
        </string>
      </dict>
    </array>
  </dict>
</plist>

```

*Screenshot depicting a sample return from the iTunes search results API uncovering the priority index*

If you want to switch the store front, you have to use corresponding Storefront IDs and add them into the call with parameter **?s=143455** (Canada).

| NAME      | COUNTRY CODE | STOREFRONT ID |
|-----------|--------------|---------------|
| Australia | AU           | 143460        |
| Brazil    | BR           | 143503        |
| France    | FR           | 143442        |
| Germany   | DE           | 143443        |
| Japan     | JP           | 143462        |
| Turkey    | TR           | 143480        |

Full list available here: <https://affiliate.itunes.apple.com/resources/documentation/linking-to-the-itunes-music-store/>

While some ASO tools are believed to use this priority score in their traffic scores, one of the few tools that actually display the priority score along with the popularity score is the fairly new tool AppBi.com:

| Keywords              | Rank | Rank change | Popularity | Priority | Search result | Ads Counts     |
|-----------------------|------|-------------|------------|----------|---------------|----------------|
| fitbit                | 3    | ► 0         | 72 ↗       | 8221     | 133           | 13(View Ads) ↗ |
| fitbit app            | 7    | ▼ 1         | 65 ↗       | 7481     | 167           | 17(View Ads) ↗ |
| weight watchers app   | 12   | ▼ 1         | 63 ↗       | 7170     | 188           | 15(View Ads) ↗ |
| myfitnesspal          | 3    | ► 0         | 63 ↗       | 7159     | 132           | 14(View Ads) ↗ |
| map my run            | 16   | ▲ 5         | - ↗        | 7149     | 194           | 22(View Ads) ↗ |
| workout               | 44   | ► 0         | 61 ↗       | 7130     | 2168          | 19(View Ads) ↗ |
| sworkit               | 11   | ▲ 2         | 63 ↗       | 7092     | 208           | 11(View Ads) ↗ |
| fitbit app for iphone | 3    | ► 0         | 59 ↗       | 6821     | 132           | 16(View Ads) ↗ |
| lifesum               | 4    | ▲ 4         | 59 ↗       | 6712     | 90            | 12(View Ads) ↗ |
| lose it               | 1    | ► 0         | 59 ↗       | 6673     | 1830          | 17(View Ads) ↗ |
| apple watch apps      | 1736 | ► 0         | 63 ↗       | 6571     | 2143          | 16(View Ads) ↗ |
| fitness               | 13   | ▲ 7         | 58 ↗       | 6535     | 2168          | 18(View Ads) ↗ |

Screenshot: AppBi.com

Ido Schoonen points out another tool, [DeepASO.com](#), which returns the top 10 auto-suggestions of a keyword with a “weight” volume that corresponds to the Priority score from Apple.

## SEARCH POPULARITY

With the launch of Apple Search Ads in October 2016, Apple began publishing a set of indexed search scores for the popularity of any keyword search term.

The screenshot shows a search interface with a search bar containing 'task'. Below the search bar is a table titled 'Recommended Keywords' with a column for 'Search Popularity'. The table lists the following data:

| Recommended Keywords      | Search Popularity |
|---------------------------|-------------------|
| + task                    | 37                |
| + everlist                | 5                 |
| + daily to do list        | 28                |
| + task manager for iphone | 11                |
| + daily tasks manager     | 5                 |

[Add to keywords](#)

Screenshot showing the search popularity numbers in the Search Ads interface, using a Chrome extension [<https://chrome.google.com/webstore/detail/apple-search-ads-search-p/ihggdihemilfdammomlckdocaodobcbb>] released by the team behind TheTool.

Apart from the fact that this data is **not available for Google Play**, there are three other caveats to Apple Search Ads “Search Popularity,” making the search popularity scores a little less useful than they appear on first sight:

1. **Search Popularity returns relative numbers:** Whereas Google AdWords offers insight into absolute average monthly searches on a specific term, Apple Search Ads only offers an index popularity score from 5 to 100.
2. **These numbers are only available in select English-speaking markets:** At the moment search volumes are only available in the U.S., UK, AU, and NZ.
3. **These numbers only return a real search score for keywords that have an SP of six and higher:** Likely to encourage advertisers to bid on low volume keywords to increase ad inventory fill rates, Apple does not show the difference between a keyword that literally receives zero searches per month, and a keyword with low, but still some volume. Therefore, it's incredibly hard to know if a long-tail keyword should just be ignored or whether there is something to be gained by targeting that keyword.

The screenshot shows the App Store page for the 'Signnow - sign and fill pdf & word documents' app. The page includes the app logo, name, developer information, and download links. To the right of the page is a large green circle containing the number '93%'.

| Keywords Analysis                             | Competition Analysis  | Ranking History <small>NEW</small> | Keywords Position            | Optimize Title & Keywords        | Keywords Monitoring <small>?</small> Help |                           |
|---|-----------------------|------------------------------------|------------------------------|----------------------------------|---|---------------------------|
| Keywords <small>?</small>                     | KEI <small>?</small>  | Volume <small>?</small>            | Competition <small>?</small> | Results <small>?</small>         | Rank <small>?</small>                     | Growth <small>?</small>   |
| <input type="checkbox"/> Show starred only    |                       |                                    |                              |                                  |   |                           |
| ☆ pdf signer                                  | <small>Top 10</small> | ● 19                               | 13                           | 60                               | 475                                       | 3                         |
| ☆ doc sign                                    | <small>Top 10</small> | ● 32                               | 21                           | 56                               | 316                                       | 2                         |
| ☆ sign pdf                                    | <small>Top 10</small> | ● 38                               | 25                           | 56                               | 291                                       | 4 ▶ 0                     |
| ☆ sign documents                              | <small>Top 10</small> | ● 54                               | 36                           | 56                               | 307                                       | 6                         |
| ☆ signature app                               | <small>Top 10</small> | ● 51                               | 40                           | 67                               | 976                                       | 4                         |
| 5 words (57 char.) - 0 starred word (0 char.) |                       |                                    |                              | <small>Copy to clipboard</small> | <small>Export to Excel</small>            | <small>Delete all</small> |

In this screenshot from AppTweak, we pull United States App Store Volume Data, which corresponds 1:1 with Search Popularity scores from Search Ads.

## OTHER TRAFFIC ESTIMATIONS

Because of the fully black box environment of Google Play as well as the continued issue that Apple doesn't have Search Popularity scores for most App Store Territories, ASO tools have been trying to fill this gap with their own volume estimation data for a long time.

In order to make a judgement on whose data you trust most, you need to know a little bit more about how these tools are providing their estimates. We asked the following tools how they calculate their search volume score, and here are their responses:

| Volume estimates by the tools |   |  |  |
|-------------------------------|---|--|--|
| TOOL                          | APPLICATION #1:   | APPLICATION #2:  | APPLICATION #3:  |
|                               | APPLE APP STORE REGION WITH<br>SEARCH POPULARITY SCORES (US,<br>UK, AU, NZ, MX, CH, CA) | GOOGLE PLAY STORES IN REGIONS<br>WHERE APPLE SEARCH POPULARITY<br>SCORES ARE AVAILABLE | APP STORE & PLAY STORE REGIONS<br>WHERE SEARCH ADS ARE NOT AVAILABLE |
| AppFollow                     | Search Popularity from<br>Search Ads  | Not providing estimates  | Not providing estimates  |
|                               | Search Popularity from<br>Search Ads  | Search Popularity from Search<br>Ads   | Not providing estimates  |
| AppRadar                      | Search Popularity from<br>Search Ads  | Search Popularity from Search<br>Ads   | Not providing estimates  |
|                               | Search Popularity from<br>Search Ads  | Search Popularity from Search<br>Ads   | Not providing estimates  |

## Volume estimates by the tools

| TOOL                                  | APPLICATION #1:<br>APPLE APP STORE REGION WITH<br>SEARCH POPULARITY SCORES (US,<br>UK, AU, NZ, MX, CH, CA) | APPLICATION #2:<br>GOOGLE PLAY STORES IN REGIONS<br>WHERE APPLE SEARCH POPULARITY<br>SCORES ARE AVAILABLE  | APPLICATION #3:<br>APP STORE & PLAY STORE REGIONS<br>WHERE SEARCH ADS ARE NOT AVAILABLE  |
|---------------------------------------|--|--|--|
| AppTweak                              | Search Popularity from Search Ads  | <p>Proprietary formula based on:</p> <ol style="list-style-type: none"> <li>1. Keyword's frequency in the store (app titles, description, reviews, etc.)</li> <li>2. Keyword's frequency in the hints (auto-suggestions)</li> <li>3. Keyword's frequency in the spoken language</li> <li>4. Keyword's length</li> <li>5. Keyword's volume on the mobile web</li> </ol> <p>"A score is given for each keyword on each of these elements, which we will bring into a 1-100 scale indicator, where higher the number means higher the volume. Available in 12 languages (using native dictionaries)."</p> | <p>Proprietary formula based on:</p> <ol style="list-style-type: none"> <li>1. Keyword's frequency in the store (app titles, description, reviews, etc.)</li> <li>2. Keyword's frequency in the hints (auto-suggestions)</li> <li>3. Keyword's frequency in the spoken language</li> <li>4. Keyword's length</li> <li>5. Keyword's volume on the mobile web</li> </ol> <p>"A score is given for each keyword on each of these elements, which we will bring into a 1-100 scale indicator, where higher the number means higher the volume. Available in 12 languages (using native dictionaries)."</p> |
| ASO Desk                              | Search Popularity from Search Ads  | Keyword suggestions  | Keyword suggestions  |
| Mobile Action                         | Search Popularity from Search Ads  | Proprietary Algorithm <sup>*6</sup>  | Proprietary Algorithm  |
| Priori Data –<br>data sourced<br>from | Search Popularity and Search Ads   | Mobile search volume   |  |
| Sensor Tower                          | Proprietary Algorithm <sup>*7</sup>  | Proprietary Algorithm  | Proprietary Algorithm  |
| TheTool                               | Proprietary Algorithm based on Search Popularity from Search Ads and own data                              | Proprietary Algorithm  | Proprietary Algorithm  |

## Volume estimates by the tools

| TOOL | APPLICATION #1:   | APPLICATION #2:   | APPLICATION #3:   |
|------|---|---|---|
|      | APPLE APP STORE REGION WITH<br>SEARCH POPULARITY SCORES (US,<br>UK, AU, NZ, MX, CH, CA) | GOOGLE PLAY STORES IN REGIONS<br>WHERE APPLE SEARCH POPULARITY<br>SCORES ARE AVAILABLE  | APP STORE & PLAY STORE REGIONS<br>WHERE SEARCH ADS ARE NOT AVAILABLE  |
| Tune | Search Popularity from<br>Search Ads  | Proprietary formula based on:<br>1. Apple Search Popularity<br>2. Autocomplete data<br>3. Review keyword frequency data<br>4. Mobile web search | Proprietary formula based on:<br>1. Autocomplete data<br>2. Review keyword frequency data<br>3. Mobile web search |

\*6. Aykut Karaalioglu from Mobile Action wrote on Quora: “Search Score: It is a logarithmic estimation of how many times this keyword is searched for. It ranges from 0-100, 100 being the top score. A higher score (e.g. above 40 for single words) means your app can reach more people if you rank well for that keyword. Only a few very popular keywords like “Facebook” have a score of over 90. We pull data from a number of sources, like frequency of word usage in common crawl data, trending searches, length of terms, traffic estimates from the web, autosuggestions when typing in the store, etc. and refine it to find a very good estimate.”

\*7 SensorTower writes in their [help\\_center \[http://help.sensortower.com/article/141-keyword-traffic\]](http://help.sensortower.com/article/141-keyword-traffic): “Traffic score is calculated from a number of sources, like autosuggestions when typing in the store, frequency of word usage in common crawl data, length of terms, difficulty of typing on the iPhone keyboard, traffic estimates from the web, etc.”

## WHAT VOLUME ESTIMATIONS SHOULD YOU USE?

While all of the various estimation methods could potentially be used to base your keyword prioritization on, we recommend using Apple’s 1st party data, whether search popularity or priority, which has the highest level of integrity available to ASOs.

|   |                                     |   |
|---|-------------------------------------|---|
| <b>Regions with Search Ads</b><br>(U.S./UK/NZ/AU)   | Search Popularity or Apple Priority | Search Popularity or Priority<br><b>adjusted for auto-suggest</b> |
| <b>Regions w/o Search Ads</b><br>(Rest of World)  | Apple Priority                      | Apple Priority<br><b>adjusted for auto-suggest</b>                |



**Pro Tip:** For Google Play, it's important to confirm these auto-suggestions manually because Android users do from time-to-time search slightly differently than iOS users. Reasons for this might, for example, be different platform features, differences in purchasing power, lower-end Android devices with limited space or connectivity, and also the fact that Google Play offers a more thorough search functionality that helps users find a type of app quicker.

The screenshot shows the Google Play Store interface. On the left, there's a navigation bar with the Google Play logo, a green 'Apps' button, 'My apps', and a 'Shop' button. On the right, a search results page is displayed with a search bar containing 'games that'. Below the search bar, a list of suggestions appears, including: 'games that don't need wifi', 'games that cost money', 'games that don't take up space', 'games that don't need wifi or internet', and 'games that don't need internet'. To the right of the suggestions, there's a vertical list of additional search terms.

| Search Suggestion                   |
|-------------------------------------|
| games that                          |
| games that dont need wi-fi          |
| games that are addicting            |
| games that are free                 |
| games that dont use data            |
| games that are fun                  |
| games that cost money               |
| games that dont need wifi for girls |
| games that are cool                 |

Screenshots depicting how search results may differ in the App Store vs Google Play

## CURRENT KEYWORD RANKS

From the start of the KWO cycle, you will likely have picked up at least a handful of high volume keyword search terms, which may or may not be the most relevant keywords for your app. As you go through the keyword optimization process, however, you will want to make sure that you don't throw out those high volume search terms.

With an ASO tool you can not only check the volume of those search terms, but also your current ranking.



**Pro Tip:** As a rule of thumb: while painful to acknowledge, keywords for which your app ranks in positions worse than position 10 (i.e. 11 or worse) will most likely not get you any meaningful amount of traffic.

With the above in mind, when reviewing your list for high volume keywords make sure to **flag those high volume search terms** for which you rank 10 or better. This will help you to remain vigilant and not make changes that affect these high volume, high rank keywords when making changes to your metadata.

## Currently Ranked Keywords

| Root Keyword | Search Terms |
|--------------|--------------|
| <b>learn</b> | 237          |
| english      | 229          |
| french       | 166          |
| spanish      | 129          |
| language     | 124          |
| learning     | 115          |
| best         | 101          |
| online       | 88           |
| russian      | 79           |
| speak        | 75           |
| italian      | 73           |
| how          | 69           |
| new          | 64           |
| languages    | 64           |
| german       | 63           |
| all          | 47           |
| study        | 45           |
| words        | 43           |
| educational  | 43           |
| kids         | 42           |
| top          | 40           |
| vocabulary   | 38           |

**learn**

|   | Volume | Rank |
|---|--------|------|
| <input type="checkbox"/> 0 of 236 selected                |        |      |
| <input type="checkbox"/> learn spanish                    | 50     | 1    |
| <input checked="" type="checkbox"/> learn english Tracked | 45     | 1    |
| <input type="checkbox"/> learn french                     | 43     | 1    |
| <input type="checkbox"/> learn korean                     | 42     | 21   |
| <input type="checkbox"/> learn                            | 36     | 6    |
| <input type="checkbox"/> learn languages                  | 36     | 1    |
| <input type="checkbox"/> learn italian                    | 36     | 1    |
| <input type="checkbox"/> learn chinese                    | 35     | 11   |
| <input type="checkbox"/> learn spanish free               | 35     | 1    |
| <input type="checkbox"/> learn arabic                     | 34     | 19   |
| <input type="checkbox"/> learn russian                    | 32     | 3    |
| <input type="checkbox"/> mobile learn                     | 31     | 16   |
| <input type="checkbox"/> learn portuguese                 | 30     | 1    |
| <input type="checkbox"/> learn a language                 | 28     | 1    |
| <input type="checkbox"/> learn language                   | 28     | 1    |
| <input type="checkbox"/> learn hindi                      | 27     | 8    |
| <input type="checkbox"/> learn mandarin                   | 27     | 5    |
| <input type="checkbox"/> learn greek                      | 27     | 2    |
| <input type="checkbox"/> learn french free                | 26     | 1    |
| <input type="checkbox"/> learn to speak spanish           | 26     | 1    |
| <input type="checkbox"/> learn english free               | 24     | 1    |
| <input type="checkbox"/> learn dutch                      | 22     | 2    |
| <input type="checkbox"/> learn swedish                    | 21     | 2    |
| <input type="checkbox"/> learn cantonese                  | 20     | 23   |
| <input type="checkbox"/> learn languages free             | 20     | 1    |

Q&A

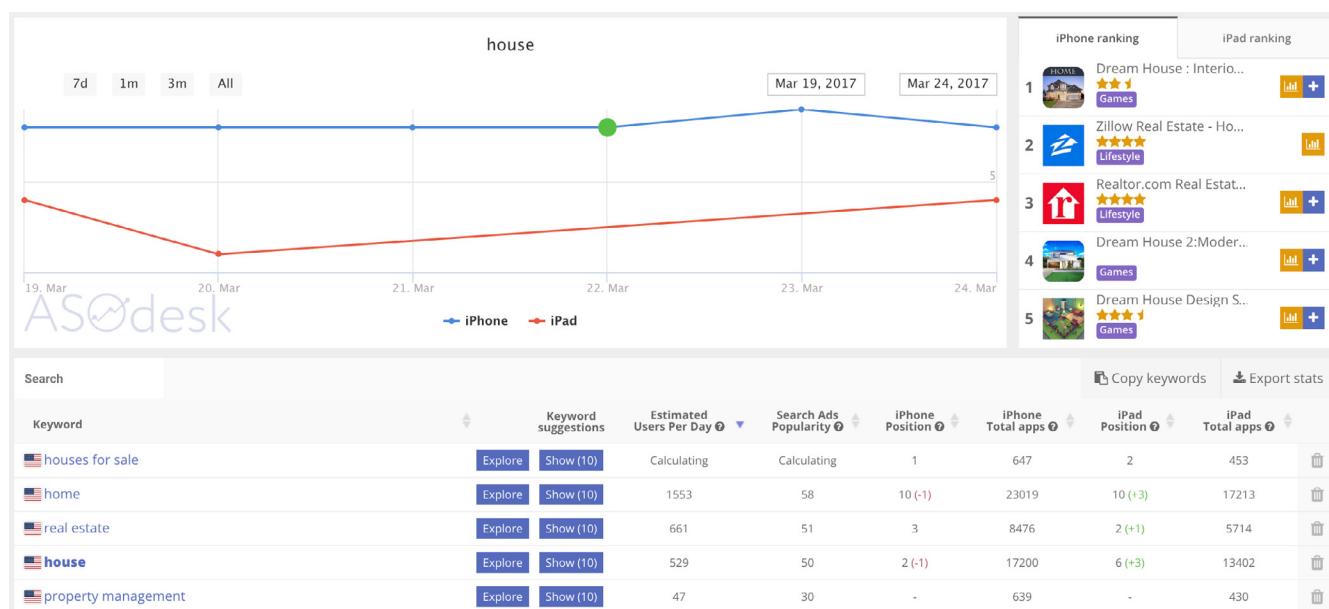
Add Keyword
Cancel

Screenshot from ASO tool TUNE, which offers great insights into for how many keywords you rank.

## KEYWORD RELEVANCY

It may seem great at first if you are able to rank for a high-volume keyword search term like “movies,” but if you have a real estate app you won’t get any meaningful impact from ranking this term as it’s highly irrelevant, and your poor conversion rate due to low relevance will likely drag your keyword rank back down at any rate. You therefore need to make sure that you target **relevant search terms**.

Relevancy is ultimately decided by whether or not your app addresses the intent of the searcher, as measured by their downloads. Ideally, you should put a relevance number on every search term found to bring in any meaningful amount of search volume. And that’s exactly what we do in our attempt to filter out the best search terms for use in our keyword strategy.



Screenshot: ASOdesk

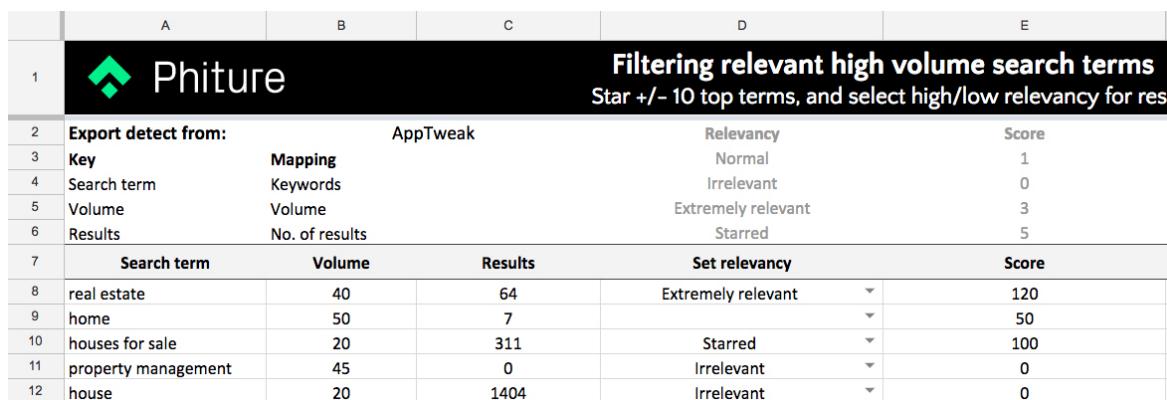
Let’s take the app “Zillow Real Estate - Homes for Sale & for Rent” as an example in determining relevance. If we were to grade the relevancy for a set of keyword **search terms**, it would be something like:

- “**Houses for sale:**” starred; extremely relevant and high volume (5/5)
- “**Home:**” low relevance (1/5)
- “**Real Estate:**” extremely relevant (5/5)
- “**House:**” irrelevant (0/5)
- “**Property management:**” irrelevant (0/5)

As you will see, the more long tail and specific the search term, the easier it is to grade it for relevancy. It’s with short head search terms like “Home” and “House” where it’s harder to really understand the intent of the searchers’ behavior. In the case of “House” we aren’t able to discern whether the user is looking for a house simulation game, an interior design app, or an app to find houses for sale.

Now that we have put a relevant number on this, we can start playing with what we call Search term score: a search term like “**Home**” that has lower relevancy (i.e. 2), with a high search volume (e.g. 50) will also have a score of 100. A

search term like “**Real Estate**” on the other hand, that has less volume (e.g. 40) but is extremely relevant (i.e. 3) will get a score of 120.



The screenshot shows a software interface titled "Phiture". At the top, there's a header "Filtering relevant high volume search terms" with a sub-instruction "Star +/- 10 top terms, and select high/low relevancy for rest". Below this is a table with two sections: "Export detect from:" and "Search term".

|    | A   | B  | C       | D                  | E     |
|----|---|--|---------|--------------------|-------|
| 1  |  Phiture | Filtering relevant high volume search terms<br>Star +/- 10 top terms, and select high/low relevancy for rest |         |                    |       |
| 2  | Export detect from:   | AppTweak   |         | Relevancy          | Score |
| 3  | Key   | Mapping  |         | Normal             | 1     |
| 4  | Search term   | Keywords   |         | Irrelevant         | 0     |
| 5  | Volume  | Volume   |         | Extremely relevant | 3     |
| 6  | Results   | No. of results   |         | Starred            | 5     |
| 7  | Search term   | Volume   | Results | Set relevancy      | Score |
| 8  | real estate   | 40   | 64      | Extremely relevant | 120   |
| 9  | home  | 50   | 7       |                    | 50    |
| 10 | houses for sale   | 20   | 311     | Starred            | 100   |
| 11 | property management   | 45   | 0       | Irrelevant         | 0     |
| 12 | house   | 20   | 1404    | Irrelevant         | 0     |

As you can see, we can now sort our search terms accordingly which helps us focus on those that bring in a lot of meaningful search traffic.

### Starred search terms

A good keyword strategy targets as many search terms as possible. You will want to target and track at least 100+ search terms for your app, and monitor them from time to time. However, when you have 100s or even 1000s of search terms that you track, it can become quite daunting to monitor or optimize these terms.

For the reason of focus it's good to star about 10 search terms that are your “rock stars.” You know that these select few high-volume, super relevant search terms can convert a lot of App Store searches into downloads, if you rank well for them. Selecting just a few will help you focus in reporting and also with **visual word recognition optimization, covered later on.**

### Retrospective relevancy

Ultimately, you are not the one deciding whether a search term is relevant or not: the App Store algorithm will do that for you based on how many people searched that term and converted into a (retained) user.

One method of keyword optimization is to try adding a keyword, then seeing whether your rank trends higher or lower over a period of a couple of weeks. If you trend up (and especially if you hit the top 10), then it's a **high relevance keyword**. A stable ranking indicates medium relevancy, and a decline suggests the search term isn't relevant enough for your app.

## KEYWORD COMPETITION

The more apps that compete in a store for the same keyword search terms, the harder it will become to acquire a top rank for that keyword search term.

To decide how **fierce the competition** is on a certain search term and whether you want to compete on that term depends on three questions:

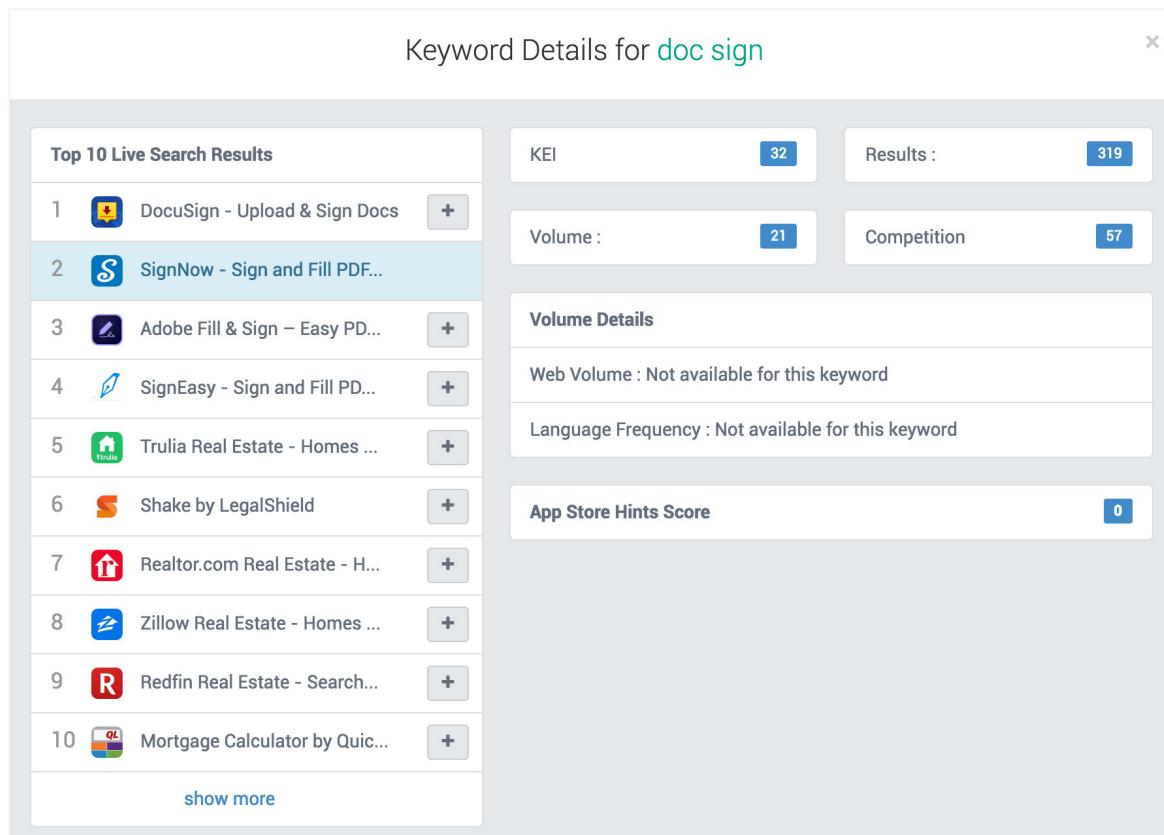
01. **How many apps** target the search term?
02. **How relevant** are the top 10 apps to the search term?
03. **How strong** is the top 10 competition?

The question “How many apps target a certain search term?” is relatively easy to answer for the Apple App Store due to the nature of how keywords work in the App Store. If an app is targeting a certain search term, it will show up in the results, independently of whether it ranks #99840 or #11 (except in case of brand names, in which case Apple may block certain apps from ranking). Most ASO tools out there show you the **absolute number of results**, which can be a good indicator for the App Store as to how many want to take a piece in the search pie.

 Google Play, by contrast only returns the top 250 results. Most common search terms will therefore just return “250” making it a less useful number. If there are less than 250 results this can indicate an opportunity, whereas if there are more than 250 results, it’s still possible to target it.

The question then becomes: how difficult it is to achieve a meaningful rank. We have already established how you can decide whether a search term is relevant to your app. If it’s extremely relevant, chances are that you can get and maintain a decent conversion rate on that search term and thus have a shot at slowly, but surely outranking the competition (if your app is more-so relevant and appealing as the competition, that is).

Therefore, it makes sense to look at the top 10 results to see how relevant those apps are and of what quality they are. This can be a bit of a manual operation as ASO tools do not create a “relevance score” but for your top opportunity keywords, this exercise will be extremely useful in prioritizing them for prime spots of your high-value visibility and visual word recognition tactics.



Keyword Details for **doc sign**

| Top 10 Live Search Results |  | KEI | Results : |
|----------------------------|--|-----|-----------|
| 1                          |  DocuSign - Upload & Sign Docs  | 32  | 319       |
| 2                          |  SignNow - Sign and Fill PDF... | 21  | 57        |
| 3                          |  Adobe Fill & Sign – Easy PD... |     |           |
| 4                          |  SignEasy - Sign and Fill PD... |     |           |
| 5                          |  Trulia Real Estate - Homes ... |     |           |
| 6                          |  Shake by LegalShield           |     |           |
| 7                          |  Realtor.com Real Estate - H... |     |           |
| 8                          |  Zillow Real Estate - Homes ... |     |           |
| 9                          |  Redfin Real Estate - Search... |     |           |
| 10                         |  Mortgage Calculator by Quic... |     |           |

**Volume Details**

- Web Volume : Not available for this keyword
- Language Frequency : Not available for this keyword

**App Store Hints Score** 0

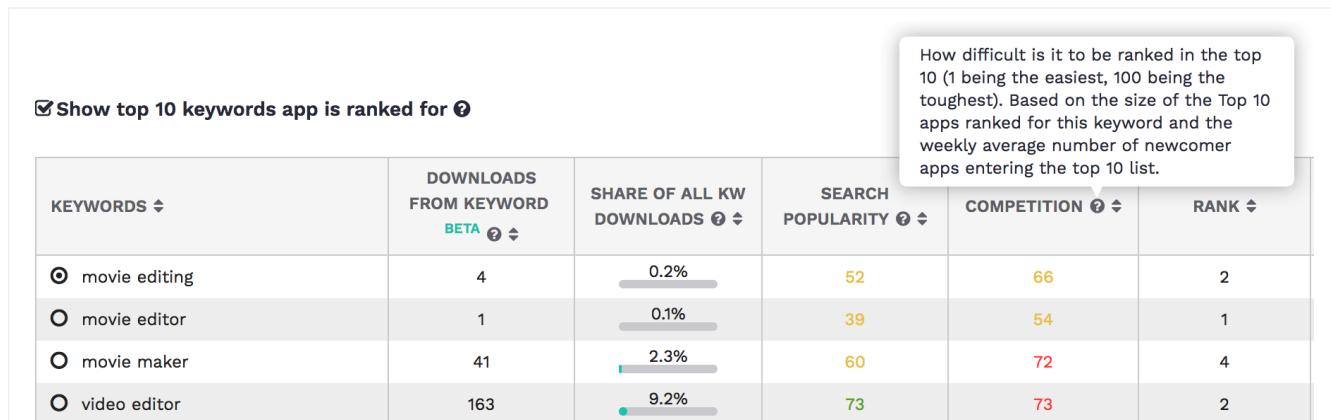
[show more](#)

Screenshot: AppTweak showing the actual apps that show up for a keyword search. The app “SignNow” can compete for the keyword “doc sign” as many of the results aren’t entirely relevant (i.e. “Trulia Real Estate”).

Finally, you want to know how strong the competition is quantitatively. If the competition brings in a lot of downloads, it will be harder to knock them off their throne, as the algorithms also take overall downloads in account.

Most ASO tools aim to help you to solve this question under the banner of different names (e.g., “Chance”, “Difficulty,” “Competition” score, etc.).

ASO tools can also estimate the size of the apps that are competing with you based on their rankings, and can deduce from that how hard it might be to compete on that search term. Different tool providers have different approaches to calculating this number. Priori Data, for example, also looks at the weekly average of newcomer apps that entered the top 10 for a keyword. One thing that is standard is that all tools consider only the top 10 ranks for these scores, and try to predict how much opportunity your app will have breaking into the top 10 ranks.



*PrioriData uses their download estimates for the broader app economy also for their difficulty metric.*

You can also calculate your own difficulty score. Here's how:

When doing research on the competition for a keyword, you can look at two factors to quantitatively determine the app's difficulty score:

- 1. The top chart rankings of the top 10 apps that return for a keyword.** Average the top chart rank of the top 10 apps to get an overall competitor top chart strength reading for each keyword. Be sure to compare country and category separately. How far away from the average rank of those keywords is your app's top chart rank?
- 2. Determine the volatility of each top 10 rank spot for a keyword.** This means determining how many rank spots each of the top 10 apps has moved for that keyword over the last 1-12 weeks. If the top 10 apps have moved less frequently, then it can indicate that the competitors will be hard to usurp; if the apps have a high volatility in ranking spots, it can mean that there is more of a chance to bump competitors, yet it may also indicate high competition, given that many apps are shifting into different positions for the keyword.

## VALUE ESTIMATIONS OF SEARCH TERMS / KEYWORDS IN YOUR BACKLOG

Before moving to the targeting phase, there's one last step that you may want to consider for prioritizing individual keywords and search terms, which is to calculate a search term value score:

**Search Term Value** = Volume score x Relevancy score x (Lowest Competition Score of the set of terms / search term's Competition Score)

Take for example the following calculations for this search term value score:

| TERM          | VOLUME SCORE | RELEVANCY SCORE | COMPETITION SCORE | SEARCH TERM VALUE |
|---------------|--------------|-----------------|-------------------|-------------------|
| Movie editing | 50           | 4               | 40                | 200               |
| Movie maker   | 35           | 4               | 60                | 93                |
| Photo maker   | 20           | 3               | 40                | 60                |
| Movie         | 70           | 1               | 70                | 40                |

We see from calculating the score that “Movie” scores worse than “Movie maker” despite a higher volume, because of lower relevancy and higher competition.

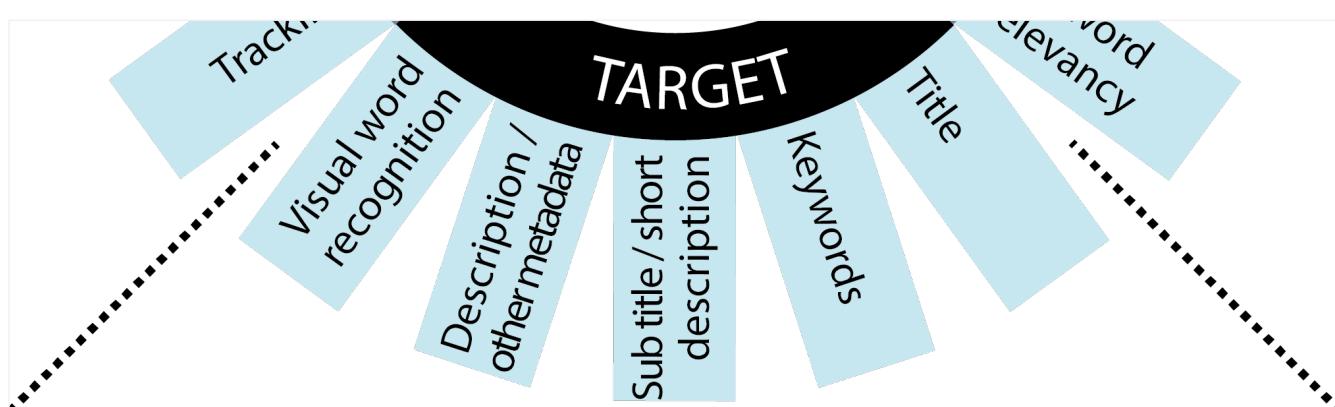
As for a lot of the metadata that you can target, you’re restricted heavily by character length. You will want to make sure that you target as many keyword combinations with as few characters as possible. A character optimization formula like the following might help you with this process:

**Word Value** = COMBINED VALUE OF KEYWORD PHRASES SEARCH VOLUME / KEYWORD LENGTH

| WORD    | WORD APPEARS IN TOTAL<br>KEYWORD PHRASES | COMBINED VALUE OF<br>KEYWORD PHRASES<br>SEARCH VOLUME | WORD LENGTH | WORD VALUE |
|---------|--|---|-------------|------------|
| Movie   | 3  | 653   | 5           | 131        |
| Editing | 1  | 350   | 7           | 50         |
| Maker   | 2  | 268   | 5           | 54         |
| Photo   | 1  | 105   | 5           | 21         |

As you can see here, even though “Editing” has a higher combined value as it appears in “Movie editing,” the seven precious characters that it costs make it worth less in character optimization terms than the keyword “Maker.”

## KWO Step 3: Target



In this subchapter, we'll be discussing in the order of importance: **Title, Keywords set (iOS), Short description, Long**

**description, Developer Name, In-App Purchase, and Package names.** We'll also cover useful tips and tricks and the important topic of **visual word recognition**.

## TITLE

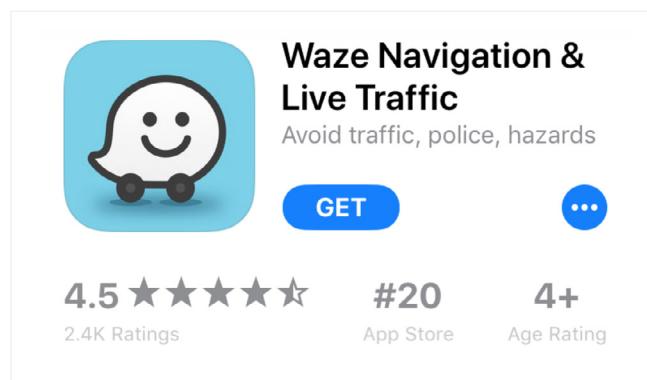
Both the search algorithm from Google Play as well as the App Store search algorithm treat the title as the mostly heavily weighted metadata element. That means that any search term that you pack in there gives you the highest chance of ranking meaningfully for it.

**[11]** The app name is now a maximum of **30 character**, as touched on in the [iOS 11 chapter](#), Google started allowing for **50 characters** from June 2017 onwards (previously 30 characters) in the Google Play title. Yet, app marketing agency Yellowhead reported in their blog that there is [no indication that keywords are ranking past the 30th character point \[https://yellowheadinc.com/blog/new-android-app-title-length/\]](#).

As this is such a precious space, there are some developers that go so far in the name of maximizing title characters as removing their app name from the title in order to increase their space for keywords. Generally, this is not a great idea for apps with significant brand goodwill as they not only could lose brand recognition for visual word recognition, but also because they might actually lose the #1 spot on that brand search, if trademark protections don't prevent other apps from using the brand name in their titles/subtitles.

Other ways to save space including targeting only root words (e.g. run vs. running), omitting commas and other less crucial grammatical technicalities such as using a colon (:) rather than the traditional dash (-) to separate an app name and tagline or an ampersand (&) in place of the word "and."

In addition to being a boon for visibility, adding keywords into your title is also by and large a positive tactic for CRO, too. That said, while a keyword-containing phrase can help you communicate your value proposition better, a keyword-stuffed title may decrease conversion rate and therefore also decrease keyword ranks. A good example of placing a few relevant keywords into the title is the Waze app below, where the keywords help make it clear to App Store browsers what the app has to offer:



Screenshot Waze App Store product page showing some well-placed keywords in the title



**Beware:** Apple's guidelines urge developers not to "include terms or descriptions that are not the name of the app" in the app title. Strictly speaking an app name like "Google Maps - Navigation & Transit" would not be allowed. That said, the tactic is still widely practiced.

**2.3.7** Choose a unique app name, assign keywords that accurately describe your app, and don't try to pack any of your metadata with trademarked terms, popular app names, or other irrelevant phrases just to game the system. App names must be limited to 30 characters and should not include prices, terms, or descriptions that are not the name of the app. App subtitles are a great way to provide additional context for your app; they must follow our standard metadata rules and should not include inappropriate content, reference other apps, or make unverifiable product claims. Apple may modify inappropriate keywords at any time.

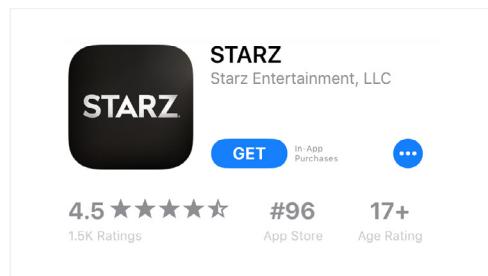
*Screenshot: Section 2.3.7 of the App Store Guidelines*

In the previous chapter we touched on the idea of ‘starring’ search terms that are high volume and have very high relevancy. It’s likely that one well-placed such search term or a combination of these search terms can help you significantly increase your visibility. Try to use **exact keyword placements**, as these can help with search term conversion as well as helping rank your app better in the search results.

| Keyword                | Keyword suggestions | Estimated Users Per Day | Search Ads Popularity | iPhone Position | iPhone Total apps | iPad Position | iPad Total apps | Copy keywords | Export stats |
|------------------------|---------------------|-------------------------|-----------------------|-----------------|-------------------|---------------|-----------------|---------------|--------------|
| maps                   | Explore Show (10)   | 2956                    | 67                    | 2               | 46573             | 2             | 39168           |               |              |
| transit                | Explore Show (10)   | 1700                    | 59                    | 20              | 2174              | 12 (-1)       | 1464            |               |              |
| navigation             | Explore Show (10)   | 1058                    | 54                    | 2               | 78026             | 2             | 12853           |               |              |
| traffic alerts         | Explore Show (4)    | 178                     | 44                    | -               | 1137              | -             | 1021            |               |              |
| gps navigation         | Explore Show (10)   | 136                     | 43                    | 2 (+1)          | 19716             | 2             | 6463            |               |              |
| offline maps           | Explore Show (10)   | 71                      | 40                    | -               | 23678             | -             | 22799           |               |              |
| directions             | Explore Show (10)   | 49                      | 31                    | 2               | 4487              | 2             | 3778            |               |              |
| offline gps navigation | Explore Show (10)   | 34                      | 21                    | -               | 10279             | -             | 4956            |               |              |

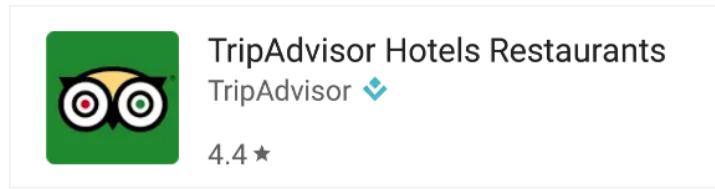
*Screenshot from ASodesk showing that for Google Maps, the keyword “traffic alerts” might bring more search volume than “offline maps;” but if Google Maps is relevant for “offline maps,” that’s the keyword they should favor.*

Even a strong brand like STARZ with a lot of brand-awareness should realize that not all App Store browsers know the brand, let alone the value proposition of the app. Changing the title or subtitle to something like “STARZ - Movies & TV Shows” might not only help with increasing visibility, it might also help with conversion.



*Screenshot: Starz App Store product page showing no keywords in the title*

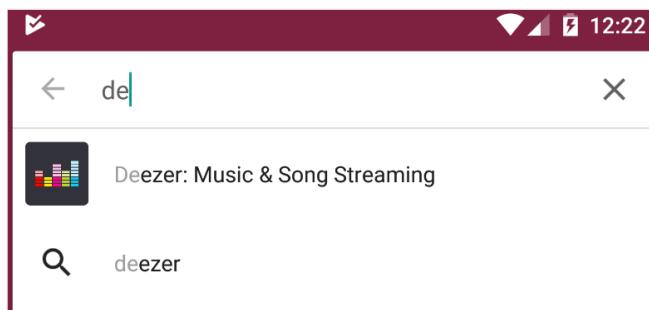
The character limit can oftentimes be very restrictive and result in titles with fewer descriptive words in them due to a longer brand name, such as TripAdvisor below. Often, even the somewhat clunkier/fewer keywords title can still help the user identify what the app is about and serve the purpose of keyword optimization, too.



*Screenshot: TripAdvisor Google Play app search result listing showing a clunky title, where the brand name leaves room for only two additional words with no punctuation*

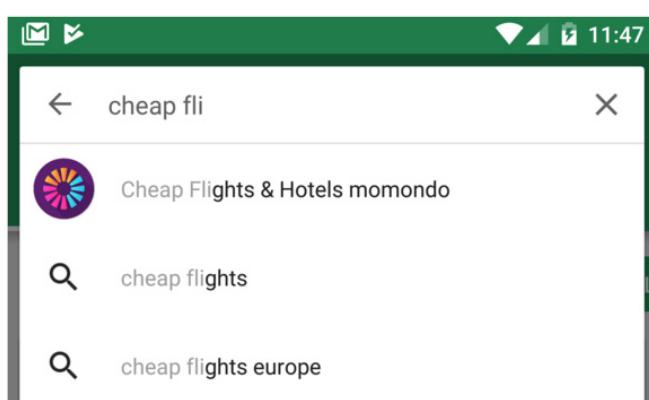
### “Brand-swap” (Google Play)

Really big apps with a lot of download velocity and a high conversion have the benefit of showing up in Google Play searches as an icon-containing app result before the search is finished. For example, if you type in “De...”, you will already see an app result for “Deezer: Music & Song Streaming.”



*Screenshot: Google Play keyword search for “de” showing Deezer ranking first with a visual result*

Needless to say, this is a great experience for such apps, and also a moat that helps prevent other apps from siphoning visibility away from the app. Some apps game this by putting their brand at the end of their title, making sure they show up with a generic search query such as “Cheap flights”:

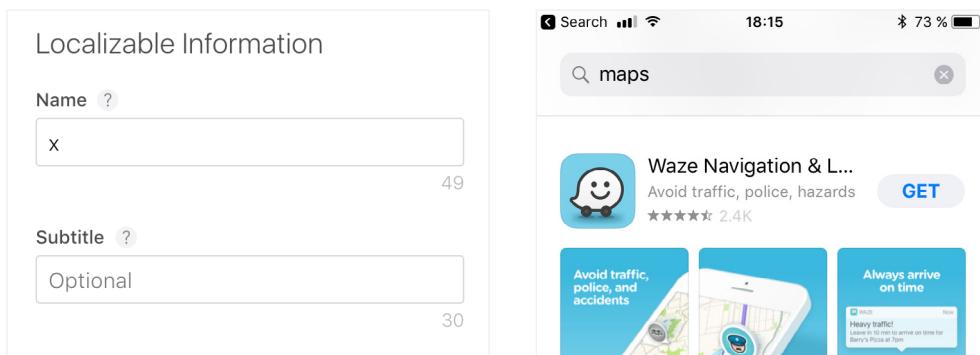


*Screenshot: Google Play keyword search for “cheap fli” showing Momondo ranking first with a visual result*

## 11 SUBTITLES (APP STORE)

This metadata element is 30 characters and shows up everywhere across the App Store under the App Store Title.

In accordance with the rule “the more visible the metadata, the more it weighs,” the subtitle seems to be weighing more than the keywords field but less than title.



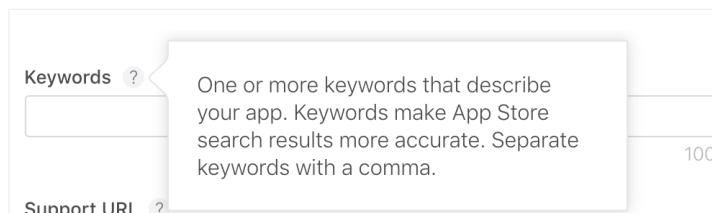
*Screenshots depicting the app name and subtitle character limits; Waze search engine result*

Two tips to take into account about the subtitle include:

- If you set the Subtitle and a title, be aware that anything post-30 characters in your title will be ignored.
- Don't repeat words in your subtitle that are in your title.

## APPLE KEYWORDS FIELD (APP STORE)

In iTunes Connect you can provide a list of “keywords” (often referred to as the “**Keyword field**”) for each localization that you select.



*Screenshot: the keywords field in iTunes Connect*

The best practices of the keywords field include:

- **Separate keywords by commas:** Do not add spaces.
- **Do not duplicate keywords within the keywords field:** Repeating keywords does not improve rank and is a waste of space.
- **Do not repeat keywords that are in your title:** You won't give extra weight to a keyword by adding it in both your keywords field and your title/subtitle.
- **Order does not matter:** A keyword at the end of your keywords field is just as important as the one in the beginning.
- **Targeting exact phrases does not help:** i.e. “Photo, filter” will have the same rank influence as “filter, photo” for the search term “Photo filter.”

- **Plurals/Singular:** You often get the plural or singular for free, but may rank lower for it. Is it one of your starred search terms? Does Apple not rank the plural/singular variants per the earlier subchapter? If yes and no, then add it in.
- **Free words:** Stop-words (e.g. “the/a/by” etc.) or words that can be derived from your category (e.g. “Health & Fitness”) or the word “app” don’t have to be added to be eligible to rank on those terms, but adding them can help improve your ranking.
- **Less = less:** Not using the 100 characters in order to give more weight to those keywords that are being used is a bad idea. You won’t go up in ranking for certain keywords if you remove the rest of the keywords.

Now that you have the basics covered, return to your keyword backlog. You can move past any keywords you’ve added to the title/subtitle and start adding the next highest words into your keywords field.

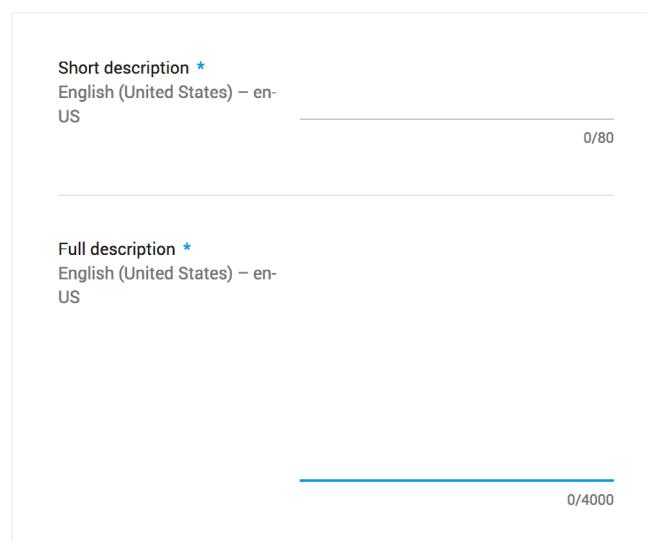
What’s most important to understand in the process of selecting words from your search term backlog for use in your keywords field is **keyword combinations**. If you have a language learning app with 30 languages, you won’t be able to fit all those languages (say ~ 10 characters each) in the keywords field. You must pick and choose and see what keywords can make the most combination of search terms. You might need to cover your top five languages (“Spanish, English, German, etc.”) and the search terms that result in the most combinations with these. If you have broken this down already with a formula like we suggested in the end of the previous chapter, placing the keywords becomes fairly easy.

## SHORT & LONG DESCRIPTION (PLAY STORE)

In this subchapter we refer only to the two types of descriptions that the Play Store hosts. While the App Store also has a long description, this isn’t indexed by the App Store algorithm. That said, as we’ll see in the subchapter on App Packs you will want to still apply some keyword optimizations logic to your App Store description as it’s indexed by Google.com

For Google Play, the short description ranks after the Title and perhaps on par with the Developer name in terms of keyword weight.

Unlike in iOS, repeating words from your title in your short description has been found to provide a positive impact.



Screenshot showing the short and long description entries in the Google Play Console



**Pro Tip:** The long description can hold up to 4,000 characters and is indexed by Google Play. That might seem great at first, but filling up the entire 4,000 characters does not necessarily give you an edge in ranking. What's more important than the number of times you're repeating a keyword is the density weight that you're giving to a keyword. If you repeat "music" 100 times in a 4,000 character length description, it offers less weight than repeating "music" five times in a 300 character length description.

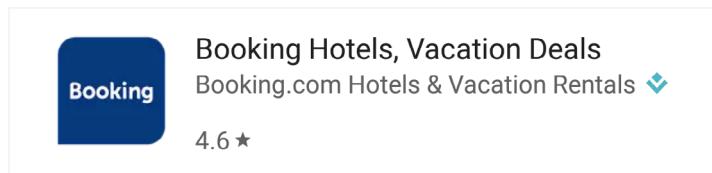
To find the right balance you can use follow this [YouTube tutorial \[https://asostack.com/how-to-do-keyword-optimization-for-the-google-play-store-how-to-video-752f6dc824a71\]](https://asostack.com/how-to-do-keyword-optimization-for-the-google-play-store-how-to-video-752f6dc824a71) that makes use of our Google Play spreadsheet:

| Google Play Store ASO Sheet   |  |            |     |            |               |  |  |  |  |  |  |
|---|--|------------|-----|------------|---------------|--|--|--|--|--|--|
| Visit us on <a href="http://ASOSTACK.com">ASOSTACK.com</a> for all our ASO related content  |  |            |     |            |               |  |  |  |  |  |  |
| Step 1  | Input your Google Play URL and select your localization  |            |     |            |               |  |  |  |  |  |  |
| Mobile Growth:  | <a href="http://www.mobilegrowthstack.com">http://www.mobilegrowthstack.com</a>  |            |     |            |               |  |  |  |  |  |  |
| Twitter   | @moritzdaan  |            |     |            |               |  |  |  |  |  |  |
| Email   | moritz.daan@phiture.com  |            |     |            |               |  |  |  |  |  |  |
| Step 2  | Your Google Play Store Metadata:   |            |     |            |               |  |  |  |  |  |  |
|   | <b>PayPal</b>  |            |     |            |               |  |  |  |  |  |  |
| ELEMENT   | CURRENT  | CHARACTERS | NEW | CHARACTERS | WEIGHT FACTOR |  |  |  |  |  |  |
| Title   | PayPal   | 6          | 0   | 6          |               |  |  |  |  |  |  |
| Short description   | Quickly and securely send, receive, and spend money  | 51         | 0   | 4          |               |  |  |  |  |  |  |
| Developer name  | PayPal Mobile  | 13         | 0   | 3          |               |  |  |  |  |  |  |
| Description   | TAP INTO YOUR MONEY<br><br>Send money to almost anywhere in the world in just seconds. Manage ways you send, receive, and spend money at a glance - it's all here.<br><br>SEND MONEY IN SECONDS<br><br>Send Money to PayPal account holders in over 100 countries using just your email address or mobile number. When the money arrives in their account (usually in seconds), they can spend the money online or withdraw it from their bank account.<br><br>GET PAID WITH EASE<br><br>Send a request for money that allows people to pay you back with just a tap. Whether you're collecting money for a group gift or something you've bought online, we make it easy for them and even easier for you.<br><br>STAY ON TOP OF IT ALL<br><br>Whenever you send, receive, and spend money with PayPal, the app instantly notifies you so you can keep track of it all. Whether you use PayPal Credit, your balance, your bank, or your debit and credit card to pay with PayPal - you can find everything and anything you need to manage it all in this secure app. | 1122       | 0   | 1          |               |  |  |  |  |  |  |
| CONFIGURATION   |  |            |     |            |               |  |  |  |  |  |  |
| Stopwords to remove   | a,i,about,above,according,across,privacy,policy,39,actually,ad,ad,ae,af,after,afterwards,ag,again,against,ai,al,all,almost,alone,along,already,also,although,always,am,among,amongst,an,and,another  |            |     |            |               |  |  |  |  |  |  |
| Weight of two keyword phrases   | 4  |            |     |            |               |  |  |  |  |  |  |
| +  Keyword Density  Keyword rankings  Search Suggestions |  |            |     |            |               |  |  |  |  |  |  |

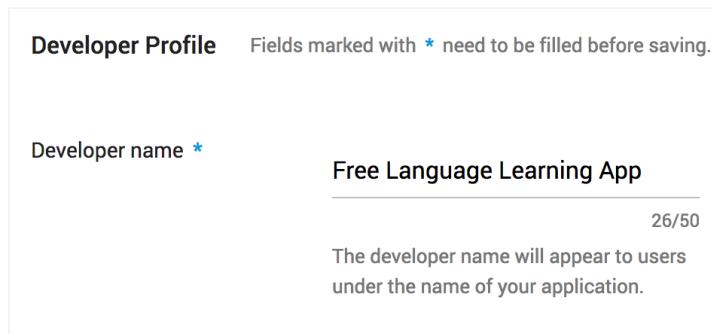
## Other Metadata

### DEVELOPER NAME

The developer name (Google Play) or seller name (Apple) have been found to be indexed on both platforms and is especially used in Google Play used to target keywords, such as Booking.com here:



*Screenshot: Booking.com Google Play app search result listing*

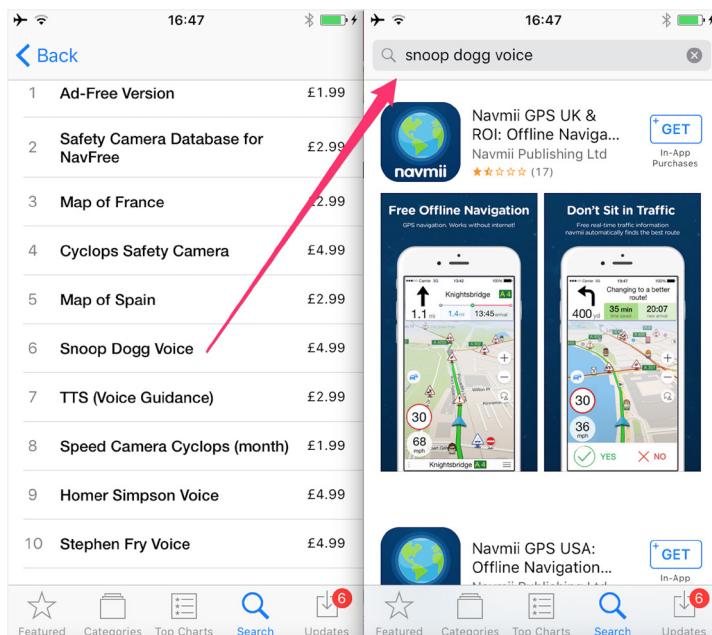


*Screenshot: Developer name editing view in Google Play*

But with Apple it's a tougher process to change the developer name as it's tied to a D-U-N-S number, so be sure to pick the right name at developer [enrollment \[https://developer.apple.com/support/enrollment/\]](https://developer.apple.com/support/enrollment/).

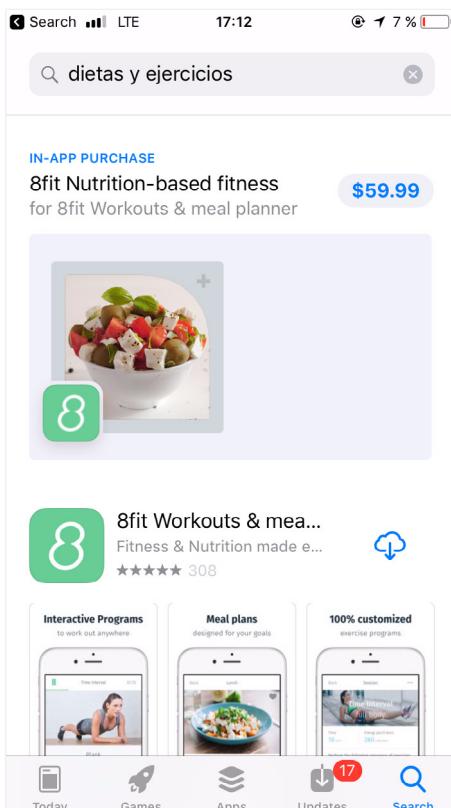
## 11 IN-APP PURCHASE NAMES (APPLE)

In iOS 10 and earlier, In-App Purchase (IAP) names would rank only for the **exact match search**, meaning your app would show up in search for keywords in your IAP, but only if someone typed in the exact name of your IAP's name. Some ASO's used this to their advantage, but since it had to be a full exact match the benefits were fairly small (e.g. an IAP called "maps" would only match "maps" and not "offline maps").



*Screenshot depicting that, pre-iOS 11, only exact matches would return an app*

In iOS 11, Apple began indexing In-App Purchases in search results for **partial matches**. As discussed in the introduction, this was big news for the App Store and represents a paradigm change in the app discovery model through organic search.



*Screenshot depicting how broader keyword matches show both the app and In-App Purchases in search results*

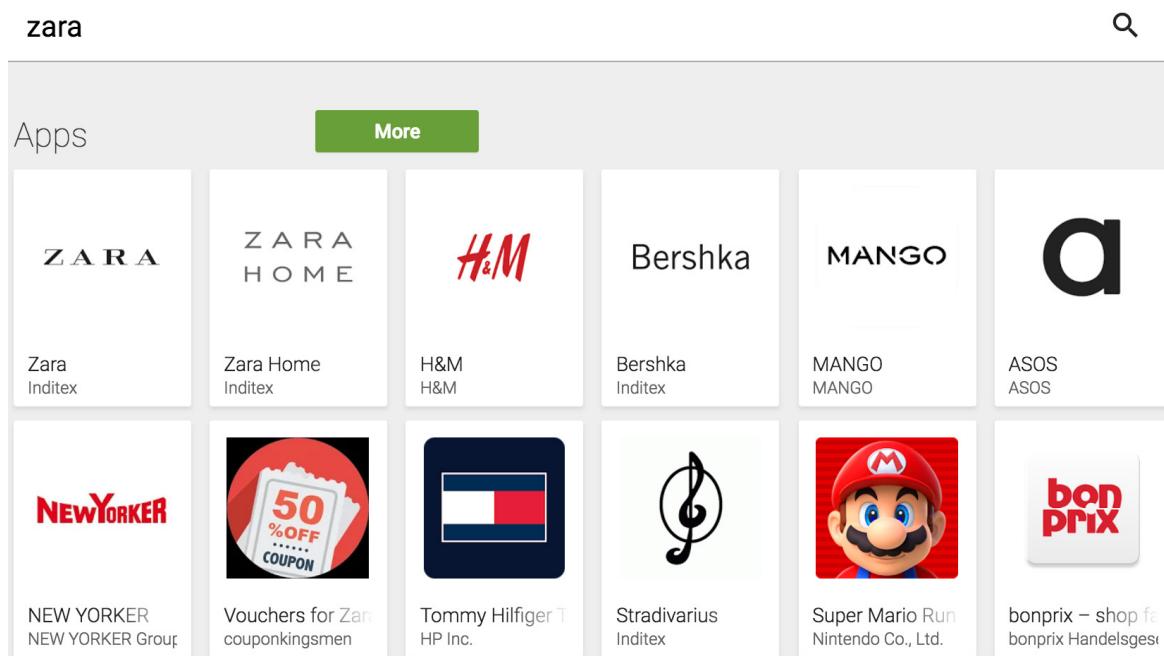
The exact details of how In-App Purchases affect search results are yet unknown and will be studied in detail after the launch of iOS 11. Stay tuned to the Phiture and Incipia blogs for more details on IAP-based visibility optimizations.

## PACKAGE NAME (GOOGLE)

First off, the Bundle ID for Apple is not something you can rank for. But in Google Play you can actually rank for the unique package name that you've chosen for your app.

It is growing belief that the impact on the package name can't be overstated on Google Play. While there hasn't been research published on the impact so far, without a doubt Google Play **does** index the package name.

Daniel Peris from TheTool [wrote a blog post \[https://medium.com/@DanielPeris/google-play-aso-url-package-search-ranking-factor-35c4ce938bdc\]](https://medium.com/@DanielPeris/google-play-aso-url-package-search-ranking-factor-35c4ce938bdc) on a discovery he made regarding "Super Mario Run." A search for "Zara" yielded Super Mario Run as #11th result on Google Play, whereas Nintendo hadn't mentioned Zara anywhere in their metadata:



*Screenshot: Google Play keyword search for Zara showing Super Mario Run*

It then turned out that Nintendo had used Zara in their package name:



*Screenshot: Google Play URL for Super Mario Run showing zara in the package name*

With regards to the impact, there is anecdotal evidence that the field is quite important and treated as an exact domain match in SEO. Big titles with tons of traffic, extremely high relevancy, and converting assets often seem to have a hard time competing for a search term if they don't have it in their package name. For example, out of the #10 games ranking for the search term "bubble shooter," seven apps have it in their package name. Even games by publisher titans (King's "Bubble Witch 3 Saga" and Rovio's "Angry Birds POP Bubble Shooter") only earn positions #9 and #10, respectively. While King's app does not have bubble shooter in its title, Rovio's game does, and both apps do not have bubble shooter in their package names.

| KEYWORD RANK | APP  | LAST UPDATE  | CATEGORY       | CATEGORY RANK | ALL-TIME RATINGS | STAR RATING | KEYWORD IN TITLE |
|--------------|--|--------------|----------------|---------------|------------------|-------------|------------------|
| 1            |  <b>Bubble Shooter</b><br>Fruit Casino Games        | Jun 14, 2017 | Arcade (Games) | -             | 28,474           | ★★★★★       | ✓                |
| 2            |  <b>Bubble Shooter</b><br>Crazy Letter Games        | Aug 3, 2017  | Casual (Games) | -             | 3,713            | ★★★★★       | ✓                |
| 3            |  <b>Bubble Shooter</b><br>Bubble Shooter            | Aug 16, 2017 | Casual (Games) | -             | 216,377          | ★★★★★       | ✓                |
| 4            |  <b>Bubble Shooter</b><br>LinkDesks Inc.            | Jul 18, 2017 | Casual (Games) | -             | 3,820            | ★★★★★       | ✓                |
| 5            |  <b>Shoot Bubble Del...</b><br>City Games LLC       | Jul 25, 2016 | Puzzle (Games) | -             | 866,366          | ★★★★★       | -                |
| 6            |  <b>Bubble Shooter</b><br>LinkDesks LLC             | May 21, 2017 | Casual (Games) | -             | 48,349           | ★★★★★       | ✓                |
| 7            |  <b>Bubble Shooter</b><br>Smooote Mobile            | May 10, 2017 | Casual (Games) | -             | 324,046          | ★★★★★       | ✓                |
| 8            |  <b>Bubble Shooter</b><br>Ilyon                     | Aug 16, 2017 | Puzzle (Games) | -             | 71,619           | ★★★★★       | ✓                |
| 9            |  <b>Bubble Witch 3 S...</b><br>King                 | Aug 15, 2017 | Puzzle (Games) | -             | 1,217,860        | ★★★★★       | -                |
| 10           |  <b>Angry Birds POP B...</b><br>Rovio Entertainm... | Aug 15, 2017 | Casual (Games) | -             | 542,043          | ★★★★★       |                  |
| 11           |  <b>Panda Bubble Sho...</b>                         | Aug 7, 2017  | Puzzle         | -             | 6,102            | ★★★★★       | ✓                |

Screenshot: Priori Data keyword search showing Google Play results for bubble shooter.

Developer **Candy Bubble Studio** (rank #34) might have realized that this field might indeed have some impact, and named their package “bubble.shooter.shooting.shoot.game”



Screenshot: Google Play URL for Candy Bubble Studio’s app

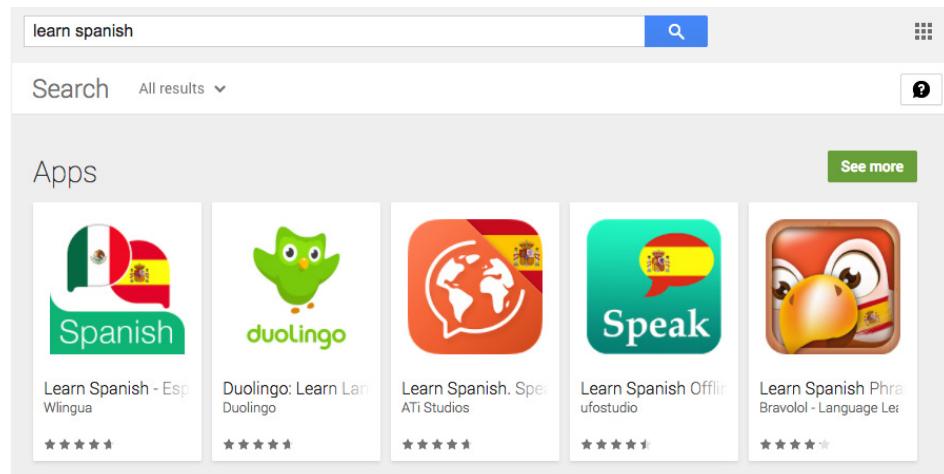
Now, these results might also be skewed because of other tactics such as an exact match in the title or because of black hat ASO tactics.



**Pro Tip:** While you can change the “manifest package name” in `AndroidManifest.xml`, Google Play will treat your app as a new listing and you will lose your entire history (reviews/downloads). It’s therefore recommended that you think carefully about the keywords you want to target ahead of launching the app. A solid naming convention would be `brand.title.keyword1.keyword2`.

## Visual Word Recognition

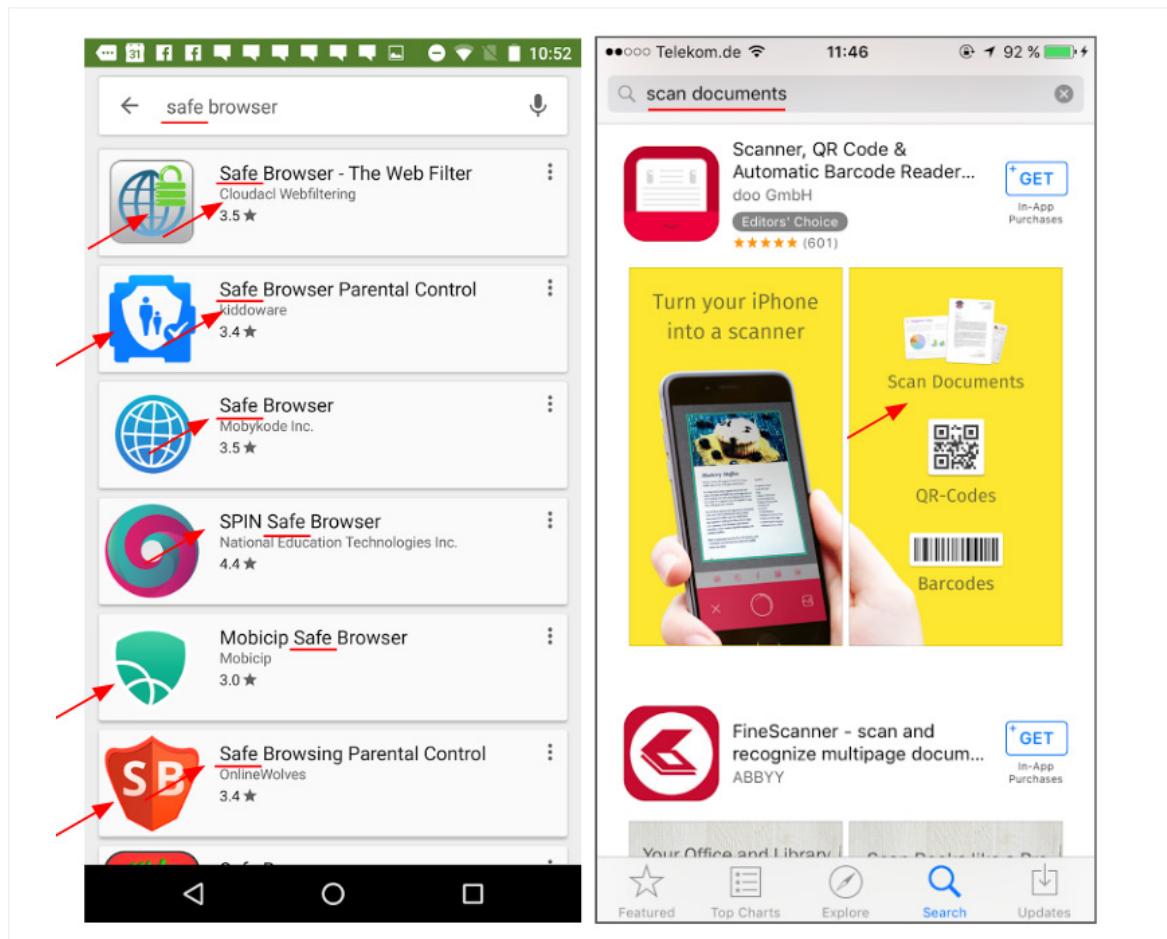
Visual word recognition refers to the app of users to recognize visual words in your app listing elements, such as the title or screenshot captions. In other words, if a user searches for “learn Spanish” they are more likely to convert if they see that the app has to offer what they’re searching for:



*Google Play web search showing that, apart from Duolingo, four out of five top results start with “Learn Spanish” in their title and have a Spanish flag in their icon.*

Both Google and Apple look at the **keyword-level** to determine how well you are able to **convince a user into clicking through** to your App Store product page and/or downloading the app. It seems that the App Store primarily only looks at **CTR and install rates**, whereas Google Play appears to look at **retention and engagement** on a search term level.

If your app isn't able to convert impressions from a particular keyword search into users, then your **app's rank score for that keyword will decline**. While your app's overall conversion rate can represent the overall health of your conversion rate in aggregate across search terms (especially when using Apple's App Store Search data source), it does not always accurately represent the story at the individual search term-level, and can obscure what is a wasted opportunity for better performance.



*Screenshots depicting how apps optimize for visual word recognition*

The arrows above point to examples that increase relevancy (and with that, CTR) to the search term.

Two challenges to visual word recognition optimization include the lack of search term-level organic attribution data, as well as the fact that your app must present the same listing to each keyword search term, without customization. Your optimizations, therefore, must be done using the data you have on-hand (such as keyword rank and search popularity) and without negatively impacting conversion rate from other searches, or keyword-agnostic impressions, such as those from ads or top charts.

The most effective current approach is to sort by the **keywords that are most important** (remember our “starred” keywords?) and then manually review the search results page for each search term and assess your app listing’s relative appeal for people searching that keyword, compared to the competition.



**Pro tip:** just like when optimizing your app’s keyword mix, when prioritizing search terms, focus on search terms that are most important, based on your KPI. For example, using Apple Search Ads data, you can determine which keyword search terms yield the most subscriptions, and focus on raising your visual word recognition for that keyword and other high sub-converting keywords.

Optimizing your app listing for search terms can be applied for any of your elements (e.g., screenshots, icon, description, etc.), but is done via some of the following tactics:

- **Directly mention the search term in your listing elements:** During a [study](http://incipia.co/post/app-marketing/aso-study-how-to-earn-a-top-10-keyword-rank/) [http://incipia.co/post/app-marketing/aso-study-how-to-earn-a-top-10-keyword-rank/] that Incipia did on the top 10 iOS apps ranking for seven different keywords in the health and fitness category, we found that apps which included the target keyword in an app's screenshot captions saw a 2.4x better average rank than apps that did not do so.
- **Speak to the user's intent behind the search term:** The more latent approach to directly mentioning the keyword, which requires more creativity, such as speaking to the idea of losing weight or using imagery that relates to dieting for the keyword "diet."
- **Out-position the competition for that search term:** This is a similar approach to general CRO, but with a more specific competition set. Figure out what messaging or visual design would make your app more appealing to more users searching that keyword, such as using a different screenshot style if the competition all uses the same screenshot-style. But again, be careful not to over-optimize for one particular search term at the expense of losing conversions from other sources.
- **Make sure your important keywords are not truncated in your title or subtitle.**

## More Keyword Optimization Tips and Tricks

Before moving into how to measure the impact of your targeted keywords, we still want to call out a couple of tips and tricks on how to target even more keywords and drive more searches to your app.

### CATEGORY NAMES

Selecting your primary category should be done with careful consideration and needs to be the right fit for your app. The App Store secondary category, however is not something that impacts your visibility in the store from a browsing perspective, and can be picked with adding keyword visibility in mind.

We've checked all the App Store category keywords for volume in the US and listed them in descending order:

| Volume for App Store Category Keywords |                 |                   |    |                 |                   |
|--|-----------------|-------------------|----|-----------------|-------------------|
| #                                      | IOS CATEGORY KW | SEARCH POPULARITY | #  | IOS CATEGORY KW | SEARCH POPULARITY |
| 1                                      | games           | 83                | 16 | social          | 46                |
| 2                                      | music           | 76                | 17 | finance         | 45                |
| 3                                      | video           | 64                | 18 | newspapers      | 44                |
| 4                                      | news            | 62                | 19 | productivity    | 44                |
| 5                                      | photo           | 62                | 20 | business        | 43                |
| 6                                      | shopping        | 62                | 21 | entertainment   | 40                |

*Snapshot July 21, 2017 - App Store United States*

| Volume for App Store Category Keywords |                   |                   |    |                 |                   |
|--|-------------------|-------------------|----|-----------------|-------------------|
| #                                      | IOS CATEGORY KW   | SEARCH POPULARITY | #  | IOS CATEGORY KW | SEARCH POPULARITY |
| 7                                      | fitness           | 59                | 22 | medical         | 40                |
| 8                                      | social networking | 58                | 23 | magazines       | 39                |
| 9                                      | food              | 57                | 24 | photo video     | 37                |
| 10                                     | health            | 57                | 25 | lifestyle       | 36                |
| 11                                     | sports            | 56                | 26 | utilities       | 36                |
| 12                                     | navigation        | 54                | 27 | drink           | 31                |
| 13                                     | travel            | 52                | 28 | networking      | 28                |
| 14                                     | kids              | 51                | 29 | catalogs        | 22                |
| 15                                     | education         | 47                | 30 | reference       | 21                |

*Snapshot July 21, 2017 - App Store United States*



**Pro tip:** While an Android app's Google Play category name does automatically rank for that keyword in the Play Store, conserving metadata space is less of a problem in the Play Store, and it may also be advantageous for ranking purposes to mention that category keyword once or more in the metadata.

## TARGET COMPETITORS THAT HAVEN'T DEVELOPED AN APP FOR IOS OR ANDROID

Targeting competitors could generally be a good idea; however, as the search intent of the searcher is really to download your competitor's brand, you will likely have little chance of converting these searches to downloads even if you come in second in the results.

That's entirely different, however, for competitors or other apps that have a brand name, but have yet to develop an Android or an iOS app. You will find that targeting those names can help drive substantial search traffic.

## GOOGLE PLAY INDEXES LISTING EXPERIMENTS

First publicly reported by Lukas Ballé in the ASO Stack Slack community, is the fact that A/B tests are also indexed. This is surprising. What's more surprising is that members of the Slack community pointed out that while Google detects brand infringements in title, short, and long description, this doesn't seem to be the case in the A/B test variants.

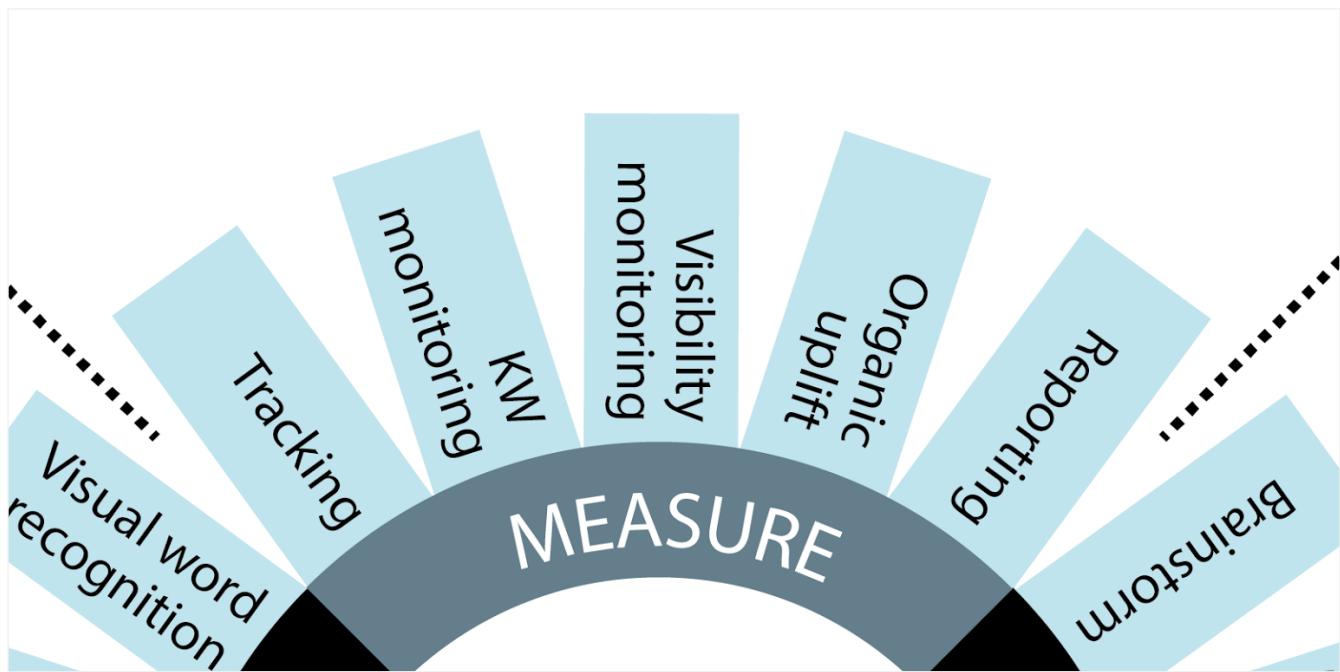
What makes it even more of a breeding ground for Black Hat ASO is that you can run the A/B test on a 0.1% audience.

That means that virtually no one needs to see the keyword heavy description.

The screenshot shows a user interface for creating an A/B test. At the top, there's a header with a back arrow, the title 'Keyword stuffing Localized (en-US)', and three buttons: 'SAVE', 'RUN EXPERIMENT' (in blue), and 'CLEAR EXPERIMENT'. Below the header is a 'Targeting' section with fields for 'Name of experiment' (set to 'Keyword stuffing'), 'Type of experiment' (set to 'Experiment in English (United States)'), and 'Audience' (set to '0.1 %'). A note below the audience field specifies: 'Percentage should be between 0 (exclusive) and 50 (inclusive)'. To the right is a donut chart showing the distribution: 99.9% Current Version and 0.1% Other. The main body of the interface is titled 'Attributes' and contains a 'Variants' section. It shows two variants: 'A Current Version' and 'B Enter variant name'. Variant A has a short description of 36/80 characters and a full description of 2763/4000 characters, both containing the word 'Keyword'. Variant B has a short description of 79/80 characters and a full description of 869/4000 characters, which is filled with the word 'Keyword' repeated many times. At the bottom, there's a button labeled 'ADD ANOTHER VARIANT'.

*Screenshot depicting a black hat A/B test purposed for keyword stuffing. Only 1 in 1.000 Store Listing Visitors would see the keyword stuffed variant.*

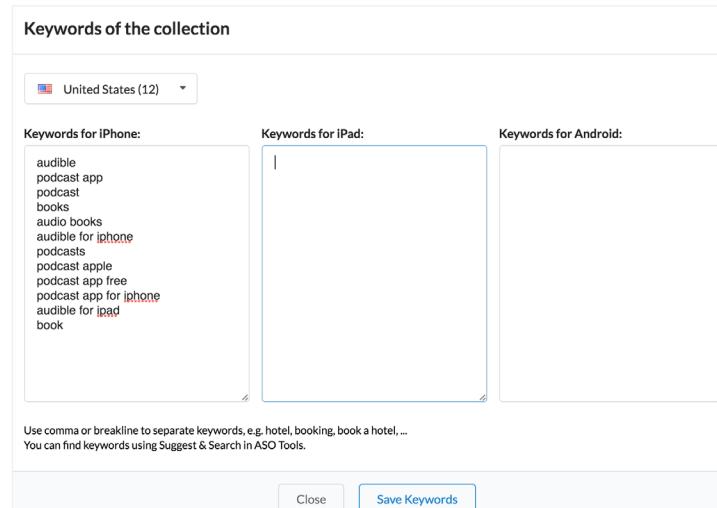
## KWO Step 4: Measure



After all of your hard work researching, brainstorming, and implementing for your ASO strategy, it's time to measure the fruits of your labors and analyze your impact. While the most common and direct goal of an ASO strategy is to increase the number of organic Installs that your app is earning, there are myriad metrics that will be useful in tracking your ASO progress. Each of these play a unique role in ensuring that you are on the right track; and when you aren't, they can help raise warning flags and point your attention to the right places or troubleshooting.

### TRACKING

Tracking involves using an ASO tool to track the rank of your keywords throughout your visibility optimizations. ASO tools track hundreds of thousands or even millions of keyword search terms across the different App Stores. While many tools will also offer historical data for these search terms, it's a good exercise to track your keywords prior to changing your metadata, so that you know which keywords to focus on and don't need to waste time in reporting. Tracking keywords also helps you to determine the impact of the changes you made in not just high-level App Store analytics data, but in the more granular specifics of keyword ranks.

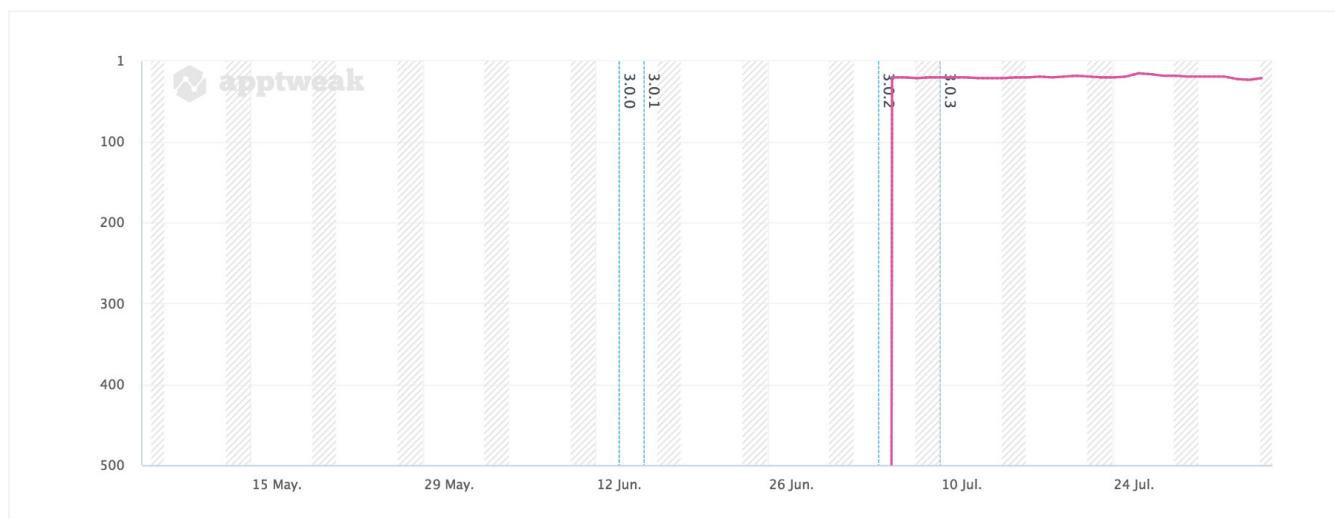


*Keyword tracking in AppFollow.io*

## KEYWORD MONITORING

Once you have selected your tracking tool, you can monitor the rankings of your app for the keyword.

When a new iOS app version is approved and becomes live in the App Store, the latest keyword rankings will update same-day. Any keywords which are no longer included in the metadata will immediately lose ranking. For Google Play, the algorithm can take a little longer to index your keywords.



*A keyword picking up rank immediately after the release of a new update (Screenshot: AppTweak)*



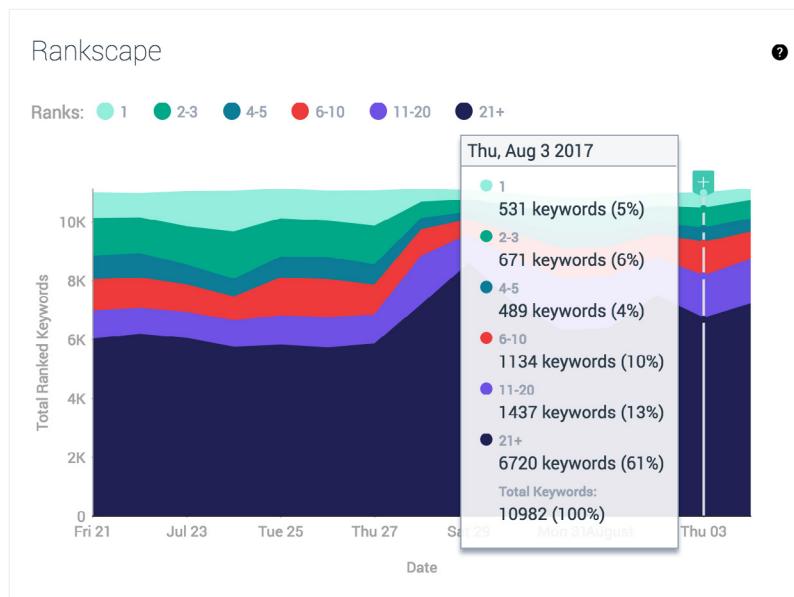
**Pro Tip:** In measuring the success of visibility optimizations, it's useful to think about the difference between metrics and KPIs. Metrics are data points that help focus your attention by calling out areas that have a lot of activity (e.g. App Store Impressions); but metrics are typically not the most important data point for measuring success. KPIs are the data points that are most important to your goals or objectives, which you should use to measure success (e.g. Installs).

**KPI: Keyword ranks:** When measuring performance from visibility optimizations, report on keyword ranks for a direct analysis before and after your visibility changes. Specifically, look for keywords that attain a top 10 rank. Ranking outside of the top 10 results generally does not receive a material amount of visibility.

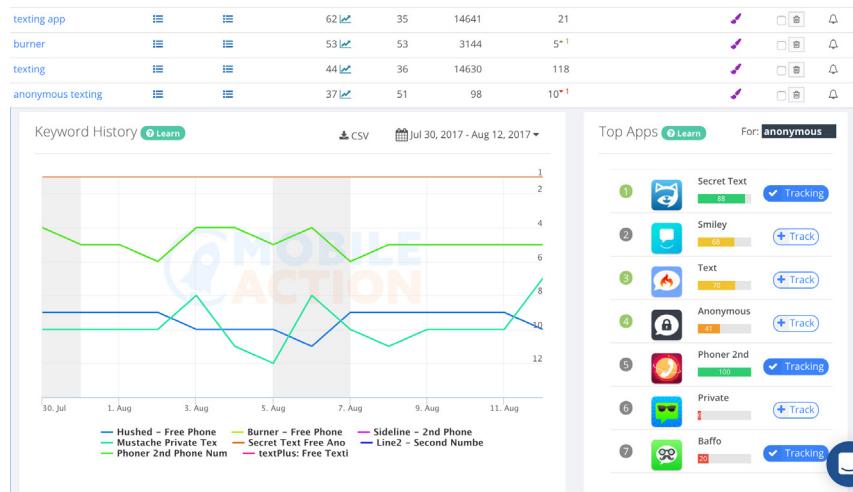
Unlike the App Store, updating your app's keyword metadata mix in the Google Play Store may not always cause an immediate or significant change in keyword ranking. Sometimes, Google may even continue ranking keyword phrases after the phrase is removed from an app listing! This is because Google's algorithm is more advanced than Apple's algorithm, and factors for signals such as the skip gram analysis and others mentioned in the prior pages.

And, while in the App Store your keyword ranks will update instantly after releasing a new app version, it's important to note that your keyword ranks will continue to fluctuate over time, and will likely not remain at the rank that they earn initially for long. Watch to see where your keyword rankings shake out for the week following an update and then adjust your keyword mix as appropriate after giving your new keyword ranks sufficient time to fully adjust.

Apart from looking at individual keywords, you can also look at your aggregate keyword ranking graph, which is a feature some tools such as App Tweak, Mobile Action, or Tune provide.



Screenshot: Tune's "Rankscape" feature



Screenshot: Mobile Action showing keyword ranks

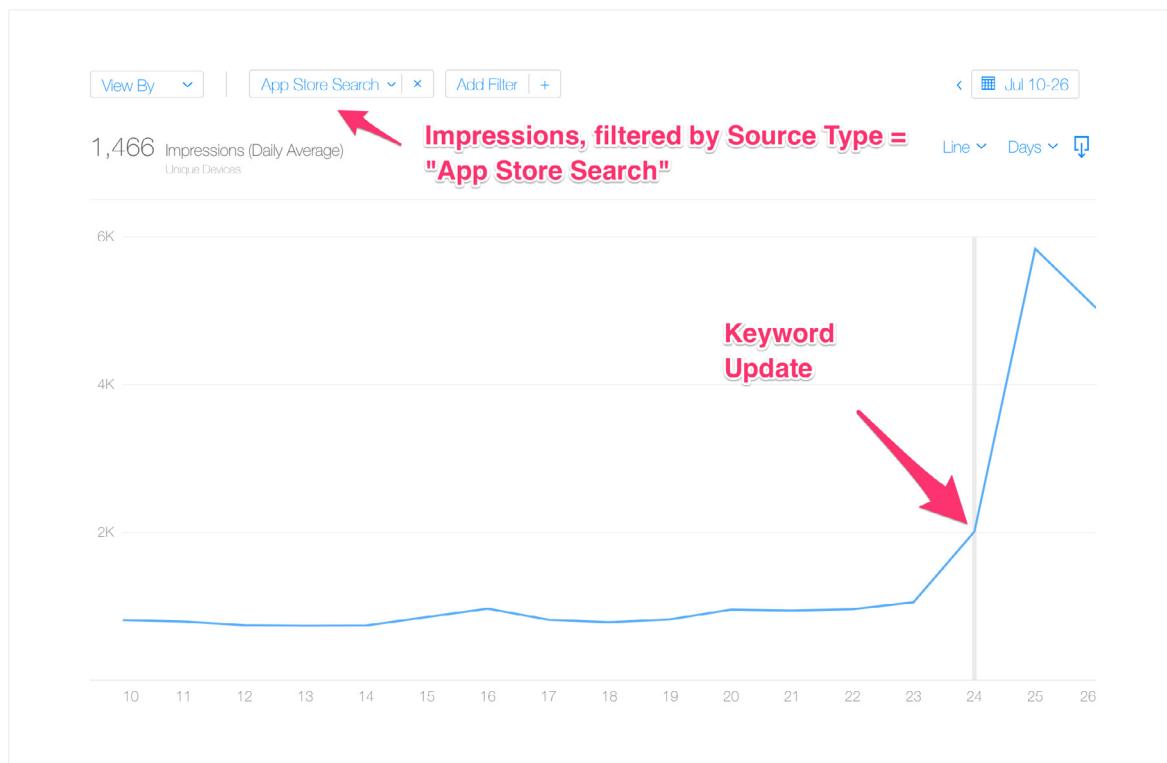
## VISIBILITY MONITORING

While an uptick for some search terms might seem great, it can also be caused by switching around a keyword from your keyword set to a keyword in the title. It's to be expected that search terms with the keyword in the title will rise in rank, while those relegated to the keyword set will fall. By looking at **visibility** you can be sure that the net is still positive.

**Metric: Impressions (App Store only)** are a great initial metric for measuring whether your visibility changes are causing an effect. That is, did your changes cause your app to rank for significantly more or fewer keywords, in significantly better or worse positions?

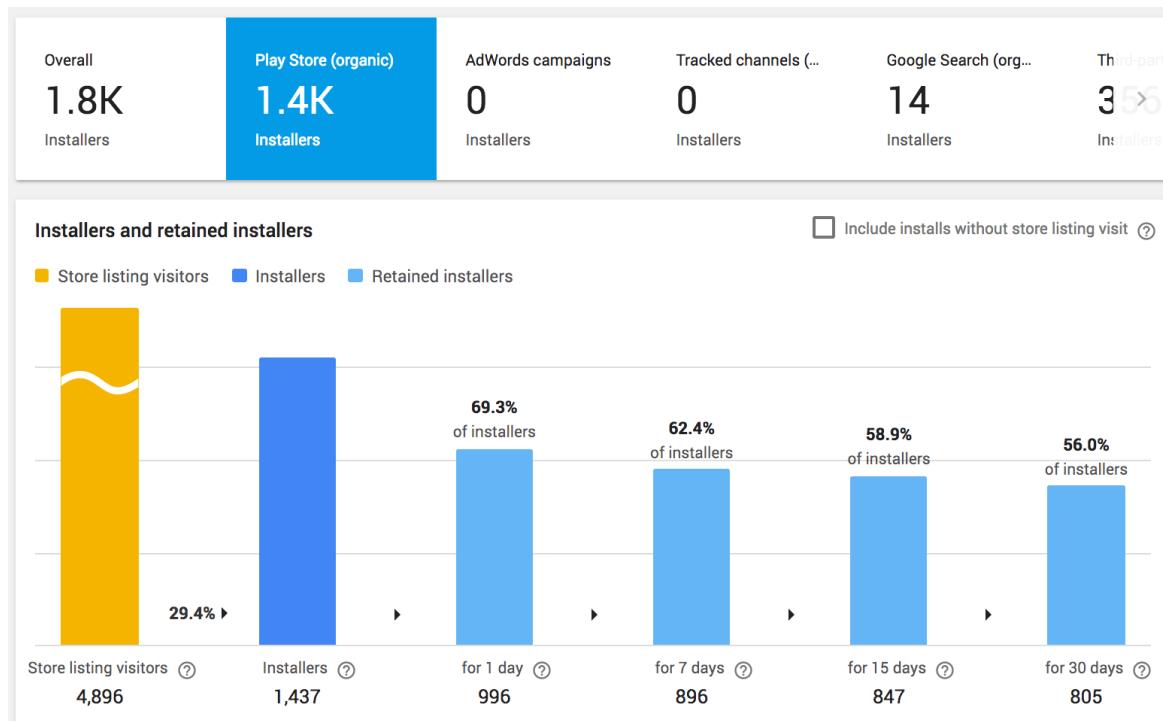
Impressions are defined by Apple as: "The number of times your app was viewed on the App Store for more than one second. This includes search results, Featured, Explore, Top Charts and app Product Page Views. Apps listed in Updates in the App Store app are not included."

Be aware that each product page view in the App Store counts as a new impression, meaning that someone clicking through to your Product Page from a search result will count towards impressions twice. You can select "Unique App Store Impressions" to avoid the numbers being skewed.



Screenshot of iTunes Connect App Analytics Dashboard depicting a bump in impressions after a visibility optimization

💡 Measuring changes to a Google Play app's impressions can be more nuanced to understand, due to the fact that Google reports on Store Listing Visitors (i.e. product page views in iOS terms), rather than search impressions. That means you do not get the full view of how many people actually saw your app appear in the search, just how many people tapped on your listing.



Screenshot: Google Play Developer Console, which will let you see Store Listing Visitors but not impressions of your App Icon. To get a better grip on visibility in Google Play, you can look at your keyword rankings and ASO tool visibility.



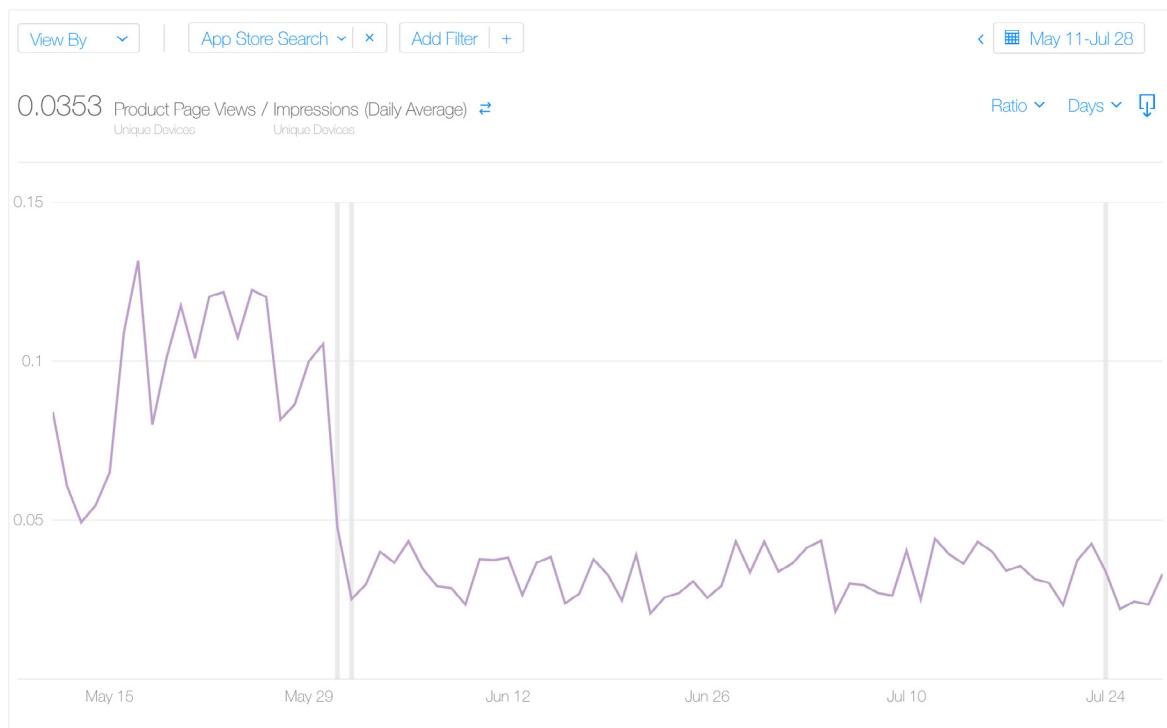
**Pro Tip:** Consider impression velocity (impressions / time period), product page view velocity (PPV / time period) and download velocity (downloads / time period) to measure the impact of visibility optimization in a more forecast-friendly manner.

**Metric: Product Page Views (Apple) or Store Listing Visitors (Google)** are the secondary visibility metric after impressions, and another important intermediary (or the only intermediary in Google's case) to measure between the first view of a user, and acquiring that user's download.

- **Product Page Views** are defined by Apple as: “The number of times your app’s App Store page has been viewed on a device using iOS 8 and tvOS 9 or later”
- **Store Listing Visitors** are defined by Google as: “Unique users who visited your app’s store listing on Google Play, but haven’t installed your app previously.”

Beyond simply knowing that your optimization produced more visibility, it's important to determine whether that visibility was a positive change or not. This is easier to gauge in the App Store than on the Play Store. For example, say that you switch out a relevant but low-volume keyword such as “**plumber**” with a high-volume keyword such as “**movies**” but your Plumber-app has nothing to do with movies. You might get an initial peak in **App Impressions** via source type App Store Search. While this looks great at first, you will find that very few of the people that see your app in searches related to Movies will download or click-through to your app page.

By looking at how the ratio of **Product Page Views / Impressions** (Search), you can spot in the below example that the keyword update has lowered that ratio a lot.



*Screenshot of iTunes Connect App Analytics Dashboard depicting a decline in TTR after an optimization*

While the changes indicate a clear drop in relevancy at May 29, as identified by the TTR (Tap-Through-Rate) metric, ultimately what matters (KPI) is your organic uplift from the change (Installs).

## ORGANIC UPLIFT

While visibility is a lead indicator for ASOs to quickly get a grip on their keyword optimization efforts, ultimately what matters is the organic uplift that the keyword optimizations caused. Installs might be the easiest KPI to measure, but are definitely not the only one:

**KPI: Installs.** The classic KPI for measuring the impact of an ASO strategy, Installs are a middle-of-funnel KPI that falls in-between a visitor seeing your app page, and your ranks improving by acquiring more Installs. Yet, not all App Units or even Installations will translate into active users.

When it comes to measuring organic uplift from inorganic downloads, you can do this one of a couple of ways:

01. Manually, by subtracting the known inorganic downloads from all downloads and subtracting the benchmark number of organic downloads. For example, if out of 2,000 downloads on one Thursday there were 500 inorganic downloads, and the moving average of the prior four Thursdays' organic downloads was 1,000, then the organic uplift would be 500, or one new organic download for every one inorganic download.
02. Alternatively, several ASO tools offer estimations of organic uplift.

**KPI: Active users.** While Installs are the most classic ASO KPI, active users have become de facto ASO KPI, as the store ranking algorithms have become more attuned to engaged users, rather than Installs which turn out to be non-active. A combination of Installs, uninstalls, and user retention rate, active users recently replaced current Installs in the Google Play Console, and are now the most important metric for measuring the impact of an ASO strategy.



**Pro tip:** You can determine active users, unInstalls, and retention rate at a keyword level by running an app install campaign with exact match keywords for either Apple Search Ads (iOS) (Google replaced keyword search app install campaigns with UAC-only campaigns in November 2017). You can also use this advertising strategy to determine which keywords are producing Installs and other post-install conversions and would make good KWO candidates, as well as figure out which keywords should be added to your app metadata for better relevance and thus ad impression share.



**Beware:** When optimizing, recall the ASO tenet of being careful not disturb the placement of high-volume, relevant keywords that are earning top 10 ranks.

### Other KPIs useful for measuring the impact of visibility:

- In-App Purchases and revenue
- Ratings and reviews
- Retention rate

While these metrics are less directly affected by your ASO strategy, they are still important to measure for several reason.

These metrics matter more than ever not just for the business model of an app, but also as ranking algorithms factor for engagement of users, meaning that your strategy will fail if these metrics decline.

## REPORTING

Once you've gathered all the data, it's time for the final step: draft a report.

While ASO tools track keywords, using a template **customized to your needs** for tracking keyword ranks can provide more insight for managing your KWO. The following template image is one example of a keyword rank template that includes the following data points, which are useful for sorting keywords and comparing performance via snapshot (i.e. the latest rank) as well as trending view, so that you are able to understand and react to **macro as well as micro ranking shifts**.

- Count of your keywords earning top 10 ranks.
- Average rank of all keywords you're tracking, per platform.
- Keyword **search score**, per platform (in-line with each keyword for comparing keywords across both platforms; but iOS and Android can be separated for a more compact view, or you can use only Apple's search popularity score for both platforms).
- Rank of each keyword per week, per platform.
- All-time minimum keyword rank with comparison vs the latest week, per platform
- Change in keyword rank vs the prior week, per platform.

| Keyword   | Android Search Score | iOS search score | Average rank |        | Total top 10 keywords |         |         |         |         |                      |         |               |     |     |     |     |     |
|-----------|----------------------|------------------|--------------|--------|-----------------------|---------|---------|---------|---------|----------------------|---------|---------------|-----|-----|-----|-----|-----|
|           |                      |                  | 11-Apr       | 18-Apr | Android               | Android | Android | Android | Android | Latest Change vs min | Android | Latest change | iOS | iOS | iOS | iOS | iOS |
| keyword 1 | 44                   |                  | 73           | -      | -                     | -       | -       | -       | 0       |                      | 14      | 16            | 32  | 9   | 9   |     | 2   |
| keyword 2 | 56                   |                  | 72           | 24     | 18                    | 15      | 10      | 10      |         | 0%                   | 33%     | 18            | 14  | 11  | 8   | 8   |     |
| keyword 3 | 55                   |                  | 72           | 114    | 75                    | 59      | 72      | 59      |         | -22%                 | -22%    | 87            | 57  | 45  | 55  | 45  |     |
| keyword 4 | 53                   |                  | 65           | 27     | 27                    | 45      | 45      | 27      |         | -67%                 | 0%      | 21            | 21  | 34  | 34  | 21  |     |
| keyword 5 | 53                   |                  | 64           | -      | -                     | 197     | 193     | 193     |         | 0%                   | 2%      | -             | -   | 150 | 147 | 147 |     |
| keyword 6 | 53                   |                  | 62           | -      | -                     | -       | -       | 0       |         |                      | -       | -             | -   | -   | -   | -   |     |



**Pro tip:** You can increase the utility of this template by adding retention rate, sales, or other applicable KPIs per keyword, based on Apple Search Ads exact match keywords for iOS and AdWords search exact match keywords for iOS/Android. This will allow you to analyze which keywords offer the best opportunity for growth in your KPI based on their trends, rather than just rank alone.

| Keyword   | Day1 retention | Day7 retention | Day30 retention | Average rank |                  | Total top 10 keywords | Android |        |        |       |     |
|-----------|----------------|----------------|-----------------|--------------|------------------|-----------------------|---------|--------|--------|-------|-----|
|           |                |                |                 | Android      | iOS search score |                       | 11-Apr  | 18-Apr | 25-Apr | 3-May | Min |
| keyword 1 | 16%            | 4.00%          | 2.00%           | 44           |                  | 0                     | 73      | -      | -      | -     | 0   |
| keyword 2 | 23%            | 5.75%          | 2.88%           | 56           |                  | 0                     | 72      | 24     | 18     | 15    | 10  |
| keyword 3 | 51%            | 12.75%         | 6.38%           | 55           |                  | 0                     | 72      | 114    | 75     | 59    | 72  |
| keyword 4 | 38%            | 9.50%          | 4.75%           | 53           |                  | 0                     | 65      | 27     | 27     | 45    | 45  |
| keyword 5 | 23%            | 5.75%          | 2.88%           | 53           |                  | 0                     | 64      | -      | -      | 197   | 193 |
| keyword 6 | 14%            | 3.50%          | 1.75%           | 53           |                  | 0                     | 62      | -      | -      | -     | 0   |

When building reports, leverage Apple's new sources data, and include the metrics/KPIs that are most important to your goals.

| ASO Report template |                               |                              |                       |                            |  |   | Comments |      |                            |          |
|---------------------|-------------------------------|------------------------------|-----------------------|----------------------------|--|---|----------|------|----------------------------|----------|
| File                | Edit                          | View                         | Insert                | Format                     | Data   | Tools                                     | Add-ons  | Help | All changes saved in Drive | Comments |
|                     |                               |                              |                       | \$ % .0 .00 123            | Arial  | 10  | B        | Z    | A                          |          |
|                     | A                             | B                            | C                     | D                          | E  | F   |          |      |                            |          |
| 1                   | Date                          | App store search impressions | App store search PPVs | App store search app units | App store search CVR (app units / impressions) | App store search TTR (PPVs / impressions) |          |      |                            |          |
| 2                   | 5/15-5/21                     | 40,878                       | 6,274                 | 3,618                      | 8.85%  | 15.35%                                    |          |      |                            |          |
| 3                   | 5/22-5/28                     | 46,050                       | 7,044                 | 3,873                      | 8.41%  | 15.30%                                    |          |      |                            |          |
| 4                   | 5/29-6/4                      | 45,434                       | 7,548                 | 4,169                      | 9.18%  | 16.61%                                    |          |      |                            |          |
| 5                   | 6/5-6/11                      | 32,985                       | 5,990                 | 3,724                      | 11.29%   | 18.16%                                    |          |      |                            |          |
| 6                   | 6/12-6/18                     | 27,103                       | 5,407                 | 3,497                      | 12.90%   | 19.95%                                    |          |      |                            |          |
| 7                   | 6/19-6/25                     | 24,527                       | 4,955                 | 3,389                      | 13.82%   | 20.20%                                    |          |      |                            |          |
| 8                   | 6/26-7/2                      | 34,417                       | 5,952                 | 3,441                      | 10.00%   | 17.29%                                    |          |      |                            |          |
| 9                   | 7/3-7/9                       | 51,275                       | 7,951                 | 4,219                      | 8.23%  | 15.51%                                    |          |      |                            |          |
| 10                  | 7/10-7/16                     | 33,505                       | 5,518                 | 3,643                      | 10.87%   | 16.47%                                    |          |      |                            |          |
| 11                  | 7/17-7/23                     | 33,023                       | 5,631                 | 3,661                      | 11.09%   | 17.05%                                    |          |      |                            |          |
| 12                  | 7/24-7/30                     | 35,069                       | 5,591                 | 3,494                      | 9.96%  | 15.04%                                    |          |      |                            |          |
| 13                  | 7/31-8/6                      | 69,996                       | 3,267                 | 3,746                      | 5.35%  | 4.67%                                     |          |      |                            |          |
| 14                  | Last week vs trailing 4 weeks | 63.17%                       | -34.68%               | 3.03%                      | -42.57%  | -65.51%                                   |          |      |                            |          |
| 15                  | WoW change                    | 99.60%                       | -41.57%               | 7.22%                      | -46.28%  | -70.73%                                   |          |      |                            |          |
| 16                  | Alltime average               | 39,521.90                    | 5,927.43              | 3,706.14                   | 0.10   | 0.16                                      |          |      |                            |          |
| 17                  | Trailing 4 week average       | 42,898.08                    | 5,001.77              | 3,635.98                   | 0.09   | 0.14                                      |          |      |                            |          |
| 18                  |                               |                              |                       |                            |  |   |          |      |                            |          |

When building reports, it's also a good idea to create a summary or dashboard view that condenses the report down into only your KPIs, which can make performance reviews more focused, easier, and less confusing for stakeholders.

|    | A                             | B                      | C        | D                         |
|----|-------------------------------|------------------------|----------|---------------------------|
| 1  | Report Date                   | KPI: Organic downloads | KPI: CVR | KPI: top 10 keyword ranks |
| 2  | 7/12                          | 4,219                  | 8.23%    | 30                        |
| 3  | 7/19                          | 3,643                  | 10.87%   | 30                        |
| 4  | 7/26                          | 3,661                  | 11.09%   | 33                        |
| 5  | 8/2                           | 3,494                  | 9.96%    | 35                        |
| 6  | 8/9                           | 3,746                  | 5.35%    | 45                        |
| 7  | Last week vs trailing 4 weeks | 3.03%                  | -42.57%  | 25.87%                    |
| 8  | WoW change                    | 7.22%                  | -46.28%  | 28.57%                    |
| 9  | Alltime average               | 3,752.59               | 9.10%    | 34.60                     |
| 10 | Trailing 4 week average       | 3,635.98               | 9.32%    | 35.75                     |

**Pro Tip (Google Play):** In January 2018, Google has released new organic search data in the ‘User Acquisition’ section of the Google Play Console (available only for selected beta-testers at first).

This allows splitting organic Play Store traffic into Search and Browse (i.e. if a user has found the app listing via a search query vs. browsing the store). It also provides data around installs generated per keyword for the first time. However, this data is available globally only, not broken down by country.

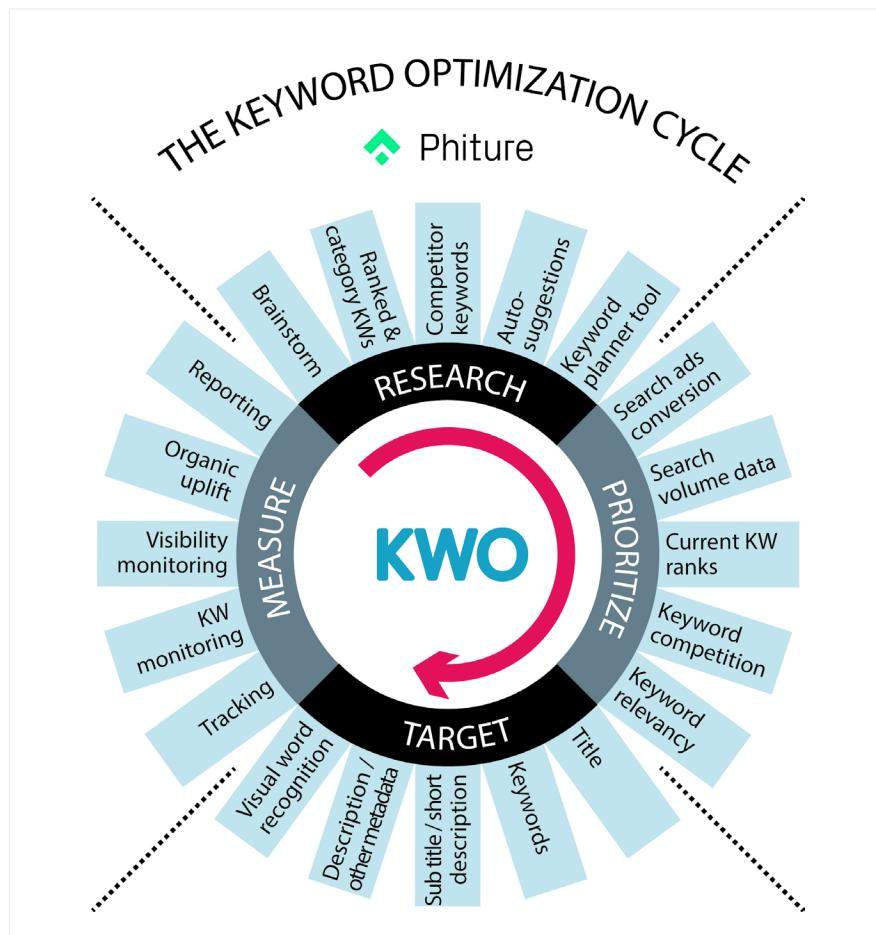
By selecting ‘Play Store (organic)’ under ‘Search’ in the ‘User Acquisition’ reports, a separate section opens containing the search terms.

Google is showing the top 1,000 search terms the app is ranking for, along with their individual conversion rate, broken down into store listing visitors, installers, retained installers or buyers.

See the Google Play section of Chapter 10 for more details on this report.



## Going Into the Next Cycle



The practice of putting all of these strategies and tactics into play is an **ongoing** and **iterative** activity. Your initial keyword mix is informed by research from the tactics listed in prior chapters. Your analysis is centered around the aforementioned metrics and KPIs. Lastly, your optimizations are based on the trends revealed in your analysis and the marketplace reaction.

Due to the amount of work involved in managing ASO, you may ask yourself why it needs to be an iterative process, rather than a one or two-time activity. The following are several reasons that may help explain why continuous improvement is necessary for ASO:

- **Searcher trends:** New keywords are popping up every day (e.g. words like “meme” or new apps people begin searching for), which naturally requires tweaks to your keyword mix to remain relevant. Even without the impact of changes in searcher vocabulary, the relative popularity of various words will also shift over time (think of trends in seasons or big events like elections or the World Cup).
- **Related keywords (iOS) and autofill changes:** As searcher keyword patterns and what they click on change, so too will keywords shift in and out of the related keywords field and auto fill keywords, which can cause changes in the priority of keywords in your keyword mix.
- **Competitor changes:** Other apps change their own keyword mixes, rise and fall in popularity, and as new competitors enter the rankings, your own performance on keywords will change. This requires adjustments, such as giving up on keywords that become too competitive or moving in on an opportunity left by an app.

struggling to maintain downloads or a high rating.

- **Algorithm updates:** Occasionally, the ranking algorithms on which KWO are predicated will shift, causing shifts in relevance, ranking strength, and even eligibility in general.
- **Changes to the App Store and Play Store UX:** Yet another reason to update your keyword mix may occur as and when the UX of the store apps themselves change, as they change the way that app discovery occurs. Two major examples of this include the release of iOS 11 and the expansion of the Google Play title to 50 characters.

The best way to optimize through change agents such as those above is to let the data guide you. By knowing your metrics and KPIs and using regular reports to check on your app's performance against those data points, you can identify issues or opportunities and adjust your keyword mix as appropriate.

When it comes to analyzing and optimizing keyword ranks, it's also important to **not only consider the snapshot data points** (e.g., single day's rank or the current day's visibility score), but apply a **trend-based approach**. In KWO and ASO in general, keywords and apps can experience regular fluctuations in rank on a very wide scale from fleeting to years-long. If you base a key decision on one of the more ephemeral fluctuations, you run the risk of using bad data to inform your decision and lose performance because of it. Tips for optimizing by trends include:

- **Analyze keyword trends** over time and calculate a trailing week, month, and three-month average. These longer data points can help you determine trends which are easy to miss when using snapshot data, and identify which keywords are consistent in either good or bad performance.
- Analyze **data points** using an industry benchmark OR use a prior time period when industry data is not available, by comparing the previous day/week/month/year to the prior week's day/week/month/year.
- Be aware of changes in the **search popularity** of keywords. ASO tools now show changes in search popularity over time, and can help you ensure that your top keywords have not lost popularity due to changing trends, auto-fill adjustments, or other reasons. For example, searches for "tennis" may peak around big events such as Wimbledon, but decline between large events.

And remember that successful ASO requires time devoted to conversion rate optimization in order to yield the best fruit from KWO.

## Other Keyword Tactics: App Bundle Keyword Optimization (App Store)

### APP BUNDLING

In addition to the presence of a paid apps top chart, another benefit of offering paid apps is that it allows for bundles. **App bundles** are a great way to improve the amount of real estate that your apps capture across keyword ranks. Yet, bundles can also be used to manipulate Apple's keyword ranking algorithm, as covered in the [black hat chapter](#).

By offering a bundle, your apps are able to **rank multiple times** for keyword searches that they are already ranking on via each individual app. Apple determines which keywords your bundle is eligible to rank for based on the metadata from each app. This means that your bundle automatically captures keywords your apps are using, and that you also have a chance to optimize for new keywords using your bundle's title.

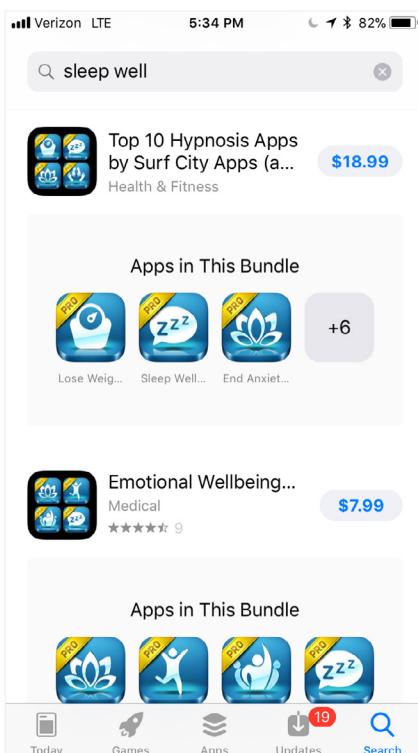
With bundles, the **order of the bundled apps** matters for both the icon and screenshots. The icon of a bundle is by default a combination of the first four apps bundled, unless the bundle is given a custom icon. The screenshots of the bundle will include the first screenshot from each of the bundled apps.

Your bundle is also allowed to have a **custom description**, which should explain to users the details of the bundled offer and what special value users are receiving.

Bundles also have their own rating and reviews, yet a bundle's star rating only shows in the bundle's product page.

Apple also shows the price of the apps if purchased individually, meaning that users can easily see whether a bundle is a good deal or not.

Lastly on the topic, bundles are also a channel to link users to a developer's total portfolio, making them a great tactic for cross-selling not just the bundled apps, but any app in your portfolio.



*Screenshot: Bundle of paid apps in the App Store from developer Surf City*

## PROMOTED IN-APP PURCHASES

Below are a few findings from an Incipia study on the way that promoted IAPs rank in the App Store search results page. The study was performed a set of 10 random keyword searches, and looked at the top 10 app results, which included eligible promoted In-App Purchases.

One of the findings was that most keyword results were regular apps (and other editorial content), and that promoted IAPs represented only 3/100 results. In expanding the research to other keywords and rankings beyond the top 10, Incipia observed that, while the promoted IAP itself did return for a couple keyword searches, for the most part when a promoted IAP appeared it was directly following the app that the IAP belonged to.

Moreover, Incipia observed that promoted IAP did rank for both partial and full phrase matches of keywords, which is a welcome departure from the exact match-only IAP ranking eligibility of iOS 10. Yet, the only app metadata elements that returned promoted IAP were the app's title or IAP name; promoted IAP did not rank for partial/full matches of an

app's subtitle, keywords field, or developer name. Incipia did find instances where the promoted IAP ranked for a partial match of the app's title and a single word from the promoted IAP name, despite the app result itself not showing.

Some distilled learnings from this study include:

- Make sure to select the right price point for your promoted IAP - test different price points and measure engagement with the promoted IAP UX.
- Do not name your promoted IAP "premium" or "monthly." This only makes sense for a non-promoted IAP or for users who have become familiar with what a premium purchase may entail after downloading your app. Understand that the users to whom you are promoting your IAP in the App Store are likely to know nothing about your app or its premium features.
- Make sure your IAP is easily understandable via a 30-character title and a 45-character description. Again, do not name your promoted IAP "premium" or "monthly" without also explaining what features/benefits are included.
- If you cannot effectively describe your promoted IAP's features in the space of the promoted IAP's metadata elements, consider breaking it up into smaller promoted IAPs that can be effectively described within the limited space available. Even if you need to charge a premium for each smaller promoted IAP, it will allow you to use your promoted IAP as a fishing line to draw users into your app's product page, where you can really explain to them what your app does. You can also continue to offer your bigger, premium offering for users to purchase.
- Do not repeat messaging from your promoted IAP name in the description. Leverage your space to explain as much as possible of the key and unique value that your promoted IAP has to offer.
- Per the fact that promoted IAP rank for keyword searches, be sure to use important keywords in your promoted IAP name!

## History of Known Algorithm Updates

Ranking algorithm updates happen periodically, and when they do, they can cause massive disruptions in ranking for huge swaths of apps, including popular and top-charts like Facebook, Google, and Apple's Best of the App Store 2016 honoree, Prisma. The main purposes of algorithm updates is to:

- 01.** Create a better app discovery experience for users.
- 02.** Rebalance the order of legitimate apps.
- 03.** Prevent spamming and other efforts to game the ranking algorithms (both in the top charts and keyword results).

Below is a timeline of some of the algorithm updates according to both industry reports and official releases from Apple and Google. Please note that this is not an all-encompassing history of ranking algorithm updates.

## APP STORE ALGORITHM UPDATES

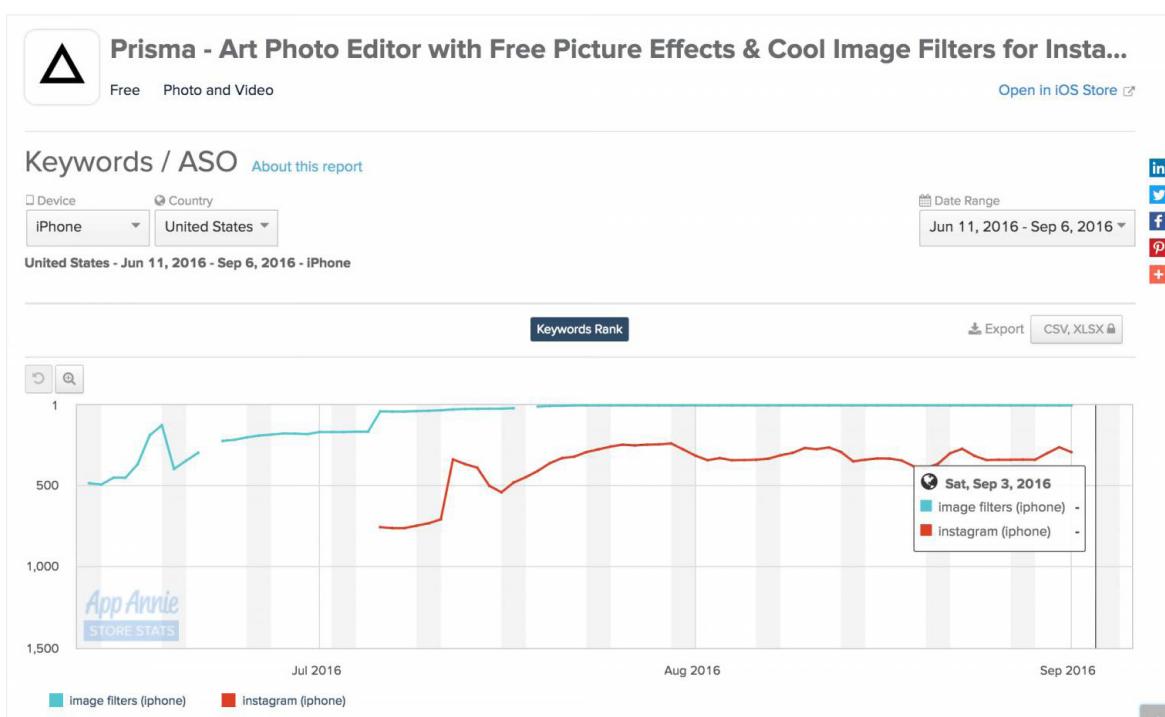
**February 2012:** Apple acquires Chomp, an App Store discovery platform. Reports surface throughout 2012 of various changes in apps returned for keyword searches.<sup>2</sup>

**August 2013:** Reports of Apple testing top chart algorithm change to favor ratings and user engagement.

**July 2015:** Reports indicate Apple updates keyword algorithm specifically to crack down on keyword stuffing in app titles.

**November 2015:** Reports of Apple keyword algorithm update to factor partial keyword phrases, contextual keywords, and competitor app names.

**September 2016:** Apple reduces title character limit to 50 characters. Keywords beginning beyond of the 50th character cease ranking, though keywords spanning 50 characters continue to rank.



Screenshot of App Annie, depicting Prisma's loss of ranking from keywords located past the 50th character

**January 2017:** Reports of Apple updating its keyword ranking algorithm to change the way apps rank for competitor terms.

**February 2017:** Apple adjusts top grossing algorithm to rebalance paid apps vs. subscription-monetized apps.

**May 2017:** Apple begins proactively ranking apps for more competitor app names.

**June 2017:** Apple begins indexing apps with subtitles set.

**July 2017:** Apple update hits the store causing large keyword fluctuations; hypotheses center on Apple rejiggering its ranking based on an updated understanding of relevance of similar groups of keywords for apps.

2 <https://techcrunch.com/2012/02/23/apple-chomp/>

## GOOGLE PLAY STORE ALGORITHM UPDATES

**March 2015:** Google begins manually reviewing apps submitted and occasionally rejecting apps with “repetitive, excessive, or irrelevant keywords.”

**November 2016:** Google Research Blog post explains that keyword ranking algorithm uses machine learning to identify relationships between keywords and provides most relevant app results for keyword searches. While no algorithm updates are reported this month, this provides insight into how Google is constantly iterating on its keyword ranking algorithm.

**December 2016:** Reports of keyword and top chart algorithm update as Google replaces current Installs (app is currently installed) with active Installs (opened app within last 30 days) in Google Play console dashboard data.

**February 2017:** Google Android blog announces significant update to game app ranking algorithm, now considering additional factors beyond download, such as user engagement and star rating. Reports of algorithm update affecting keyword rankings for all apps.

**2017:** Several sources cite Google comments on its algorithm now considering stability of apps as a ranking signal, punishing apps with excessive crashing, slow rendering, or poor battery management.

## Increasing Visibility Through Getting Featured

“I’ve got a great app. What strategy can I implement to increase the chances of getting my app featured?”



This chapter is written by guest author Peter Fodor who is the founder of AppAgent, a mobile marketing team jam-packed with experts available for hire. Since 2011, Peter has worked on the launch of nearly 30 apps for all mobile platforms. Today, AppAgent focuses on mobile strategy, data analytics, mobile creative services, and user acquisition. Peter and his “agents” serve mobile gaming publisher Wooga, Malwarebytes from Santa Clara, Polish based AAA gaming studio CI Games, and one of the fastest growing startups in Europe, Kiwi.com.

Apart from increasing visibility via keyword searches and top chart placements, you can also naturally increase visibility in the App Store by getting featured.

Having an app promoted by Apple or Google on 1.5 billion devices can generate millions of downloads in just a few days. From an icon in a “Hot this week” section to getting an Editorial Choice promoted with a large banner, being featured is the dream of many developers.

As touched on in the introduction, tapping into the massive amount of visibility reserved for featured apps is now both more important and also more in the hands of the App Store feature managers than ever before since the release of

iOS 11.

No matter whether you're launching a new product or just releasing a major update, you should actively pursue platform representatives to increase your chances. This chapter is a detailed guideline and will give you the tools you need to boost your chances of securing an app feature.

### *Basic types of featuring*

- Editorial Choice
- Big Banner
- Small banner
- Hot this week (section in the App Store) or Games we play (Google Play)
- New apps/games we love or New and updated games (GP)
- Collections (e.g. Fast-Reaction Games, Mind-bending puzzlers, Stay focused)
- Social media posts on Twitter/Facebook
- iOS 11 news: Behind the scenes, Meet the developer, The Daily List, World Premiere, How to, App/Game of the day

This chapter covers the tactics and techniques on how I secured featuring for eight apps and games at my previous studio and recently for AppAgent's clients. Even though we've been promoted in the App Store, Play Store, Mac App Store, Amazon App Store, and even Windows Phone Store, I will focus on the first two which rule mobile app space in terms of downloads and revenue.



*Octagon made it to the editorial collection two months after its release. We were confident to hustle Apple with amazing user reviews as it had a 4.8 stars rating and high engagement metrics.*

## 11 The Massive Change on Featuring of iOS 11

Before delving into the details surrounding getting featured, let's discuss more about how iOS 11 affected featuring.

Apple's services business generated \$26 billion in sales in 2016 and a Credit Suisse projection sees it growing to \$52 billion by 2020. Phil Schiller, the Senior Vice President of Worldwide Marketing at Apple Inc., is the man behind the App Store and its \$1 billion growth in 2016. He leads efforts to keep the revenue on a positive trajectory and to do so, **Apple wants to transform the App Store into a place everyone wants to visit daily.**

The reason behind this is obvious: a comScore study in the US from June 2016 shows 49% of users haven't installed any app in the past 3 months. The same trend is visible across all Tier 1 countries where the interest in apps has reached its peak. AppAnnie claims in a study from Q1 2017 that the average US mobile user opens about ten apps per day. This is a clear proof people are happy with their existing selection of apps on the home screen.

### AN APP DISCOVERY ISSUE

Besides ever-lasting search issues in the App Store, the hyper competition of nearly 2.2 million apps is causing "app-sickness." If you opened the App Store on your iPhone 6 before iOS 11, you instantly became overwhelmed with 14 apps and dozens of others if you dared to explore the page more.

The golden rule is that the more choices you have, the less likely you are to pick one and this was something that led Phil Schiller and his team to completely change, and so the biggest digital store in the world got a "facelift." After all, the store redesign is a low hanging fruit compared to the complexity of fixing the app search engine.

Since early 2009, Apple has had experience with editorial content. The human factor became a greater weight and the iOS 11 revamp simply crowns **Apple's efforts for full control over the apps that users discover in the store.**

Facebook, Twitter, App Store?

The ambition of creating a daily habit is rather exaggerated as we can't imagine that the App Store will replace the popular Facebook feed or procrastination on Twitter. Yet the new App Store landing page called "Today" is designed as a news source combining new releases, interviews, guides, and other sources. All-in-one scrollable pages and immersive content matches the design of the Apple Music store and fundamentally changes the look & feel of the store compared to a hand-picked news stream.

#### Who will win?

For users, this whittling of choices to download will be quite beneficial. A more immersive presentation of the very best apps, games, new types of content covering most popular products, and daily news is easier to digest.

For most developers, we dare to say the change is a disaster. The gap between top tier publishers and "the rest of the world" will broaden even more. **Four out of five tabs are mostly curated now** (editorial content will now show even in the search tab), with the last remaining tab being Updates. In a direct comparison, the iOS 10 landing page gives apps a bigger chance of being featured, as there are 11 different editor-picked categories an app can be featured. After the iOS 11 update, **only a few selected apps remain on the landing page making the battle for visibility even more fierce.**

The trend of Apple gaining control over content distribution (think of Apple Music) is not surprising, but terrible if developers don't have good relationships with their reps. Those who do will benefit from the visibility even more than before because the average downloads per featuring slot are for sure going up thanks to fewer spots and more prominent placements.

## 3 TIPS ON HOW TO GET FEATURED IN THE POST-IOS 10 ERA

Today, the only certain thing is change. Developers and marketers simply must learn to adapt. Here are my two cents on how to increase your chances of getting into the spotlight, specifically in the new App Store:

### 1. STRONG POSITIONING

It's already been 35 years since Al Ries and Jack Trout published a book called "Positioning: The Battle for Your Mind." In essence, you as a company and your product need to **stick to a unique and very coherent statement about who you are and what you offer to people.** Look at ustwo or State of Play in the indie game dev scene, or Kabam and Wooga in the big publisher scene. These names automatically trigger a specific "image" in people's mind; triggers can conjure things like "visual images, hand-made games, big IPs, and casual games for women" in peoples' minds. The same applies to products.

Having such clear positioning is critical when competing against the mass-market of apps, as editors in Cupertino will focus on publishers and games which have stuck in their minds. Human beings have limited "mind slots" available, so do whatever you must do to be recognizable and consistent both in your production and communication.

### 2. STORYTELLING

The **Today** tab in the new App Store becomes more a place for news than a store. My expectation is that being able to tell a story in your pitch and even offer top notch content such as **Behind the Scenes** material in the form of a video or a visually appealing **How-to-Play** guideline could increase your chances for being featured. Basically, we're going back to the old PR days where the main goal—in the pure form of a PR—is to **offer a great story in an attractive package** to media which is creating leverage by reaching the desired audience.

I can imagine that new businesses will evolve around this opportunity and modern creators will bring ideas on how to present the developer and the app through content. If we count on people's laziness and ubiquitous time pressure, having one go-to place where such content is published regularly will be a massive help for an editorial team.

### 3. NURTURING RELATIONSHIPS

Having a good relationship with a dev relations manager or a store manager is even more vital than before. The simple advice here is to **treat Apple representatives as your most valuable business partners:** with respect and with their welfare in mind. Offer testing of your product in advance, collect feedback (listen and don't defend), suggest exclusive content, ask for their recommendations on the best use of the new Apple technology...and last but not least, work hard to convert the best suggestions into reality, and follow up to inform your reps that you took their suggestions to heart.

Most developers are by nature introverts, but take any opportunity to **meet your App Store counterparts in person** and ask them what YOU can do for them as well as where they see new opportunities. But be prepared to be rejected or ignored as maybe you don't have something truly fantastic or they are just busy at the moment. And always deliver the best you can; that's how you build trust.

## Why is Featuring a Big Deal Even for Rovio

Hitting the jackpot, winning in a lottery, making it to the big time ... that's how developers speak about getting featured by Apple or Google. By no means is it an exaggeration because getting over one million downloads in a single week is a big deal even for companies such as Rovio. With the Finnish giant as an example, the editorial "love" can save Rovio around \$675,000 in acquisition costs in the first week after a launch with an average CPI of \$0.82 on iOS and \$0.53 on

Android ([Source: Chartboost Index covering games, end of April](#)). That's a big pile of money even for Finns!

[Featuring can save millions of dollars on the user-acquisition and help build the brand.](#)

The App Store started back in July 2008, followed by the Android Market three months later. The beginnings were about automatic promotions of new releases.

Industry "veterans" will probably still remember the New Games category where my first game "Power of Logic" appeared, though it had some serious crash-causing bugs, so I should be considered quite a lucky guy. All of that was back in 2011.

Sometime in 2015, the approach shifted to more editorial curation and nowadays handpicked content occupies almost all of the promotional slots. The importance of an active approach to platform owners became a must. With 430 new apps a day (stats by [Pocketgamer.biz](#)), 99.99% of developers wouldn't have been as lucky as I was six years ago. That's why you have to make your own way when it comes to luck.

## 6 Factors You Need to Have a Chance of Getting Featured

Luckily, getting featured today isn't like gambling in a Las Vegas casino. Consider these six factors which affect your chances of getting featured:

- 01.** Build a great product
- 02.** Achieve strong metrics
- 03.** Use the latest technologies
- 04.** Establish a great App Store presence
- 05.** Communicate with store managers
- 06.** Find the right timing



## 1) A GREAT PRODUCT.

Even if you date Tim Cook or Sundar Pichai, their affection won't secure you featuring with a crappy product. 80% of featuring is the app or game originality and a perfect execution. Everything else in the list above has only a marginal effect. A great app should be comparable with top products in two areas:

**01.** Idea

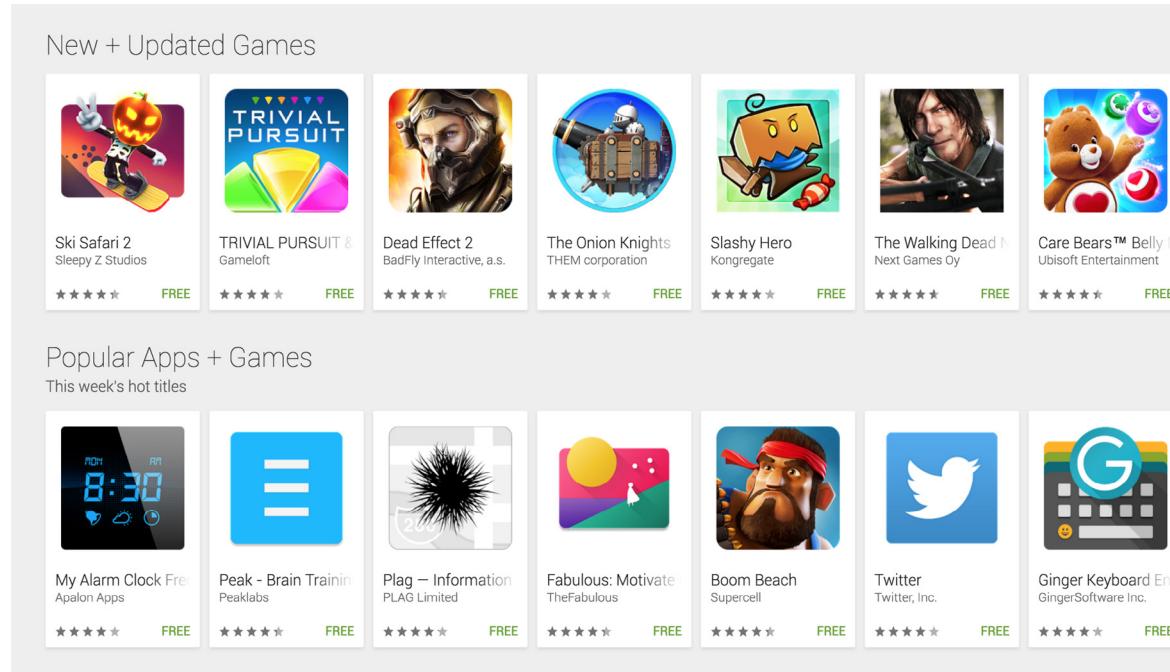
**02.** Execution

I often see a misunderstanding of developers who consider themselves as “indies” in the world of gaming or “local players” among apps. They believe Apple and Google should evaluate their apps differently, with a less strict criteria. But the fact is no one cares, not even the store managers, nor the customers! People just want to use the greatest apps and it's up to the developer to find their own way when creating a top notch app or game when compared with the best. Look at the top of the charts, **spend your Thursdays regularly reviewing all of the new featured apps**, and create something amazing!

Here are some examples of what was unique about apps and games that I have helped to secure featuring:

- **Dead Effect 2:** A mobile FPS with console quality graphics and a 22 hour long single player campaign, which is comparable to AAA desktop games.
- **Tiny Miners:** A top down “runner” combining casual core gameplay with mid-core metagame around looting, crafting, and trading equipment.
- **Tradewise:** Market news for stock investors with a unique algorithm personalizing the content based on your stock portfolio and the watchlist.

- **Galaxy Truckter (update release feature):** An award-winning adaptation of the hit tabletop board game with a rating of 4.8 stars. A massive update included 15 linear connected missions, daily online multiplayer missions, and much more.



*Dead Effect 2 on the third slot on Google Play. The game generated over 0.5M downloads in 10 days on Google Play with a big banner in several Tier 1 countries.*

## 2) STRONG METRICS

No matter if you're launching a new product or pushing a major update, you should always provide platform owners with proof of the quality of your app or game.

In the case of an update you can rely on historical data, accumulated ratings, and even reviews or mentions by influencers. If you're launching a new product, you should do a soft launch first to establish basic KPIs to help build a case to be featured.

A soft launch is launching an app or game in selected territories in order to test and optimize the product and the marketing strategy prior to the global launch. As a developer, you should increase your retention rate, paying user conversion rates, average revenue per user and other KPIs. As a marketer, your task is to fine tune the product selling proposition, store listing, and traffic channels to increase the install rate.

**Knowing numbers is all about risk reduction both for you as well as Apple & Google.** By providing them key metrics, you show:

01. Performance of the product.
02. Your understanding of the mobile business.
03. Confidence in your creation.

With a limited number of promotional slots and only a handful of the big banners, store managers want to be sure

they're showcasing the very best apps and games. If you're aiming high at the Editorial Choice, which is for new apps and games only, having very strong soft launch numbers is an absolute must.



**Pro Tip:** Here's the list of basic metrics I always share when reaching out to Apple and Google:

- **D1, D7, D14, and ideally D30 retention numbers**
- **Average Revenue Per User (ARPU) and Average Revenue Per Daily Active User (ARPDAU)**
- **Average rating and number of ratings** (global or market-specific if you're targeting a certain region)

If you want to learn more about soft launching, check my App Promotion Summit slide deck at <http://bit.ly/APStalkSoftlaunch>.

### 3) USING THE LATEST TECHNOLOGIES

Using the latest Apple and Google technologies significantly increases your chances for featuring. Why? Because both platform owners want to showcase their newest stuff to customers and you, as a developer, are the middle-man.

When there's a new major iOS or Android release or new hardware, many developers feel anxiety that they have to update the code or consider, for example, new screen sizes when designing apps. The fact is, it's always a huge opportunity to become an early adopter supported by platform owners who love to present hot stuff in the store. Below are some of the technological opportunities.

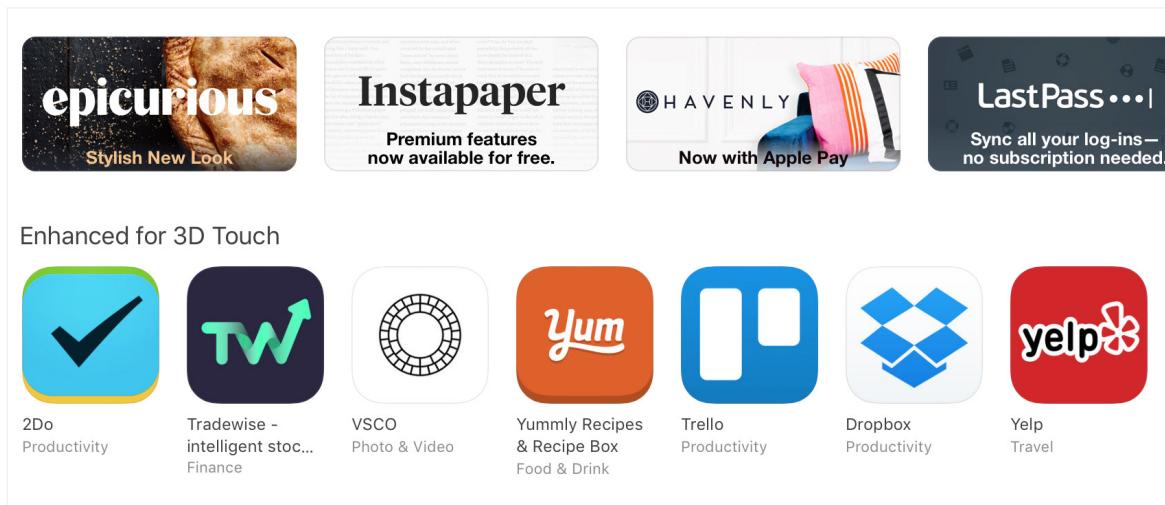
#### APPLE - WWDC 2017 ANNOUNCEMENTS:

- SiriKit: Extension that communicates with Siri, even when your app isn't running.
- ARKit: Positional tracking and scene understanding so you can create immersive augmented reality apps.
- Drag and Drop: Multi-Touch technology allowing a quick and easy way to move text, images, and files from one app to another.

#### GOOGLE - GOOGLE I/O 2017 ANNOUNCEMENTS:

- Vulkan: New 3D graphics engine in Android 7 Nougat suitable for high-end games.
- Multi-window support: Allowing users to run two apps side-by-side or one-above-the-other in splitscreen mode.
- Enhanced notifications: Customization of messages, using direct reply.
- Data Saver: Limiting foreground and background data usage if enabled by the user.

If you use the latest tech and provide information to store managers, they will think of suitable promotional sections in the store which will highly increase your chances. Tradewise, an app in AppAgent's portfolio, was initially featured in the Finance category in the section "Stocks & Investments." Three months later, the app appeared on the US home page in the "Enhanced for 3D Touch" section where it remained for 12 weeks. This additional featuring generated 18,000 downloads worth tens of thousands of dollars, all thanks to one tech feature which we intentionally integrated to increase our chances for a promotion.



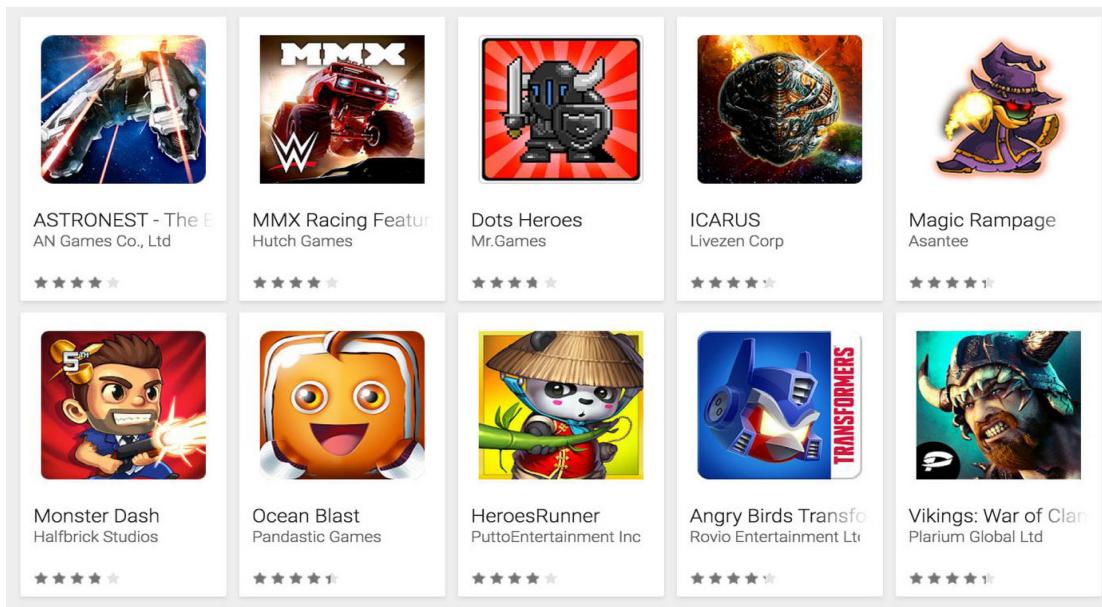
*Tradewise among some pretty good companies in the collection “Enhanced for 3D Touch”*

#### 4) GREAT APP STORE PRESENCE

Two years ago I met Matt, the third employee of the App Store editorial team. He started in February 2009 and being the youngest, most passionate person about the games, he quickly became responsible for this huge category. Matt revealed that the **editorial team filters out** all of the apps with a **poor icon or screenshots** and those with a **misleading name** or description with **grammar mistakes**. Only those which pass the filter mimicking a user's behavior are observed in more detail, installed and tested.

What does this mean for you? No matter how great a product you have, the “packaging” must be great too! Don’t try to save money on hiring a professional designer for the icon, preparing top-notch screenshots, or spending a bunch of time writing a description. If you’re running low on the budget, skip the app preview video which can waste lots of resources if done right. Besides featuring, think of the importance of the store conversion which is highly affected by the app presentation.

Part of this is A/B testing assets because **once you get featured, the percent of converted users plays a big role** (see [chapter on Conversion Rate Optimization](#)). When Angry Birds 2 launched, the game got more than 20 million downloads during the first week. A/B tests can be credited for at least 2.5 million downloads. For a game like that it is a huge cost reduction (Source: [Splitmetrics \[https://splitmetrics.com/blog/angry-birds-2-as-a-case-study-for-aso-and-ab-testing/\]](https://splitmetrics.com/blog/angry-birds-2-as-a-case-study-for-aso-and-ab-testing/)).



For *Ocean Blast* which was featured in the App Store, Play Store, and Amazon App Store, we ran 18 A/B tests of store listing elements to improve the conversion by 18%.

## 5) COMMUNICATION WITH STORE MANAGERS

**Being proactive** in pursuing featuring is the key. Although dev relations managers actively search for new apps and games both online and offline, for example, at conferences, it should be you who starts the communication. Later, you will learn how to find your point of contact. Therefore, let's assume at this stage you know 'someone' at Apple or Google.

My tips for pitching are in the following chapter. Here I will just mention that building a relationship, treating managers with respect, and thinking from their perspective is essential. Remember, featuring is about humans today, not algorithms!

The screenshot shows a mobile application interface. At the top, it says "What We're Playing". Below this, there are six game icons with their names and developer information:

- Viking Remix** by Madness Games
- Mr. Muscle** by Games
- Beast Quest** by Games
- Knights of Pen & Paper 2** by Games £3.99
- DEAD EYES** by Games £2.29
- Drive Ahead!** by Games

At the bottom of the screen, there are three promotional banners:

- INDIE GAME SHOWCASE** featuring *Skullduggery!*
- INNOVATIVE GAMES** featuring *Stunning & Experimental*
- ONE-TOUCH GAMES**

Mr. Muscle's pitch was about a famous Czech wrestler who was born in 1879 and inspired the main character of the game. Featuring

*helped to secure over 650,000 downloads.*

## 5) THE RIGHT TIMING

Timing has two layers. How far in advance you should approach store managers and when should you avoid it?

I recommend to start talking with your dev relations manager as soon as you have a polished vertical slice of your product or service. Why? Because if they see potential, their technology evangelists can help you quickly solve your issues (e.g. the frame rate drops in Unreal Engine on iOS when using Metal in games). Also, dev relations advise on user interface and other aspects of the product. And what can be better than to get the Apple representative involved in your app?

The minimum time to reach out to platforms is **four weeks before the launch**. Otherwise, both Apple and Google aren't able to process the submission quickly enough to help you on D-day.

When should you avoid approaching platform owners? In general, before and during the high season at Christmas. Remember not to plan the launch date in November or December when the store is under fire from the biggest publishers and acquisition investments— it's a lost cause.

## How Editorial Teams Operate

Store managers, dev relations, editors... You probably don't understand who is who and what's the difference. Yet each of these groups has different objectives, roles, and rights. Let's make this clear now.

It is very likely that your first point of contact will be a **local dev relations manager**. Each region such as the UK & Ireland, Nordic, and CEE has a dedicated manager whose role is to help you with the product. They can give you advice or suggestions as well as connect you to technology evangelists. BUT they aren't responsible for featuring!

If the dev relations manager sees potential in your product, it might get recommended to their colleagues or **store managers** (or biz dev managers, if we are to use Google's terminology). Store managers are responsible for selecting content for stores at the local level. This doesn't necessarily mean that one manager oversees a single national App Store, but usually it's a region such as Germany and Austria or Finland, Sweden, and Norway.



## THE FEATURING PROCESS FOR THE APPLE APP STORE

If you get as far as the store manager, you will be asked by email to fill an Excel questionnaire and pray for the best. This is usually the point where communication ends unless you aren't in a situation where you can meet the Apple guys in person in a short time, provide more information, etc. What's next is only my own personal hypothesis as it tackles the internal processes: the store manager either decides for featuring on a local level or pushes the application to the U.S.- based **Editorial team**.

Then, in Cupertino, the app is reviewed again with the potential to be featured globally and in more prominent spots such as big banners, collections, etc. In some cases, the developer gets an automated **request for feature art** via iTunes Connect with a deadline for the upload. Such a request indicates increased chances but it definitely isn't a confirmation of featuring as it happened to us several times when we were asked for assets and didn't have a prominent spot using visuals.

The main thing here is the fact that you **CAN'T talk to the editorial team** directly about yourself, instead you can only talk to store managers. You also have to remember that their communication is sometimes complicated due to their heavy workload.

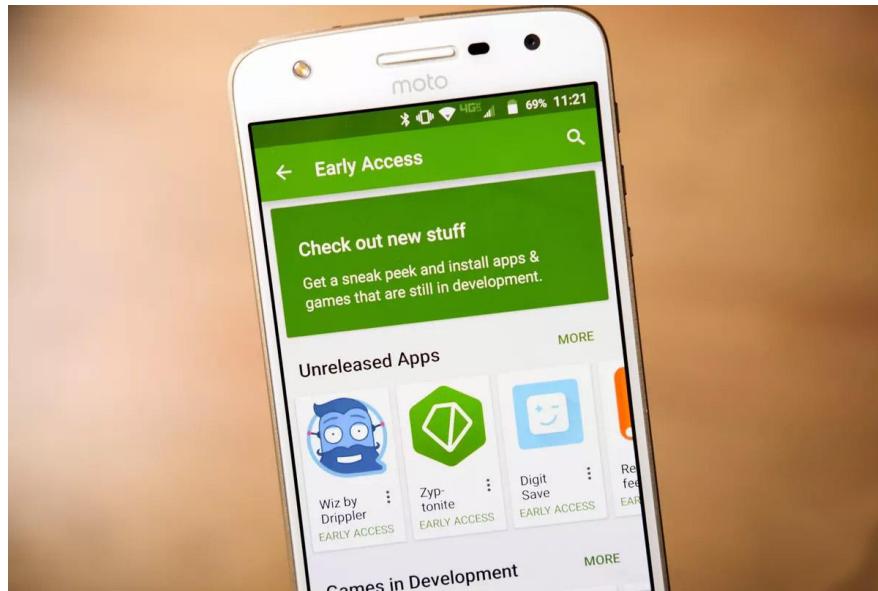
## THE FEATURING PROCESS FOR THE GOOGLE PLAY STORE

Here comes one of the major differences between platforms. Once you pass the **dev relations manager**, you will probably get a partnership registration form. It's an evaluation process where those who pass get a dedicated **business development manager** which could be seen as store manager for Apple App Store. If you get a rejection, your chances for featuring decrease significantly as you won't be able to communicate with the people responsible for featuring. There are also ways to reach specialists at Indie Games, usually at events. Also, it is possible to sign up for Early Access if you are working on a game in the soft launch phase. That being said, your chances are lower with the rejection.

If you pass the "screening process," you'll be put in touch with an assigned biz dev manager and very likely get another form called "**Featuring Nomination**" which probably goes to the Mountain View editorial team for consideration.

From my personal experience, biz dev people at Google are very keen to help you improve the app and get everything ready for featuring. They provide you with **a list of comments and recommendations** from the editorial team, keep editorial in the cc in emails and explain what's critical for featuring as well as what's an optional request. Usually, the list of requirements defines what you should do before a certain deadline to get your featuring slot secured.

This different approach is more human compared to Apple's process. It allows for dialog and focuses on making your app or game better. I have to admit that the vast majority of comments we received for our apps were good, to the point it increased the value of the product.



*Early Access in the Google Play Store is an amazing way to collect user feedback prior the launch and increase your chances for featuring.*

## Pitching Your App or Game

I bet you've asked yourself "And how do I find a dev relations manager?!" There are three options:

01. Ask other developers who have been featured in the past and maintain a good relationship with them (and no, I'm not giving contacts to developers I don't know).
02. Visit conferences where using a Pitch & Match system can help you find Apple and Google representatives and arrange a personal meeting.
03. Use a **LinkedIn** hack and search for an “Apple developers relations manager” or a similar job role description and filter the results by region. Once you find a relevant person, install the Chrome extension ‘[Hunter](#)’ [<https://chrome.google.com/webstore/detail/hunter/hgmhmanijnhaffoampdillchpolkdnj?hl=en>] to get the email contact. Voila, here you go!

Once you have your contact, prepare a pitch. What's important is the **perspective**! Forget the “me, me, me” approach and think about your product platform from an owner's perspective. To give you guidance, here are the questions I always ask AppAgent's clients:

- Describe your **product** in a maximum of three sentences.
- Who's your **ideal user**? Be specific!
- What's the key **benefit** and why should people care?
- How are you **different** from your main competitors and who are they?
- What performance have you achieved so far? Give me **numbers** (retention, ARPU, DAUs/MAUs, ratings).

- Give me **social proof** such as real user reviews, quotations by media or influencers
- What is the latest **Apple or Google tech** that has been integrated, what more can you do in this?
- Tell me about the **timing**: when is the app ready for sharing with dev relations and when is the **exact release date** or at the least, give me a very specific time frame we can discuss.
- In which promotional **collection** does your product fit the best?
- Ideally, provide a link to a Youtube **video** showing the app's core functionality in less than 30 seconds.

You can create a perfect pitch from this outline. Be as short as possible, get to the point quickly and clearly state if you're looking for product consultation, technical help, or marketing support.

**Petr Fodor**  
 To: Karl Platt  
 Follow the excitement of Formula 1 with Flashscore

20 February 2017 at 17:03  
 Archive - AppAgent (Všechny zprávy) 



Hi Karl,

Hope you're doing well. We've been in touch recently regarding Tradewise. Today, I've got something for your sports' heart - one of the best live scores service in the AppStore called [Flashscore.de \(iTunes\)](#). With a 4.5 rating from 2700 reviews I'm confident this is an app worth your attention.

**Why am I approaching you now?**  
 The 2017 Formula 1 season starts in about a month, on March 26 to be exact. The Flashscore app is a great way to follow if Sebastian Vettel will follow the footsteps of Nico Rosberg or if Mercedes will defend the World Constructor's Championship. In case you're not into motorsports, Flashscore offers super-fast results from over 30 other sports such as handball, golf or tennis.

**Why should you care?**

1. Flashscore covers an unrivaled number of sports and 5000 competitions with superb accuracy and speed.
2. There are already 100M downloads from the [portfolio](#) of the publisher Livesport (each market has a fully localized version)
3. The app offers rich content such as live commentaries, line-ups, league tables and tournament draws
4. A high level of personalization concerning the content and alerts

**Where does it fit in the store?**  
 In the App Store there are already several suitable featuring sections for Flashscore such as Live Scores, All About Football, Scores and News as well as Follow The Action.

Below is a list of details for the editorial team. Thank you for your consideration and let me know if you need more information.

Best regards,  
 Peter

PS: Flashscore is the most favorite app of a football star Xabi Alonso, midfield player of FC Bayern Munich, as he states on his [online profile](#) (look for "Mis Marcadores" which is a Spanish version of Flashscores)

**DETAILS FOR THE EDITORIAL TEAM**

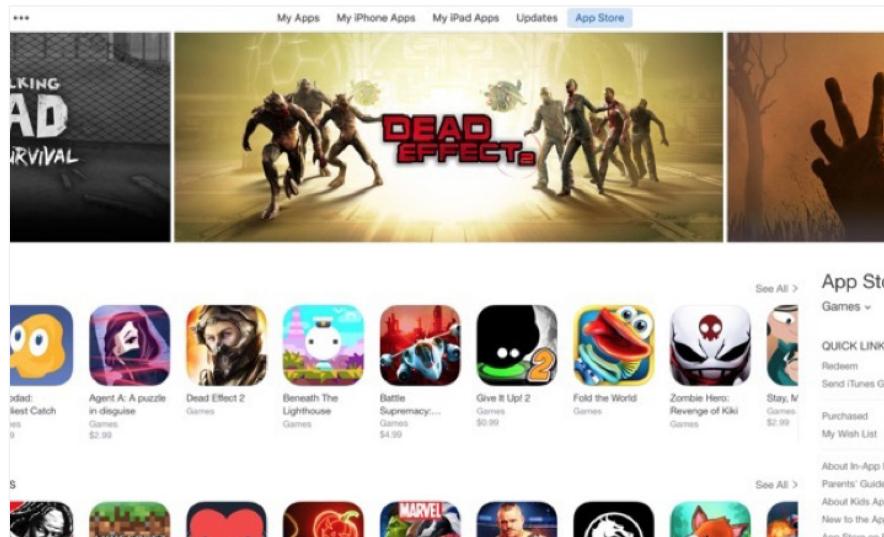
1 App Name: [Flashscore.de](#)  
 2 Apple ID: 751549888  
 3 Developer: Livesport s.r.o., Czech Republic  
 4 App binary type: Universal  
 5 New update: 09.02.2017 Version 2.11.0  
 6 Brief description, key features (what's unique & what's new):  
 Flashscore covers an unrivaled variety of sports. Similar to sport fans, FlashScore does not follow only one sport but more than over 30 of them in addition to 5000 competitions. Be it from a football pitch, tennis court, ice ring or even an e-sport event, Flashscore delivers super-fast scores, live commentary, stats, competition tables and draws. Flashscore recently enlarged their portfolio with winter sports and live standings/rankings for motorsports, golf and tennis.

#### *An example of a pitch to a store manager*

The most important part of the pitch is the subject of the email and its opening part. If you're meeting the manager in person, it's the same as you having a maximum of 30 seconds to get their attention and explain why they should care. Be creative and think strategically! Here are three examples to inspire you:

#### [Example 1: An award as a proof](#)

When we were aiming for the featuring of Dead Effect 2, we went to PocketGamer Helsinki and joined the Very Big Indie Pitch. Winning a second place **award**, having a **partnership with nVidia**, and armed with **quotes** from a private media event in Moscow, the pitch was pretty strong. Dead Effect 2 got the big feature banner in almost all of the markets and topped 1million downloads in the first two weeks.



*Dead Effect* featured in the UK. It took 2nd place at the Very Big Indie Pitch in PGC Helsinki which helped us with credibility in the opening email to Apple.

### Example 2: The ridiculous hero

For a small fast reaction game called Mr. Muscle, the pitch was built around the main character inspired by a Czech wrestler from the 19th century who won 10,000 fights in his career. At the peak of its fast reaction games popularity, Mr. Muscle reached 600,000 Installs in the App Store in the first two weeks.

### Example 3: From publisher to self-publishing

When we were aiming for the featuring of Ocean Blast, a match-3 game, the story was about a previous game that was launched with a renowned publisher and the indie courage of self-publishing a new title with innovative game mechanics. App Store featuring helped generate 50 000 downloads and the Play Store got 35 000 downloads in the first week.



**Pro Tip:** Use [BananaTag](https://www.bananatag.com) [<https://www.bananatag.com>] to track your emails. Once the email is opened, you get an email notification back, the same applies for link clicks. With this hack, you will understand if your email got lost in the inbox and was never opened or if the recipient engaged with linked content such as YouTube video or a link to the store.

The basics about featuring in both stores:

|  APPLE APP STORE  |  GOOGLE PLAY STORE   |
|--|--|
| <ul style="list-style-type: none"> <li>■ Look and <b>originality</b> are more than numbers</li> <li>■ Featuring is usually for <b>one week</b> for new releases</li> <li>■ Fixed slots, seasonal slots, long time collections</li> <li>■ The featuring of <b>new apps</b> and games is highly preferred</li> <li>■ Updates are usually featured in existing or new collections</li> <li>■ iOS 11 update: new editorial content in “Today” tab such as developer preview, how-to guides, and deep dive presentation.</li> </ul> | <ul style="list-style-type: none"> <li>■ Decision making is primarily <b>data oriented</b></li> <li>■ 10,000+ downloads, 4.2+ rating</li> <li>■ Featuring for <b>one week</b>, often later after the launch</li> <li>■ More automated, <b>less curated</b> featuring sections</li> <li>■ Very <b>difficult</b> to get featured with a <b>paid app</b> or game</li> </ul> |

## HOW TO INCREASE YOUR CHANCES OF GETTING THROUGH

You can get additional bonus points when dealing featuring by meeting “soft criteria” which are often mentioned as a side note. Looking at the long-term pattern in the questions from Apple and Google representatives means that there’s definitely interest in these aspects:

### Apple

- An **exclusive** launch.
- Heavy use of the **A10 chip**.
- Using **Metal** in Games.
- Optimization for **iPhone 7, 7+** and iPad Pro.
- **Sub-150MB** builds.
- Localizations.

### Google

- **Simultaneous launch** on mobile platforms.
- **Play Services** integration.
- An **Android shaped icon** and video without Apple logos/badges/devices.
- At least one **non-manipulated screenshot** per device.
- AdMob and **Google Analytics /Firebase** integration.
- Localizations.



**Pro Tip:** Think of “timing” as another success factor. There may be great opportunities in **seasonality, holidays, or events**. The pitch for our client Livesport, who provides real time sport results, was tightly connected to the start of the Premier League in the UK which generates a big spike in the usage of the app. Reach out to your manager at least one month in advance of the event to plan well ahead!

## Featuring Prep

### TIMING

Once you start communicating your launch date with platform owners, stick to it. They have a **schedule of releases** and any last minute time change can ruin your chances.

If you have any **technical or other issues, be very open** and communicate them as they are. Keep in mind that within Apple and Google are usually several people who are somehow linked to your app or game—in the role of dev managers, relations managers, store managers, or otherwise. If you spoil it, their reputation will be hurt as well!

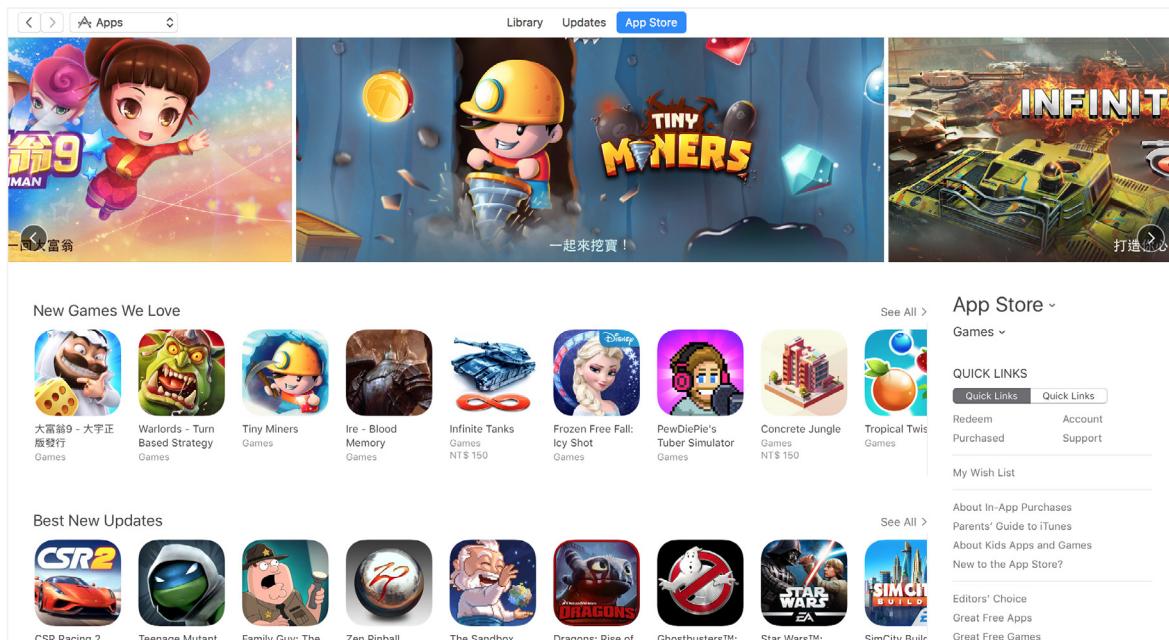
### VISUAL ASSETS

In case you’re selected for a larger featuring (not just having an app icon somewhere in the store but a presentation in the form of a banner), platform owners will provide you several days to prepare the **key feature art**. The assets are of a **massive resolution** (mostly because of Apple and Android TVs). Therefore, you might need to completely redraw the game visual to have sharp asset. Don’t think of just scaling and polishing up what you have; it will simply be rejected.



**Pro Tip:** Prepare **high resolution** art in advance (e.g. Apple requires 4320x1080px) in PSD. Bear in mind that the editorial creative team might change the final look of your assets (and you can do nothing about it).

Other assets might be **social media assets** (1300 x 740 px) or a video for social media (1080P HD, Length between 30-45 seconds). You will get very detailed specifications of the required output, usually a week ahead of the deadline.



Tiny Miners big banner in Thailand

## SERVER CAPACITY

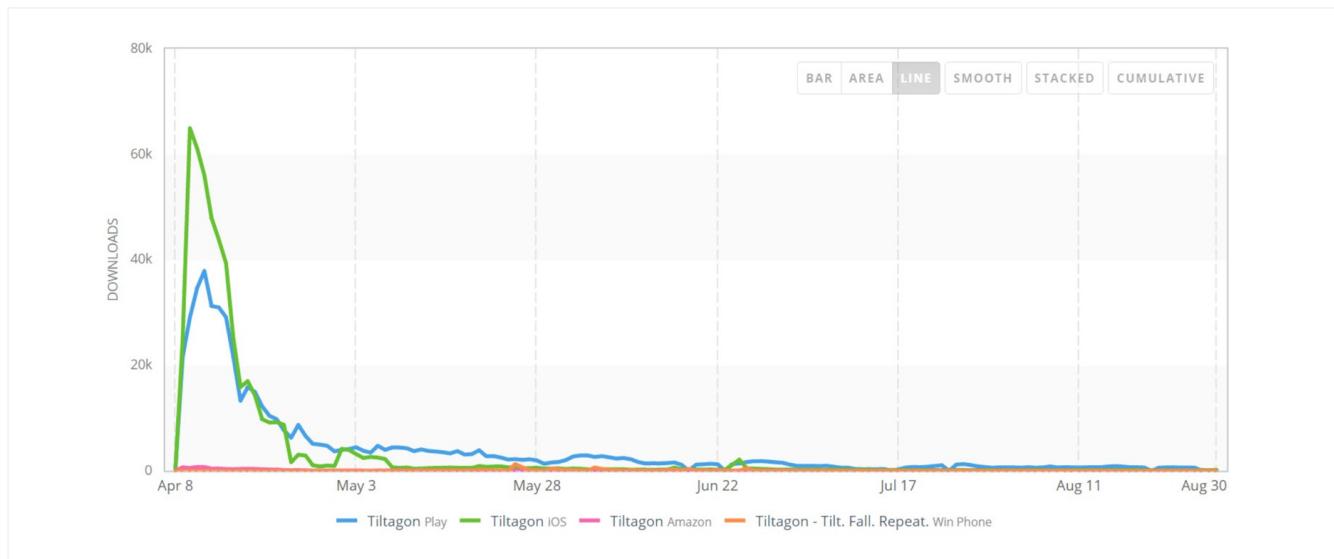
Now for the serious stuff. Featuring can give you millions of downloads. It's not always the case, you might only get 10,000 downloads for a niché app or 30,000 downloads for a casual game for less prominent featuring, but you have to be prepared for more.

Getting featured means **trust**. Trust by someone who's managing the largest digital shops on a global level. If something goes wrong with your product, it hurts them too.

Therefore, if you have a backend heavy service or a multiplayer game, do **load tests** and be sure that your servers can scale with the first spike of new users and have **all your key staff on alert** during the launch date.



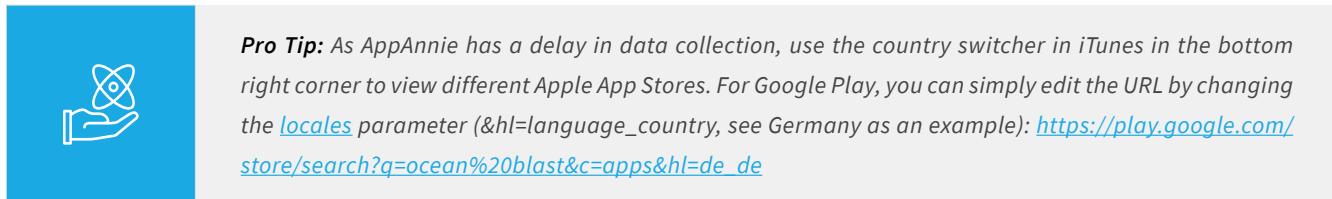
**Pro Tip:** Many studios have a technical team at work non-stop from Thursday through the weekend, when stores are refreshed and most apps are launched. The same applies for major updates. Considering dev costs and the risk of issues, it's definitely worth the effort.



A typical featuring spike, this time for Tiltagon by **Kiemura**

## MEASURING

In general, it's technically not possible to track downloads coming directly from featuring. Yet you can use AppAnnie to analyze where your app appears in the store, just click on the 'Featured' tab.



In the App Store you can consider Impressions in the iTunes Connect App Analytics module as a good indication of the strength of featuring and any change of visibility is immediately visible in this metric.

## QUALITY

An important note at the end of this section relates to the quality of users. When it comes to featuring, the **increased visibility** naturally drives more views of a larger audience. The results are:

01. A **decrease in the conversion rate** in the store (I've seen threefold to single digit numbers)
02. A decrease in the **quality** of users (lower retention and monetization)

The drop depends on the actual placement. For example, having Tradewise in a generic "Enhanced for 3D Touch" collection on the US homepage, brings with it lower quality users compared to "Stocks & Investments" in the Finance section. Therefore, it's meaningless to provide you specific numbers but being aware of this can help you manage this issue with product managers and other stakeholders.



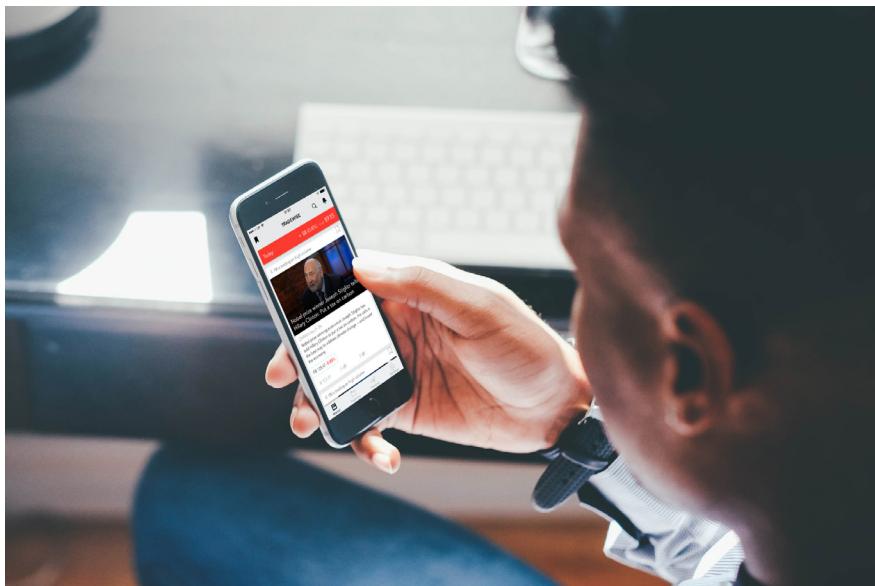
## A Case Study in Featuring: Tradewise

In this case study I would like to show how you can put together small pieces of work which could help you get featured on the U.S. App Store home page. Talking about money and impact, with our help we generated an uptake in users that would have cost Tradewise around \$50,000 in user-acquisition. All within one week... Here's how we did it.

### BUILD ON A SOLID FOUNDATIONS

Back in November 2015, AppAgent started working with a San Francisco-based startup previously called Trdr [:Trader:] but later re-branded to Tradewise ([App Store](#)). It's a Fin-tech company founded by Adisorn Ratanakovit, who served as head of technology at Investools, before the company was acquired by TD Ameritrade.

Tradewise notifies investors about relevant market changes and helps them make better informed investment decisions. The tech science behind the app is proprietary SignalRank technology which scans thousands of market events and filters only the most relevant information affecting a user's stock portfolio. The main competitors for the app are news apps such as Bloomberg or Yahoo Finance. Because the app integrates several brokerage accounts, it also competes with brokers as well.



*The Tradewise app*

### DEFINITIONS FOR WHO AND WHAT

The main task was to clearly **define the target group** and product **positioning**. We laid down the basics for changes in the UI and for upcoming acquisition campaigns. Altogether, we had ten meetings and completed tons of work while at the same time adding dozens of new tasks to the list.

## THE PRODUCT IS KING

We at AppAgent always start on any project with a proper analytics setup and evaluation of the **onboarding**. With several iterations, we get a 70% rate of the finished onboarding process.

To improve performance, we suggested tweaks on the main screen of the app to emphasize the daily performance of a trader's portfolio. An iPad version of the app was partially released in June 2016 with a completed redesign a few months later.

The main change which we suggested that our client make was to re-brand the product from '**Trdr**' to '**Tradewise**'. This makes the name easier to understand and helped us clarify the proposition.

## GETTING EARLY ADOPTERS ON BOARD

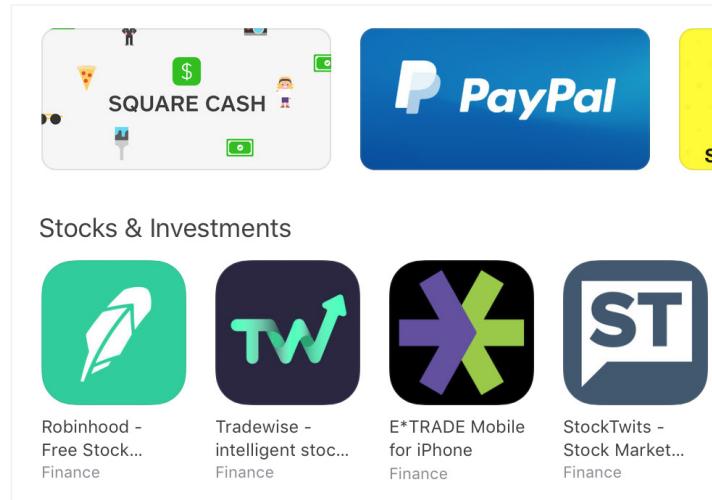
We ran numerous low budget campaigns (\$1-\$2,000) where we tested different methods of targeting and **16 different creative executions of Facebook ads** altogether. Our work resulted in a 7x decrease of the initial CPI which our client had before we jumped in.

Part of this was the optimization of the store listing where we tweaked screenshots and description and tested a **tagline** which was rich with relevant keywords. The App Store **conversion increased by 10%** and definitely helped optimize the CPI of paid campaigns; we also engaged a steady stream of users who came from organic searches.

## SHOW TIME!

Once we reached 5,000 downloads and a rating of **4.5 stars**, we knew the app was ready for "show time." However, we had to bring an additional "reason why" from Apple's perspective to the table. That is usually demonstrated by the implementation of their **latest technology**. As a result, the developer of Tradewise integrated **3D Touch** for quick access to the most important dashboards and a **widget** which gives access to the key figures even quicker. Later, we also integrated the Peek and Pop functionality.

Armed with good **numbers**, clear **positioning**, a nice looking **store listing**, and new **iOS features**, it was time to pitch the app in person to a regional dev relations manager. Soon after the meeting, we got a response from the App Store Manager requesting more details with two good tips for additional features recommended by the U.S. editorial team. This positive signal was confirmed a week later when Tradewise appeared in the "New Apps We Love" section on the U.S. App Store homepage as well as on the "...and profit" homepage collection and a day later in the "Stocks & News" section of the Finance category.



*Tradewise next to industry leaders in the US App Store*

## WHAT IS THE TOTAL COST? 9 MONTHS OF WORK...

Such a significant featuring (for what could still be classified as a niché app) resulted in a huge spike in downloads. Moreover, a couple of months later, Tradewise appeared in the selection ‘Enhanced for 3D Touch’ where it remained for the next 12 weeks. Together with all the previous work, featuring helped increase **MAUs tenfold** compared to the period right before we started working with the client.

## 5 Key Takeaways on Getting Featured

Keep these 5 key takeaways in mind:

01. **Build a great product:** The key element of success is having a great product as everything else has a marginal impact. This means bringing something unique to the market, having an outstanding execution and a specific target group.
02. **Create an outstanding presentation:** Having an excellent and optimized store listing helps you get on the radar and also get the most from being featured.
03. **Think like Apple and Google:** From the product’s presentation to the integration of the newest tech and providing KPIs, you should always use the platform’s perspective.
04. **Active communication:** Meeting dev relations managers in person, writing a compelling pitch, and approaching them well in advance are basic rules of an active approach.
05. **Have good luck:** No matter how much we try to guide you in the following pages, luck is an important factor, too. An update to Galaxy Trucker, a paid game for \$5, probably wouldn’t be featured if the store manager from Google wouldn’t be a fan of the same board game by coincidence. The goal is to minimize the factor of luck to hit the jackpot.

## POST-FEATURING ERA

Congratulations, your app or game is featured! You should feel excited about the massive interest and growing numbers in the first three days. Then you start observing the first decline in download velocity. A **week after the launch** or update release the **promotion spot is usually gone** and your downloads drop to a fraction of what you've seen just a few days ago.

Featuring isn't securing long term revenues and it doesn't help you build a sustainable business. It's a great boost and an amazing way to start BUT it's absolutely not enough to make a living from developing apps unless you're lucky enough to remain topped in the store for months (or even years in the case of few classics such as "Super Hexagon" or "Canabalt").

The fact is that featuring isn't in your hands! Don't bet your future on editorial team sympathy. It's vital to have a solid plan as well as a realistic marketing strategy in addition to expert people on board and enough resources to be fully responsible for your own growth. Otherwise, you will become only a hero of a single week just as thousands of other developers before. And that would be a pity if you want to make apps and games for living, right?

Subchapter authored by Peter Fodor.

## Increasing Browse Visibility

*"I'm not getting enough traffic from my top chart visibility. How can I change that?"*

Next to increasing your visibility through keyword optimization, and landing a nice store feature, you can try to increase your visibility through other browsing methods, too. In the following pages, we'll discuss first how the top charts work, then how you could potentially influence that with a burst campaign or switching from category and finally we'll discuss some other discovery methods such as the related/similar apps.

## Top Chart Rankings

Both the Apple App Store and Google Play Store display **app top charts**, wherein the top performing apps are ranked along **several dimensions, including: category, country, and monetization**. Yet, the way in which each store displays rankings, which categories apps are grouped into, and even the way in which each store determines top chart rankings differs significantly.

While ASO tools will report up to **1,500 ranked apps** on the top free, paid, and grossing rankings for the App Store, only **200 ranked apps** are visible in the mobile App Store app and 500 **ranked apps** in the mobile Play Store app. ASO tools will also display both the primary and secondary category top chart rankings for an app, yet an app is only eligible to show in the top chart of its primary category, or in countries where a primary category is not available, the app's secondary category.

| FREE |                          |                         | PAID |                          |                         | GROSSING |                         |                         |
|------|--------------------------|-------------------------|------|--------------------------|-------------------------|----------|-------------------------|-------------------------|
| #    | APP                      |                         | #    | APP                      |                         | #        | APP                     |                         |
| 1    | SHOWTIME PPV- May...     | Showtime Networks, Inc. | =    | Minecraft: Pocket Edi... | Mojang                  | 1        | SHOWTIME PPV- May...    | Showtime Networks, Inc. |
| 2    | YouTube - Watch Vid...   | Google, Inc.            | -1   | Heads Up!                | Warner Bros.            | 2        | Pandora - Music & Ra... | Pandora Media, Inc.     |
| 3    | Facebook                 | Facebook, Inc.          | =    | Dumb Ways JR Zany...     | Metro Trains Melbour... | 3        | Netflix                 | Netflix, Inc.           |
| 4    | Messenger                | Facebook, Inc.          | -2   | RotoWire Fantasy Foo...  | Roto Sports, Inc.       | 4        | UFC ®                   | UFC® - The Ultimate ... |
| 5    | Instagram                | Instagram, Inc.         | -1   | Plague Inc.              | Ndemic Creations        | 5        | Candy Crush Saga        | King                    |
| 6    | Snapchat                 | Snap, Inc.              | -1   | Footballguys Fantasy ... | Sportsguys LLC          | 6        | Tinder                  | Tinder Inc.             |
| 7    | Bitmoji - Your Person... | Bitstrings              | +2   | Bloons TD 5              | Ninja Kiwi              | 7        | HBO NOW: Stream ori...  | HBO NOW                 |
| 8    | Google Maps - Naviga...  | Google, Inc.            | =    | HotSchedules             | HotSchedules            | 8        | YouTube - Watch Vide... | Google, Inc.            |
| 9    | Toon Blast               | Peak Games              | -2   | Geometry Dash            | RobTop Games AB         | 9        | Clash Royale            | Supercell               |
| 10   | Netflix                  | Netflix, Inc.           | +1   | Facetune                 | LightTricks Ltd.        | 10       | Candy Crush Soda Saga   | King                    |

Screenshot: Priori Data top charts

Apple and Google calculate their top chart rankings based on the velocity of either **downloads** (top free/paid) or **dollars** (top grossing, Google-only) of revenue that an app earns. That is, the velocity of downloads of free apps for the top free chart and the number of downloads of paid apps for the top paid chart, as well as the velocity of dollars an app earns for the top grossing chart. **Velocity** refers to the fact that downloads or dollars acquired in the **most recent hour, several hours, day** or several days, **respectively count more** towards the app's top chart ranking, in decreasing order of importance. The higher an app's download or dollar earning velocity compared to other apps in the same category or country, the higher that app's ranking relative its peers.

For example, let's say that there are only three apps competing for the paid utilities top chart: app A costs \$.99 to download, app B costs \$1.99, and app C costs \$2.99. If app A earns ten downloads in the last hour, app B earns five downloads in the last hour and app C earns one download in the last hour, the apps would be ranked A, B, C in the top paid utilities chart. This would still be the case even if app C earned 100 downloads in the last 30 days and app A earned zero downloads in the last 30 days, because Apple ranks apps based on the velocity of downloads.

|       | CURRENT RANK (TOP PAID) | DOWNLOADS IN THE LAST HOUR |    | DOWNLOADS IN THE LAST DAY |    | DOWNLOADS IN THE LAST MONTH |     |
|-------|-------------------------|----------------------------|----|---------------------------|----|-----------------------------|-----|
|       |                         | 10                         | 10 | 10                        | 10 | 10                          | 10  |
| APP A | 1                       | 10                         | 10 | 10                        | 10 | 10                          | 10  |
| APP B | 2                       | 5                          | 5  | 5                         | 5  | 5                           | 5   |
| APP C | 3                       | 1                          | 1  | 1                         | 1  | 100                         | 100 |

However, in the top grossing utilities chart (Google-only), the order would go B, A, C, because app B earned \$9.95, app A earned \$9.90 and app C earned \$2.99.

|       | CURRENT RANK<br>(TOP GROSSING) | PRICE | GROSS REVENUE<br>IN LAST HOUR | DOWNLOADS IN THE<br>LAST HOUR | DOWNLOADS IN THE<br>LAST DAY | DOWNLOADS IN THE<br>LAST MONTH |
|-------|--------------------------------|-------|-------------------------------|-------------------------------|------------------------------|--------------------------------|
| APP B | 1                              | 1.99  | 9.95                          | 5                             | 5                            | 5                              |
| APP A | 2                              | 0.99  | 9.9                           | 10                            | 10                           | 10                             |
| APP C | 3                              | 2.99  | 2.99                          | 1                             | 1                            | 100                            |

Let's say now that apps A, B and C are free utilities apps, and that they are combined with apps 1, 2, and 3 from the business category, and that all six apps are competing for the U.S. top free chart. If app 1 earns 11 downloads in the last hour, app 2 earns six downloads in the last hour, and app 3 earns two downloads in the last hour, then the order for the U.S. top free chart would go 1, A, 2, B, 3, C.

|       | CURRENT RANK (TOP FREE) | CURRENT RANK (TOP CATEGORY) | DOWNLOADS IN THE LAST HOUR | DOWNLOADS IN THE LAST DAY | DOWNLOADS IN THE LAST MONTH |
|-------|-------------------------|-----------------------------|----------------------------|---------------------------|-----------------------------|
| APP 1 | 1                       | 1                           | 11                         | 11                        | 11                          |
| APP A | 2                       | 1                           | 10                         | 10                        | 10                          |
| APP 2 | 3                       | 2                           | 6                          | 6                         | 6                           |
| APP B | 4                       | 2                           | 5                          | 5                         | 5                           |
| APP 3 | 5                       | 3                           | 2                          | 2                         | 100                         |
| APP C | 6                       | 3                           | 1                          | 1                         | 100                         |

Google's Play Store top charts are calculated a bit differently than Apple App Store top charts. While the way that Google's top charts initially worked was based on similar logic to the Apple App Store (i.e. velocity of downloads or dollars earned), reportedly throughout 2016, **Google began incorporating additional factors** into its ranking algorithm, and in February 2017, the [Google Android Developers Blog](https://android-developers.googleblog.com/2017/02/welcome-to-google-developer-day-at-game.html) officially announced [https://android-developers.googleblog.com/2017/02/welcome-to-google-developer-day-at-game.html] that its ranking algorithm would begin **factoring in user engagement and other signals for games**, such as star ratings, in addition to download velocity.

While the exact workings and weightings are unknown, based on these changes, if app A has 1,000 downloads in the last day, app B has 500 downloads in the last day and C has 100 downloads in the last day, app A has a 1-day retention rate of 10%, app B has a 1-day retention rate of 50% and app A has a 1-day retention rate of 100%, app A has a star rating of 2.5, app B has a star rating of 3.5, and app C has a star rating of 4.5, it's now plausible that the order of ranking could go app B, C, A, or even C, B, A, instead of assuredly app A, B, C.

While it is likely that Google's main ranking signal is still download velocity, it is important to know that this king data point that still retains chief status in the App Store no longer fills the same role in Google Play rankings.

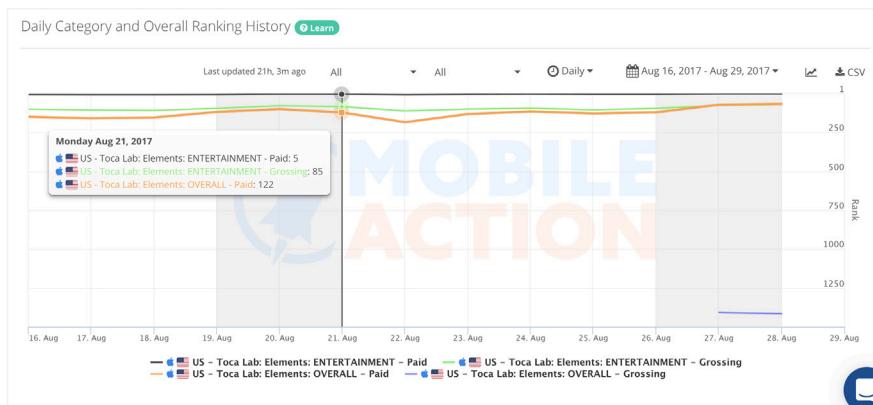
Additionally, Google Play Store includes a **trending top chart**, which incorporates apps from the other top charts, as well as apps suited for the user's geo location and those from the best new featured lists.

Periodically, Apple and Google also release **new categories**, such as the addition of stickers in the App Store with iOS 10 and eight new categories in the Google Play Store in mid-2016.

In both the App Store and Play Store, there are subcategories for several main categories, including:

- Games (Apple and Google)
- Kids/Family (Apple and Google)
- Stickers (Apple-only)
- Magazines & newspapers (Apple-only)

Additionally, apps in the Kids category are eligible to rank in the top charts of the app's selected secondary category.



*Screenshot: Mobile Action app rank history*

## App Store Categories

| MAIN CATEGORIES                 | SUBCATEGORIES                 |              |                     |
|---------------------------------|-------------------------------|--------------|---------------------|
|                                 | MAGAZINES &<br>NEWSPAPERS     | GAMES        | STICKERS            |
|                                 |                               |              |                     |
| Books                           | Arts & Photography            | Action       | Animals & Nature    |
| Business                        | Automotive                    | Adventure    | Art                 |
| Catalogs                        | Brides & Weddings             | Arcade       | Celebrations        |
| Education                       | Business & Investing          | Board        | Celebrities         |
| Entertainment                   | Children's Magazines          | Card         | Comics & Cartoons   |
| Finance                         | Computers & Internet          | Casino       | Eating & Drinking   |
| Food & Drink                    | Cooking, Food & Drink         | Dice         | Emoji & Expressions |
| Games                           | Crafts & Hobbies              | Educational  | Fashion             |
| Health & Fitness                | Electronics & Audio           | Family       | Gaming              |
| Kids                            | Entertainment                 | Music        | Kids & Family       |
| Age bands: (< 5, 6 - 8, 9 - 11) | Fashion & Style               | Puzzle       | Movies & TV         |
| Lifestyle                       | Health, Mind & Body           | Racing       | Music               |
| Magazines & Newspapers          | History                       | Role Playing | People              |
| Medical                         | Home & Garden                 | Simulation   | Places & Objects    |
| Music                           | Literary Magazines & Journals | Sports       | Sports & Activities |
| Navigation                      | Men's Interest                | Strategy     |                     |
| News                            | Movies & Music                | Trivia       |                     |
| Photo & Video                   | News & Politics               | Word         |                     |
| Productivity                    | Outdoors & Nature             |              |                     |
| Reference                       | Parenting & Family            |              |                     |
| Shopping                        | Pets                          |              |                     |
| Social Networking               | Professional & Trade          |              |                     |
| Sports                          | Regional News                 |              |                     |
| Travel                          | Science                       |              |                     |
| Utilities                       | Sports & Leisure              |              |                     |
| Weather                         | Teens                         |              |                     |
|                                 | Travel & Regional             |              |                     |
|                                 | Women's Interest              |              |                     |

| Play Store Categories |                         |              |
|-----------------------|-------------------------|--------------|
| APPS                  |                         | GAMES        |
| Art & Design          | Lifestyle               | Action       |
| Auto & Vehicles       | Maps & Navigation       | Adventure    |
| Beauty                | Medical                 | Arcade       |
| Books & Reference     | Music & Audio           | Board        |
| Business              | News & Magazines        | Card         |
| Comics                | Parenting               | Casino       |
| Communications        | Personalization         | Casual       |
| Dating                | Photography             | Educational  |
| Education             | Productivity            | Music        |
| Entertainment         | Shopping                | Puzzle       |
| Events                | Social                  | Racing       |
| Finance               | Sports                  | Role Playing |
| Food & Drink          | Tools                   | Simulation   |
| Health & Fitness      | Travel & Local          | Sports       |
| House & Home          | Video Players & Editors | Strategy     |
| Libraries & Demo      | Weather                 | Trivia       |
|                       |                         | Word         |

## Competitor Top Chart Rank Change

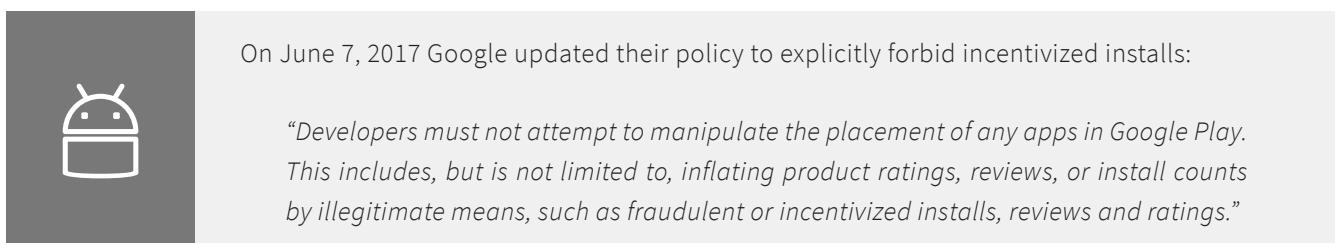
When analyzing your app's performance, one great data point to use is to measure the change in your app's top chart ranking change vs. your competitors'. This data offers insight that can put your app's own performance data into perspective using your **competitors as a benchmark**. If your app is doing well, but your competitors are also doing well, it may be an up-market; but if your competitors are stable or struggling while your app posts gains, then you can be confident that your ASO efforts are producing good headway. Remember to ensure your calculations factor for a lower rank number being better.

| Date                   | Category free |              |              | Category grossing |        |              | US overall   |              |        |              |              |
|------------------------|---------------|--------------|--------------|-------------------|--------|--------------|--------------|--------------|--------|--------------|--------------|
|                        | brand         | competitor 1 | competitor 2 | competitor 3      | brand  | competitor 1 | competitor 2 | competitor 3 | brand  | competitor 1 | competitor 2 |
| 3/17/17 0:00           |               | 487          | 1392         | 200               | 786    | 104          | 929          | 12           | 85     | 17           | 67           |
| 3/18/17 0:00           |               | 539          | 1463         | 221               | 891    | 90           | 923          | 8            | 79     | 18           | 61           |
| 3/19/17 0:00           |               | 571          |              | 200               | 821    | 83           | 601          | 3            | 79     | 18           | 77           |
| 3/20/17 0:00           | 1368          | 548          | 1436         | 187               | 704    | 74           | 730          | 4            | 73     | 18           | 81           |
| 3/21/17 0:00           |               | 504          | 1341         | 188               | 475    | 92           | 996          | 5            | 96     | 20           | 66           |
| 3/22/17 0:00           | 991           | 504          | 1309         | 206               | 541    | 91           | 872          | 4            | 86     | 20           | 83           |
| 3/23/17 0:00           | 1077          | 515          |              | 220               | 771    | 91           | 699          | 5            | 42     | 18           | 91           |
| 3/24/17 0:00           | 1327          | 610          | 1388         | 230               | 962    | 90           | 703          | 6            | 54     | 21           | 81           |
| 3/25/17 0:00           | 1481          | 603          | 1446         | 233               | 1064   | 83           | 660          | 7            | 77     | 18           | 70           |
| 3/26/17 0:00           |               | 642          |              | 207               | 1056   | 83           | 649          | 10           | 95     | 19           | 86           |
| 3/27/17 0:00           | 1111          | 606          |              | 190               | 1172   | 92           | 685          | 10           | 76     | 21           | 114          |
| 3/28/17 0:00           | 1236          | 565          | 1139         | 158               | 1173   | 93           | 754          | 10           | 58     | 23           | 85           |
| 3/29/17 0:00           | 1390          | 596          | 1164         | 151               | 1145   | 87           | 769          | 10           | 76     | 24           | 63           |
| 3/30/17 0:00           | 1248          | 607          |              | 252               | 990    | 91           | 752          | 14           | 58     | 20           | 131          |
| 3/31/17 0:00           | 1350          | 762          |              | 352               | 950    | 80           | 738          | 12           | 60     | 22           | 221          |
| 4/1/17 0:00            |               | 741          |              | 324               | 724    | 72           | 921          | 11           | 71     | 22           | 134          |
| 4/2/17 0:00            |               | 642          |              | 264               | 849    | 70           | 844          | 11           | 84     | 20           | 97           |
| 4/3/17 0:00            |               | 561          |              | 232               | 949    | 82           | 966          | 10           | 101    | 20           | 95           |
| 4/4/17 0:00            | 818           | 531          | 1326         | 219               | 1106   | 94           | 1114         | 8            | 64     | 21           | 85           |
| Trailing 7 days        | 1202          | 634          | 1245         | 256               | 959    | 82           | 872          | 11           | 73     | 21           | 118          |
| Alltime average        | 1232          | 587          | 1369         | 210               | 854    | 88           | 844          | 10           | 76     | 20           | 92           |
| Last 7 days vs average | -2.53%        | 7.43%        | -9.98%       | 18.20%            | 10.96% | -7.38%       | 3.22%        | 11.51%       | -3.84% | 5.03%        | 22.15%       |

## Burst Campaigns

Burst campaigns are a type of user acquisition that is focused on using cheap downloads to **quickly surge an app's top chart rank**, with the purpose of earning quality organic downloads from the increased visibility from higher top chart ranks (typically earning a position of 1-100 in a top chart is the target). The goal of a burst campaign is to **manipulate an app's top chart ranking** by preying on the fact that the top chart algorithms factor most for downloads and download velocity in top chart rankings.

As such, burst campaigns are **frowned upon by Apple and Google** and thus this campaign type is regarded as gray hat, or even black hat, as noted in the [Black Hat chapter](#) later on. Because burst campaigns are typically designed to improve an app's top chart ranking for a **very short period of time** (i.e. a burst), the quality of downloads is irrelevant as the algorithms do not have days or weeks to factor for the retention of those downloads, and so burst campaigns typically use **incentivized downloads** (users who earn credits for another app in exchange for downloading your app), which cost very little per download and allow advertisers to afford the massive quantity of downloads necessary to manipulate the top chart ranking algorithms.



## Category Switching



This chapter is written by guest author Paul Malicki, CEO of Flapper, Brazil's first on-demand private aviation platform. Flapper helps companies and individuals reduce their expenses with 'táxi aéreo'. With access to more than 100 certified private jet operators and an easy-to-use mobile application, Flapper prides itself on offering the most complete private aviation service in Brazil.

Paul published a book called *The Chief Mobile Officer's Guide to Growth*, and forms part of Forbes' 30 under 30 in Technology.

Apple and Google each break their app catalogue into around **25 primary** categories. In addition, they list 17 (for Play Store) and 18 (App Store) dedicated categories for games, while Apple further breaks their apps into hundreds of subcategories. For example, the generic Food & Drink category could be further narrowed down into Beverages, and then --> Coffees, Juices, Recipes, and Tea.

The rationale behind introduction of such granular app indexation is threefold:

- 01. Easy discovery.** Mobile stores want users to easily find their apps.
- 02. Ranking.** Knowing what your app is about allow Apple and Google to rank it better.
- 03. Engagement.** Extra featured lists, e.g. Explore Brazil, boost engagement on App Stores.

You probably knew about #1 and, if adept enough, you ran some tests to estimate which app category is more likely to give you extra organic downloads. The typical reasoning behind switching app categories is that some spaces are more visited by others.

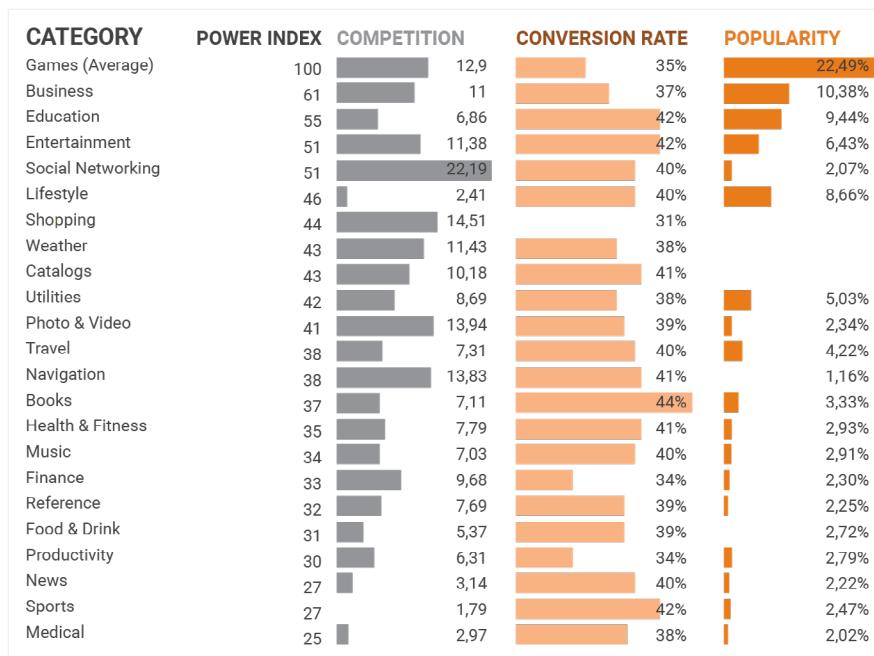
What most people forget about is competition in different categories, and specifically the fact that the same number of app **downloads needed to maintain your top 3 in one category** might not be enough to enter top 10 in another. Then, there are visible differences in conversion rates per genre—the same travel app listed under Travel might receive higher conversion rates than when placed in Lifestyle.



**Pro Tip:** When considering a category switch, the same number of app downloads needed to maintain your top 3 in one category might not be enough to enter top 10 in another.

## The App Store Category Power Index

Lamentably, all of the above factors make it difficult for publishers to decide upon the most suitable app categories for their apps. That's why I created the below App Store Category **Power Index**. It puts together three simple **KPIs** to help mobile app practitioners find the most "Powerful" App Store (only) category. The term "Powerful" denotes categories, which are business-smart, i.e. those with a combination of high popularity + high conversion rates + low competition.



*Image comparing App Store categories across three different dimensions, defined below.*

- In the above chart, competition reflects share of Top 3 apps in a given category in total downloads [PrioriData, Feb 2016].
- Conversion Rate denotes proportion of App Store views-to-downloads [MobileAction, Feb 2016].
- Popularity is defined as share of apps from given category in total active apps globally.

For example, the number for top category signifies that 22.49% of all App Store apps actively used globally are games [Statista, Dec 2015].

Methodology: I applied a weighted average score to each of the selected KPIs, giving considerably higher weight to Popularity (aka market retention). Some values (e.g. competition for Games) had to be averaged, others replaced with estimates.

The way you should read the above table is by looking first at the Index, then at its three components. For example, Social Networking, with a value of 28 is simply not worth the code, unless you are prepared for the war. Consider the following:

- Top 3 social apps are responsible for as much as 22% of all category downloads
- Yet only 2% of all active apps being used are social networks
- The average conversion rate is 40%, not more

This reflects extremely **high concentration** on the market, where new folks have little chance to succeed. Add to it the laborious monetization model of social network apps and you will understand where am I coming from. Business apps, in turn, are way more attractive—there tends to be little competition in the sector, which boasts of having the second highest share of active apps. How cool!

## Retention and Other Decisive Factors

Of course, you might find the approach just outlined ‘backward’ and incomplete. Yet, remember that the term entrepreneur doesn’t apply to everyone with a flashy idea; building your startup on a proven concept is smart and sustainable.

To reinforce it, the above Index then doesn’t reflect all decisive factors. For example, one developer might want to build an app which complements its successful monthly subscription model. Assuming he is not afraid of competition, he could look at 28-day **Retention per category** to make a decision. The reasoning here would run as follows: the higher the retention, the more likely I am to guarantee that app subscriptions will be extended.

In fact, not every **type of mobile app is equally engaging** for the user. By analyzing more than 200 popular apps, Apptentive found that there are stark differences in terms of 28-day return retention across sectors. Users of News (82.78%), Finance (82.16%) and Shopping (78.66%) categories come back consistently, while Casual (35.18%), Tools (42.51%), and Simulation (44.73%) are poor performers. Additionally, within the categories at the bottom, even the top 10% of best performing apps do not manage to invert the trend.

| Top 6 Performers |        |         |                 | Bottom 6 Performers |        |         |                 |
|------------------|--------|---------|-----------------|---------------------|--------|---------|-----------------|
| CATEGORY         | SAMPLE | AVERAGE | 90TH PERCENTILE | CATEGORY            | SAMPLE | AVERAGE | 90TH PERCENTILE |
| NEWS             | 15     | 82.78%  | 96.70%          | CASUAL              | 68     | 35.18%  | 49.51%          |
| FINANCE          | 31     | 82.16%  | 96.46%          | TOOLS               | 11     | 42.51%  | 76.16%          |
| SHOPPING         | 10     | 78.66%  | 92.24%          | SIMULATION          | 10     | 44.73%  | 62.38%          |
| MEDICAL          | 14     | 77.45%  | 92.81%          | PHOTO & VIDEO       | 18     | 51.73%  | 77.08%          |
| MUSIC            | 28     | 75.89%  | 96.63%          | ADVENTURE           | 21     | 52.16%  | 76.72%          |
| HEALTH & FITNESS | 45     | 74.89%  | 95.78%          | FAMILY              | 35     | 55.66%  | 73.28%          |

Source: Apptentive, Feb 2016

Your analysis shouldn’t end here. Below I put together some of the secondary factors that have to be considered when publishing your app. Most importantly, as for any startup, what matters the most is the magical combination of market fit + team + capital.

What else to consider when selecting your app category:

- **Seasonality.** Apps for cultural events or educational apps display clear seasonality.
- **Lifetime value.** Some categories, such as finance, are more likely to attract high spenders.
- **Featuring propensity.** The more useful the app the more likely you will be noticed by editors.
- **Market trends.** News apps are on the rise; navigation totally switched to social GPS model.
- **Localization.** Check which genre is popular in your market + promoted by Apple/Google.
- **Wearables support.** Are the category apps supporting the IoT technologies?

## Fast and Furious - Benefiting From New App Categories

Another opportunity comes from entering the **just-formed app categories** or those which lack a clear leader. Introduction of the new Shopping list by Apple in late 2015 has caused a real fuss on the App Store market. Many of the new shopping apps, previously listed under Lifestyle, saw their ranks grow up by 5-10 positions. One of them, Wish, climbed up by, on average, 25 ranks over the course of two weeks—no simple feat.

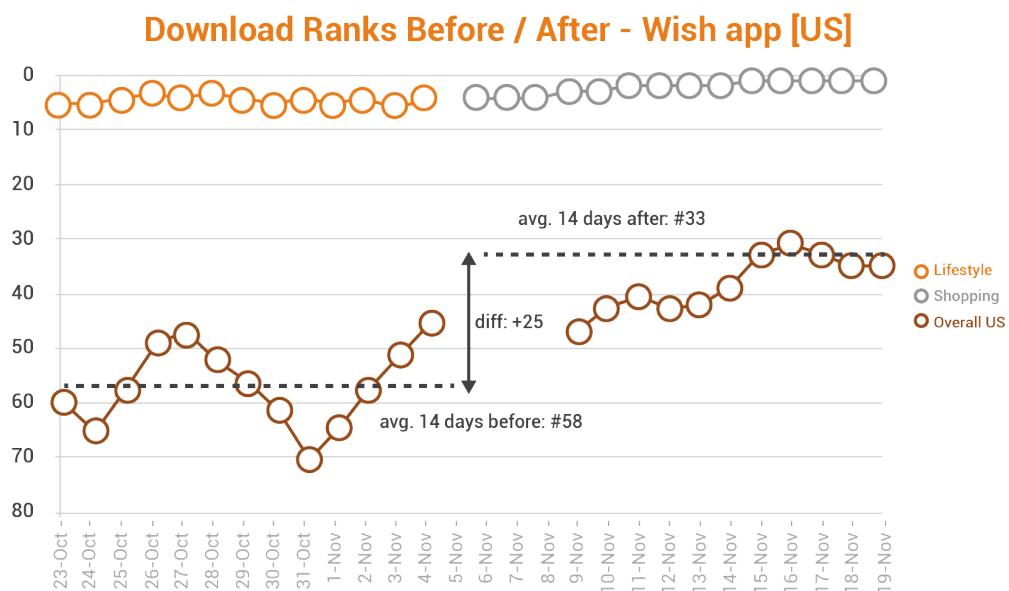


Image depicting the comparison of download ranks before/after a category switch

Inspiring enough? Now what if I told you that you could scoop a few extra ranks just by taking advantage of the “category exit” by some of the bigger apps? It’s simple: if the **downloads gap** between the exiting leader and #2/#3 app of a given genre is large enough, just jump in and start building your leadership position.

In point of fact, to execute such strategy, you will have to **estimate the number of downloads needed to jump to the top** of the list, which as you will see, varies greatly per sector. On the following page I put a simple analysis of App Store downloads per category. Both positions #1 and #2 are of interest to us, and not to appear biased, we will look into a fairly large, Brazilian market.

## Number of Daily Downloads Needed to Burst to Category Ranks #1 and #2

Brazil, January 2016 & YoY

| CATEGORY      | NUMBER 1     | NUMBER 2     | CATEGORY         | NUMBER 1     | NUMBER 2     |
|---------------|--------------|--------------|------------------|--------------|--------------|
|               | [CHANGE YOY] | [CHANGE YOY] |                  | [CHANGE YOY] | [CHANGE YOY] |
| BOOKS         | 1'960        | 1'750        | MUSIC            | 8'130        | 5'790        |
|               | (▲80%)       | (▲29%)       |                  | (▲6%)        | (▼4%)        |
|               | 1'490        | 1'070        |                  | 3'530        | 1'790        |
|               | (▼45%)       | (-0%)        |                  | (▼25%)       | (▼54%)       |
|               | 770          | 550          |                  | 4'390        | 3'070        |
|               | (▲38%)       | (▲8%)        |                  | (▲5%)        | (▼5%)        |
|               | 810          | 680          |                  | 15'031       | 6'046        |
|               | (▼14%)       | (▼20%)       |                  | (▲113%)      | (▲122%)      |
|               | 7'240        | 2'640        |                  | 3'236        | 2'470        |
|               | (▼30%)       | (▼57%)       |                  | 680          | 510          |
| BUSINESS      | 470          | 470          | LIFESTYLE        | (▼47%)       | (-0%)        |
|               | (▼31%)       | (▼27%)       |                  | 3'280        | 1'790        |
|               | 21'290       | 14'610       |                  | (▲1%)        | (▼32%)       |
|               | (▼64%)       | (▼61%)       |                  | 3'530        | 2'510        |
|               | 4'680        | 3'880        |                  | (▲26%)       | (▼9%)        |
|               | (▲51%)       | (▲69%)       |                  | 5'280        | 3'110        |
|               | 10'130       | 8'730        |                  | (▲265%)      | (▲170%)      |
|               | (▼51%)       | (▼56%)       |                  | 2'090        | 1'660        |
|               | 1'830        | 894          |                  | (▼35%)       | (▼26%)       |
|               | (▲105%)      | (▲5%)        |                  | 1'920        | 1'490        |
| MEDICAL       | 5'200        | 2'940        | FINANCE          | (▼71%)       | (▼17%)       |
|               | (▼65%)       | (▼62%)       |                  | 8'130        | 5'790        |
|               | 1'960        | 1'750        |                  | (▲6%)        | (▼4%)        |
|               | (▲80%)       | (▲29%)       |                  | 3'530        | 1'790        |
|               | 1'490        | 1'070        |                  | (▼25%)       | (▼54%)       |
|               | (▼45%)       | (-0%)        |                  | 4'390        | 3'070        |
|               | 770          | 550          |                  | (▲5%)        | (▼5%)        |
|               | (▲38%)       | (▲8%)        |                  | 15'031       | 6'046        |
|               | 810          | 680          |                  | (▲113%)      | (▲122%)      |
|               | (▼14%)       | (▼20%)       |                  | 3'236        | 2'470        |
| WEATHER       | 7'240        | 2'640        | ENTERTAINMENT    | 680          | 510          |
|               | (▼30%)       | (▼57%)       |                  | (▼47%)       | (-0%)        |
|               | 470          | 470          |                  | 3'280        | 1'790        |
|               | (▼31%)       | (▼27%)       |                  | (▲1%)        | (▼32%)       |
|               | 21'290       | 14'610       |                  | 3'530        | 2'510        |
|               | (▼64%)       | (▼61%)       |                  | (▲26%)       | (▼9%)        |
|               | 4'680        | 3'880        |                  | 5'280        | 3'110        |
|               | (▲51%)       | (▲69%)       |                  | (▲265%)      | (▲170%)      |
|               | 10'130       | 8'730        |                  | 2'090        | 1'660        |
|               | (▼51%)       | (▼56%)       |                  | (▼35%)       | (▼26%)       |
| UTILITIES     | 1'830        | 894          | EDUCATION        | 1'920        | 1'490        |
|               | (▲105%)      | (▲5%)        |                  | (▼71%)       | (▼17%)       |
|               | 5'200        | 2'940        |                  | 8'130        | 5'790        |
|               | (▼65%)       | (▼62%)       |                  | (▲6%)        | (▼4%)        |
|               | 1'960        | 1'750        |                  | 3'530        | 1'790        |
|               | (▲80%)       | (▲29%)       |                  | (▼25%)       | (▼54%)       |
|               | 1'490        | 1'070        |                  | 4'390        | 3'070        |
|               | (▼45%)       | (-0%)        |                  | (▲5%)        | (▼5%)        |
|               | 770          | 550          |                  | 15'031       | 6'046        |
|               | (▲38%)       | (▲8%)        |                  | (▲113%)      | (▲122%)      |
| SPORTS        | 810          | 680          | CATALOGS         | 3'236        | 2'470        |
|               | (▼14%)       | (▼20%)       |                  | (▼26%)       | (▲12%)       |
|               | 7'240        | 2'640        |                  | 680          | 510          |
|               | (▼30%)       | (▼57%)       |                  | (▼47%)       | (-0%)        |
|               | 470          | 470          |                  | 3'280        | 1'790        |
|               | (▼31%)       | (▼27%)       |                  | (▲1%)        | (▼32%)       |
|               | 21'290       | 14'610       |                  | 3'530        | 2'510        |
|               | (▼64%)       | (▼61%)       |                  | (▲26%)       | (▼9%)        |
|               | 4'680        | 3'880        |                  | 5'280        | 3'110        |
|               | (▲51%)       | (▲69%)       |                  | (▲265%)      | (▲170%)      |
| SOCIAL        | 10'130       | 8'730        | FOOD & DRINK     | 2'090        | 1'660        |
|               | (▼51%)       | (▼56%)       |                  | (▼35%)       | (▼26%)       |
|               | 1'830        | 894          |                  | 1'920        | 1'490        |
|               | (▲105%)      | (▲5%)        |                  | (▼71%)       | (▼17%)       |
|               | 5'200        | 2'940        |                  | 8'130        | 5'790        |
|               | (▼65%)       | (▼62%)       |                  | (▲6%)        | (▼4%)        |
|               | 1'960        | 1'750        |                  | 3'530        | 1'790        |
|               | (▲80%)       | (▲29%)       |                  | (▼25%)       | (▼54%)       |
|               | 1'490        | 1'070        |                  | 4'390        | 3'070        |
|               | (▼45%)       | (-0%)        |                  | (▲5%)        | (▼5%)        |
| NETWORKING    | 770          | 550          | TRAVEL           | 15'031       | 6'046        |
|               | (▲38%)       | (▲8%)        |                  | (▲113%)      | (▲122%)      |
|               | 810          | 680          |                  | 3'236        | 2'470        |
|               | (▼14%)       | (▼20%)       |                  | (▼26%)       | (▲12%)       |
|               | 7'240        | 2'640        |                  | 680          | 510          |
|               | (▼30%)       | (▼57%)       |                  | (▼47%)       | (-0%)        |
|               | 470          | 470          |                  | 3'280        | 1'790        |
|               | (▼31%)       | (▼27%)       |                  | (▲1%)        | (▼32%)       |
|               | 21'290       | 14'610       |                  | 3'530        | 2'510        |
|               | (▼64%)       | (▼61%)       |                  | (▲26%)       | (▼9%)        |
| PRODUCTIVITY  | 4'680        | 3'880        | SHOPPING         | 5'280        | 3'110        |
|               | (▲51%)       | (▲69%)       |                  | (▲265%)      | (▲170%)      |
|               | 10'130       | 8'730        |                  | 2'090        | 1'660        |
|               | (▼51%)       | (▼56%)       |                  | (▼35%)       | (▼26%)       |
|               | 1'830        | 894          |                  | 1'920        | 1'490        |
|               | (▲105%)      | (▲5%)        |                  | (▼71%)       | (▼17%)       |
|               | 5'200        | 2'940        |                  | 8'130        | 5'790        |
|               | (▼65%)       | (▼62%)       |                  | (▲6%)        | (▼4%)        |
|               | 1'960        | 1'750        |                  | 3'530        | 1'790        |
|               | (▲80%)       | (▲29%)       |                  | (▼25%)       | (▼54%)       |
| PHOTO & VIDEO | 1'490        | 1'070        | HEALTH & FITNESS | 4'390        | 3'070        |
|               | (▼45%)       | (-0%)        |                  | (▲5%)        | (▼5%)        |
|               | 770          | 550          |                  | 15'031       | 6'046        |
|               | (▲38%)       | (▲8%)        |                  | (▲113%)      | (▲122%)      |
|               | 810          | 680          |                  | 3'236        | 2'470        |
|               | (▼14%)       | (▼20%)       |                  | (▼26%)       | (▲12%)       |
|               | 7'240        | 2'640        |                  | 680          | 510          |
|               | (▼30%)       | (▼57%)       |                  | (▼47%)       | (-0%)        |
|               | 470          | 470          |                  | 3'280        | 1'790        |
|               | (▼31%)       | (▼27%)       |                  | (▲1%)        | (▼32%)       |
| NEWS          | 21'290       | 14'610       | REFERENCE        | 3'530        | 2'510        |
|               | (▼64%)       | (▼61%)       |                  | (▲26%)       | (▼9%)        |
|               | 4'680        | 3'880        |                  | 5'280        | 3'110        |
|               | (▲51%)       | (▲69%)       |                  | (▲265%)      | (▲170%)      |
|               | 10'130       | 8'730        |                  | 2'090        | 1'660        |
|               | (▼51%)       | (▼56%)       |                  | (▼35%)       | (▼26%)       |
|               | 1'830        | 894          |                  | 1'920        | 1'490        |
|               | (▲105%)      | (▲5%)        |                  | (▼71%)       | (▼17%)       |
|               | 5'200        | 2'940        |                  | 8'130        | 5'790        |
|               | (▼65%)       | (▼62%)       |                  | (▲6%)        | (▼4%)        |
| NAVIGATION    | 1'960        | 1'750        |                  | 3'530        | 2'510        |
|               | (▲80%)       | (▲29%)       |                  | (▲26%)       | (▼9%)        |
|               | 1'490        | 1'070        |                  | 5'280        | 3'110        |
|               | (▼45%)       | (-0%)        |                  | (▲1%)        | (▼32%)       |
|               | 770          | 550          |                  | 3'530        | 2'510        |
|               | (▲38%)       | (▲8%)        |                  | (▲265%)      | (▲170%)      |
|               | 810          | 680          |                  | 2'090        | 1'660        |
|               | (▼14%)       | (▼20%)       |                  | (▼35%)       | (▼26%)       |
|               | 7'240        | 2'640        |                  | 1'920        | 1'490        |
|               | (▼30%)       | (▼57%)       |                  | (▼71%)       | (▼17%)       |

\*based on Prioridata statistics for January '15 and '16. Monthly downloads were averaged and multiplied by 1,1 (I assume the platform might under report data by ca 10%) and then by the ratio of 1,2 to guarantee first position. Downloads are just one, but still dominant, factor taken into consideration by both stores when ranking apps.

\*\*Shopping category uses November data.

Number of Daily App Store Downloads Needed to Burst to Category Ranks #1 and #2, Brazil, January 2016 & YoY

The abundance of both red and green triangles tells us that the market has undergone significant transformation in the last year. Here is how publishers can take advantage of such insights:

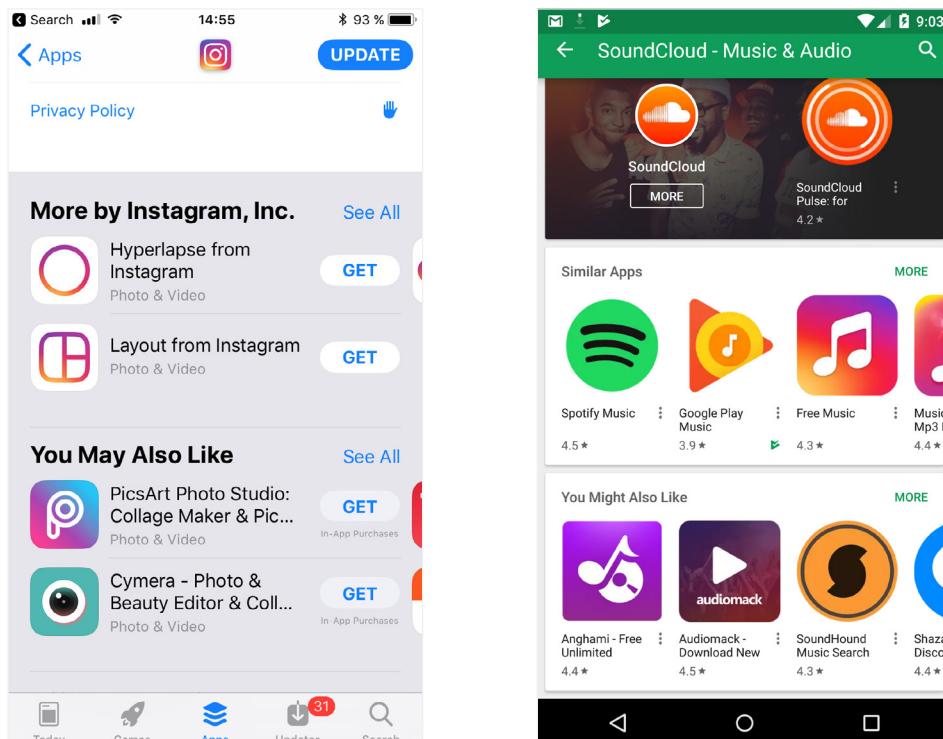
- **Seek category exits:** OLX, #1 Business app, migrated to ‘Shopping’ in November ‘15, leaving behind a large ‘hole.’ It now takes 45% less downloads to become a leader in ‘Business.’
- **Find a niche:** Emoji, a simple social app, was ranked as #1 app in ‘Catalogs.’ It would take exactly 29x more downloads to jump to #2 rank in ‘Social Networking.’ Smart.
- **Follow smartphone premieres:** Likely thanks to launch of iPhone 6, utility apps were particularly popular in 2015. A year later, it takes, 30% and 57% less downloads, respectively, to get to #1 and #2 rank in ‘Utilities’.
- **Follow the trends:** Some apps, namely Whatsapp, Waze, Tinder, OLX, Netflix, Google Translate, Instagram, and Chrome, have seen a massive adoption among Brazilian users, popularizing their respective categories. Globo, the country’s leading TV network, took advantage of Netflix’s popularity, introducing Globo Play, now the #2 movie streaming app in Brazil.

Now it’s time for your own A/B test. No research will ever replace app- and market-specific analyses. In many cases, even positions 4-5 can give enough downloads. Yet, with exposure decreasing down the list, the focus should always be on top 1-2 upper positions. Still full of doubts? You can always confirm your strategy with the developer relationship teams of Apple and Google.

Subchapters authored by Paul Malicki.

## Related / Similar Apps

When viewing an app in both the App Store and Play Store, users can also view a list of **related (Apple) or similar (Google) apps**, listed in the app’s product page. So what determines which apps appear in these related/similar lists?



Screenshots from the App Store and the Google Play showing similar/suggested apps

A few main factors influence these related app lists, which include:

- 01.** Which **other apps a user has** downloaded.
- 02.** **CTR** on related app suggestions.
- 03.** The **Category** the app is in.
- 04.** App keyword **metadata**.

While the first two factors are not as easy to influence as the third or fourth factors, it is possible to use ASO tactics to indirectly attain success in the first factor. This is accomplished by **expanding your app's overlap of keywords** that a target app ranks for, such as the app's brand name or other overlapping category terms. However, be aware that both Apple and Google forbid advertisers from listing their competitors' names in store metadata. While it is possible to slip competitor names into the iOS keyword field, a Google Play description or even a title, it is not a guarantee of earning a good rank on that term, and both Google and Apple have the ability to manually penalize an app's ranking for abusing this rule, and they do so periodically.



**Pro Tip:** It's also possible to influence related app rankings by advertising to users who use/like/have searched/or are connected in some other way to a target app using by Facebook Ads, AdWords, Apple Search Ads, or another ad platform; while it can be expensive, by increasing your overlap with users of the target app, you can increase your chances of being a related app for that target app.

## Increasing Visibility in the App Stores Through Store Ads

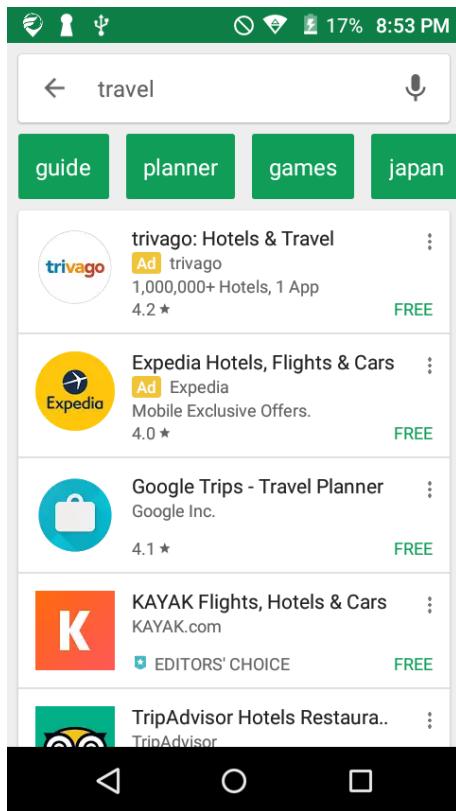
“What is the crossover between Store Ads and ASO?”

Store Ads are useful for “cutting the line” and immediately increasing your app’s visibility on important keywords by paying for them. That said, there are important nuances to be aware of for each Store Ad platform, and with regard to the relationship between Store Ads and ASO.

### Google Store Ads

Android Universal App Campaigns (UAC) enable marketers to show store ads directly in the Play Store, as well as across other Google properties such as Google.com

UAC ads in the Play Store show up either in Google Play Store keyword results or in a suggested apps section of the Play Store.



*Screenshot: Google Play keyword search with two store ad results.*

While UAC v 1.0 offered little control or visibility to marketers, Google's new UAC product allows a bit more optimization control. Marketers have control over the following levers for UAC:

- Cost per conversion goal (event optimization, install optimization).
- Bid adjustments for country/device.
- Budget.
- Geographic location (Country/state/city/zip).
- Up to four ad text ideas (25 characters).
- Up to 20 images (various sizes).
- Up to 20 videos.
- Placement exclusions.

Tips for optimizing UAC campaigns include:

01. Tap into Google's new ad asset reporting interface to optimize your ad text, image, and videos. Google assigns a category of performance to each ad text unit (one best, two good, one low) to indicate how often the ad is served, from high to low, respectively. Optimize for ads labeled good or best, and continually swap out the low performing ad.

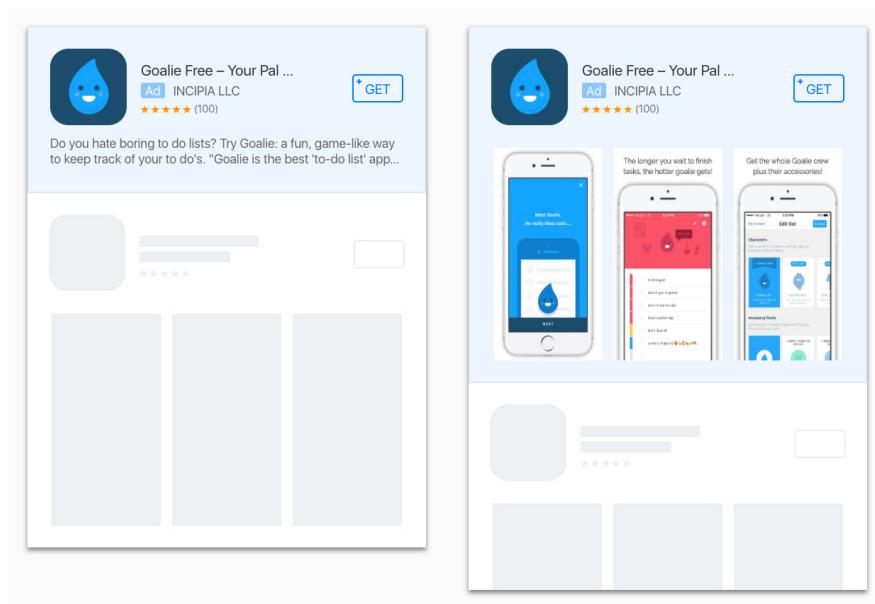
- 02.** Test optimizing for different conversions, such as downloads vs. in-app event. This requires the target conversion to have the checkbox “include in conversions column” checked. For in-app events, use data points that are middle-of-funnel, or between the install and lower funnel KPIs to offer enough data points for the UAC algorithm to optimize for. For example, optimize for a sign-up, rather than a subscription. Google recommends 25-50 conversion events per day at a minimum.
- 03.** Set bid adjustments for devices and countries according to performance, and test different bid levels. Be aware that video ads cost more to serve though have the largest inventory, so lower bid levels will preclude your campaigns from running video ads.

## Apple Search Ads

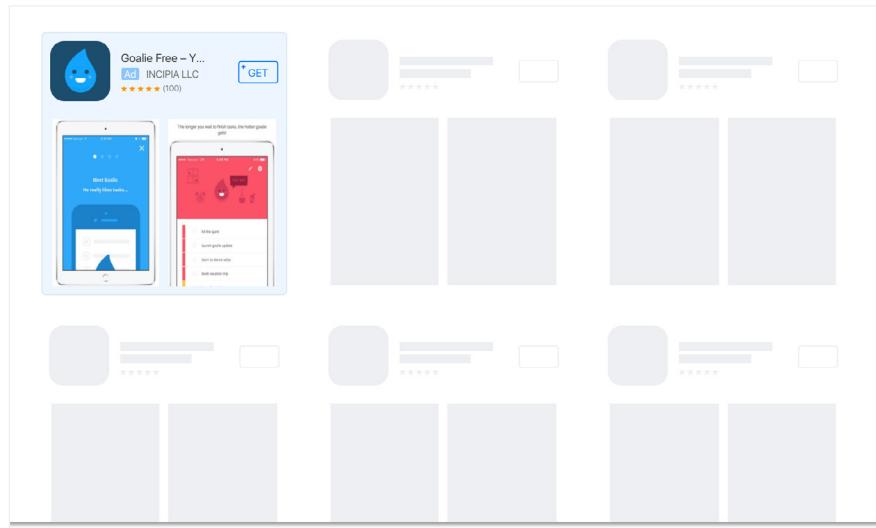
Apple Search Ads (ASA) are similar to ASC, but only show in the App Store search results page.

ASA offer more control and visibility than Google UAC and similar capabilities as traditional PPC campaigns, with the exclusion of ad and creative control.

There are **two types of ASA** ads: a smaller, text-based ad unit and a larger, screenshot-based ad unit; marketers aren't able to control which ad unit appears in search results.



Screenshot: Apple Search Ads ad preview



*Screenshot: Apple Search Ads ad preview*

Tips for optimizing ASA campaigns include:

- Push the majority of impressions to **exact match** types, where control and reporting visibility is highest.
- Use a **CPA** goal to prevent competitive keywords from converting expensive conversions.
- Raise **bid** to increase your impression volume.
- Use search match to discover new keywords, and add those keywords as exact matches.
- Add negative keywords to your broad/search match targets, to improve TTR/CPA.
- Ensure that your priority keywords are in your app's metadata, to maximize relevance for those keywords.

In late 2017, Apple also introduced a new ad product, called Search Ads Basic, which functions similarly to Google's UAC ad product. Search Ads Basic enables advertisers to pay a maximum price per install, but is limited to \$5,000 per month in spend and does not provide additional control beyond budget, or visibility into search terms.

## The Relationship Between Store Ads and ASO

To be successful in ASO, it is not necessary to also run Store Ads; however, Store Ads do offer a unique benefit to ASO, and it is important to understand the overlap between the two app marketing channels.

### SEARCH AD KEYWORD RANK BOOST

One of the unique benefits of Apple Search Ads is that they not only acquire new users via PPC-based marketing, but they can also boost your **organic keyword ranking** for search terms. The only other marketing effort known to have this effect is keyword spike campaigns (covered later on in the black hat section). The number of conversions necessary to move keyword ranks will depend on the competition for that particular keyword and the current keyword rank of your app. Inherently, your organic will not improve if your app metadata does not make your app eligible to rank for

that keyword.

In order to improve your organic keyword ranks from your Search Ads campaign Installs, you must **earn Installs from search terms** that match the organic keyword you are targeting. In other words: bidding on a broad match keyword or using search match will not earn you conversions from one specific search. Try bidding on exact match types to ensure your search terms will match the keyword you want to increase your rank for.



**Beware:** *The number of rank spots by which your organic keyword ranks improve when earning Search Ads Installs will depend on the competition for that keyword and your app's eligibility and relevance to rank for that keyword, based on your app's metadata and historic performance (see the next section on KWO for more information on this topic). The higher your app's relevance for a keyword, and the weaker the competition, the fewer Search Ads Installs your app will require to climb through the keyword ranks, and vice versa.*

## ASO INFLUENCE ON SEARCH ADS RELEVANCE

The mutually beneficial relationship between Search Ads and ASO also operates in reverse. Apple keeps a **score of the relevance** of your app for each keyword you bid on, or search term that your ads are eligible to display an ad for via broad/search match. This relevance score is determined in large part by the **keywords found** in your app metadata. And, unlike organic rankings, when it relates to Search Ads, keywords in an app's description do count towards the relevance score. Moreover, your metadata is the major determinant of what ads are shown to users for certain search terms.

There is a relevance relationship between an Android app listing and Google Store Ads, however the relevance relationship is less strong for Google Store Ads than it is in Apple Search Ads.

## STORE ADS TAX

This final point is also important to understand, as it indicates the paradigm shift that has occurred with the proliferation of Store Ads. While Store Ads have become a significant tool to help an ASO achieve results, Store Ads also represent a **type of tax** that apps must pay. This is because Store Ads are also search results that, when present, supersede the first organic result. This results in some percentage of downloads to be captured by the Store Ads app, rather than the organic app results. Furthermore, brands must also defend their brand term, lest competitors use Store Ads to siphon vital brand downloads away. There is as of yet no data on how many downloads go to Store Ads vs. organic results, however, it is important to realize that store searches are no longer guaranteed to go to an organic app result, whether #1 or other.

06

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INCREASING CONVERSION

# 06

## INCREASING CONVERSION

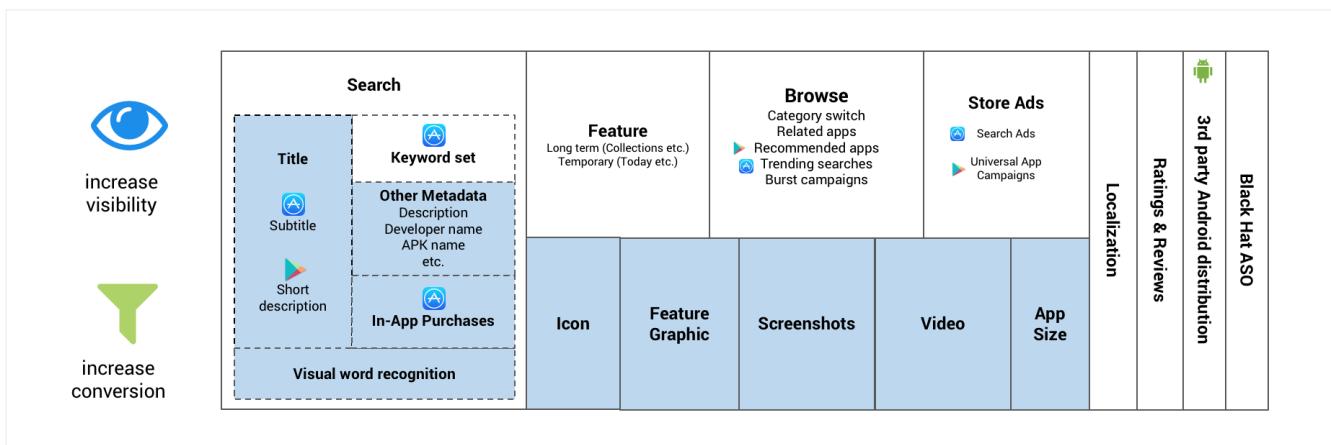
*"I'm rocking it with impressions, but I'm not getting as many downloads I want. How can I address this issue?"*

It's easy to view boosting the visibility of your app in the store by adding keywords or earning a store feature as the sexier of the two main ASO activities outlined in the ASO stack. Yet, there can be no doubt that increasing conversions is required in order to succeed in ASO.

As commented on throughout the book so far, without a stable or improving conversion rate, top-line impression gains earned through increasing visibility don't necessarily yield long-term chances for success, given that 1) impressions do not equal Installs, and 2) the algorithms of Apple and Google consider whether or not your app is able to convert visibility into actual users as a factor in determining keyword ranks. If your app fails to convert users at a better rate than other apps competing in the same top chart or keyword ranking positions, then your app's success potential will be limited.

Increasing conversions involves spending time and effort on conversion rate optimization (CRO), or raising the rate at which your app listing is able to convert store views into downloads.

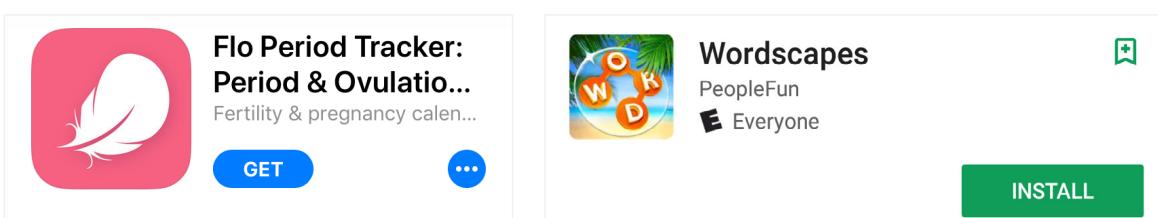
We will begin this chapter on conversion rate by introducing the **Conversion Rate Optimization Loop**, followed by providing a few useful industry benchmarks to familiarize you with industry CRO standards. Then, we will explore in-detail how to optimize each of the store assets listed in the ASO stack framework. Next, we will proceed with details related to running and reporting on A/B tests, and wrap up by offering tips to properly measure the impact of your CRO efforts.



## Introduction to CRO

Before introducing the Conversion Rate Optimization Loop framework, let us pause and run through a side-by-side overview of each store asset. This visual overview will help to set the stage for learning to optimize each asset, and provide a direct comparison of Apple and Google assets, helpful for managers of both platforms.

### APP ICON, TITLE, DEVELOPER NAME, AND SUBTITLE (SUBTITLE APPLE-ONLY)



*Apple icon/title.subtitle left, Google icon/title/developer name right; Apple subtitle cross-fades to developer name and back when subtitle is set*

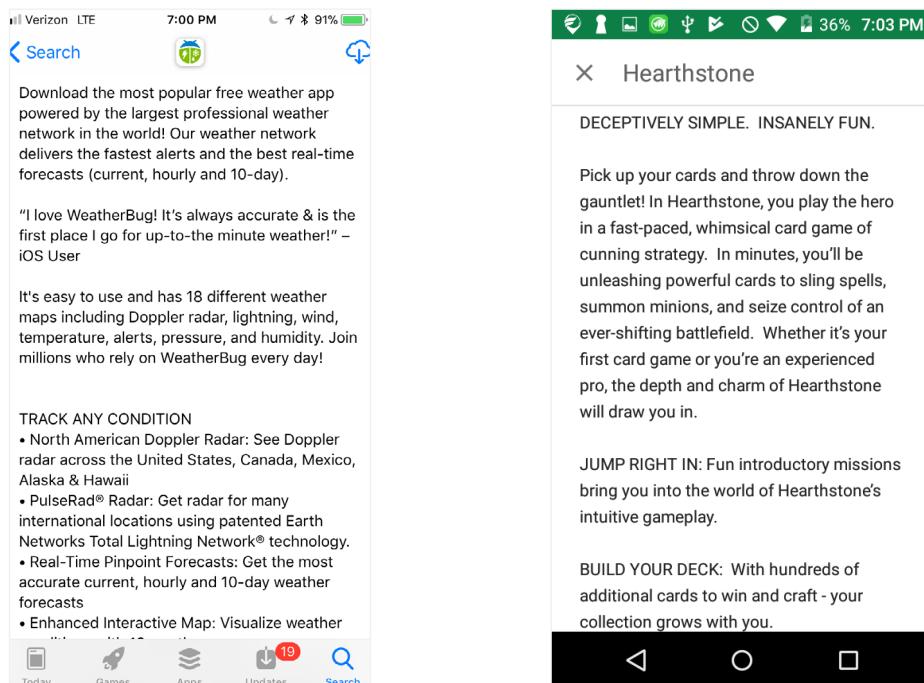
### APP SHORT DESCRIPTION (GOOGLE-ONLY)

Homes, experiences, and places – all in one app.

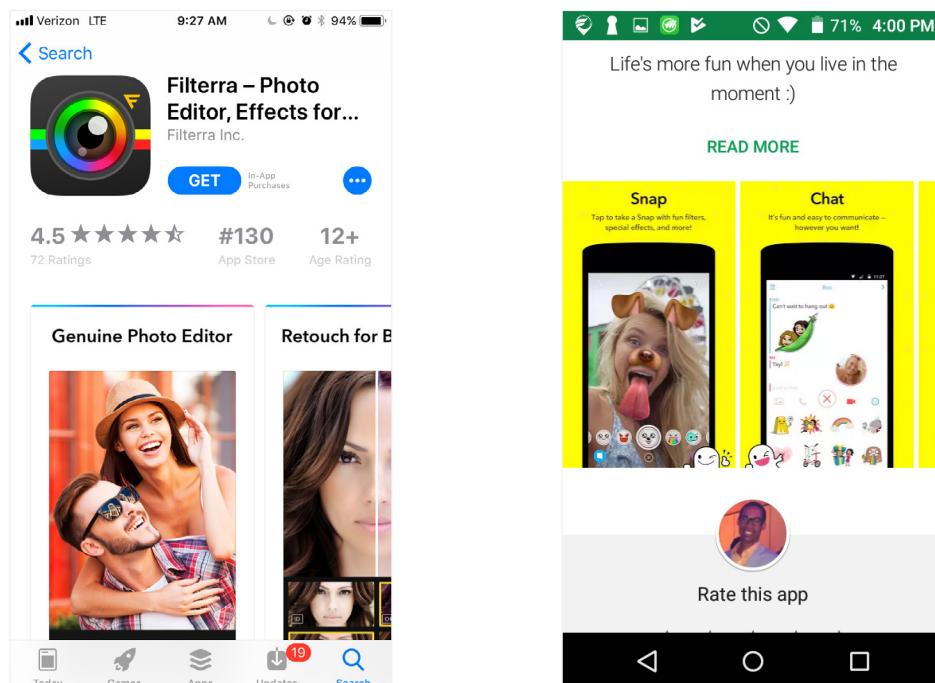
[READ MORE](#)

*Google short description above the “read more” link to the long description*

## APP DESCRIPTION



## APP SCREENSHOTS



*Apple screenshots left, Google screenshots right*

## Android App Feature Graphic (Google-Only)



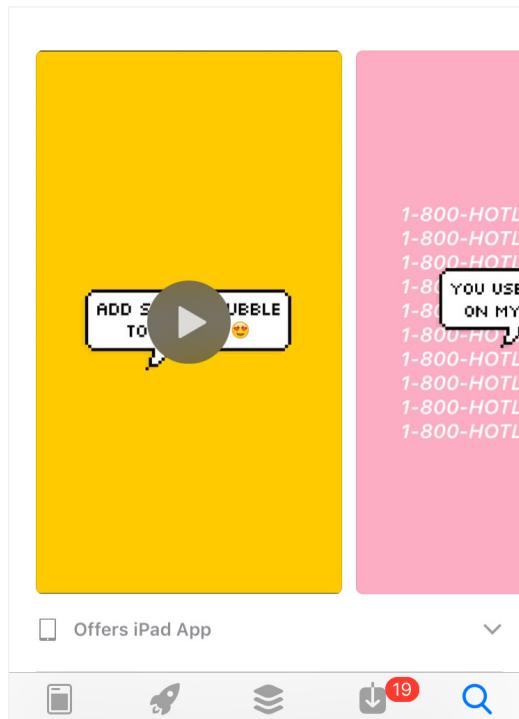
*Google feature graphic*

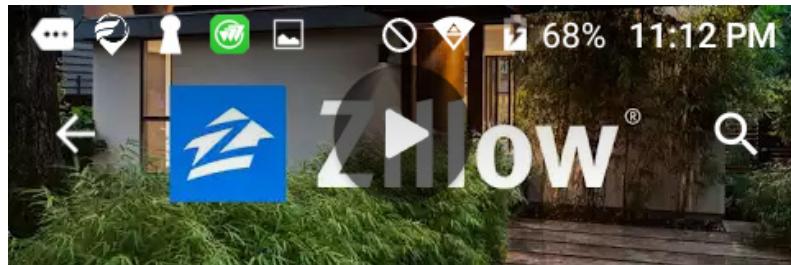
## Apple App Custom Background (Apple-Only)



*Apple custom background*

## App Video



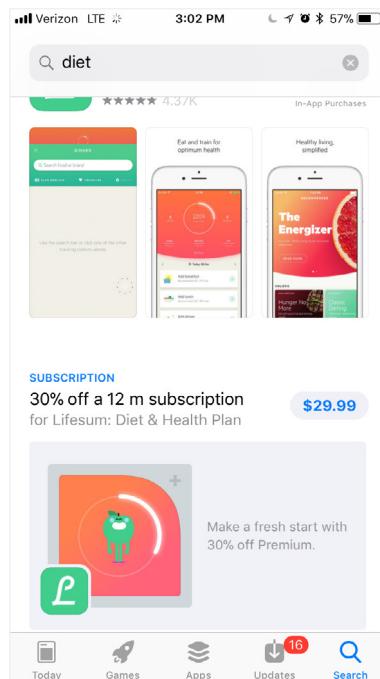
*Apple video top, Google video bottom*

## WHAT'S NEW

|  |   |                        |
|--|---|------------------------|
| <span style="color: green;">★</span> <b>WHAT'S NEW</b><br>Thanks for using Hushed! Every update improves speed and reliability. Please make sure to update to the latest release for the best experience | <b>What's New</b><br>Version 4.34 Jul 24, 2017<br><ul style="list-style-type: none"> <li>• Add places to your timeline by checking in to places you're at from the place detail page.</li> <li>• Bug fixes</li> </ul> | <b>Version History</b> |
|--|---|------------------------|

*Google What's New left, Apple What's New right*

## PROMOTED IN-APP PURCHASE (APPLE-ONLY)



## The Conversion Rate Optimization Loop

Now that we have the store assets fresh in mind, let's explore a framework useful for managing the process of improving your app's conversion rate. While optimizing assets like screenshots, preview videos, or an icon may sound intimidating, the process of CRO is more methodical than magical—two parts science to one part art. This process, encapsulated below in the CRO loop, includes six steps.



## 1. CONDUCT RESEARCH

Proper research involves spending time studying your competitors, learning about your target market, and analyzing your app's performance, all with the purpose of learning what information/value propositions are the most important to communicate through your app listing.

## 2. HYPOTHEZISE ON WHAT WILL IMPROVE RESULTS ACCORDING TO YOUR KPI

Many people start with CRO by “throwing things at the wall to see what sticks.” That can sometimes work, but the best CRO is guided by a hypothesis, or logical thought providing the idea with context and a supporting structure as to why the idea is likely to succeed.

- **Hypothesis example:** **IF** we use screenshots of features that have higher in-app engagement rates, **THEN** potential users seeing these screenshots will consider our app more valuable and be more likely to download it.

## 3. CRAFT MESSAGE / SELECT IMAGERY

The next step in the CRO loop is to create messaging (and select imagery if applicable) based on your research and targeted by your hypothesis that will be conveyed vis-a-vis your assets.

## 4. CREATE ASSETS (NEW VARIATIONS)

After you have crafted the messaging and aligned on the imagery to be used, it's time to let your inner creative shine. When creating variations, ensure they are each:

- **Obviously unique:** Changes too subtle for the average person to notice will be useless to test.
- **Informed by your research and hypothesis:** You spent the time honing an assumption about what will increase your conversion rate in order to direct your creative process; don't abandon it now!

While basic CRO focuses on improving one particular asset at a time, some of the most powerful CRO gains can come from improving the way that your elements convey your messaging as a whole. For example, your branding should resonate through all elements in a cohesive way, and your most important or key differentiators should be mentioned in both your screenshots and your description.

## 5. TEST YOUR NEW ASSETS TO SEE HOW WELL THEY PERFORM

Set up an **A/B test or pre-post test** to see which variations of your assets produce the best conversion rate. For each test you run, ensure that you have an expected performance level (i.e. either a control variant also running or at least a historically-informed understanding of what the conversion rate should be) in order to analyze the results and declare performance to be better or worse than the expectation.

## 6. REPORT ON THE PERFORMANCE FROM EACH VARIANT ACROSS YOUR TEST(S), AND ANALYZE THE RESULTS

Use the data to determine whether the test was conclusive. As much as possible, make sure to consider the statistical significance of your test, so as not to make a decision too early or based on too little data, wherein the results may be

of low integrity.

Based on your analysis, decide whether to apply the update to your live listing or whether extend, or re-run your test. If the test asset is applied, analyze the performance after applying in order to confirm that the results are still positive after being applied.

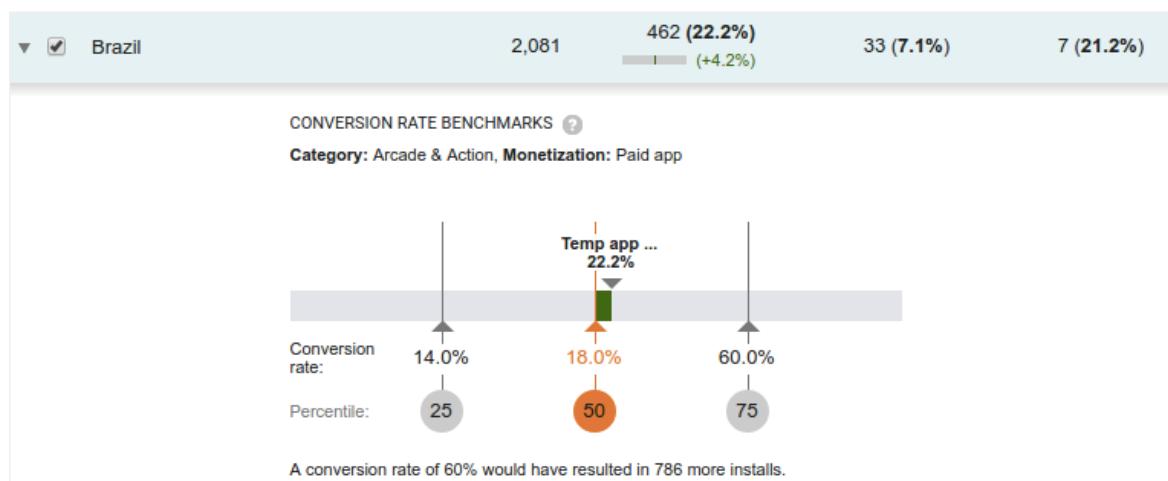
After concluding the test, return to the research phase of the CRO loop and proceed with the loop again.

While the initial round of research will likely be the most comprehensive and time-consuming, subsequent iterations of the CRO Loop should not automatically skip the research stage and move to the hypothesize/craft messaging/create assets stage; this is due to a couple of key reasons, including a need for:

- 01.** Continuous assessment of the App Store environment : Per comments at the end of the [visibility chapter](#), the ASO environment is constantly changing due to the confluence of a multitude of factors. Continual research is crucial to stay on top of the latest insights/trends and ensure that your messaging and assets are always well-positioned relative to the competition.
- 02.** Preventing stale assumptions: While assumptions are important to form in order to make progress, assumptions should never be taken as immutable truths. A lack of willingness to test current assumptions is what leads to stagnation and decline, and repeating the CRO loop from the research phase helps to mitigate this risk.

## KPIs & Benchmarks

Before diving further into the CRO Loop, let's take a moment to familiarize yourself with conversion rates, so that you can have an objective benchmark against which to compare your app's conversion rates. One caveat to consider is that what is considered **a 'good' conversion rate will differ** depending on factors like an app's **category, monetization model, and country**. While benchmark data is more difficult to come across for iOS apps, Google actually provides a benchmark conversion rate data directly in its Google Play Console, filtered specifically for other apps which share your app's country, category, and monetization model.



[Screenshot of Google Play's Conversion Rate Benchmarks](#)

With regard to iOS conversion rate benchmarks, we tapped Attribution and App Store Optimization tool **TUNE** to help us understand what a decent benchmark per app category is. As TUNE has a lot of iTunes Connect data from tens of thousands of apps, they were able to provide aggregate anonymized conversion rates from Impression:Product Page View and Impression:App Unit, on a category level and here is the result:

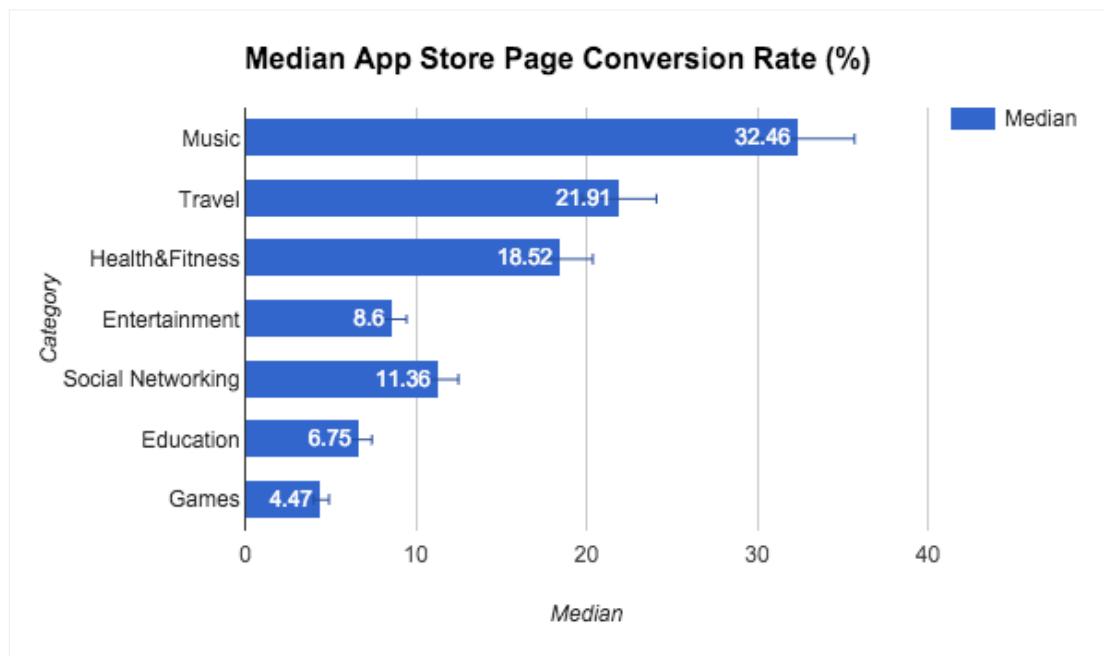
| Category          | Average Impression to Product Page View CTR | Average Impression to App Unit CTR |
|-------------------|---|------------------------------------|
| Games             | 5%  | 12%                                |
| Education         | 5%  | 12%                                |
| Catalogs          | 2%  | 10%                                |
| Food & Drink      | 5%  | 9%                                 |
| Health & Fitness  | 6%  | 9%                                 |
| Music             | 4%  | 9%                                 |
| Medical           | 10%   | 8%                                 |
| Shopping          | 16%   | 8%                                 |
| Finance           | 7%  | 8%                                 |
| Photo & Video     | 7%  | 7%                                 |
| News              | 4%  | 7%                                 |
| Business          | 8%  | 7%                                 |
| Travel            | 7%  | 6%                                 |
| Social Networking | 7%  | 6%                                 |
| Utilities         | 7%  | 6%                                 |
| Entertainment     | 5%  | 6%                                 |
| Navigation        | 6%  | 6%                                 |
| Productivity      | 7%  | 5%                                 |
| Lifestyle         | 6%  | 5%                                 |
| Reference         | 6%  | 5%                                 |
| Books             | 7%  | 5%                                 |
| Stickers          | 5%  | 4%                                 |
| Weather           | 6%  | 3%                                 |
| Sports            | 6%  | 3%                                 |

TUNE provided us with average App Store Conversion rates (snapshot: July 2017, all apps)

The data from the TUNE benchmark study illuminates a few interesting points:

- While games own the top impression-to-download rate (tied with educational apps), games also have a lower CTR to product page, indicating a higher percentage of direct impression-sourced downloads.
- Touching further on the above observation, we can see that there are several categories of apps which have a higher impression conversion rate than click-through-rate. For such apps where users tend to install directly from a search impression, rather than diving deeper into the product page to learn more, this means that the search results page preview (icon, title, subtitle, price, ratings, screenshots 1-3, 1st preview video) is even more important than other categories for conveying the app's use case than the full product page.
- Conversely, several categories of apps have a much higher CTR than CVR, such as shopping, medical, sports, and weather. These apps appear to have a higher degree of difficulty in convincing users to download, and may need to exert extra effort into CRO to succeed.

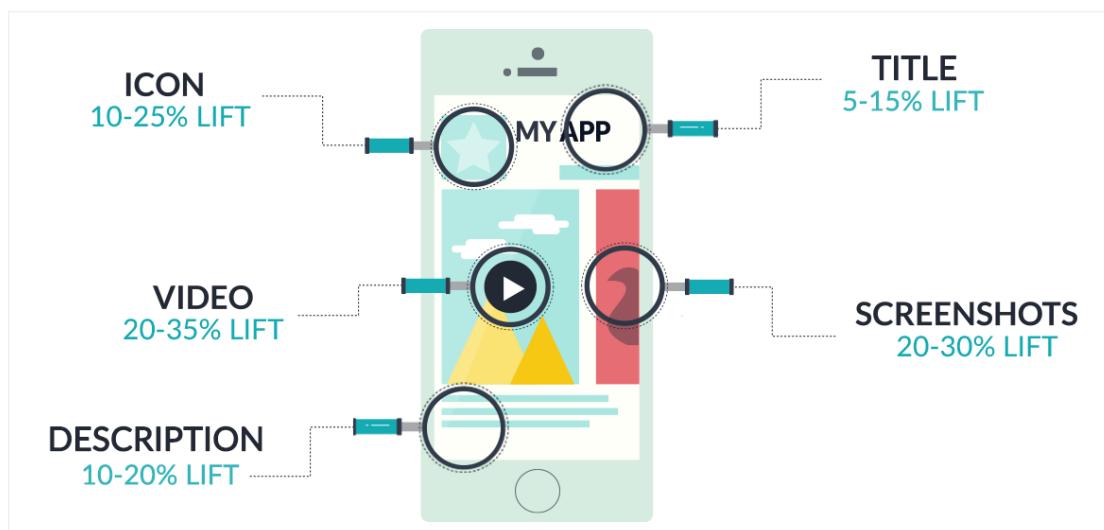
For more data, consider the results of this study on conversion rate benchmarks from Splitmetrics, which shows the median App Store Page Conversion rates from A/B tests:



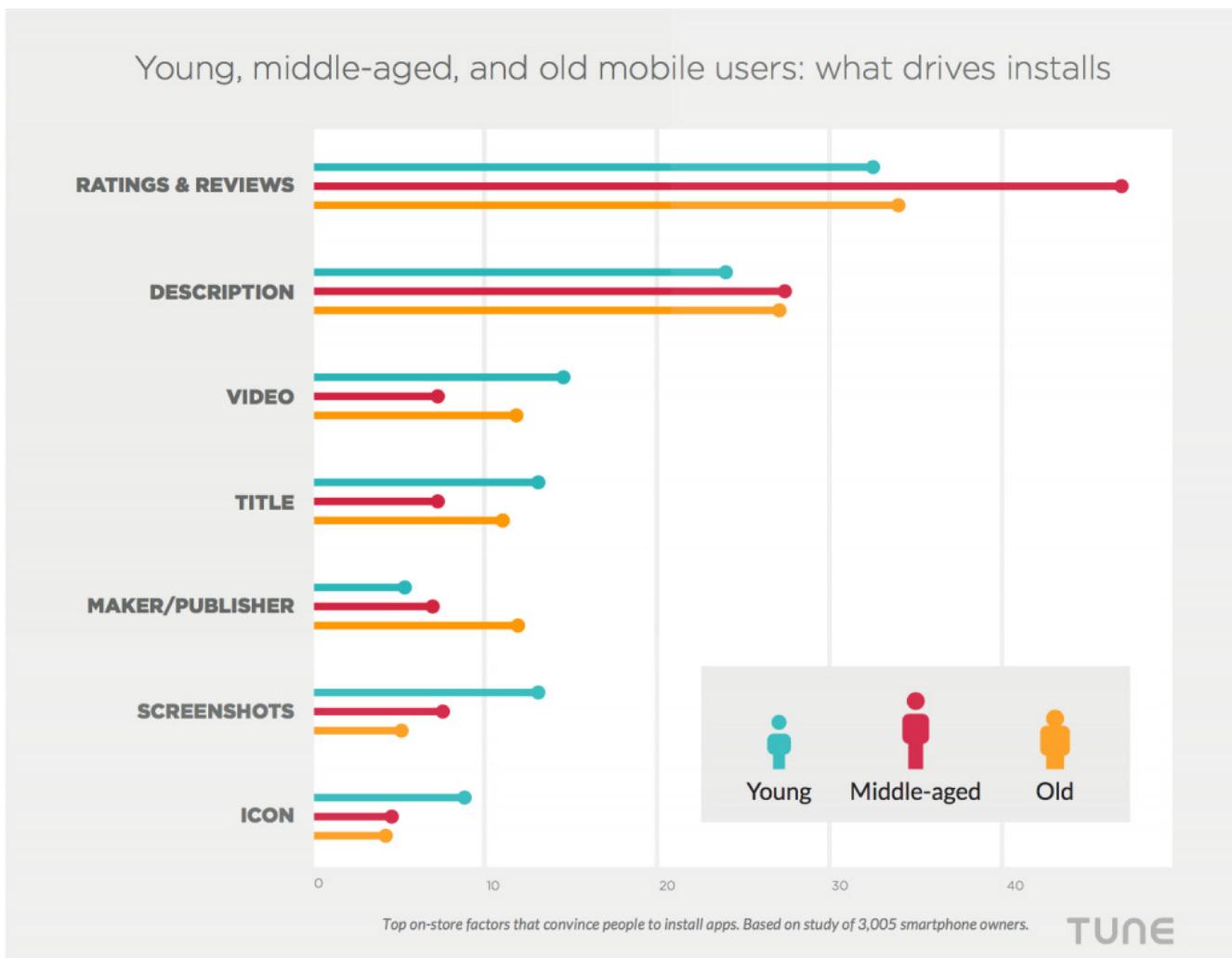
A/B test conversion rate data by top categories from a [Splitmetrics study](https://splitmetrics.com/blog/whats-a-good-app-store-page-conversion-rate/) [<https://splitmetrics.com/blog/whats-a-good-app-store-page-conversion-rate/>]

When it comes to selecting which assets to optimize, the big three visual elements are generally the most common (icon, screenshots, video/feature graphic); but research from [Store Maven](https://www.storemaven.com/increase-app-conversion-rate/) [<https://www.storemaven.com/increase-app-conversion-rate/>] and TUNE provide additional insights into what elements are the most effective at lifting conversion.

For example, [Store Maven](https://www.storemaven.com/increase-app-conversion-rate/) [<https://www.storemaven.com/increase-app-conversion-rate/>] has found that only 2% of iOS users and 5% of Android users will read an app's full description. Yet, according to research from [TUNE](https://www.tune.com/blog/mobile-users-make-app-install-decisions-google-play-app-store/) [<https://www.tune.com/blog/mobile-users-make-app-install-decisions-google-play-app-store/>], the most important elements of an app page in converting visitors into users are more textual than visual.



Estimated lift in conversion rate by specific asset optimization, per Store Maven



Factors that lead users to install an app, per another TUNE study [<https://www.tune.com/blog/mobile-users-make-app-install-decisions-google-play-app-store/>]

The variance of studies and experiences underscores an important tenet in CRO, which is that no element should be ignored. While prioritization is important, a proper CRO strategy should ultimately touch all aspects of an app listing.

## CRO Loop Step #1: Conduct Research

When researching, try to assimilate information from every relevant source that you can, in order to be well-informed and avoid biases that can arise from studying solely one source of data. Here are some ideas for information that may be useful when planning your CRO efforts:

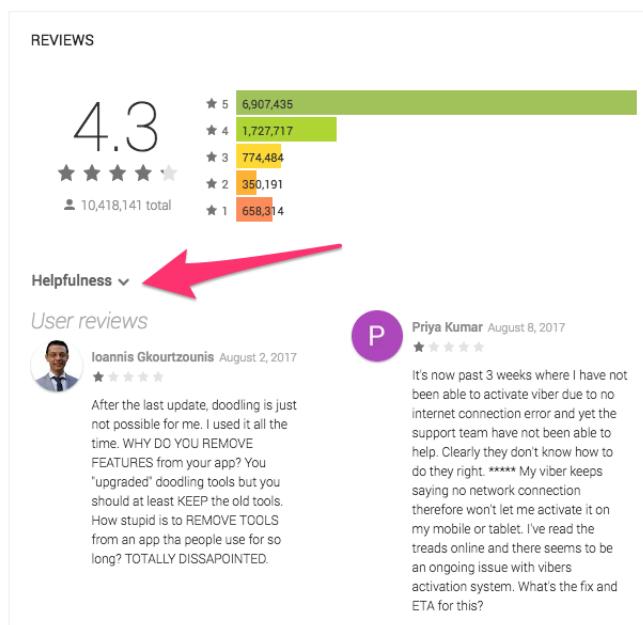
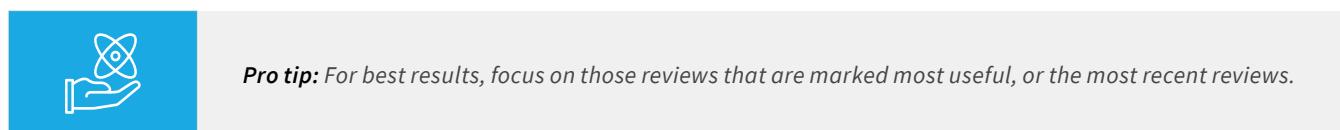
### RESEARCH SOURCE: YOUR TARGET MARKET

- **What features do they care about?** Focus on concisely communicating these key factors in the user's decision making process.
- **What features do they not care about?** Increase the effectiveness of your listing by skipping these features, or placing them below other, more important features.

- **What needs/wants do they have?** Clearly communicate how your app addresses these, whether these are features, fears, desires, or other consideration points.
- **What education level do they have? What vocabulary do they use?** Speak to them in terms they understand best.

Also, be sure to take a moment and read (not skim) a good handful of top user reviews. Take notes on the above, as well as other comments that multiple users mention and think about how to integrate these into your messaging.

Take note of what assumptions you had and determine whether users even seem to care about those at all (use keywords, inferences, and other forms of logic to connect user feedback to your assumptions). Be mindful that anything which users don't care about should be considered negative weight; that is, not only are they not considered valuable to users, but they can also actively detract from the important bits by convoluting the whole of your messaging.



Screenshot showing Google Play reviews, sorted by helpfulness

## RESEARCH SOURCE: COMPETITORS

Naturally, as ASO is all about competing well in a zero-sum environment, you should also soak up insights from studying your competitors' listings.

- **What are their differentiators or unique selling points?** Determine how to overcome these in order to put your app ahead in the user's decision process.
- **What is their rating?** Determine whether your rating is a liability to improve, or an asset to tout.
- **What complaints do users mention in their reviews?** Take advantage of issues that your competitors face to gain points in the user's decision making process.

Also take some time and compare your elements to the styles of other apps that appear near yours in keyword search results. Focus on the fact that your app will need to capture user attention better than these apps in order to earn that user's initial tap and/or install.

The screenshot shows a comparison between the old and new versions of the SoundCloud app listing. The top section displays four screenshots of the app's interface. The first two are labeled 'Removed' and the last two are labeled 'Unchanged'. Below this, a section labeled 'Screenshots' shows four new screenshots labeled 'Added'. The bottom section contains a table comparing 'Old' and 'New' values for 'Rating Count', 'Rating Count for Current Version', and 'Version'.

|   | Old    | New    |
|---|--------|--------|
| <b>Rating Count</b>                     | 130870 | 134206 |
| <b>Rating Count for Current Version</b> | 70     | 607    |
| <b>Version</b>                          | 5.2.0  |        |

*Screenshot of Mobile Action's Timeline update. Watching closely what your competitors change can also help with identifying your next hypotheses and tests.*

## RESEARCH SOURCE: YOUR APP'S PERFORMANCE

If your app is launched, tap into your own data to guide you to both the hotspots of user activity, as well as those sparse areas of user activity. Both are important for informing you on how to position your app's messaging. If your app is not yet launched, study your website performance or signals from your other marketing or pre-launch activities. Consider the following data points in your research:

- **Your conversion rate, and conversion rate vs. the benchmark (i.e., Google, or benchmark data from the prior pages for Apple).** This will serve as a barometer of how critical CRO is, and a yardstick for much potential return you can expect from successful optimizations.
- **Your top-ranking, highest volume keywords.** These keywords align with the intent that most users will have in mind when they encounter your app listing. Keywords are like the question that users ask in order to find relevant solutions in the form of apps.
- **App usage data:** Review your app's usage data to figure out which features or configurations are the most-used or most-purchased, and use these insights to increase your app listing's appeal to new users.



**Beware:** Macro changes in your app's seasonal patterns may affect your CRO efforts. If you have such fluctuations in your app's performance, try to account for them in your analysis.

Once you've got a good grip on your addressable market, the competitive landscape, and your app's performance, you can move on to the next phase of creating hypotheses.

## CRO Loop Step #2: Hypothesize

Changing the background color of your screenshots to blue is an idea that could produce better or worse results. But why? Without thinking through a hypothesis, you may not know why the results happened, only that they did, and you will probably have to start from scratch when thinking about what else to try next.

But **if** you come up with a hypothesis and supporting evidence, **then** your job will be easier. Consider the following example of a hypothesis and supporting evidence:

**Hypothesis:** “**IF** we add an image of happy people into the background color of our screenshots, **THEN** our conversion rate will improve.”

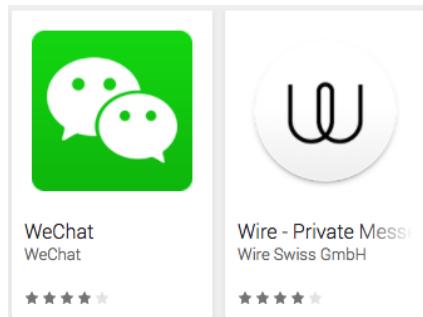
**Supporting evidence:** This change will provide our app with a sense of realism, and help users to envision themselves reaching the happy state of the people they see in your screenshots. By creating an emotional connection with our users using images of people, our app will enjoy an advantage over other apps offering similar features, but no emotional connection.

Not only does this exercise help us build confidence in our assumption, but it also sets us up for the next step, too. If this test produces positive results, we can try to find other ways to increase the emotional connection or realism of our app in user’s eyes, such as adding use cases to the description.

In order to come up with a hypothesis, **observe different aspects** of your app listing, your competitors' app listings, your marketing efforts, your customer service logs, or anything else that offers insight into your target market's interactions with apps and what they care about. Some of the following are some good examples of how research can form hypotheses. Following the “if, then” format in writing hypotheses can help you keep the focus of ideation on driving a desirable impact.

- Scenario: Your **icon** or **IAP icon**.

**Observation:** Your icon is abstract, while other apps' icons allude to their use cases. Hypothesis: If you add imagery into your icons that hint at what your app does, then it will help users understand what your app does or your IAP are offering more quickly.



*Left: A messenger (WeChat) with clear imagery for a messenger app. Right: A messenger app (Wire), with less clear imagery.*

■ Scenario: Your competitors' **screenshots or preview videos**.

**Observation:** You and your competition all show a set of similar features, while users mention features in their reviews that are not included in the general asset set. Hypothesis: If you show the same main features as your competition, plus the most commonly mentioned additional feature by users, then this will assure users that your app can do what other apps do, but offers even more value.

**Observation:** Your app doesn't include the full in-app screenshot in your Play Store app listing screenshot, while the top-ranking apps in your category generally display full-length screenshot. Hypothesis: If users can see the full screenshot and are not left wondering what is hidden off-screen, then they will understand the benefits better.

■ Scenario: Your screenshot **captions**.

**Observation:** Your font is very small, while some of your focus groups indicate that users don't read your captions and only comment on the look of your screenshots. Hypothesis: If you use larger, more legible fonts, then users will be more willing and able to read them and grasp the value they convey.

**Observation:** A competitor uses two of your starred keywords in their screenshot captions. Hypothesis: If you include keywords in your screenshot captions, then it will increase your app listing's visual word recognition, and thus conversion rate.

■ Scenario: Your **short description or iOS promo text**.

**Observation:** Top charting apps mention accolades, such as the total number of users and quotes from the press. Hypothesis: If you mention social proof in your description opening, then users will be encouraged to continue reading more and thus download.

■ Scenario: Your app's **rating**.

**Observation:** Your app has a star rating of 3.5, while your competition all have ratings of 4 or higher. Hypothesis: If you can earn a star rating of 4 or higher, then your app will no longer be disadvantaged relative to competitors, and your conversion rate will improve.

## CRO Loop Step #3: Craft Your Messaging / Select imagery

Crafting your messaging and selecting imagery involves distilling your research and hypothesis into a tangible form that can be consumed by users. From the icon to the opening description hook to screenshots and captions to feature graphic overlaid text and background imagery, the messaging/imagery is what answers the user's question of "why should I care?"

Here are five examples of messaging that apps oftentimes lean on:

### 01. Social proof (e.g. total number of users)



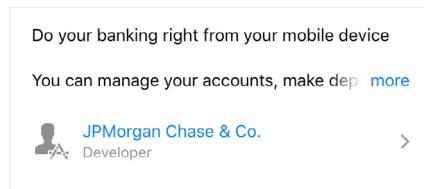
*Wish using social proof in its description*

### 02. Branding (e.g. a journey of self-discovery)



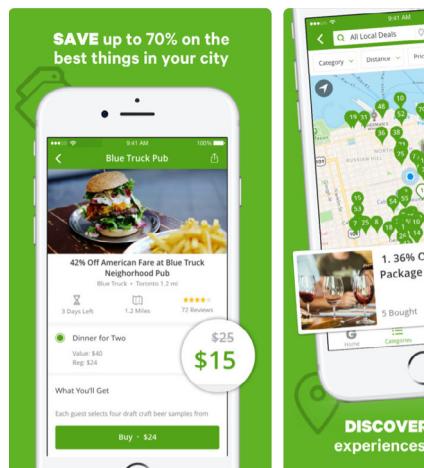
*Sarahah offering a branded description opening*

### 03. Ease of use (e.g. one tap to do x)



*Chase using an ease of use messaging in its description*

### 04. Pricing (e.g. “cheapest” or “affordable”)



*Groupon conveying pricing in its screenshot caption*

## 05. Engaging (e.g. the most fun game)



*Tinder using an engaging first screenshot caption*

While messaging can be added to any of the elements of an App Store listing, the best apps use messaging that spans multiple elements to tell a more cohesive story.

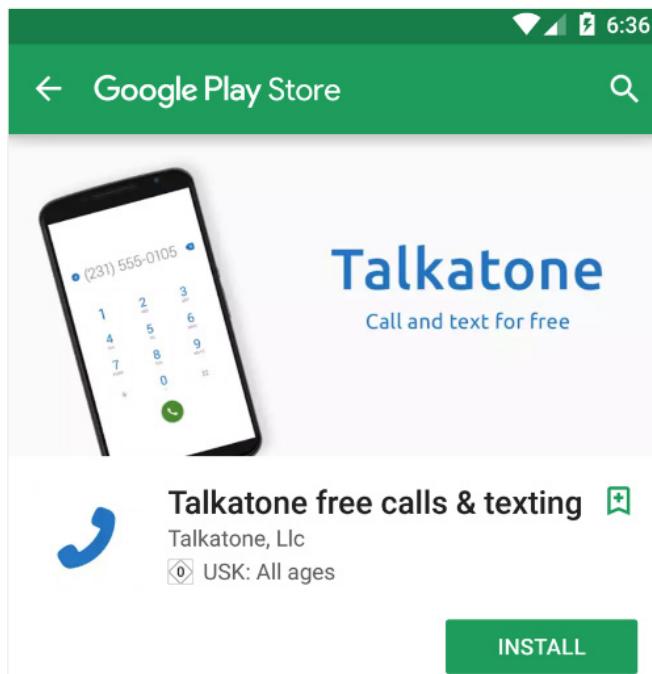
When crafting your messaging, here are some general tips to keep in mind:

- Offer users **data points** that describe your app in the smallest number of characters possible. Social proof (e.g. total trips taken) is a quintessential example of using data points to sell an app.
- Use **vocabulary** that users are looking for and understand, such as your best-ranking keywords.
- Use questions, an **engaging brand voice**, problem statements, or other methods to entertain and engage users. This can also include the use of **emoji**.
- Test whether **questions** vs. **statements** have a higher conversion rate for your app.
- Pick a **hook that stands out** when compared to other apps that share visibility for the same keywords or top charts. Try using a description with more simple vocabulary, or saying the same thing with half as many words.

When selecting imagery, here are some general tips to keep in mind:

- For lifestyle apps, using images of people or scenes to **convey a sense of realism** can score improvements.
- Make sure **not to obscure in-app screenshots** with designs or other visuals. This can set off the user's suspicion that you have something to hide, and make them more cautious of downloading your app.
- Identify imagery that can help **convey information** on what your app does or allude to a major use case.
- Use **custom design** such as shadows, gradients, or hidden imagery. This can make visual designs appear more impressive, and score points with users.
- If your **messaging is the strongest** point, **use abstract visuals** as opposed to bold or real imagery, to help the user focus on your messaging and not the imagery.
- Test whether asset design that **is subtle or contrasting** does better for your app.
- **Test using words or letters in your visuals;** word overlays can work incredibly well as many times, messaging

overlaid in a visual element is noticed before messaging buried in text elements.



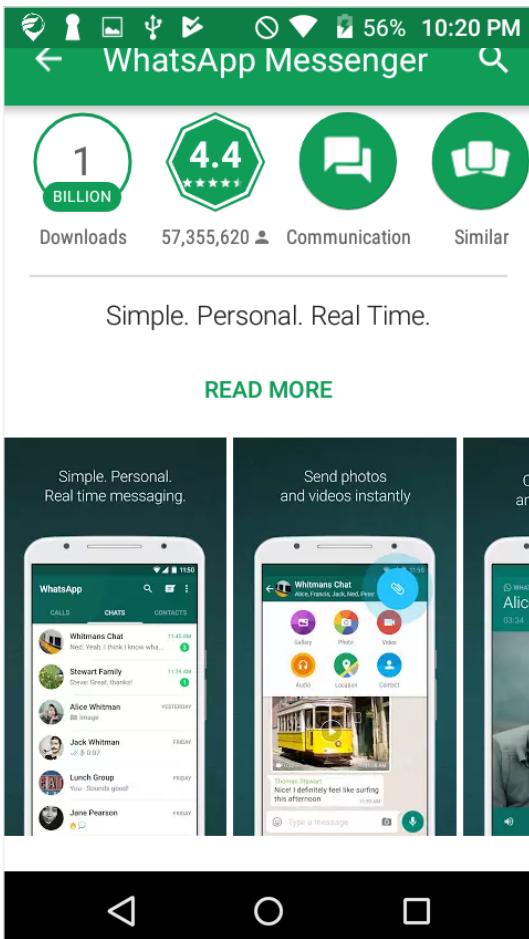
*Talkatone overlaying “Call and text for free” in their feature graphic in the Google Play Store.*

## CRO Loop Step #4: Create Your Assets

After crafting your message and selecting imagery, consider what elements of your app listing are best suited to convey your message, and whether you can connect messaging across multiple elements for better cohesion. Each element is naturally very different, and as such presents an opportunity to speak to your message from different angles, which can increase the power of your message as a whole.



## A Case Study in: Cohesive Messaging

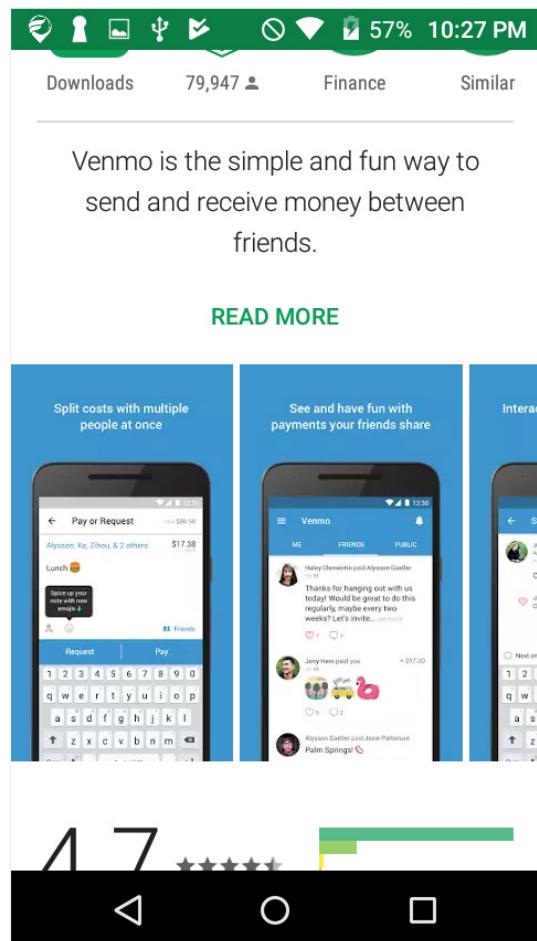


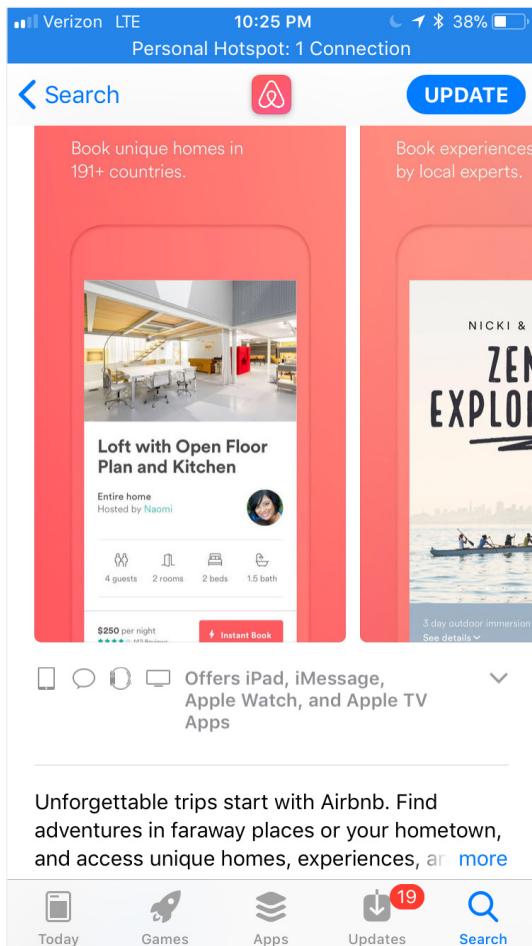
**Right: Venmo**

Venmo also touches on its message of simple, as well as connecting finances between people, both in the short description and second screenshot.

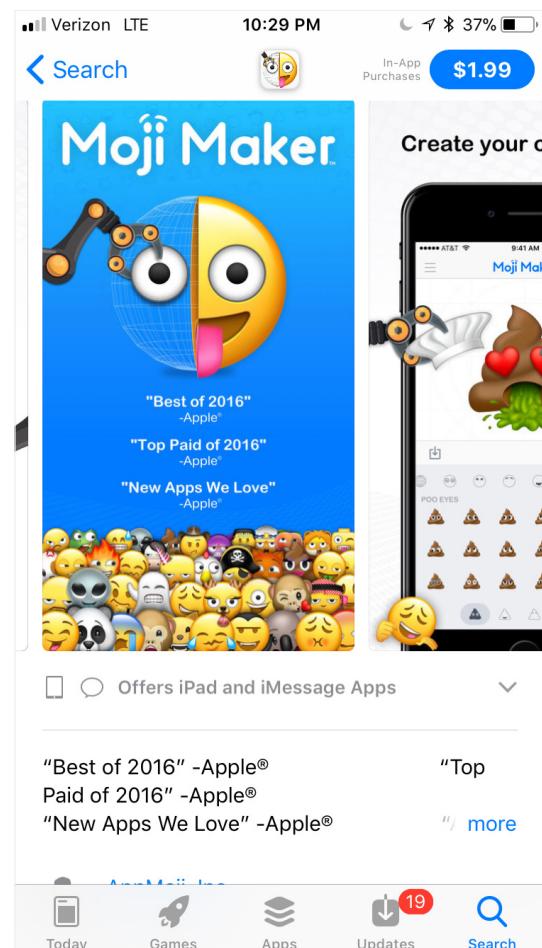
### Left: Whatsapp

WhatsApp conveys its connected message through the short description and screenshots simply by repeating the word “simple” and “real time;” though WhatsApp could have used an image to convey the message of personal, or else use the phrase “real life” to describe other aspects of a person’s life, such as photos of travels.

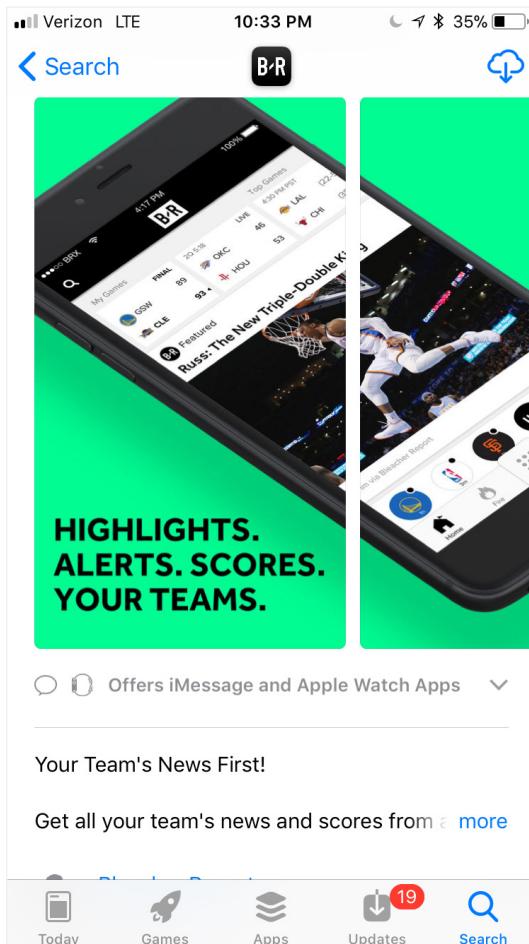


**Left: Airbnb**

Here, Airbnb conveys a strong message of experiences in unique locales, delivered by the phrases “unforgettable trips” and “unique homes” and the interesting loft and intriguing open-water experience. Airbnb also departs from the traditional, beautiful tropical/city imagery in favor of a very unique home, which may or may not strongly communicate the message of unique enough, and as such represents a great A/B test to try.

**Right: Moji Maker**

Mojimaker also takes a more direct approach by repeating the accolades that it has acquired in both the first screenshot and the description. Additionally, the caption connects with the imagery of the claw attaching parts of the emojis, underlining the messaging of creation and customization.

**Left: Bleacher Report**

Bleacher Report achieves coherence by repeating similar messaging, informing users of the app's focus of putting their teams' news, scores, and information first.

In the following sections, we will dive deeper into optimizations for each of the store assets. Additionally, we will begin each asset subchapter with a note of knowledge that applies to both Apple and Google assets (if applicable), and then provide specific knowledge on the Apple App Store-specific asset, followed by the Google Play Store-specific asset.

## Store Asset: App Title

While the title is 99% of the time used primarily for keyword ranking optimization, the test of a good ASO is whether a keyword-optimized title can still effectively convey the main value proposition of the app, in order to boost conversion rate. Unfortunately, you cannot A/B test the title in the App Store, nor in the Play Store, and must use a 3rd party A/B testing tool; we provide several options for A/B testing tools in the [tools chapter](#).



**Pro tip:** You can hack an A/B test together for your title by releasing a new title live into a localization that shares the same language as your core market, but is a second or third-tier market. Measure the change in performance via a pre-post comparison and use the results to directionally forecast how the change would affect a title change in your core market.



## Robinhood - Free Stock Trading

Robinhood

USK: All ages

*Robinhood is by now a strong brand in the U.S., but still a lot of people don't know what they're doing. Adding 'Free Stock Trading' not only helps with searches but also with conversions.*

Identify keywords that are most recognized and valued by users by referring to your user research, user reviews, or performance marketing campaign data.



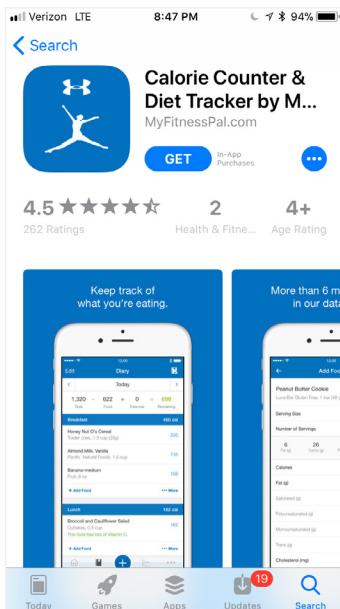
**Pro tip:** You can also run an advertisement test to inform your title testing. For example, if a Facebook Ad running with "Robinhood - Free Stock Trading" as a headline outperforms "Robinhood - Trade stocks for free" and the former also makes sense for keyword optimization, use the first as your app title.

In general, when optimizing your app's title, ensure that the keywords that are most useful in describing your app are located **earlier in the title**, and thus most safe from truncation (i.e. seek visual word recognition).



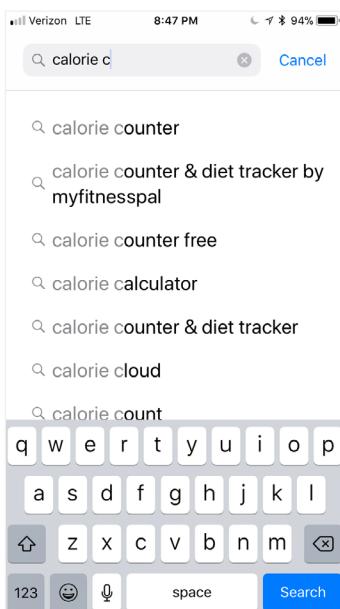
## A Case Study in: Writing App Titles with MyFitnessPal

MyFitnessPal provides a good example of optimizing an app's title for visual word recognition by placing top keywords earlier in the title.



*Screenshot showing MyFitnessPal's title*

By placing the top keyword before the brand name (Calorie Counter & Diet Tracker by MyFitnessPal), this app increases the perception of its relevance for top keywords (calorie counter, diet, diet tracker). Additionally, when the app appears as a result in auto-fill results for those top keywords, the app can capture user attention more quickly by more closely matching the user's search term, based on the fact that users read words from left-to-right.

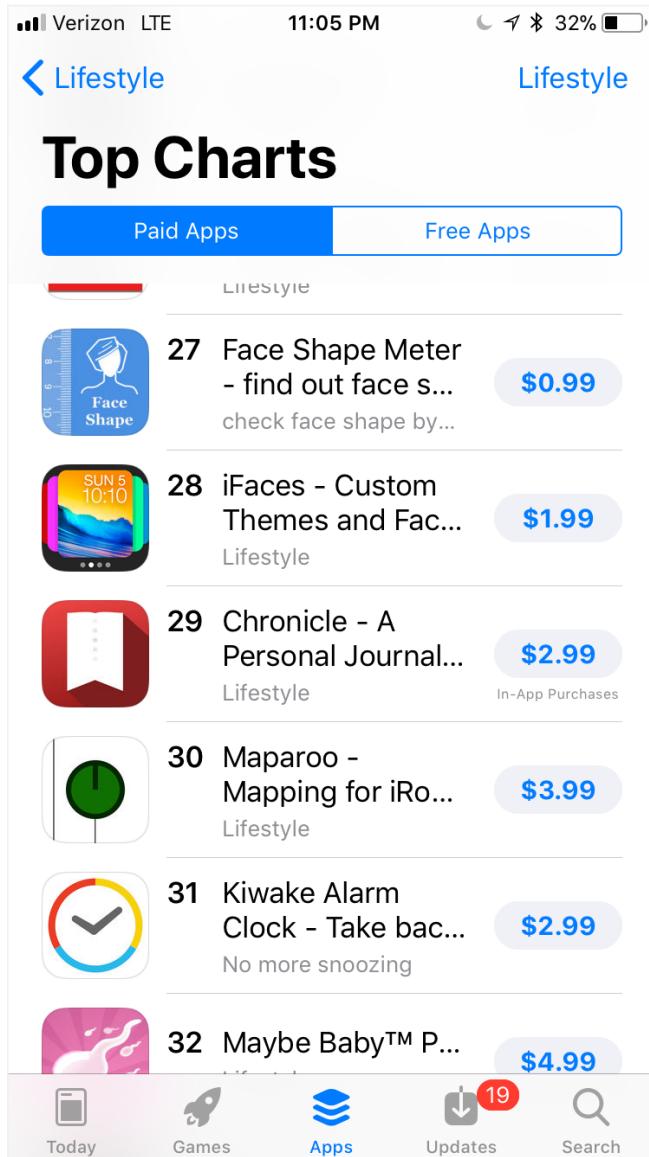
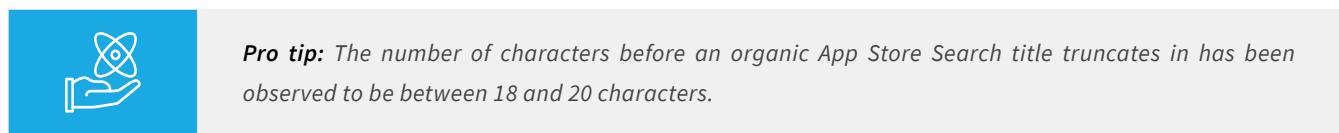


*Screenshot showing auto fill searches for calorie counter, with MyFitnessPal appearing second*

## Apple Asset: App Title

The Apple title has a **larger font than the subtitle**, and thus is more likely for a user to read first.

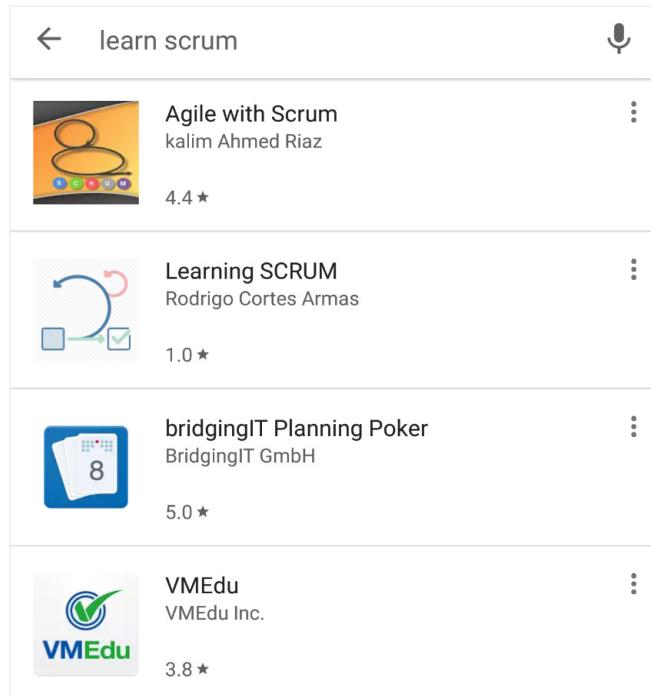
Furthermore, the app title is not as prone to truncation in App Store Browse impressions as the subtitle.



Screenshot: App Store U.S. paid apps top chart depicting truncation of app titles and subtitles

## Google Asset: App Title

An Android app's title at 50 characters offers more space than the title of an iOS app (not including the subtitle). Yet an Android app's title is also more vital than in iOS for explaining to users **what your app is all about** from a keyword search, given the absence of screenshots and a subtitle in a Google Play search impression:



*Screenshot of a Google keyword search. While the first three titles show a relation to scrum, the fourth title has no relevance.*

## Apple Asset: Subtitle (Apple-Only)

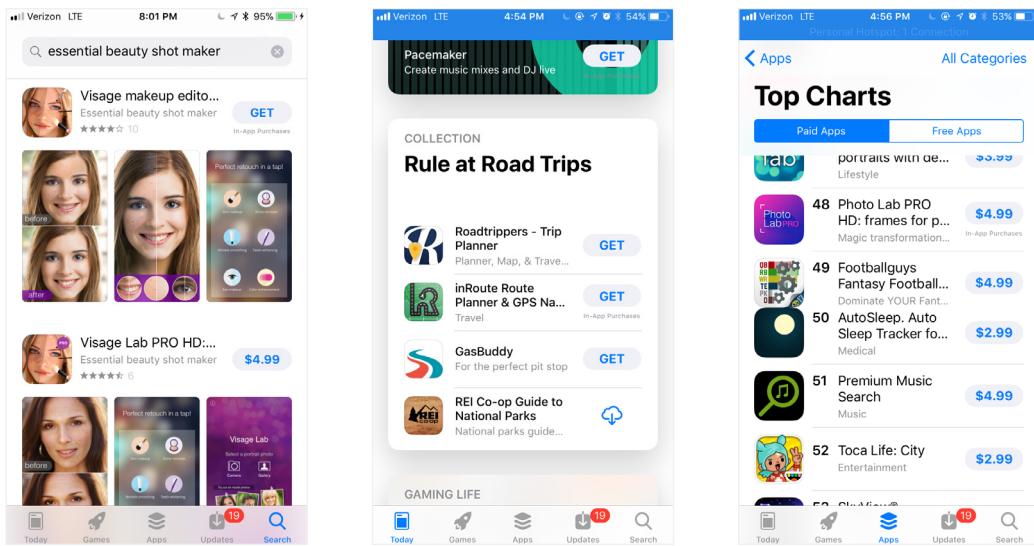
Offering an additional 30 characters and appearing anywhere the app title appears, the subtitle is useful for both ranking in KWO, as well as CRO. Again, like the title, the most important factors for subtitle CRO involve finding the right keywords and **avoiding truncation**. A difference between the title and subtitle is that subtitles tend to not truncate for longer in App Store **Search** impressions than titles, yet truncate sooner than titles in App **Store Browse** impressions.



*SoundCloud's companion app for creators makes use of the subtitle to make it clear to App Store Browsers that it's not its main*

*listener app.*

For the subtitle (and title), if possible try to optimize your letters for those that are thinnest, such as using “ls” vs. “Ms.” For example, using this method enables app Visage to earn a fully untruncated 27 characters in an App Store Search impression with “Essential beauty shot maker,” while app GasBuddy earns a fully untruncated 24 characters in an App Store feature impression with “For the perfect pit stop,” while Footballguys Fantasy Football earns a paltry 18 characters in a top chart impression with “Dominate YOUR Fant.”



Screenshot depicting Visage (left) earning a 27 character subtitle, GasBuddy (middle) earning 24, and Footballguys (right) earning 18 characters



**Beware:** The length of characters allowed before an App Store subtitle truncates is different depending on whether the impression is a top chart, feature, or search impression.



## Google Asset: Short Description (Google-Only)

This **80 character text field** appears before the user expands the listing to view the long description and is vital for encouraging users who learn by reading to download or continue on to the long description.

Hulu: Get exclusive seasons, movies, Originals, and more - now offering Live TV

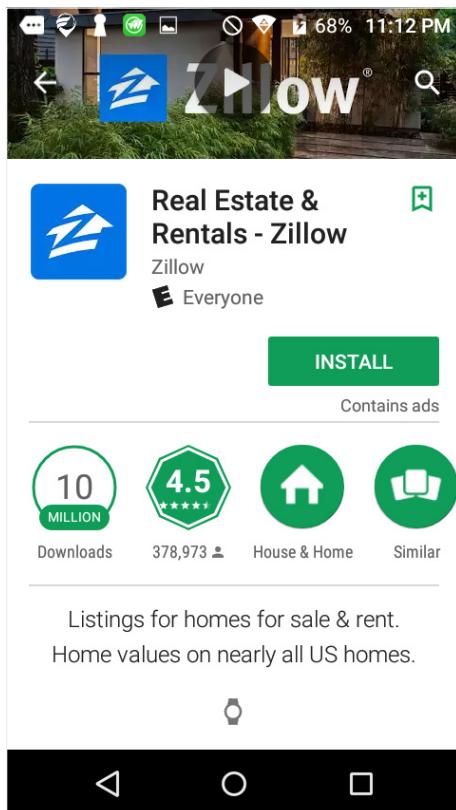
[READ MORE](#)

*Hulu short description with a “READ MORE” link leading to the long description.*

While short descriptions are important for both keyword ranking and increasing conversion, ASOs most often consider

the main purpose of the short description as **boosting conversion rate**. That said, including a few very important keywords in the short description can be a way to improve your app's ranking and raise conversion rates by explaining what your app is in terms that users are searching for.

Short descriptions are also well-equipped for conveying key messaging, given that they are centrally located **above the fold** in an Android app page; by contrast, screenshots are not ideally-located, as users must scroll down in the Android listing to see the screenshots, and the feature graphic is partially hidden under the status bar.



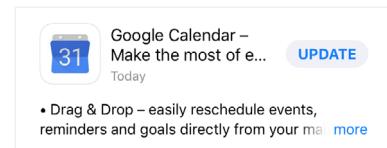
*Screenshot depicting the short description sitting above the fold in the app page.*

## Other Metadata Store Assets: What's New

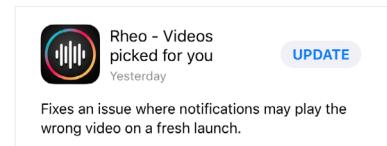
Similar to the number and specifics of languages an app supports, an app with a steady history of updates can be a major signal of quality (or vice versa), not just by the cadence of updates, but by the care put into wording each **What's New**-note. Additionally, in the App Store each What's New is logged in the Version History, giving users a window into what the app developer has spent time addressing in each version. A version history filled with “bug fixes” tells a story of an app that is probably less valuable and problem-prone than an app that has a rich history of feature additions and other significant improvements.

Try some of these tactics to get the most out of your What's New text:

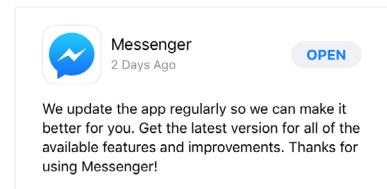
- Explain what new functionality was added and why people should care.



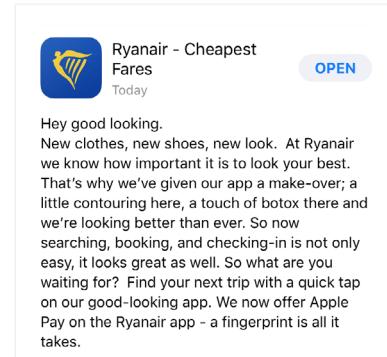
- If possible, explain what issues were fixed in “bug fixes.” If a bug that many users were pained by was fixed, tell people that a major issue was addressed.



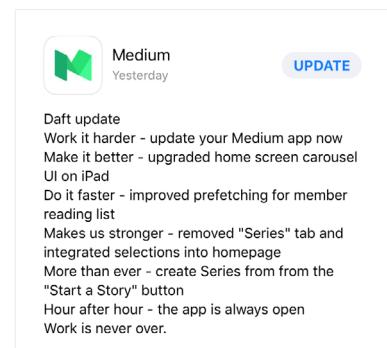
- Comfort new users and existing users alike by affirming your commitment to updates (offer a cadence of updates if you have one).



- Offer appreciation to people for using your app.



- Offer witty or funny comments; such comments might even go viral! For example, search on twitter for example for “Medium iOS update” to see what the app Medium is doing with their What’s New texts and how they are shared.



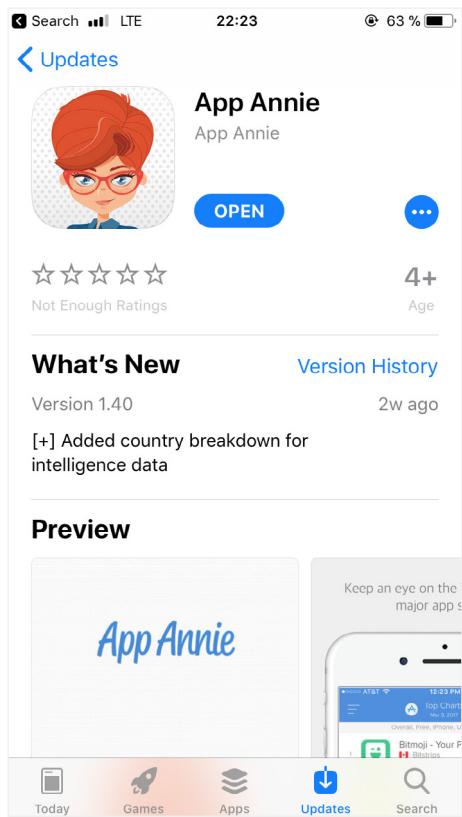
- Be clear and concise—use as few words as possible to focus attention on what matters.



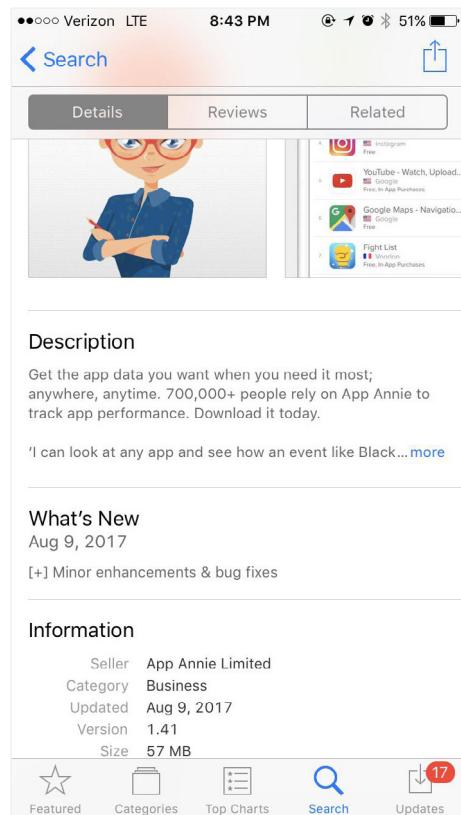
## Apple Asset: What's New

In Apple, the What's New-section occupies a location that is likely to be read by inquisitive users and can indicate to users the activity of the development team and thus how much the team cares about the app and how often they make improvements (along with the version history, which is a catalog of prior entries of What's New). In the App Store, What's New can also be updated **without requiring an app update**. The What's New also shows in the updates section of the App Store, and can easily be read by users who have downloaded your app.

In **iOS 11**, updates are shown with high prominence to users who have already installed your app

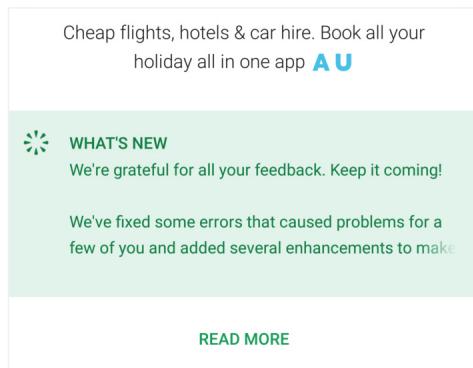


In **iOS 10.3** and under, updates were located just below the description element.



## Google Asset: What's New

The What's New-section in Google does not rank for keywords and only appears in listings for users who have already downloaded the app, pegging this element as one of the least important elements for CRO.

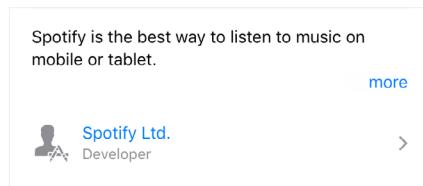


*Screenshot: What's New in Google Play appearing just between the Short description & "Read More" button if the app is installed.*

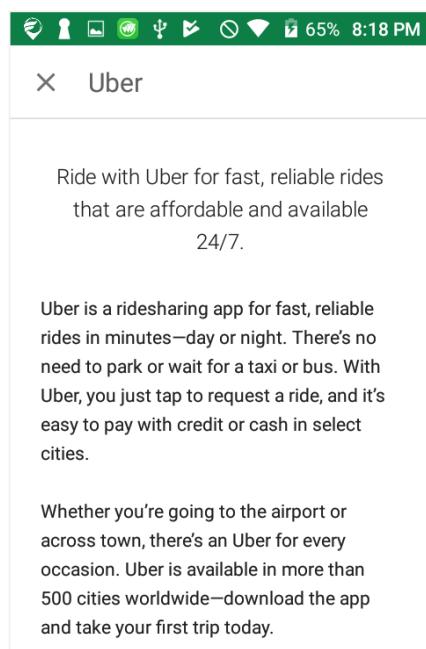
## Other Metadata Store Assets: Full/Long App Description

Most app descriptions include some combination of the following sections. Try creating each of these sections and testing different variations and locations of each section in your long description:

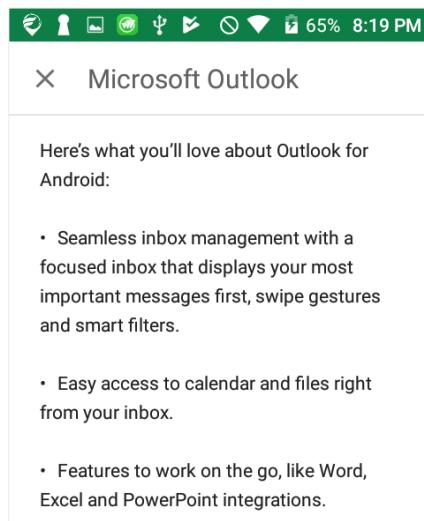
- Description opening hook:



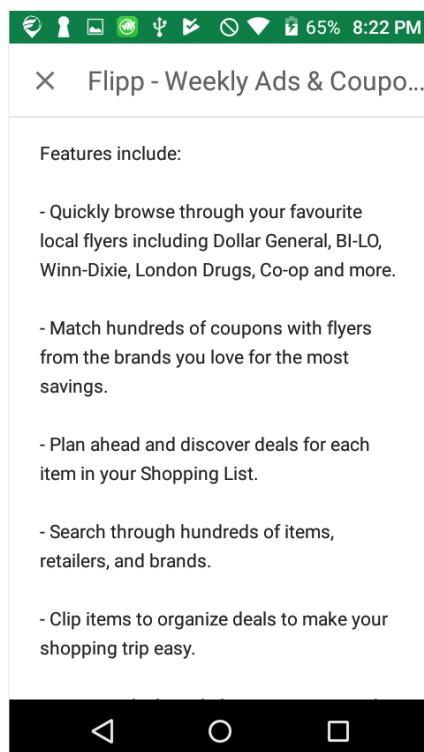
- General description of the app:



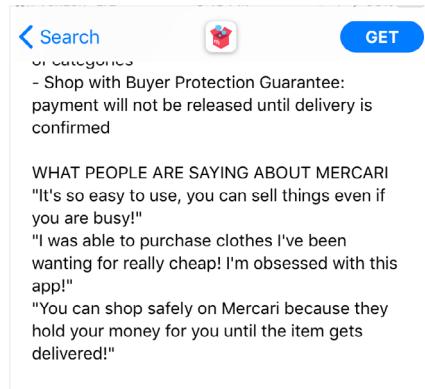
- What's to love about the app:



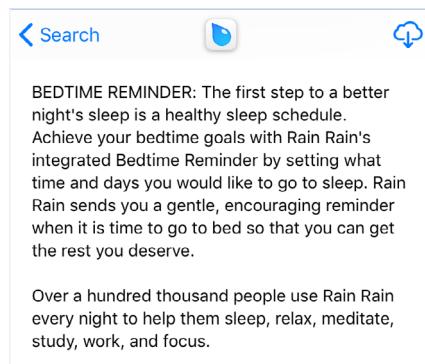
- Features of the app:



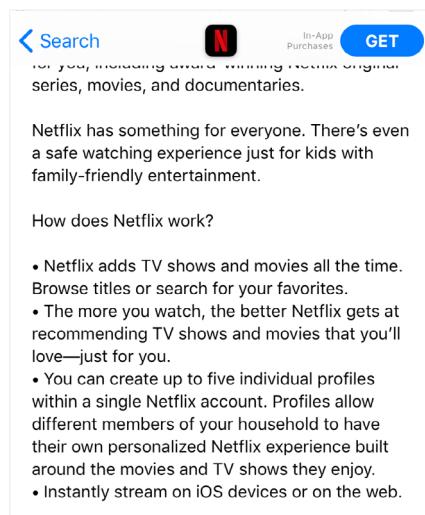
- App user reviews/PR quotes (Oksana larosevych points out that this is against policy in Google Play):



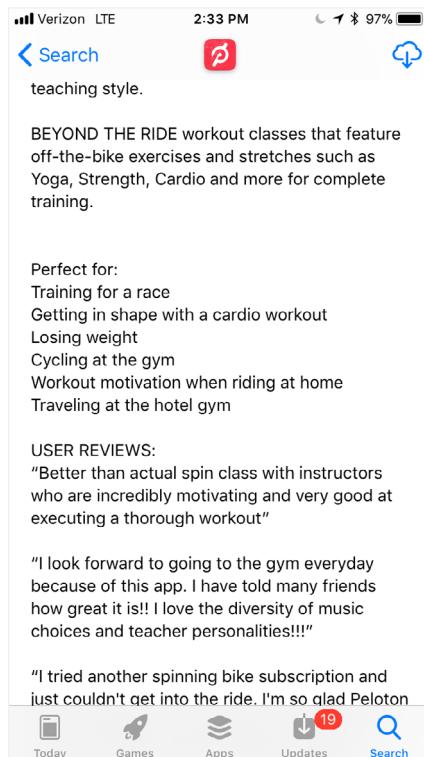
#### ■ App usage data accolades:



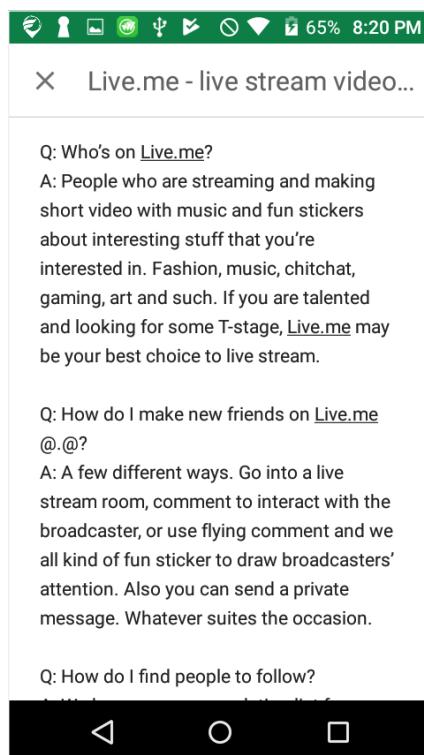
#### ■ How the app works:



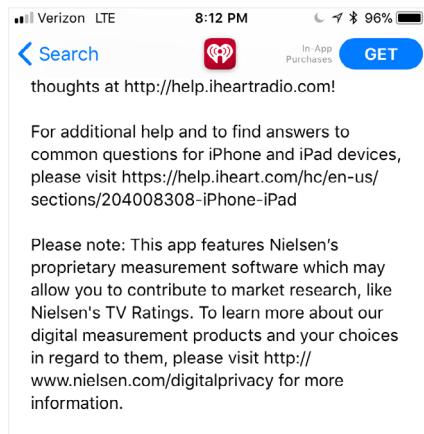
#### ■ App use cases:



#### ■ App user FAQs:



#### ■ Company administrative information (privacy, subscriptions, etc.):



Also, consider some of the following A/B test-ready ideas for using your app's description to improve your conversion rate:

- Test differences in font formatting/section headings/white spacing/content density.
- Add, remove, or change the order of major sections.
- Include social media/support links.
- Use an active voice when describing features and try using use cases that resonate with your target market's intent. For example, instead of the sentence "grocery list items," use the sentence "add items to your grocery list, like milk, eggs, and bread."

## Apple Asset: Full Description

The first several lines of your description will show under your promo text (if set), and before the "more" button.

Optimizing your first five lines continues to be the most important section of the Apple description, but the full description is also important to a key subset of potential users; these are the people who are engaged enough to want to learn more about your app beyond the screenshots/first five lines, and some that will read it in its entirety. Crucially, these people:

- 01.** Are **high-quality users**: If they are actually investing this much time to decide what app to download, their overall value as a user is probably higher than the non-brand keyword searcher who hits download within three seconds.
- 02.** Are not quite ready to download your app: They want to know what else your app does beyond what was provided in the screenshots. Your full description, therefore, may be **vital in convincing** these users to download.

The main goal of description optimization in Apple, where keywords do not rank, is to strike the right balance of conveying your messaging, while doing so in the most concise manner possible. This difference represents an advantage that an App Store description possesses over a Google Play description, as the App Store description can be written freely, without the pressure of inserting keywords for ranking.

## Google Asset: Long Description

While the Google Play app description is the same number of characters as the App Store's (4,000), the **Google Play description** is far more important to increasing visibility than the App Store description because the Google Play description **ranks for keywords**.

Yet a significant advantage in CRO that Google Play descriptions possess over App Store descriptions centers around **text formatting**.

Developers can use rich formatting (HTML) and emojis to make the Google Play app description stand out of the crowd in searches and in your page view. For example, [Boomerang \[http://blog.boomerangapp.com/2016/07/rich-formatting-app-store-optimization/\]](http://blog.boomerangapp.com/2016/07/rich-formatting-app-store-optimization/) saw a 16% conversion uplift when they formatted their Google Play Store description. While we haven't seen this high conversion uplift on the description before, we did see conversion increases by making clever use of emojis or rich formatting.

You can also use rich formatting to bring out the structure in your Play Store description by accentuating chapter headings, for instance.

Additionally, you can also use rich text and emojis to stand out in the crowd; even in your Google Play Title (see [Wattpad Free Books](#)) and developer name you can use emojis to increase conversion, although you won't be able to run A/B tests on these two assets.



*Beware: Having emoji in your developer name or title, will disqualify you from running Google AdWords campaigns.*

### Examples of emojis in long descriptions

| ASSET             | EMOJI EXAMPLE  |
|-------------------|--|
| Title             |  <b>Cheap flights and airline tickets – Jetradar</b> <br>JetRadar  |
| Short description | Free navigation and offline maps with speed cameras warnings and traffic    |
| Developer name    |  <b>American Keyboard</b><br> Classy Keyboards<br> USK: All ages<br>4.2★ (145,490) • 10 million  |

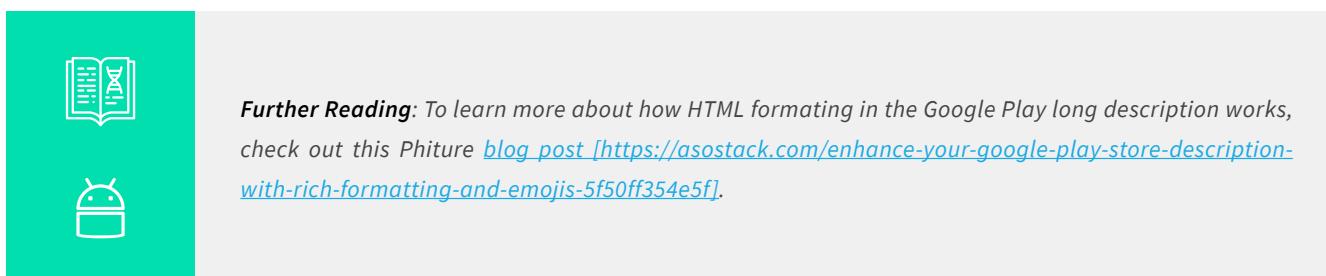
## Examples of emojis in long descriptions

| ASSET       | EMOJI EXAMPLE   |
|-------------|---|
| Description | <p>***🌟 The #1 Navigation app: 150,000+ 5⭐ reviews &amp; 18 million+ installs 🚗🚶‍♂️🚗🚴‍♂️ ***</p> <p>Getting around town is easier and more personal with HERE WeGo. Use offline maps to navigate without an internet connection. Get directions and other info you need to go from A to B your way, including transit ticket and carsharing prices, departure times and more.</p> |
| What's new  | <p>☀️ WHAT'S NEW</p> <ul style="list-style-type: none"> <li>✓ B R Brazilian Package is now Free 🎉!</li> <li>✓ ⚽ Football (soccer) Package is now Free 🎉!</li> <li>✓ ❤ Need more love? New package of 50+ stickers 🎃</li> <li>✓ 🐶 Exclusive for dog lovers - Animated dogs 🐶🐶</li> <li>✓ Summer pack 🌞☀️ - updated -</li> </ul>  |

When it comes to formatting, a lot more is possible, but only with the long description.

```
<b>Your Personal Assistant App: One App  
To Recharge, Book Cabs & Order Food.</b>
```

*Screenshot showing a developer failing to use formatting in their live short description.*

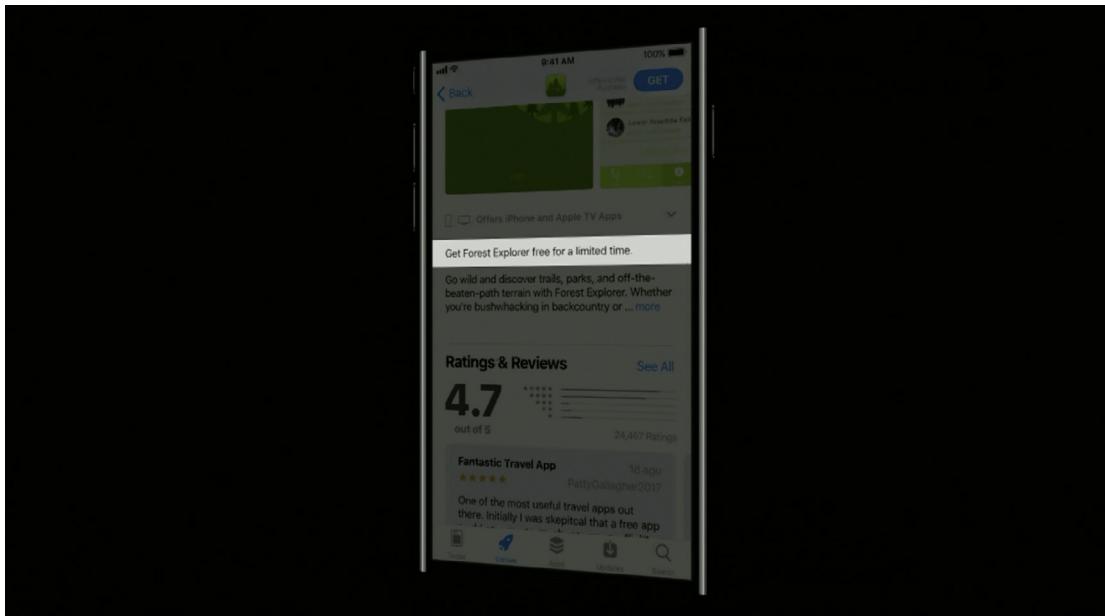


## Other Store Assets: Promotional Text (Apple-Only)

When present, the 170 character promo text element will **show on top of the first several lines** of the Apple description, and can be edited between new versions. While screenshots usually earn the most focus in CRO, don't forget that all users who visit your app's product page will see your promo text.

Use promo text to offer information that gets users even more excited about your app, such as upcoming features,

special pricing, or other time-sensitive messaging points.



*Example of App Store promo text; image source: [9to5mac](https://9to5mac.com/2017/06/07/wwdc-app-store-redesign-first-look-gallery-screenshots/) [https://9to5mac.com/2017/06/07/wwdc-app-store-redesign-first-look-gallery-screenshots/] /*

## Other Store Assets: Developer Name

For companies with existing brand awareness, the developer name can be a way to increase conversion rates by leveraging that brand equity. Additionally, a well-chosen developer name can also entice people to tap and view the rest of the developer's apps. While the developer name is very difficult to change, once set in the App Store, it is very easy to change in the Google Play Store.



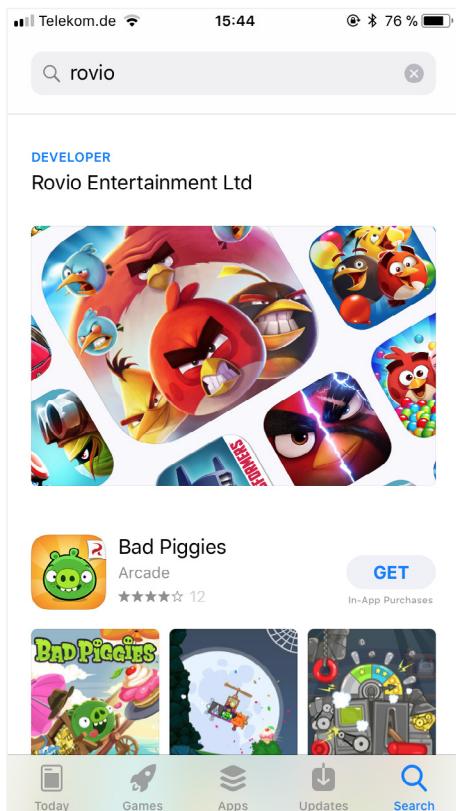
**Beware:** For smaller developers who use a personal account to distribute an Apple app, this personal account may likely be less trusted than a good brand.

A couple other tips for leveraging your developer name for CRO include:

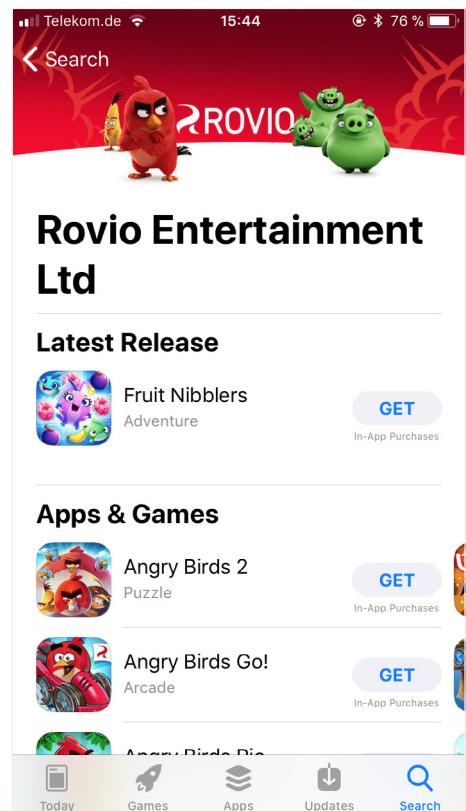
- Considering the pros and cons of adding a **legal business entity** type to the developer name. For example, a GmbH is internationally less familiar than an LLC/Inc.
- Exploring using **alternative methods** for CRO, such as using emojis in your developer name in Google Play.

## Other Apple Assets: Developer Page

Developer pages in Apple do not offer much control in terms of optimization; but the most recently updated app appears at the top of the total apps list, and developer pages that include an arrangement of the developer's app icons can show for branded searches above the first organic result, but below Search Ads results.

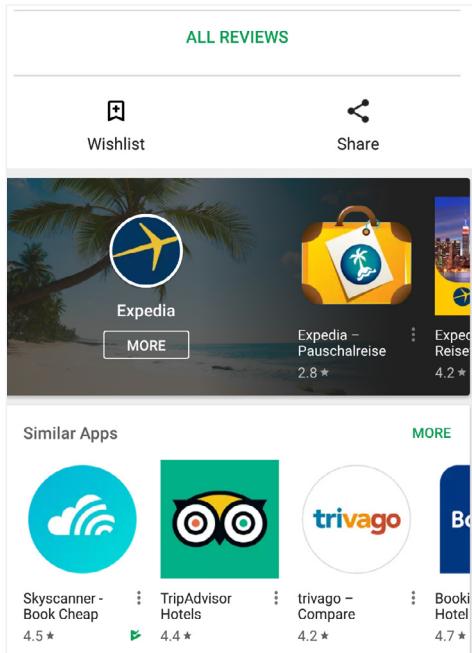


*Screenshot depicting a developer page result showing for a keyword search*



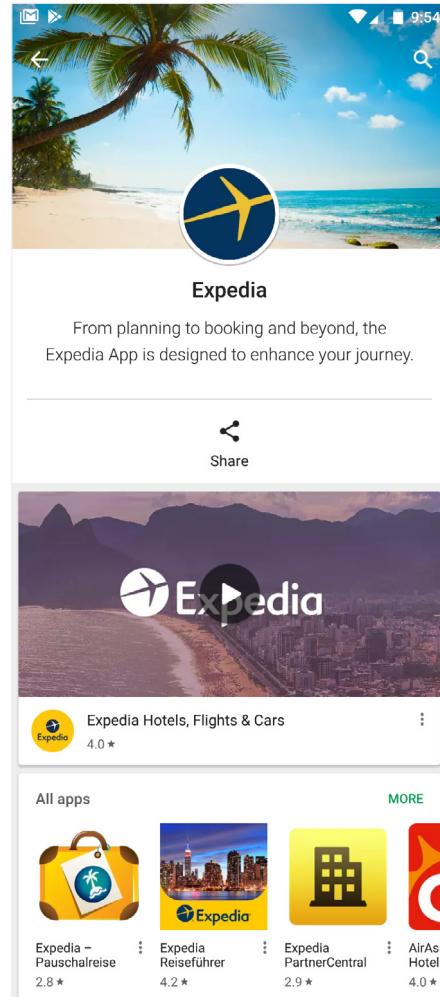
*Screenshot depicting Rovio's developer page with custom background for app types and showcasing of Rovio's latest release.*

## Other Google Assets: Developer Name



Screenshot showing the Google Play Store page for Expedia

*with developer widget*



Screenshot showing the Google Play developer page for Expedia

Developers can upload the following elements to their developer page:

- A developer page feature graphic.
- A developer page short description.
- A developer page icon.
- An app to feature in the developer page.

Optimizing the developer page is very much to the Android app developer's best interest, leading to free cross-promotional downloads as well as an increased credibility with users that can help acquire a user's initial download.

## Other Apple Assets: Custom Product Page Background (Apple-Only)

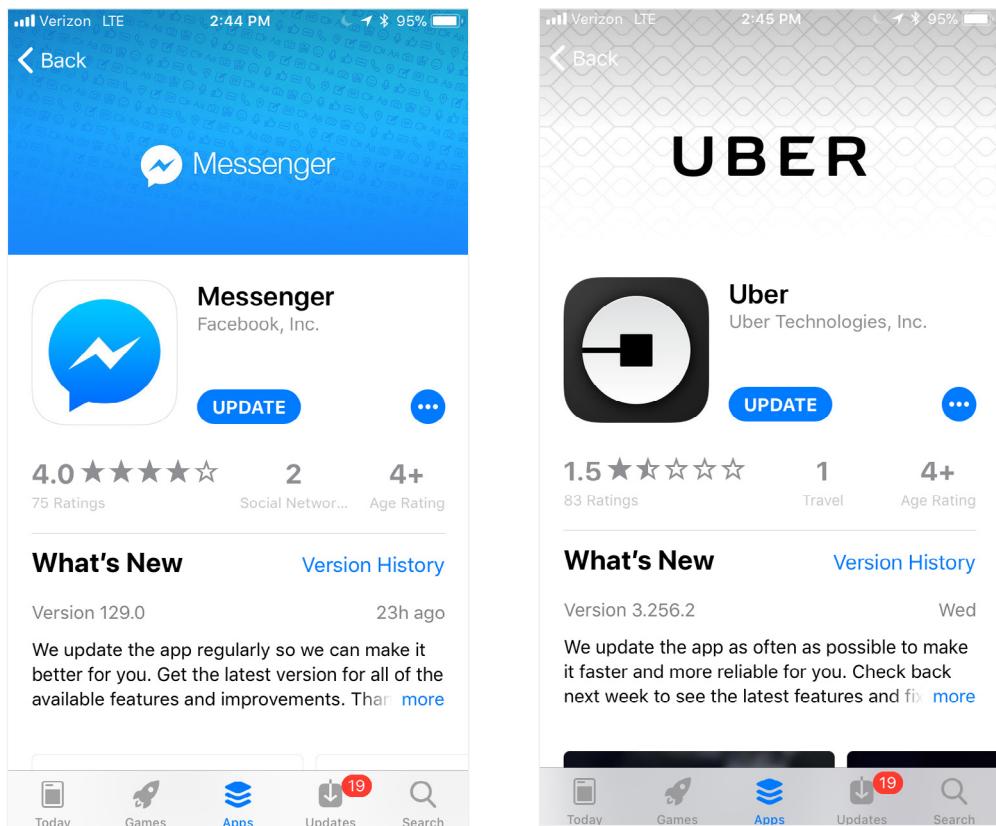
For select top developers, Apple has given a bit more creative freedom in designing the App Store page. If you're one of the lucky ones, you'll be asked by Apple to provide '**Product Page art assets**' and with those you'll be able to add a feature graphic but also a background color.

### PRODUCT PAGE ART ASSET NEEDED

Apple will request that developers: "Please provide evergreen artwork with generic elements for your app's product page. Include a title treatment/logo within the file that is scalable both up and down as a Photoshop 'Smart Object.' Please note that the primary background color in your featuring art template will match the product page color."

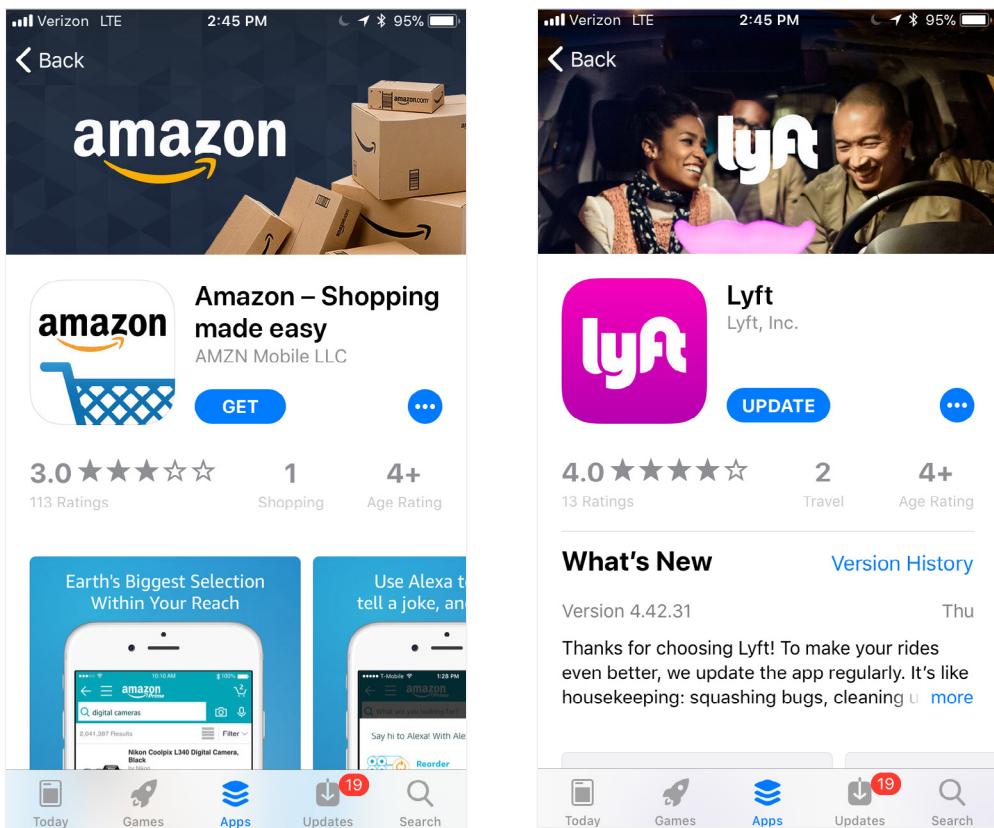


While Apple got rid of the background color, you can still define a custom background very much like the Google Play feature graphic, shown at the top of the app product page.



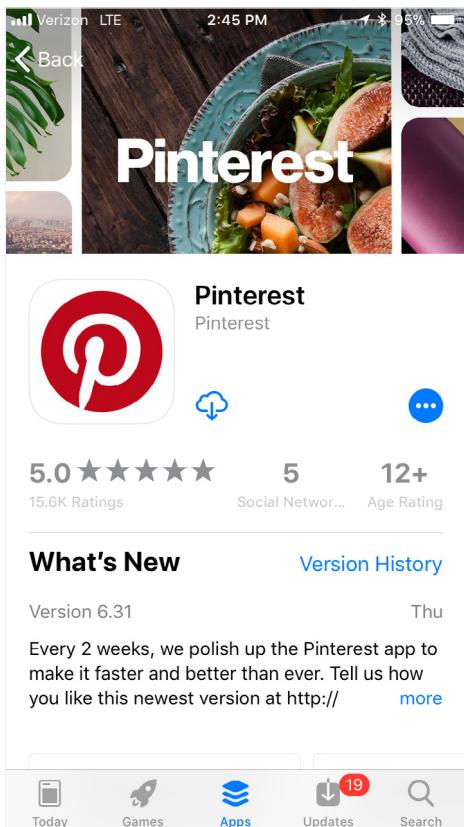
Facebook Messenger takes a branded approach with its custom background, using the brand logo and a gradient background with smaller icons used in the product. This is one of the safer approaches for a large brand to using a custom background, as experimenting with more appealing designs carries the risk of alienating a subset or multiple subsets of users, and thus backfiring for larger brands.

Uber follows in the same vein as Facebook Messenger, using a safe branded approach of an abstract design, a gradient background, and the Uber logo.



Amazon approaches realism from a more practical sense, rather than a people-based emotional angle, thus limiting its exposure to risk of alienation. This is a good middle-ground option for larger brands still looking to make a stronger first impression on users.

Lyft, by contrast to Uber, uses a more engaging real-world visual to pursue realism and an emotional connection with users. As a second-place competitor looking to usurp Uber, this strategy (higher risk of user alienation, higher reward) makes sense for Lyft.



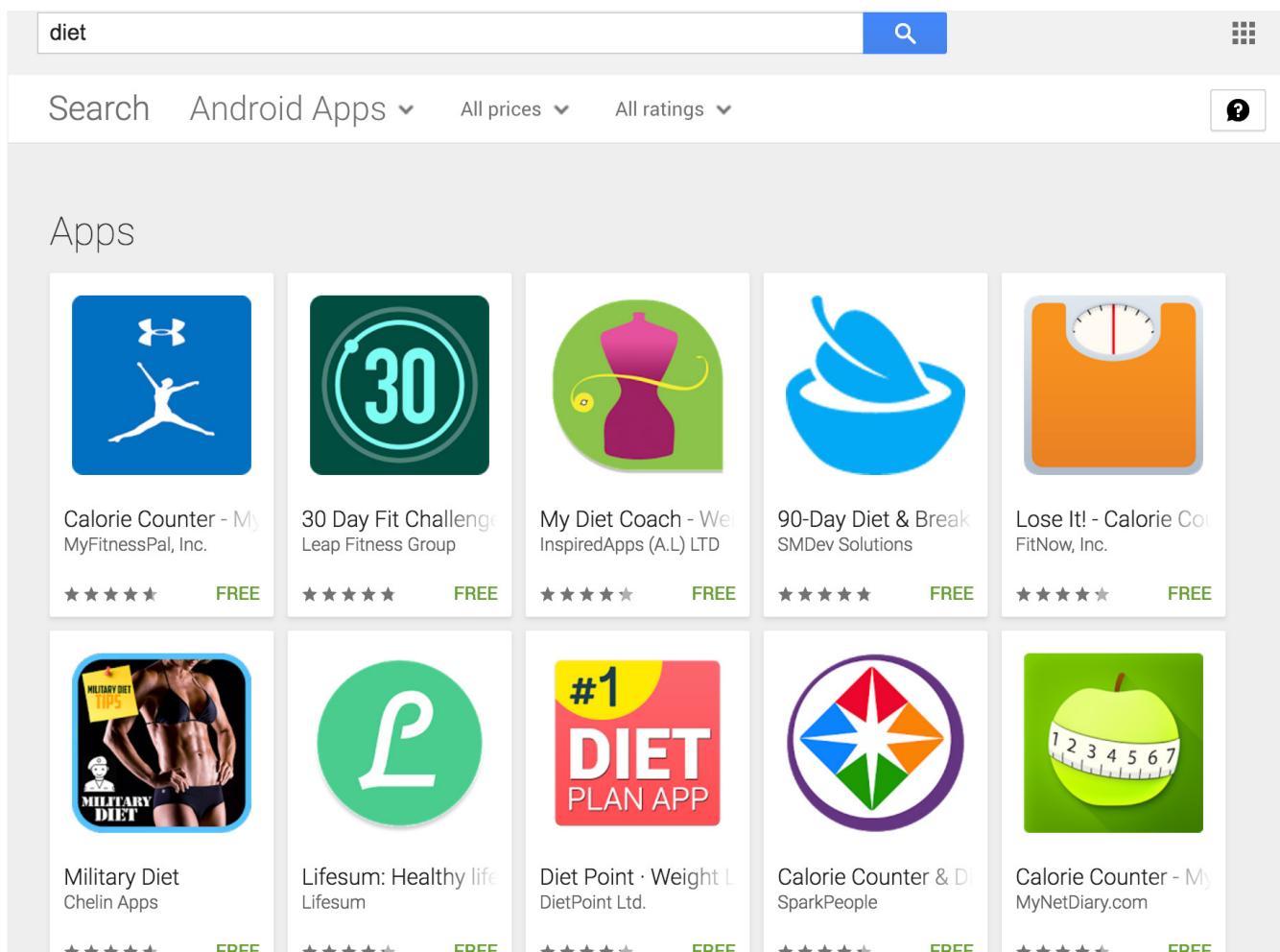
Pinterest also opts for the realism approach, in addition to introducing users to the UX of Pinterest pins. Yet, Pinterest's image could be optimized better by focusing the images in each board into the space provided by Apple, as the images on the edges are impossible to decipher. And, while Pinterest does not use an image of a person or people, its use of food (and a more exploratory dish at that) also runs the risk of alienating people with non-compatible tastes.

## Visual Word Recognition

Taking a step back from assets, let's return to the concept of visual word recognition, which is a very important concept for CRO.

What makes up your app's visibility is many individual impressions across the App Store as a whole, from featured spots, to top chart spots, to results for keyword searches, and product page views. Yet, for most apps the majority of organic visibility and downloads come from a handful of high-volume, highly ranked keywords.

Optimizing your app's conversion rate for your top opportunity keywords is low hanging fruit and often an easy way to unlock more downloads with minimal effort.



Screenshot of a Google Play keyword search for “diet.” Each app applies some form of connection with the keyword “diet,” either in the icon imagery, developer name, or the app title.

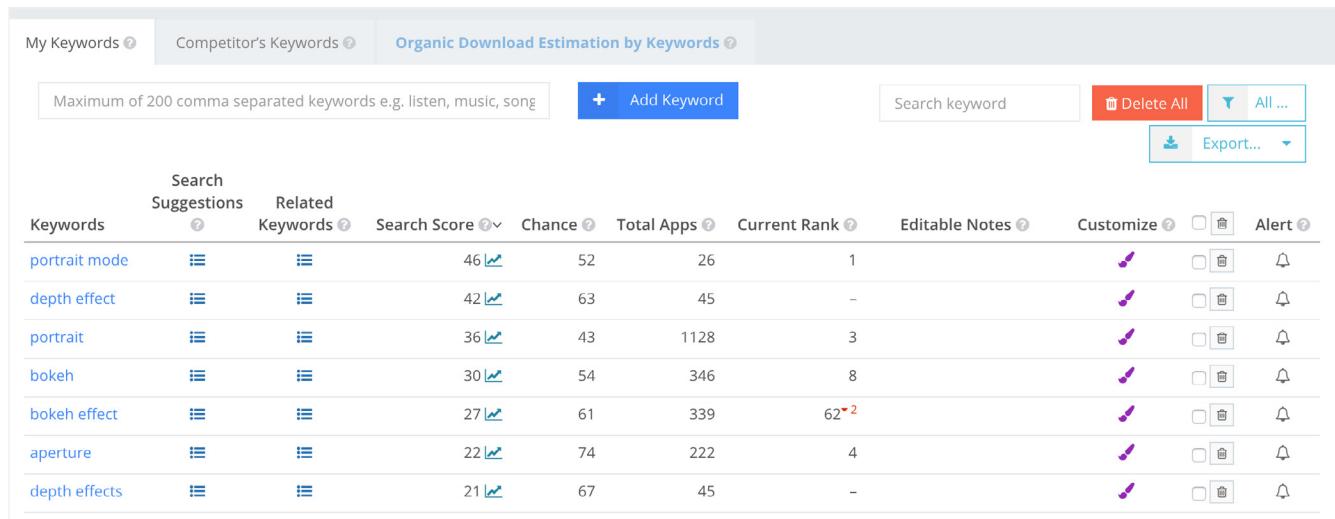
The first step in optimizing your app for top keywords is to figure out what your top keywords are. This involves tracking all keywords relevant to your app using an ASO tool, and then 1) returning to your keyword search term backlog to pick the most important terms and 2) filter those keywords down to those with a rank of 10 or better (or even top five). This shows you which of your top keywords are ranked well enough to actually capture downloads from users, and more specifically those that have the highest contribution margin to your overall downloads. In other words: find and focus on using the keywords that the largest number of potential users are likely to find your app using.

Keep two caveats in mind when performing this research:

01. Keyword ranks do fluctuate, so it can be useful to use a seven-day average when running this analysis.
02. Keyword search volume also fluctuates, so do a live search and check the search popularity history on a keyword to ensure that each top keyword is a consistently high-volume keyword.

Optimizing for top keywords doesn’t have to be a standalone strategy that replaces your branding or other messaging. The goal is to use keywords that people are searching, and thus are looking to see that your app provides an answer/solution for, in the same way that dynamic ads in AdWords work to improve CTR. Your job as the ASO is to present the user with a silver platter reply that your app is the best solution to the need that they have, and using the same

language as the user has is a great way to do that.



| Keywords      | Search Suggestions | Related Keywords | Search Score | Chance | Total Apps | Current Rank | Editable Notes | Customize | Alert |
|---------------|--------------------|------------------|--------------|--------|------------|--------------|----------------|-----------|-------|
| portrait mode |                    |                  | 46 ↗         | 52     | 26         | 1            |                |           |       |
| depth effect  |                    |                  | 42 ↗         | 63     | 45         | -            |                |           |       |
| portrait      |                    |                  | 36 ↗         | 43     | 1128       | 3            |                |           |       |
| bokeh         |                    |                  | 30 ↗         | 54     | 346        | 8            |                |           |       |
| bokeh effect  |                    |                  | 27 ↗         | 61     | 339        | 62 ↘         |                |           |       |
| aperture      |                    |                  | 22 ↗         | 74     | 222        | 4            |                |           |       |
| depth effects |                    |                  | 21 ↗         | 67     | 45         | -            |                |           |       |

Screenshot: Mobile Action keyword ranks



**Pro tip:** The takeaways from the ASO Stack blog post [<https://asostack.com/aso-earthquake-google-play-update-reveals-keyword-installs-to-developers-f5cf2e384eb3>] announcing Google Play's organic search term data visibility applies to optimizing for visual word recognition, too. Now app marketers can use these insights to determine which search terms drive most users to their store listing, and optimize for recognition of these key words and phrases in the store listing.



## A Case Study in: Visual Word Recognition with Keepsafe

Photo locker app Keepsafe offers a visual asset-based case study in optimization for visual word recognition.

Here we can see that the top keywords for Keepsafe include “photo lock,” “photo locker,” “private photos,” and “album vault,” and that these keywords are included across the screenshot captions as well as the text description, in prominent position. By taking this simple action, Keepsafe increases the chances of both capturing searcher attention, and immediately assuring them that Keepsafe is a relevant app for their needs.

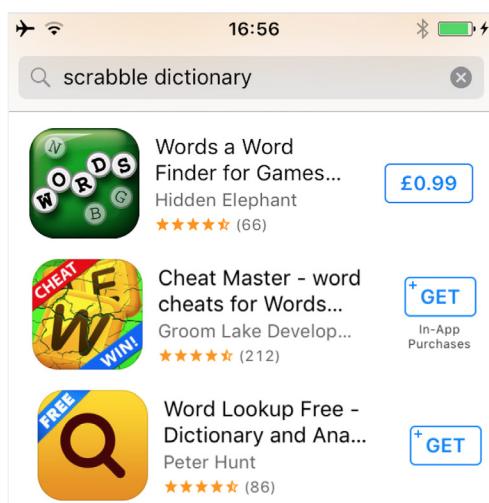
Download Keepsafe to join the **millions of people** who have entrusted over a **billion pictures** to **Keepsafe**: the most popular photo locker and album vault app.

Keepsafe secures personal photos and videos by locking them down with PIN protection, fingerprint authentication, and **military-grade encryption**. It's the best place for hiding personal pictures and videos. With Keepsafe, you can protect your privacy, secure your photos, and save phone space.

Compare this approach with that of “burying the lead,” or forcing users to sift through other, less relevant descriptor keywords, which don’t relate as directly to the user’s keyword search (i.e. negative weight content, from the Research CRO Loop step).

## Revenue Model

Also beyond the frame of store assets, yet having a significant influence on your conversion rate is the revenue model that your app uses.



*Screenshots depicting how different pricing models certainly have different levels of friction to converting users.*

In addition to considering the pros and cons of each main revenue model from a business model standpoint, also consider the pros and cons from a conversion rate and conversion eligibility standpoint.

## Conversion Rate and Conversion Eligibility Standpoint PROs and CONS

| REVENUE MODEL                                | PROS   | CONS   |
|--|--|--|
| E-commerce                                   | <ul style="list-style-type: none"> <li>■ Low friction to user acquisition conversion</li> </ul>  | <ul style="list-style-type: none"> <li>■ Requires commerce-based business model</li> <li>■ Does not make apps eligible for top paid/grossing charts</li> <li>■ Does not allow apps to promote up to 20 IAPs in Apple, which can provide more real estate for improving conversion rates</li> </ul> |
| Free download, with ads                      | <ul style="list-style-type: none"> <li>■ Low friction to user acquisition conversion</li> </ul>  | <ul style="list-style-type: none"> <li>■ Users tend to dislike ads</li> <li>■ Does not make apps eligible for top paid/grossing charts</li> <li>■ Does not allow apps to promote up to 20 IAPs in Apple</li> </ul>   |
| Free download, with In-App Purchases         | <ul style="list-style-type: none"> <li>■ Low friction to user acquisition conversion</li> <li>■ Allows apps to be listed in the top grossing chart</li> <li>■ Allows apps to promote up to 20 IAPs in Apple</li> </ul> | <ul style="list-style-type: none"> <li>■ Users may write negative reviews about keeping too many features paid</li> </ul>  |
| Free download, with In-App Purchases and ads | <ul style="list-style-type: none"> <li>■ Low friction to user acquisition conversion</li> <li>■ Allows apps to be listed in the top grossing chart</li> <li>■ Allows apps to promote up to 20 IAPs in Apple</li> </ul> | <ul style="list-style-type: none"> <li>■ Users tend to dislike ads</li> <li>■ Users may write negative reviews about developers both charging for IAP and showing ads</li> </ul>   |
| Paid download                                | <ul style="list-style-type: none"> <li>■ Allows apps to be listed in the top paid and grossing chart</li> <li>■ Unlocks ability to bundle apps</li> </ul>  | <ul style="list-style-type: none"> <li>■ Introduces the highest level of friction to user acquisition conversion</li> <li>■ Does not allow apps to promote up to 20 IAPs in Apple</li> </ul>   |

## Conversion Rate and Conversion Eligibility Standpoint PROs and CONS

| REVENUE MODEL                       | PROS   | CONS   |
|-------------------------------------|--|--|
| Paid download with In-App Purchases | <ul style="list-style-type: none"> <li>■ Allows apps to be listed in the top paid and grossing chart</li> <li>■ Unlocks ability to bundle apps</li> <li>■ Allows apps to promote up to 20 IAPs in Apple</li> </ul> | <ul style="list-style-type: none"> <li>■ Introduces the highest level of friction to user acquisition conversion</li> <li>■ Users may write negative reviews about developers both charging for download and features</li> </ul> |



**Pro tip:** Apps that are paid downloads can test lowering the price as part of a limited time discount; this is an easy and temporary way to increase downloads and increase your app's ranking while leaving your app's expected price point unaffected.



## Apple Assets: In-App Purchases (Apple-Only)

Let's return to the discussion of assets with In-App Purchases.

In-App Purchases have **significant importance** in both KWO and CRO terms, given that up to 20 IAPs can be promoted into an app's product page and search results, along with an icon, name, and description.

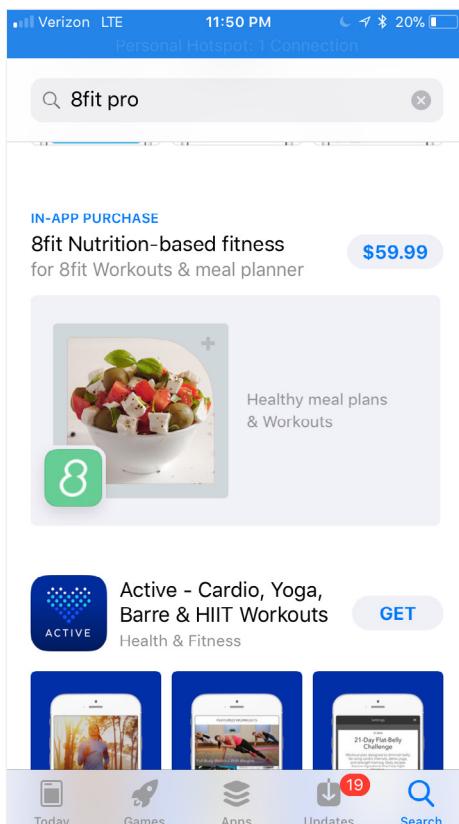
- The IAP name can be as long as 30 characters.
- The IAP description as long as 45 characters.
- The IAP icon is allowed as a 1024x1024 PNG or JPEG file.

Preliminary best practices for optimizing your IAP for CRO involve:

- Creating an **icon** which is appealing, understandable as a visually-oriented descriptor, and can convince a user to continue reading about the IAP or the app itself, just like the regular app icon.
- Using the right **name that is descriptive** and appealing enough to convince a user to buy or read more, just like the app title.
- A description, which must explain the **value proposition** and use case of the In-App Purchase, just like the description, but with 99% fewer words.



**Pro tip:** Try using the most popular keywords that relate to that IAP in the description to increase visual word recognition. Also, try using bite-sized data points that help users to understand why their experience using your app will be better after unlocking your IAP. For example, try social proof (e.g. numbers on how many people buy that IAP), a comparison of what the IAP provides compared to normal app use (e.g. 100x more gems than are earned in a typical day), or indicate that the IAP was featured by Apple.



Screenshot depicting 8fit's In-App Purchase result in the search results.



**Pro Tip:** Your app's icon will always inhabit the bottom-left corner of your IAP icon, so ensure that any imagery in the bottom-left corner of your IAP icon is okay to be obscured



## A Case Study in: Naming In-App Purchases

Here we can see a text-based example of a more descriptive and less descriptive set of IAPs for two competing apps:

Tinder and Bumble. While Bumble offers no differentiation in their IAP names, Tinder allows users to understand more about what each purchase is, just by looking at the name. That said, only some of Tinder's IAP names are clear and descriptive, and also require users to know what a super like or boost is.

The image shows two side-by-side screenshots of the Google Play Store interface. Both screens display the 'Top Charts' section with a list of IAPs. The left screenshot is for the app 'Bumble' and the right is for 'Tinder'. Each screenshot shows a list of 10 IAP items with their names and prices. Below the lists are navigation icons for 'Featured', 'Categories', 'Top Charts' (which is highlighted in blue), 'Search', and 'Updates'.

| App    | IAP Name                  | Price   |
|--------|---------------------------|---------|
| Bumble | Bumble Boost              | \$9.99  |
| Bumble | Bumble Boost              | \$2.99  |
| Bumble | Bumble Boost              | \$7.99  |
| Bumble | Bumble Boost              | \$8.99  |
| Bumble | Bumble Boost              | \$6.99  |
| Bumble | Bumble Boost              | \$4.99  |
| Bumble | Bumble Boost              | \$23.99 |
| Bumble | Bumble Boost              | \$4.99  |
| Bumble | Bumble Boost              | \$35.99 |
| Bumble | Bumble Boost              | \$14.99 |
| Tinder | Tinder Plus               | \$9.99  |
| Tinder | Tinder Plus               | \$19.99 |
| Tinder | package of 5 Super Likes  | \$4.99  |
| Tinder | package of 1 Boost        | \$3.99  |
| Tinder | package of 5 Super Likes  | \$4.99  |
| Tinder | Tinder Plus               | \$2.99  |
| Tinder | Tinder Plus               | \$34.99 |
| Tinder | package of 25 Super Likes | \$19.99 |
| Tinder | Tinder Plus               | \$4.99  |
| Tinder | package of 5 Boosts       | \$14.99 |

*Bumble's IAP are all named the same.*

*Some of Tinder's IAP have more descriptive names.*

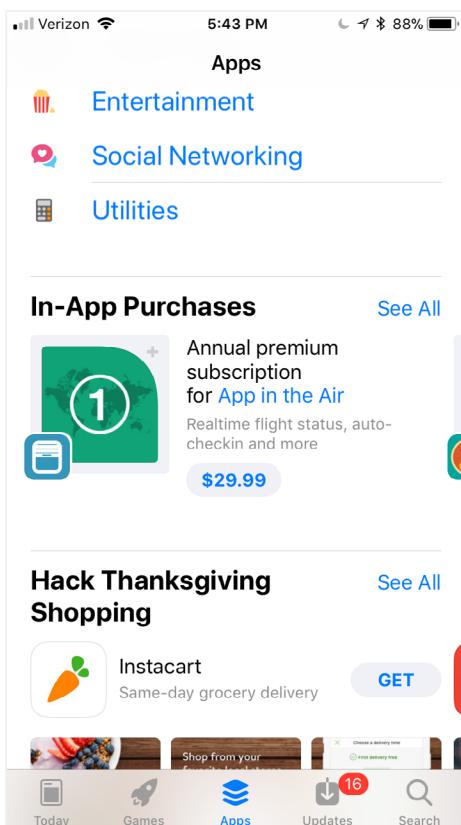
In-App Purchases do not show in the Google Play Store page, and thus have little impact on CRO.

A yellow square icon featuring a white camera-like icon with a circular lens and a smaller square icon below it. To the right of the icon, the text 'A Case Study in: In-App Purchase Icon Design' is displayed in a large, bold, dark font.

Apple's new promoted IAPs do not have their own videos or screenshots and have descriptions limited to 45 characters. This means that the promoted IAP icon must play a big role in conveying meaning about what users can expect from your IAP. This is made even more important by the fact that promoted IAPs drive revenue while free downloads do not. Here are a few examples of unique IAP icon design to help your own creative process.

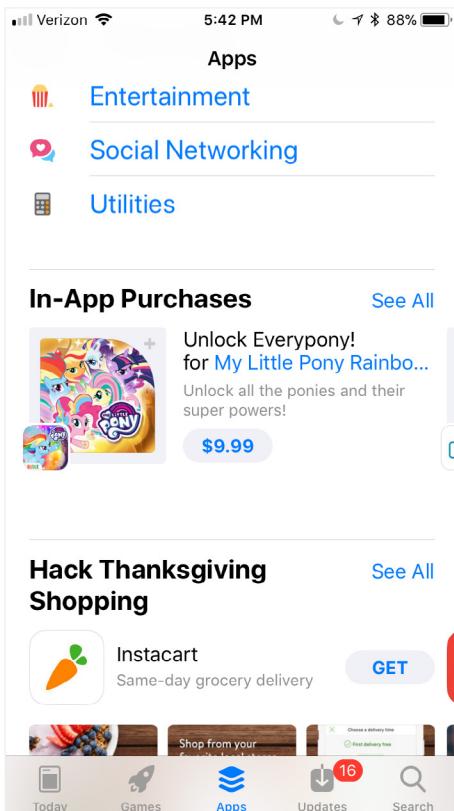
## APP IN THE AIR

App in the Air's promoted IAP icon offers a bit of visual-intent recognition vis-a-vis the globe image in the background. It also uses a circular or cyclical visual representation, depicting the idea of a subscription, which is a nice subtle touch. Using a number may appeal to users (anecdotally, Incipia has seen numbers help improve conversion rate; numbers are also a great way to convey a powerful takeaway in a small package). However, the number one could be confused for a one time purchase, a one month's subscription or something else. The icon also misses the mark as it doesn't relate to the description of the IAP, either.



## MY LITTLE PONY

My Little Pony's icon combines the strength of character recognition with the visually-supported idea that users will get all the characters with this IAP. Using glitter/sparkles in the design and other tricks (two characters have different expressions) make this icon fun and engaging too, and the icon maintains the brand by placing the brand logo into the bottom-right, given that the logo is too small to notice in the regular app icon. However, what's happening in the bottom-right of the IAP icon is unintelligible at this size with the logo atop it, and also adds unnecessary visual noise to the icon. Overall though, for games especially, icons (whether app icons or IAP icons) should be fun and grab attention just like a toy in the store aisle (and make you look/read more), and this one does well.

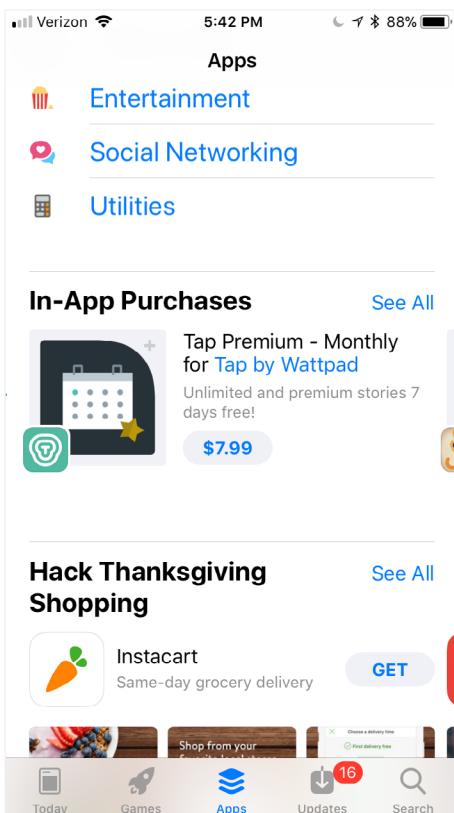


## WATTPAD

Like App in the Air's icon, Wattpad's IAP chooses to associate with the purchase timing of the IAP (one month), rather than the content of the IAP. The star is used as an extra bit of flair to liven up the icon, or perhaps relate to the free extra 7 days.

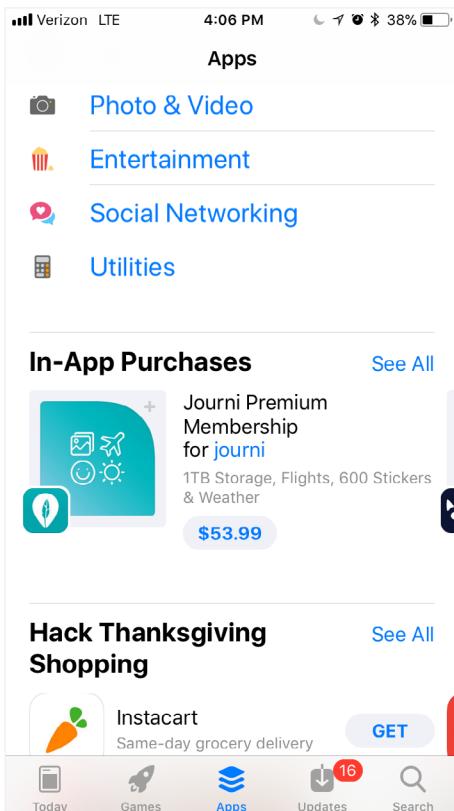
From the IAP icon design of Wattpad and App in the Air emerges an illustration of one of the emerging two main approaches to promoted IAP icon design: basic time period-based vs complex use case-based. This is similar to the basic branded logo/tagline + gradient background vs complex use case design patterns of Android feature graphic design. The time period-based design is easier and less risky to execute on, and will likely become the more popular

of the two designs. The case-based design will require a more experienced designer and an app that has more than one benefit, but may yield better performance if done right.



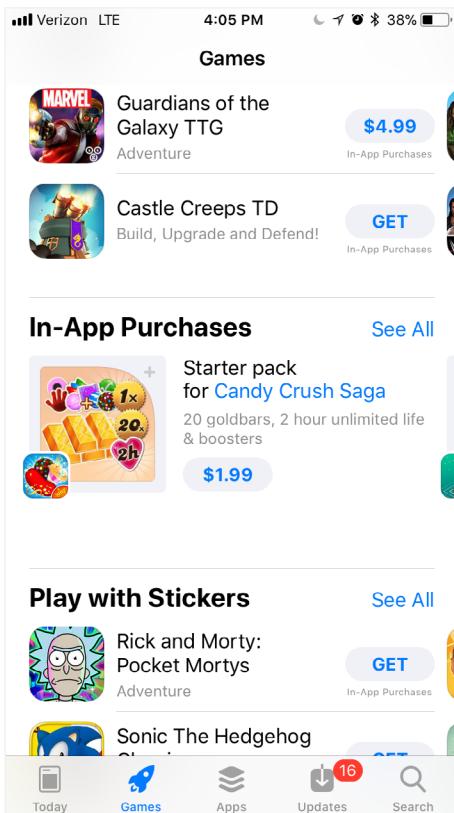
## JOURNI

Journi's icon opts for the use-case route, attempting to illustrate in visual form each of the purchase goodies. By using a simple gradient background, two colors and concentrating the design in the center of the icon to leave plenty of padding, Journi fends off the complexity danger of this use case-based design pattern.



## CANDY CRUSH SAGA

Candy Crush's IAP icon is a great example of visually explaining what is contained in a bundled IAP. While promoting an In-App Purchase that bundles multiple benefits into a “premium” or “pack” purchase makes it harder to explain, the icon can be a great way to convey meaning not offered in the promoted IAP name or description. Candy Crush also goes one step further by using numbers to describe the different amounts of the multiple individual benefits included in the IAP - a great touch and one that lines up well with the description!



## Store Assets: App Icon

One of the most important aspects of CRO in general is to include **competitor apps** in your research, rather than solely creating an icon in isolation. Yet, this is even more important with regard to icons due to the fact that many times icons are the only visual element in an app preview (e.g. top charts in either store and the Android keyword searches).

Analyzing **how your icon is positioned** against the other app icons is the best tactic to help you determine how to make your icon more appealing and win over visitors with more success than your competition.

There are many different styles of icon design, yet consider these five distilled commonalities for optimizing your app icon design:

- 01. Color:** Try a background fill, contrasting font versus background, common colors among competition.
- 02. Visual associations:** Explore using one dominant visual that associates with the app's main use case.
- 03. Quality Design:** Tap into a designer's touch, such as shadows, gradients, decoration, and more subtle associations.
- 04. Use words or letters:** Some apps use words or letters in their icon; most are branded (e.g., Facebook or Twitter), but not all.
- 05. Generally, gravitate towards a singular design focus.** Most apps will benefit more from a single, simple visual focus; however some apps such as photos and video may also benefit from a more complex design, so long as

it is polished and of a high-quality.

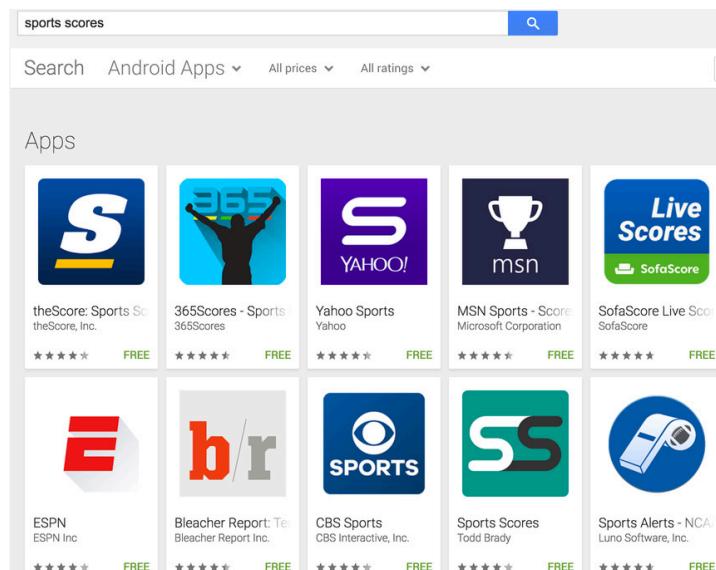
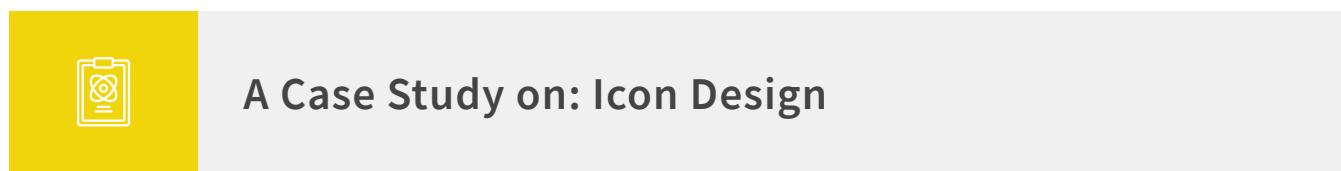
## App Icon

While important for apps earning a large volume of App Store Browse impressions, the 1024x1024 App Store icon is otherwise less important than the Google Play Store icon for search impressions.

Your app's icon will also appear in each of your promoted **In-App Purchases**, increasing the visibility and importance of having a clear, understandable app icon.

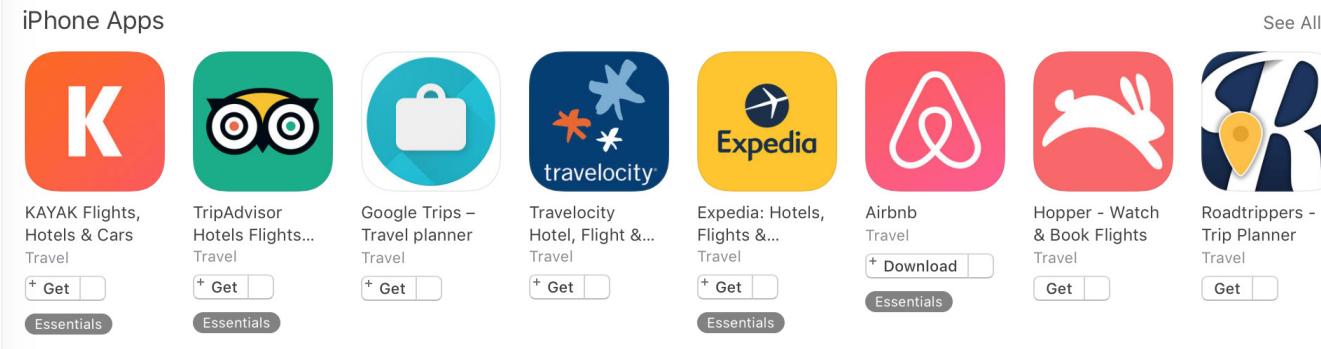
## Google Assets: App Icon

The app icon (at 512x512 pixels) is the **most visible** (and the only visual) element **in a Google Play keyword search**, making an Android app's icon much more important for CRO than an iOS app's icon. For this reason and due to operating system stylistic differences, app icons in the Google Play Store are often more visually complex than App Store icons, in order to help show off relevant imagery that describes the app's main purpose to searchers and help differentiate an app from its competition.



For the Play Store sports scores apps here, we see much more **letter branding** vs. **distinct associations**; yet three apps do make heavy use of the common sports representations of a trophy, whistle (if you look closely you can see a well-placed football as well), and cheering fan silhouette. Additionally, we can see several icons using actual words, beyond the name of the developer. Color leans toward red or blue and most apps use colored background fills as well to contrast against white font. These apps are fairly distinct, yet they miss out on the opportunity to make an association with the main use case here (scores/numbers).

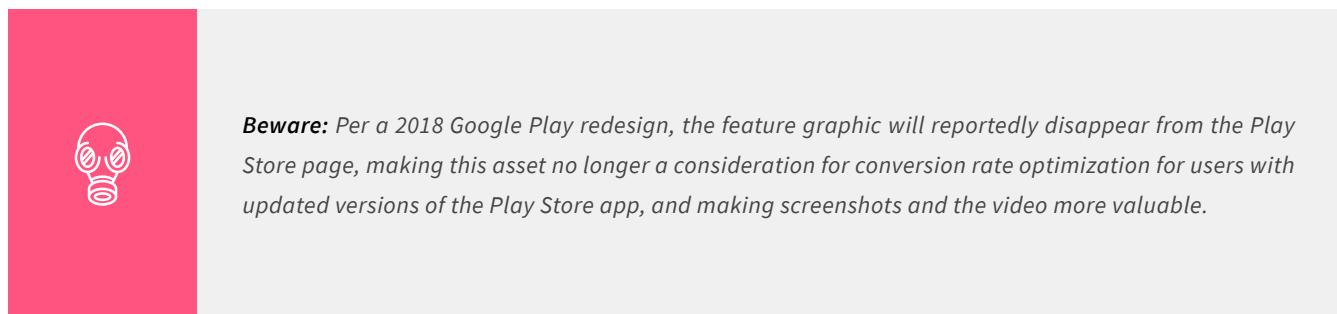
## Showing results for "travel"

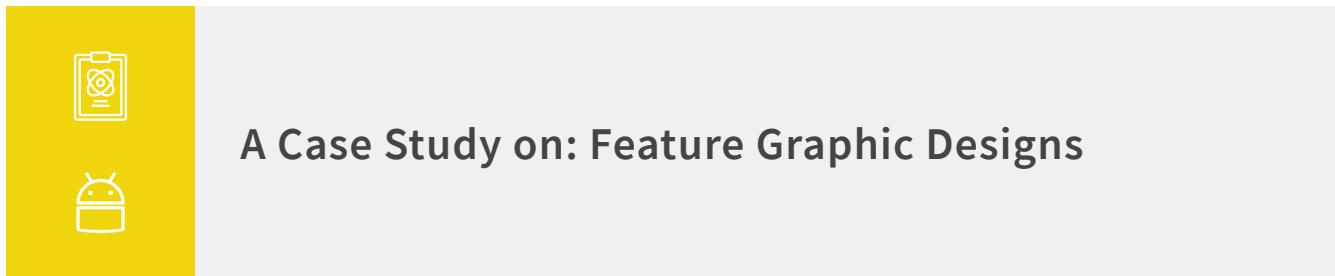


While these App Store travel app icons are mostly dominated by large app brands, there still are still two common themes: locomotion (a rabbit and planes) and the well-known location pin; the Google Trips briefcase is also a recognizable travel association, while the Travelocity snowflakes or stars seem to be more a branding play than immediately recognizable as travel or flights. There are plenty of travel associations that could be tested for a non-brand app in this category, such as a globe, car, passport, sign, and even palm tree. What is also clear here though, is that nearly all of these travel app icons are colorful, to elicit positive, excited visions of gallivanting around the world.

## Google Assets: Feature Graphic (Google-Only)

The feature graphic (a 1024x500 banner) is located in the top-center of your app's listing after a visitor taps to view more of your App Store listing. Feature graphics are a **favorite for Android CRO**, given their prominent location and the fact that they are an open canvas with which app developers or marketers can do what they like. While many apps use a simple brand logo as the focus of their feature graphic, consider using your feature graphic as the place to let your creative juices flow.





## THE WEATHER CHANNEL



The Weather Channel's feature graphic offers a visual that is immediately recognizable by users familiar with weather apps, which is the weather radar map. Not only is this a recognizable allude to an important feature of a weather category app, but it is also vivid and attracts the user's attention (though at this stage, the eye-catching appeal is less important given the user has already chosen to learn more about TWC's app after clicking in from an earlier impression). Including the icon in the middle of the feature graphic is, in our opinion, a wasted opportunity to either keep the design clean by using the radar map alone, or offer something new to the user (given the same icon is located just below the feature graphic).

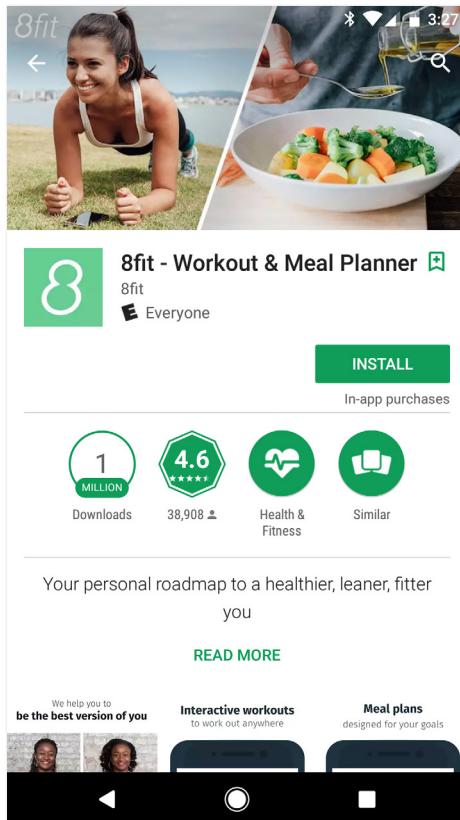
The Weather Channel could also consider the following additional tests to improve CRO:

- Add an **overlaid one-three word caption** (key to this would be ensuring it was fully legible on the variable background); this will determine whether adding messaging is useful in converting users.
- Test different weather **features** (e.g., forecast, applicable custom content, etc.); this will determine which

feature best converts users.

- Add **social proof** and reinforce how many downloads TWC has earned, or other accolades; this will make the app seem appealing enough to download.

## 8 FIT

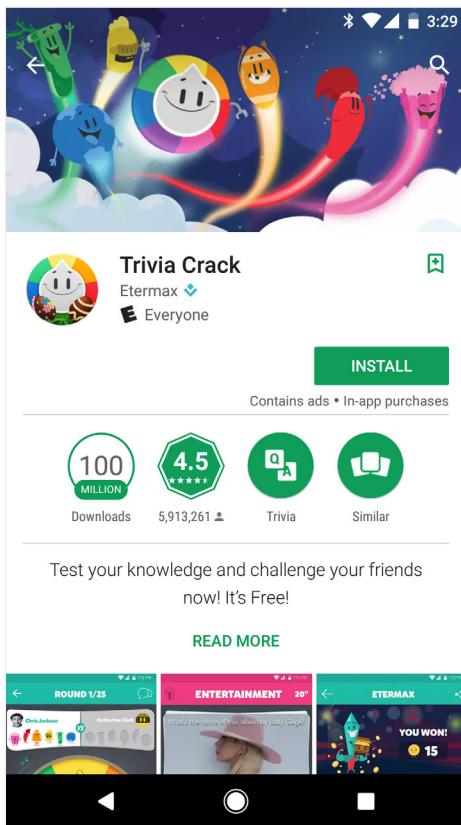


8fit's feature graphic choice is an excellent one for an app that ties heavily into a lifestyle use case, which is the split/screen shot. Here 8fit hammers home two associations in the visitor's mind of 8fit's main purpose: helping people plan meals and workouts. 8fit's screenshots also follow the split/screen design, showing the ever-popular in the fitness world before and after shot. 8fit also includes subtle branding by watermarking their logo into the top-left corner of the graphic, which is a nice touch.

8fit could also consider the following additional tests to improve CRO:

- Try a split/screen of a **before and after** transformation, just in case users don't scroll to the screenshot; this will determine whether the before/after transformation association is key for converting users.
- Use **different models** for the left, workout-side and the right, meal-side; this will figure out which model best converts users.
- Overlay messaging** onto the top of the graphic, such as "lose weight the healthy way," "plans tailored to you," or "workout & meal coaching;" this could make the app seem appealing enough to download.

## TRIVIA CRACK

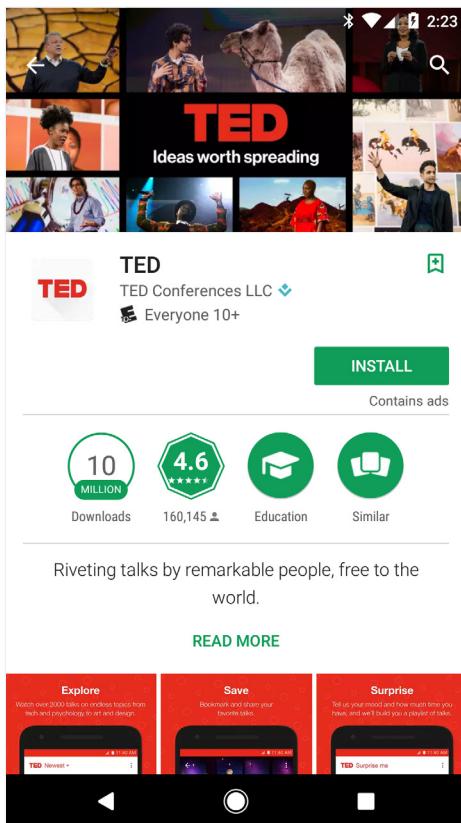


When it comes to feature graphics for games, the sky is really the limit in terms of creativity and what goes into this app banner slot, so critiquing game feature graphics is a difficult task. Trivia Crack here chose a fun and playful, branded approach.

Trivia Crack could also consider the following additional tests to improve CRO:

- Test **holiday-theming** in the graphic, like the icon; this can indicate to users that the app is updated/maintained enough for the developer to consider the current seasonality, thus indicating the app is maintained and not left to grow outdated.
- Add a **level or stopwatch time** number above each character's head, (functionality pertaining to the game); this will determine whether the challenging aspect of the game helps convert users better.
- Test adding **more characters** such as the popcorn box and knight characters, or including fewer characters; this could potentially increase the appeal of the design by making it more engaging, or less busy respectively.

## TED



TED applies a variation on the real-world photo feature graphic by making a mosaic of photos surrounding the TED logo and slogan (yet it's worth noting that this mosaic style is the branded pre-roll for each TED Talk). This approach is interesting, yet it is also a bit busy for a small screen and thus represents a departure from traditional feature graphic designs and may possibly cause confusion or dissatisfaction in users looking for a simple, straightforward understanding of an app.

TED could also consider the following additional tests to improve CRO:

- Use a more **cohesive set of photos**, which all follow a similar theme (e.g., main colors present in the photo, location of the TED speaker [such as on stage], or only shots of the audience); this can increase the polish and professional appeal of the app, indicating that the team that makes the app is capable of making a top-notch product.
- Test the **white background** TED logo with black slogan text; color changes sometimes have a very dramatic impact on conversion rates, as website form designers know well!
- Add a **light bulb icon** next to the TED logo; this can increase the association with user intent (i.e., discovery, education, learning).

## Store Assets: Screenshots

When creating screenshots, it's a best practice to not assume that users will scroll through each individual screenshot. Be sure to **order your first few screenshots** by those that explain the most important features and value that your app has to offer, so that if users don't scroll any further, you have still cast your app in the best light possible.



**Pro tip:** Don't forget that the content inside of your screenshots (i.e. the in-app screenshots) should also be a part of the CRO loop. Test different screenshots or content within the screenshot (e.g. photos) to see which produces the best results.

Some tips for getting the most out of your screenshot CRO include running tests along the following dimensions:

- Background styles: Try a solid color, real world imagery, a gradient, or an abstract background.
- Custom design styles: Explore connected-style, superimposed icons, call-out graphics, or multiple devices in one screenshot image.
- Display styles: Test a screenshot-only without captions, a screenshot with overlaid captions, a screenshot in a partial or fully in-view phone, or a screenshot embedded in real-world imagery such as a person's hand.
- Caption styles: Investigate how performance changes when captions are overlaid directly on the top/bottom of the screenshot itself, captions are laid on the background (traditional style), caption font size or style is tweak, or captions resemble call-outs located in different areas of the screenshot.
- Change the order of your screenshots.
- Change the in-app content of your screenshots, such as focusing on features or experiences that are most popular with users.

## Apple Assets: Screenshots

Until the advent of the auto play preview video, screenshots were often considered the most important all-around App Store asset, due to the fact that they appear in search results.

Screenshots (up to five) now show in three tiles in an App Store Search result (the first two screenshots will show if a preview video is present in the search results, and screenshots will show after each preview video in the product page), and are second in terms of impact on conversion rate in terms of impact on CRO only to the preview video. If you provide landscape mode screens or app previews, only one tile will show in the search results.

Tips for optimizing your screenshots include:

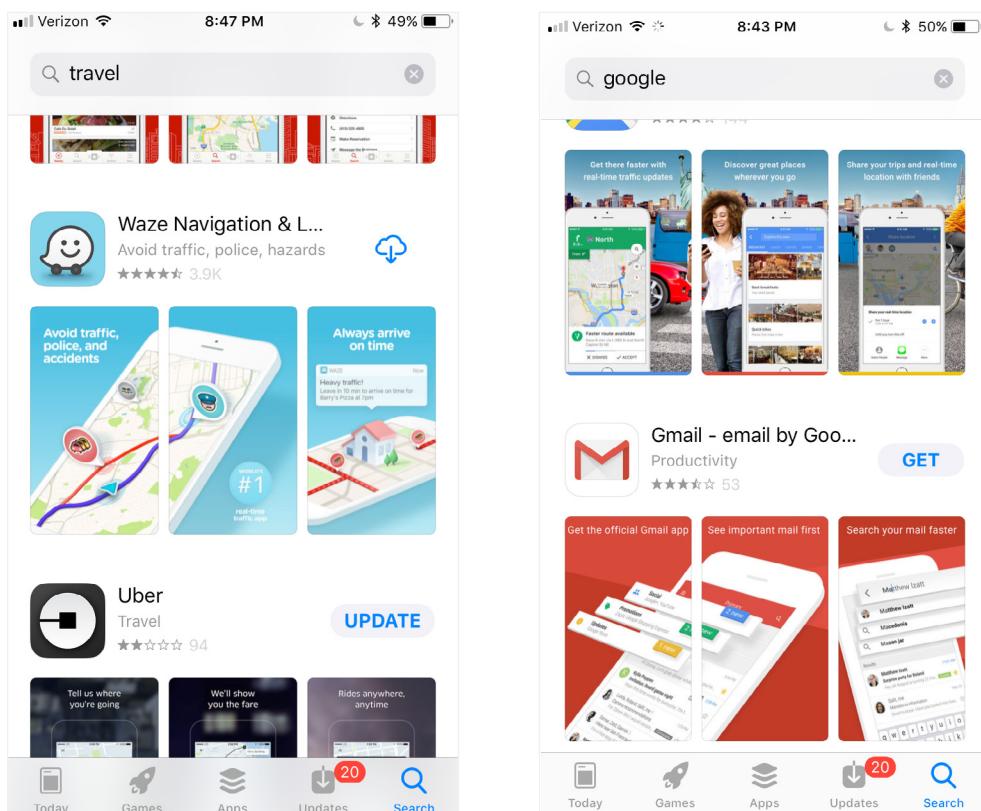
- Connecting the first three screenshots using design, such as imagery that grows or connects each screenshot, like a sun rising in three phases.
- Using very short captions and large, legible font styling, to ensure your captions are readable.
- Using visuals that are easy to discern in a smaller screenshot size (i.e. less complex).
- Saving space by using only the screenshot images themselves, rather than wrapping them in a phone profile.
- Using design to enlarge certain aspects of your app's UI if they are too hard to discern from the search results view.
- Using larger captions in screenshots 4-5 if you do not have a preview video, and screenshots 3-5 if so. This is because these screenshots will show in the larger product page view, and can support more text while remaining legible.



11

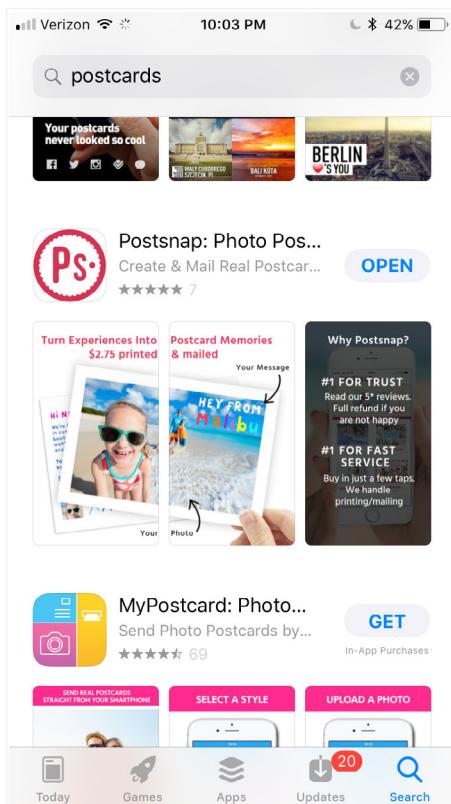
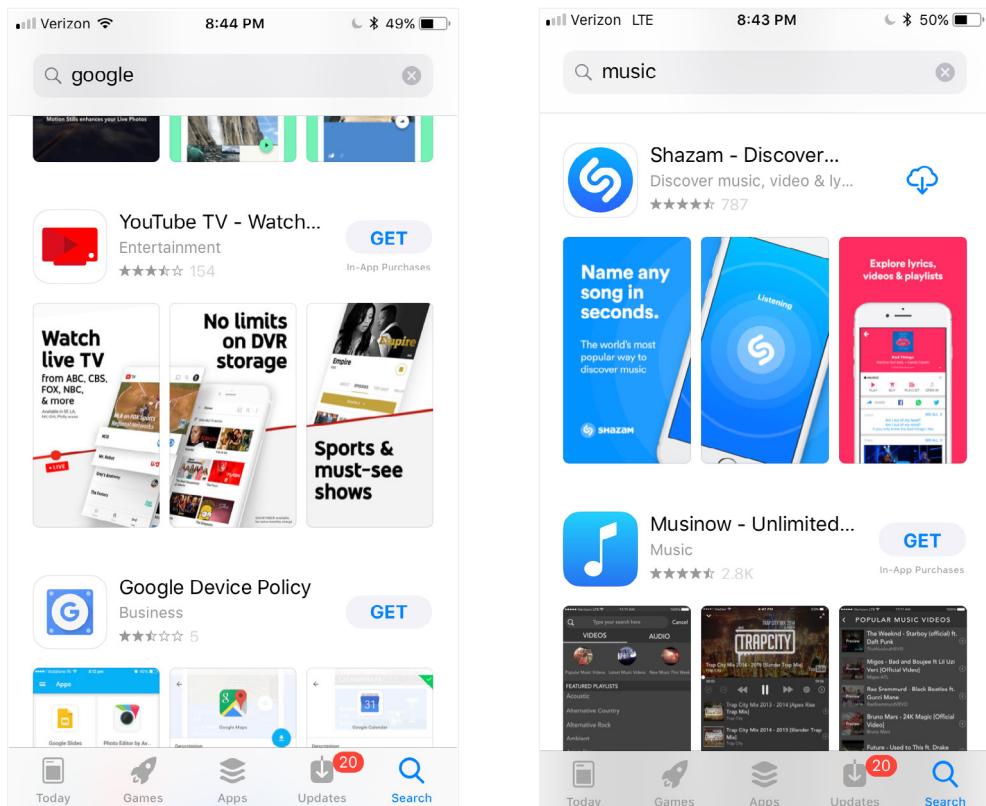
## A Case Study on: Screenshot Design

### VISUAL POP-OFF



This visual style (also known as a call-out) had a measure of popularity in iOS 10 ASO, likely due to its custom feel and ability to attract attention. The pop-off style may prove more useful for zooming in to 2x or 3x on parts of an app's UI that may be harder to distinguish at a normal size. Or, the pop-off could draw user attention to parts of the screen that they may otherwise miss; an issue exacerbated by the addition of the third screenshot and smaller overall real estate.

## CONNECTED-STYLE



Three screenshots allows for a stronger and broader canvas to convey progression than disjointed screenshots offer.

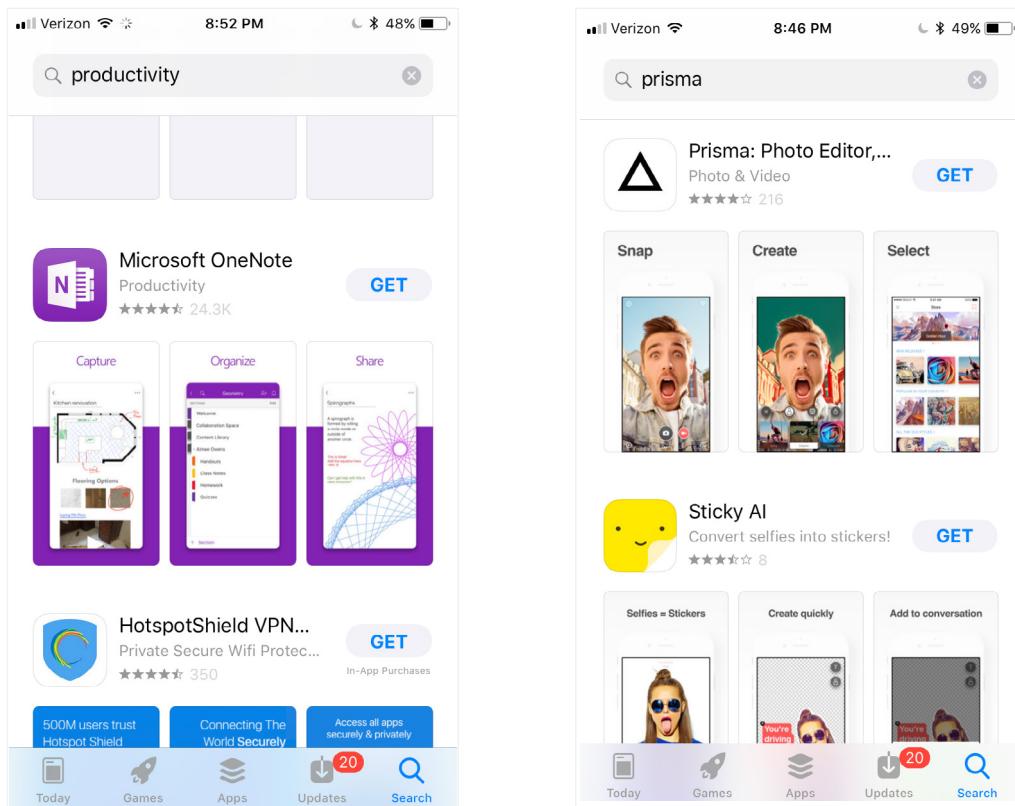
Youtube TV provides a good example of a three screenshot-long progression. Shazam and Postsnap combine the connected screenshot style with more text that tells a bit more of a story than a caption alone can muster. With smaller screens, the connected style can be a way to boost text size and retain the use of text as a major component of the messaging strategy.

## CONNECTED MIDDLE VISUAL



Similar to the connected-style, this more rare style allows the app to control more of the messaging by using more text and visuals, as opposed to having to use an actual screenshot. If the app lacks differentiation and is more functional than experiential, this may be a good choice. This style allows users to still have two full screenshots while also better controlling messaging.

## SINGLE-WORD CAPTION



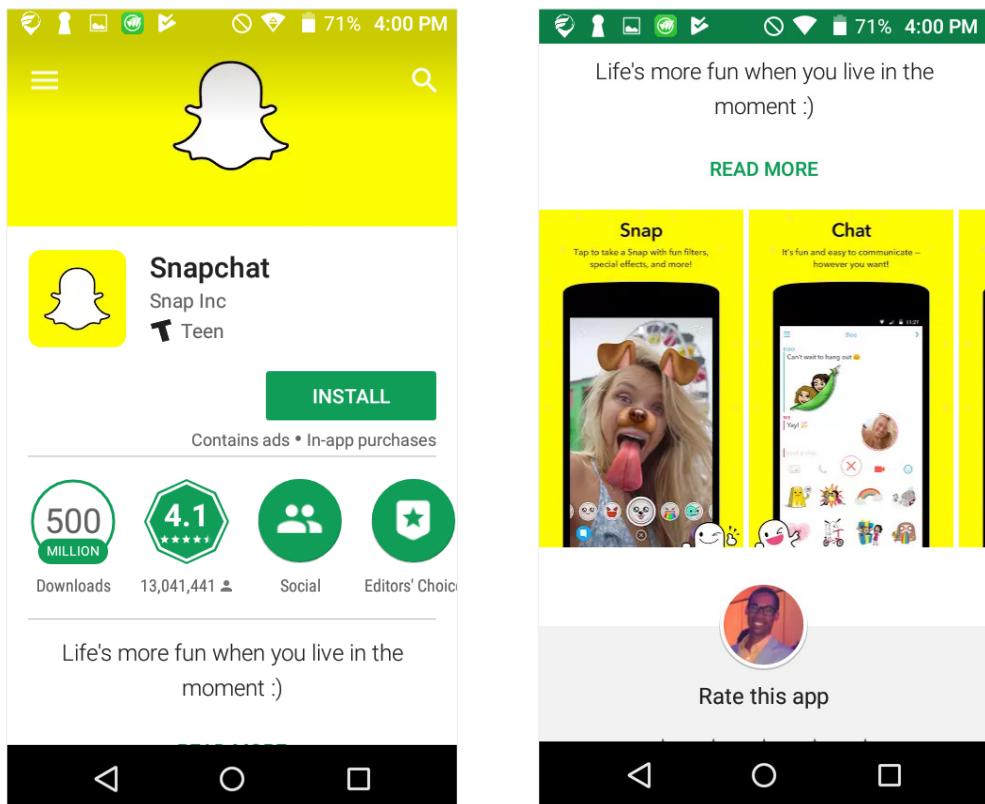
How do you make the most of a small screen while still conveying your message via text? Use a single word for your captions. Single or two-word captions have become more popular in iOS 11 ASO.

## Google Assets: Screenshots

The fact that screenshots (up to eight) are the **last visual element** seen of an Android app's profile (behind the icon and feature graphic/preview video) makes screenshots in Google Play lower on the CRO totem pole than in the App Store. Yet, screenshots are still the most direct method by which an app user can **preview what using an app is like** (other than the preview video), meaning that they are still of vital importance to CRO.

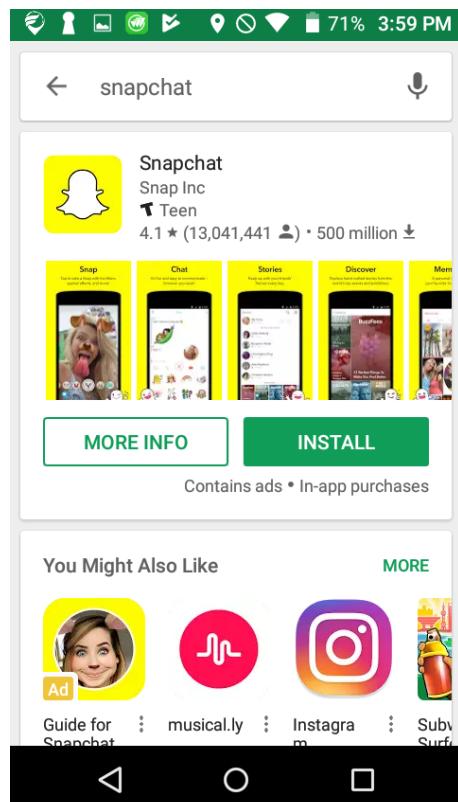
When creating Google Play screenshots, it's important to consider two important facts about the Google Play screenshot asset:

- 01.** Google Play screenshots, unlike their App Store counterparts, occupy a low level on the visibility totem pole. Before a user sees a Google Play app's screenshots, the user must first tap the app preview, where the icon is the first visual element. Then, the user must scroll down below the (past the feature graphic/video and the short description), to reach the screenshots.
- 02.** Google Play screenshots, therefore, do not need to capture a user's attention; instead, the main focus should be on educating the user on what the app does, and why they should care. In this regard, custom design is less important for Google Play screenshots, and may even backfire.

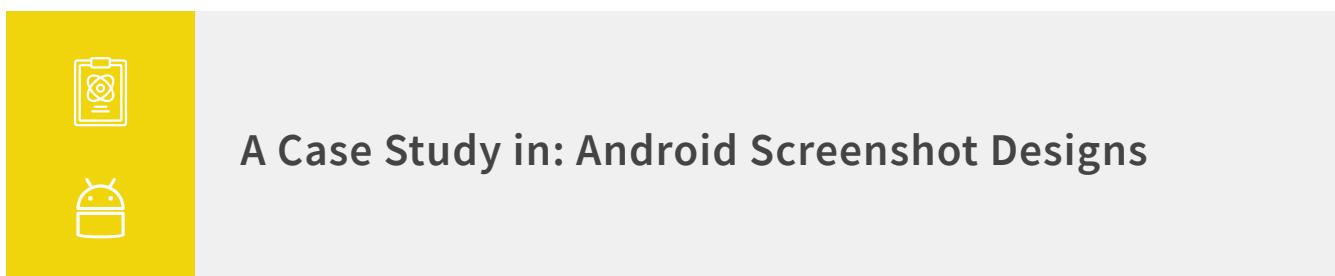


Screenshots depicting the Google Play screenshots located below the fold in the app page

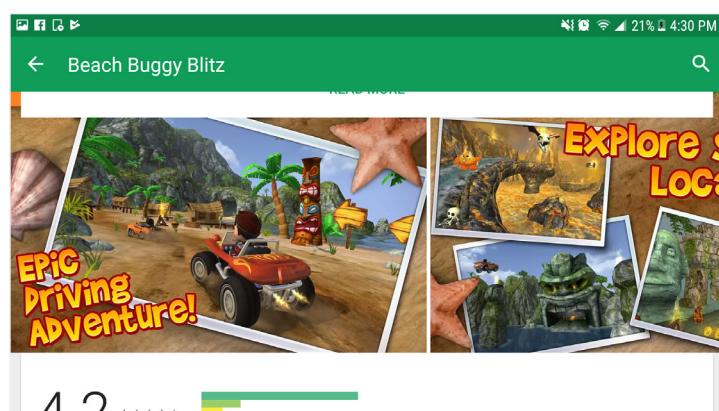
One caveat is that, for larger branded apps, screenshots will show in search results.

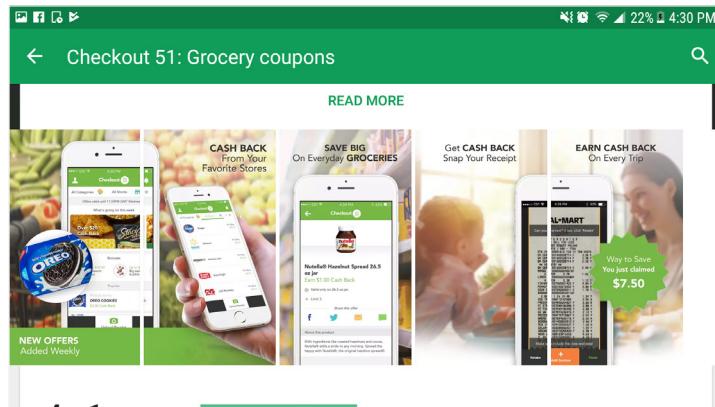


Google Play Store search for Snapchat



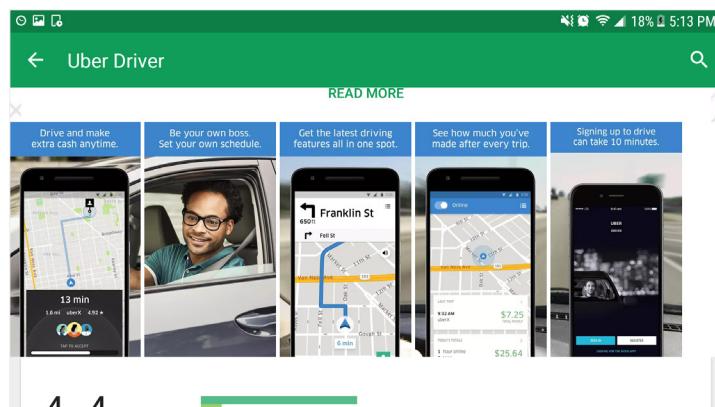
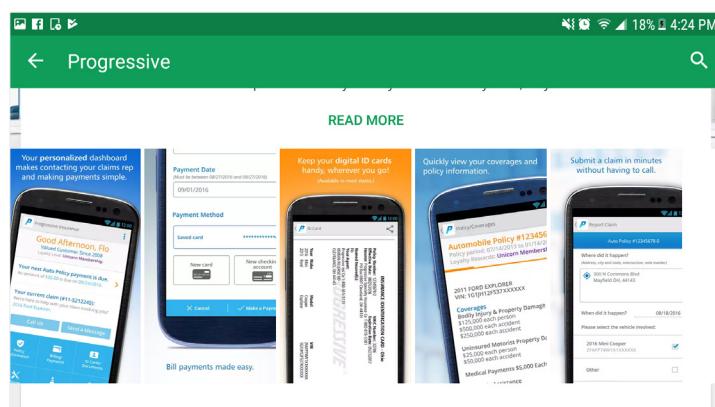
## CUSTOM BACKGROUND GOOGLE PLAY SCREENSHOTS





Custom background screenshot styles are one of the more safe styles of design, allowing the app to be creative, while also introducing minimal risk into obscuring the screenshots themselves. The third screenshot here of Checkout 51 is the exception, opting for a much busier background along with call out and pop off elements, the confluence of which creates a high risk of overwhelming users who are simply looking to know what the app looks like.

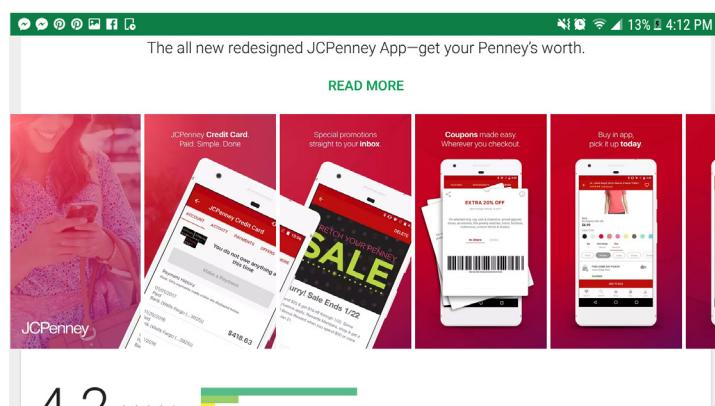
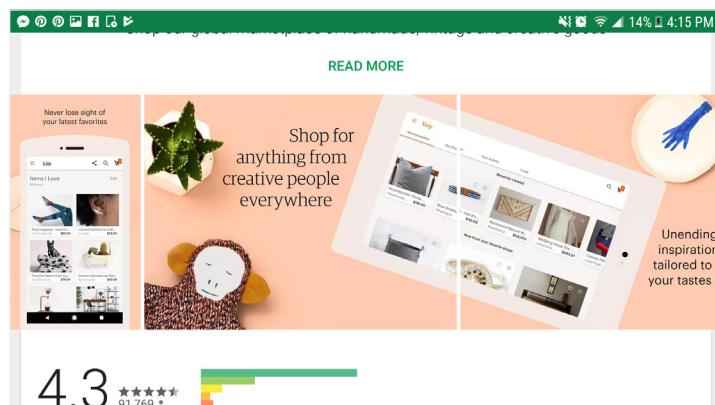
## ALTERNATING DESIGN GOOGLE PLAY SCREENSHOTS



As an attention-capturing device, alternating the design or style of each screenshot does a good job, yet it also makes screenshots appear busier and less cohesive, which can strike the wrong cord with an apps' branding feel. Additionally, given that the purpose of Google Play screenshots is less necessary to capture attention, this style of design can

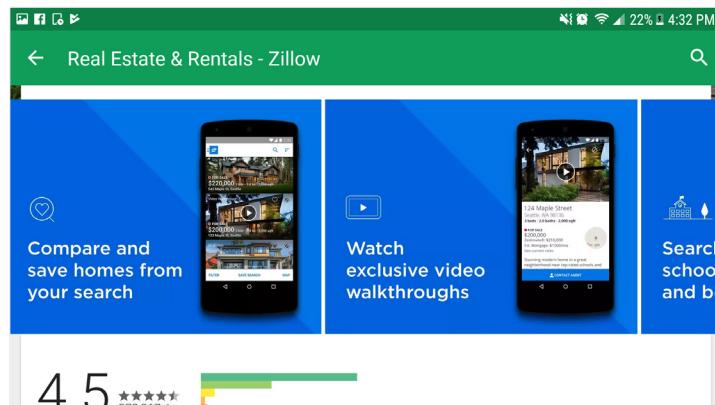
introduce more risk to converting users than benefit.

## CONNECTED-STYLE GOOGLE PLAY SCREENSHOTS



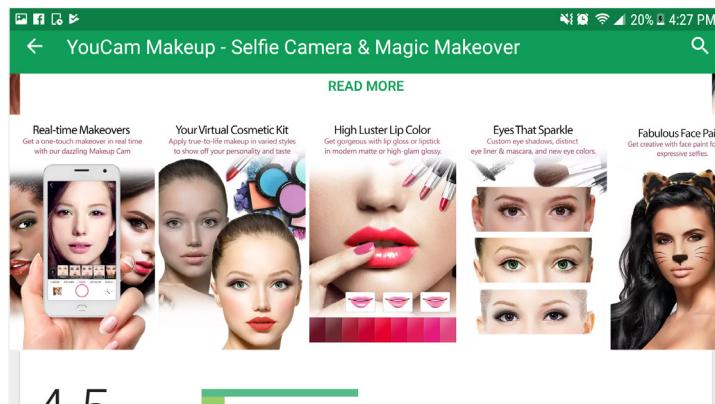
Connecting screenshots together is a common approach in ASO for the ability to control the messaging with a larger surface area for text, and also allowing for more design creativity. The downside is the flip-side of this coin, meaning that it may put users on alert about being “advertised to” more-so than more “standard” designs, by reducing the number of screenshots available for users to see, and ultimately reducing their confidence in objectively deciding whether the app solves their needs.

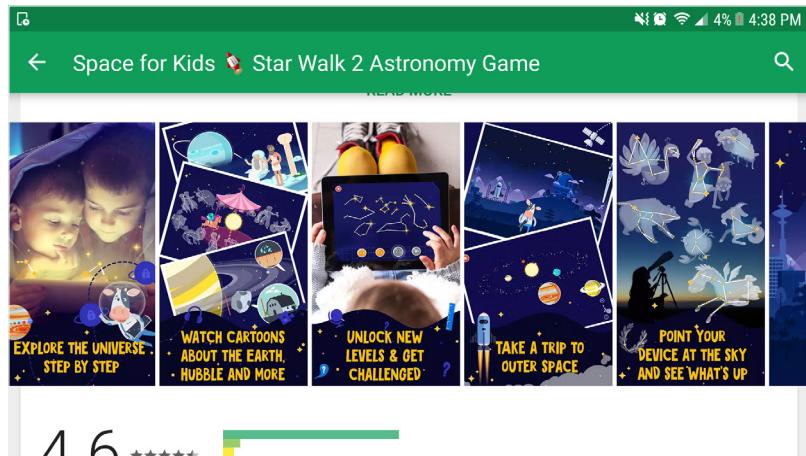
## STORY-STYLE GOOGLE PLAY SCREENSHOTS



Zillow takes an innovative approach by using landscape screenshots to tap into a larger surface area per screenshot; thus Zillow is able to execute a story-style screenshot design, with longer captions that don't also require a sacrifice in legibility. Zillow also uses a different icon to accentuate the main message in each screenshot, and a gradient to add a polished touch.

## OVER-DESIGNED STYLE GOOGLE PLAY SCREENSHOTS





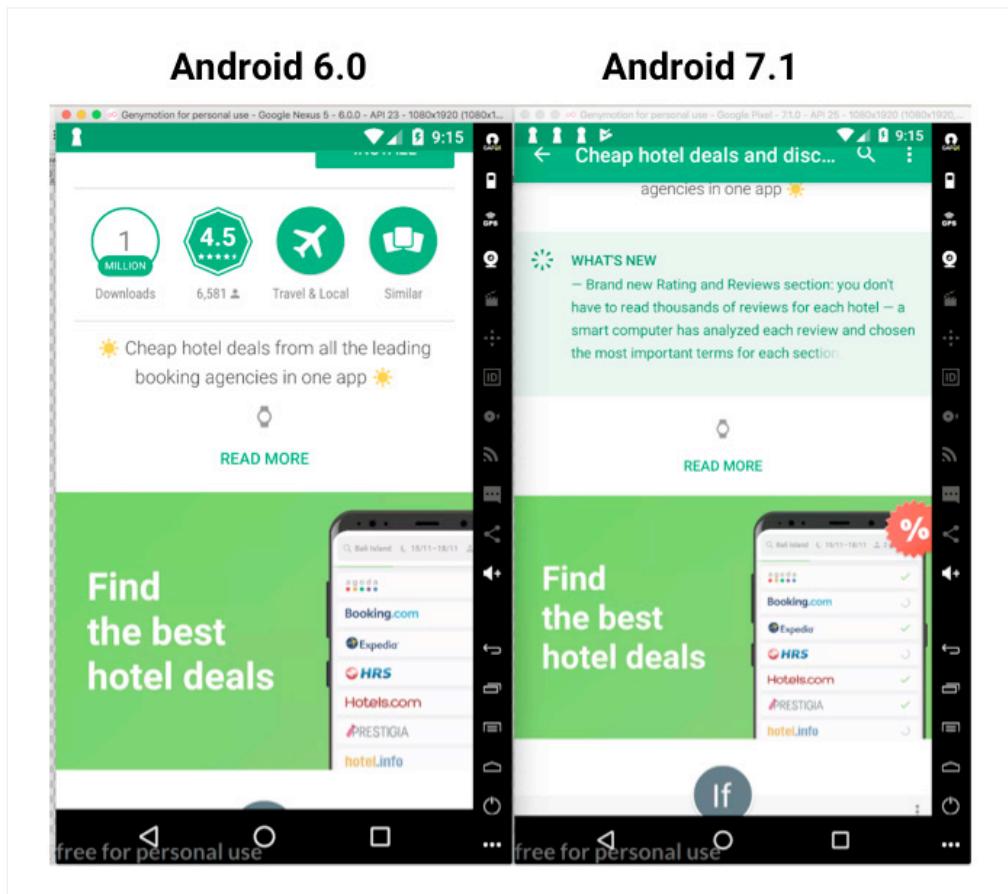
As the name implies, this screenshot style is hardly a set of screenshots. In each set, there is only one clear screenshot in a device profile, with the other screenshots going overboard with design. While certainly eye-catching, this screenshot style is also extremely busy and thus more likely to turn users off than explaining the app in a clear and concise manner.



**Beware:** ASO expert, Ilia Kukharev, points out that:

*"If you have landscape screenshots for Google Play, 2208x1242 or 1920x1080 (widescreen ratio), your screenshots will be cut off on the right on Android 5 and 6 and the screenshots will look good only on Android 7 and 8.*

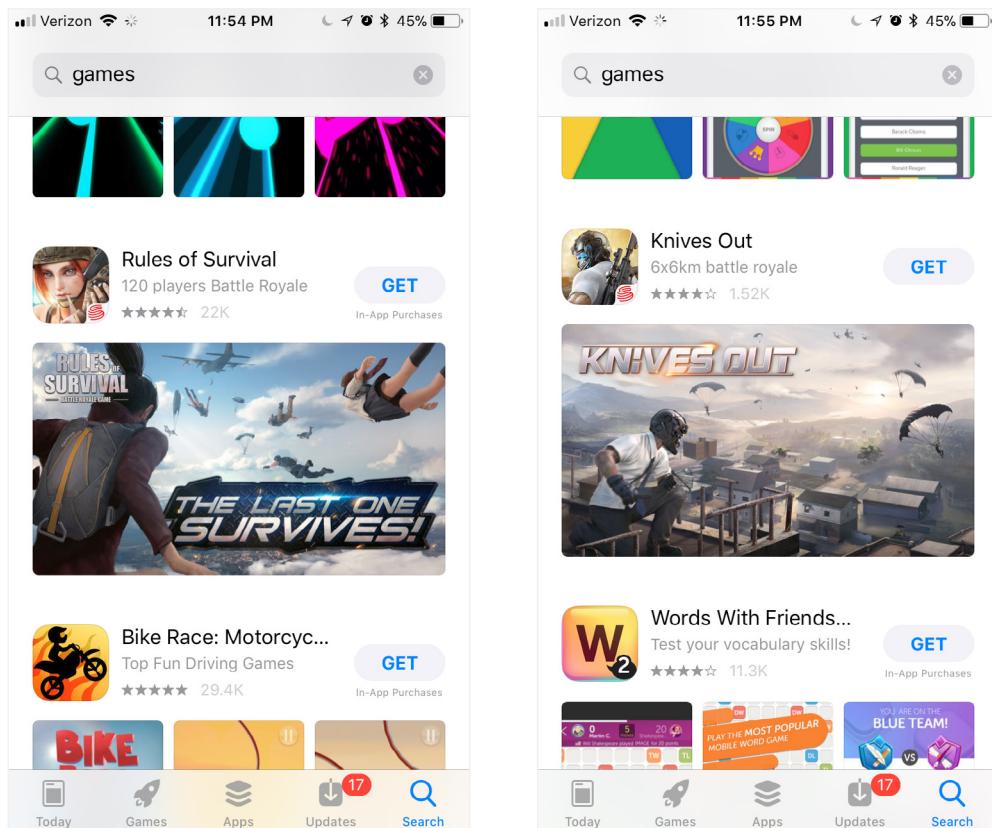
*The solution is to make your screenshots more "square" (choose 2000x1300) which will work fine on all versions of Android"*



## A Case Study in: Landscape Screenshot Designs

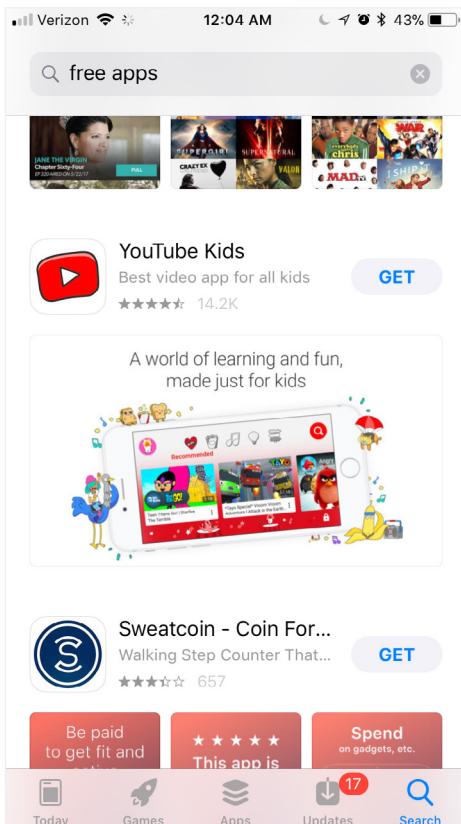
### CAPTION OVERLAY

While most landscape orientation games use videos, some games do opt for the simplicity of screenshots. The most popular style in this case is to overlay captions onto the screenshot, as these two games do.



## C A P T I O N E D

Captioned pages are a tactic used by both portrait and landscape apps in order to control more of the message conveyed to users. In this endeavor (control over the message), there are both pros and cons to landscape orientation screenshots. The pro is that the message is more focused into one screen, with less overall wording and potential dilution of the message; on the other side of the coin, portrait orientation screenshots have the chance to spread messaging over 3 screenshots, and thus tell more of a cohesive story/benefit.

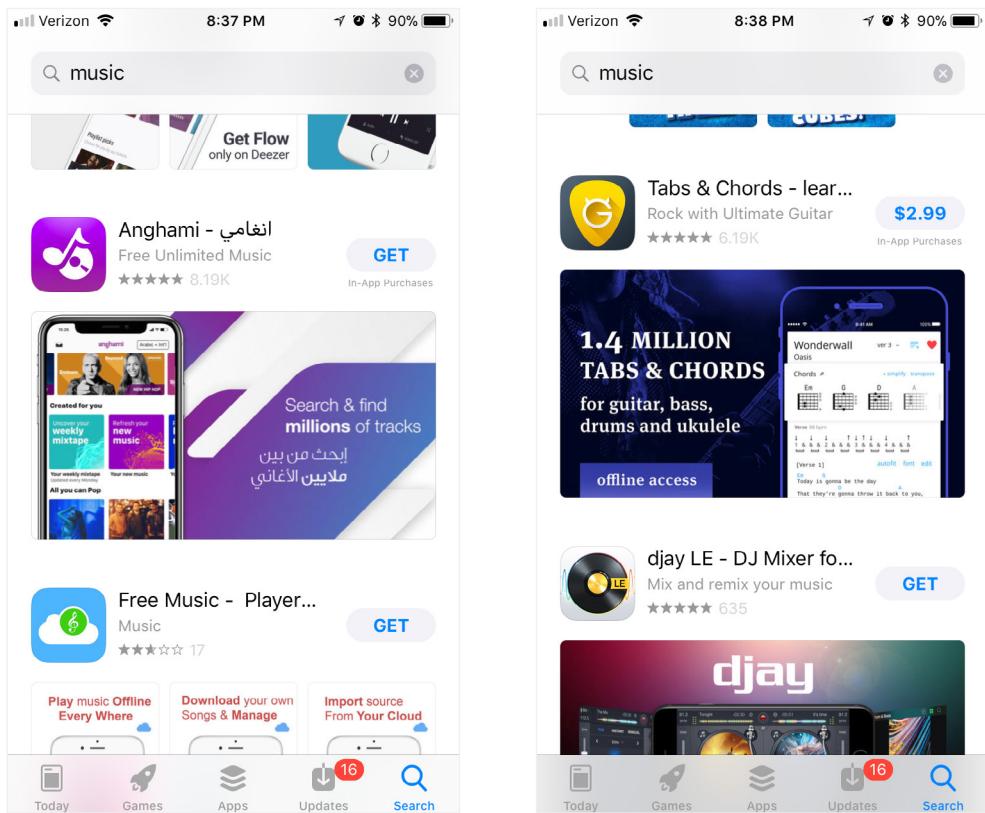


## POSTER/CONNECTED-STYLE

The main benefit of using a landscape-style orientation for screenshots is to take advantage of the expanded canvas for design and messaging. With a larger space comes the ability to move from a tiny caption to a full sentence or two and even a tagline or callout, in addition to iconography, a logo, and a screenshot of the app's UI. These three apps illustrate different takes on this style, each exhibiting a rich, branded background design with much more text than a portrait orientation could support, while still managing to be legible.

Using a landscape design style lends itself well to portrait orientation apps, which:

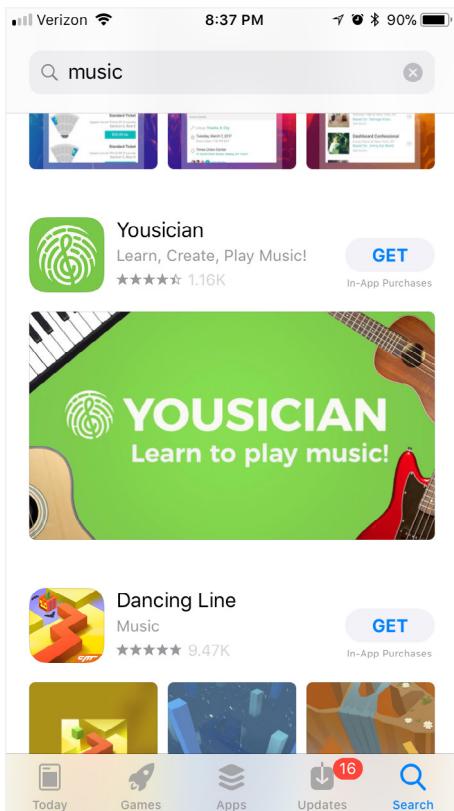
- Have fewer screens or are more simple.
- Have more straightforward use cases that are immediately understood (e.g. booking flights).
- Focus more on design/content than features.
- Have a strong branding/design team.



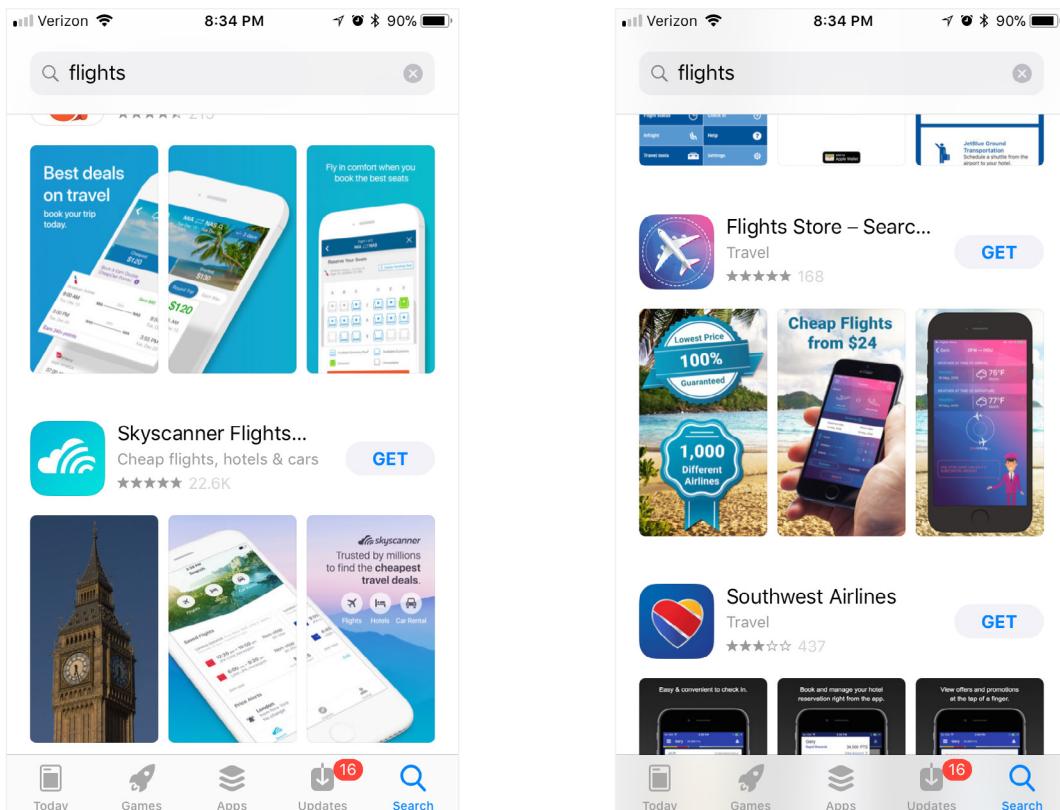
## SPLASH SCREEN

Similar to the poster/connected style is the expanded splash screen. Again, the benefit is that a landscape orientation offers more, contiguous pixels to design across without being interrupted by the screenshot breaks between portrait screenshots.

The danger with using a landscape splash screen that isn't a danger with a portrait splash screen is that users don't get to see an actual screenshot of the app UI, which can be risky as it requires users to interrupt their scroll and have to tap into the product page to see an actual screenshot of your app. Many people may not be willing to take this extra step and choose to continue scrolling to other app results for their keyword search.

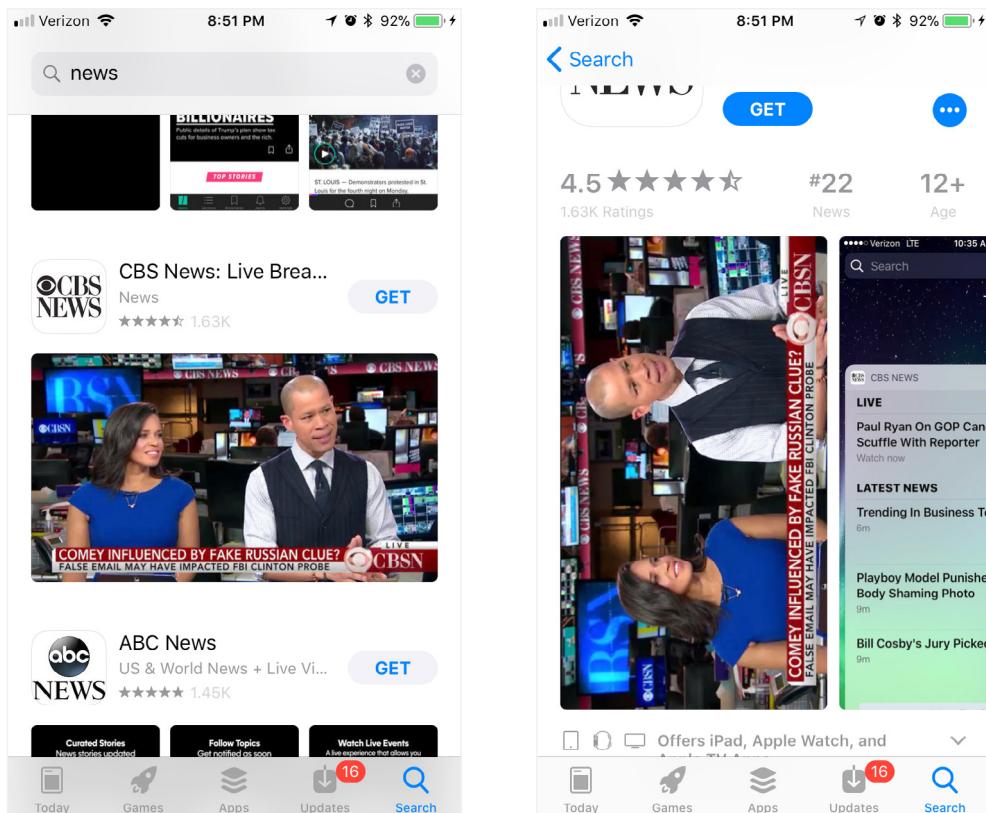


The following apps apply the poster or connected-style design seen earlier across three individual portrait orientation screenshots. Yet with two screenshot breaks, this design style lends itself much better to landscape orientation than portrait. Especially when individual screenshots are smaller, every pixel that can be better utilized is beneficial to the overall design.



## MIXED ORIENTATION

Additionally, both landscape and portrait screenshots can be used at once, such as CBS News below, which uses a landscape screenshot first, and then switches to portrait for screenshot #2. While it's not a great experience in the product page view, it shows that it's possible to mix the two orientations.



## Store Assets: Video



This chapter is written by guest author Sylvain Gauchet.

Sylvain is passionate about app marketing and mobile growth and co-founded Apptamin in 2012.

Apptamin is a creative agency producing mobile video ads and App Store videos. Working with brands, agencies, startups, and game studios, Apptamin helps its clients in creating the right videos based on the targeted channels and objectives. The company has team members in Montpellier (France), New York, and Hong Kong and covers the whole process from discovery to video delivery. Sylvain, the Apptamin team, and guest experts share insights on ASO, app promotion and video creatives on the [Apptamin blog \[https://www.apptamin.com/blog/\]](https://www.apptamin.com/blog/).

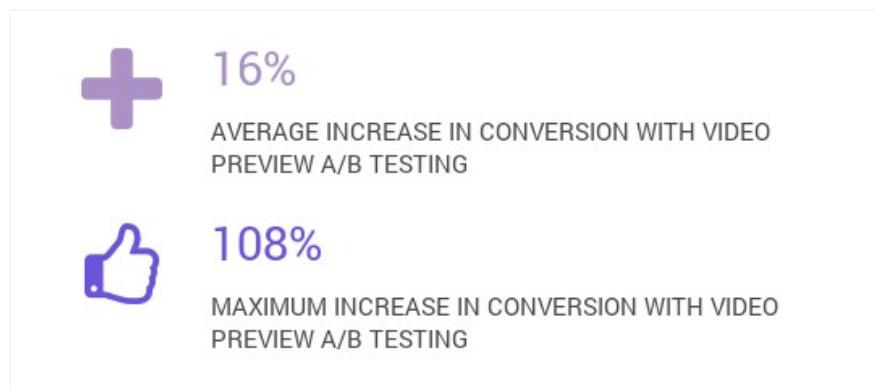
## General

Video has always been a great way to show products in their best light. And it's not different for mobile apps and games.

Although not a slam dunk, leveraging video in the App Stores can help you increase conversion, if you do it right.

Storemaven estimates that the uplift one can get by having a video on your App Store page can be **up to +20-35%**, and

that visitors who watch the video are 3x more likely to install (based on analyzing 120M sessions of their tool). Pre-iOS 11, Splitmetrics estimated that the average increase in conversion with video for iOS was around 16%.



*Video statistics data source: splitmetrics.com*

Although not everyone gets these types of results, it is worth considering video in your onboarding process. Users that have seen your video have a better understanding of your app, and are more likely to be engaged and stick around. But the only way to know for sure is through experimentation.

There should be no “one creative fits all” approach. This is true for mobile advertising, and it is true as well as for App Store videos, with many important differences in guidelines and formats between the Apple App Stores (iOS/tvOS) and the Google Play Store.

Let’s first take a look at these differences. We’ll then dive into more details and then provide you with recommendations for using videos in the App Store and Play Store.

Even some of our most savvy mobile marketing customers seem to have misconceptions about the formats of App Store videos, and we often end up needing to carefully explain the differences.

Let’s make clear how we call the two types of videos in this chapter:

- **App Previews** are the videos displayed on the iOS and tvOS App Stores. They were introduced in 2014, and the way they are displayed has changed in iOS 11.
- **Promo videos** (the term Google uses) or **Play Store videos** are the videos displayed on the Google Play Store.

## THE TOP 5 APP STORE VIDEO MISTAKES

We’ve produced over 1,000 videos over the years, and we pay particular attention to what could help or hurt the positive impact of using video on the stores.

If you follow the best practices we recommend in this subchapter and keep a critical eye on your video production, you should be more than well-equipped to build a store video.

Here are some of the main pitfalls to avoid in store videos:

## Top 5 App Store Video Mistakes

|            | APP PREVIEWS (IOS APP STORE)   | PROMO VIDEOS (GOOGLE PLAY STORE)   |
|------------|--|--|
| Mistake #1 | Showing your logo or app icon at the beginning of the video: instead, jump right to what's key about your app. Start strong, those first few seconds are critical!   |  |
| Mistake #2 | Not experimenting or at the very least observing new video styles. iOS 11 brings changes to the App Store that give a new place to video and interesting possibilities. That said, be aware of the guidelines and always have a backup plan in case the video is not approved.   | Using iOS screen captures in your Play Store video: you want viewers to identify with the app you're showing (Android users are usually not fans of Apple)   |
| Mistake #3 | Overlooking the poster frame of your video: the poster frame was a crucial element of your App Store page pre-iOS 11 and it is still important. You should think about your poster frame almost as much as you think about your screenshots. Since it has to be a frame of your video, you need to plan this ahead of time (when scripting the video). | Creating a vertical/portrait video for your Play Store: YouTube videos are landscape so you're missing out on precious screen real estate that could allow you to showcase your app better (and it looks sloppy)   |
| Mistake #4 | Not optimizing for sound off. Because App Previews autoplay in mute, users will very rarely hear the sound of your video. Make sure you use copy (overlaid or via text interstitials) and try to show the most compelling screens from your app.   | Showing the app from too far away, or using text that is too small: most people watch your video on mobile, so you need to make sure it's optimized for them.  |
| Mistake #5 | Staying on the same screen for too long at the beginning of the video, missing out on people understanding that it's actually a video.   | <b>Just for fun:</b> Having an ad displayed before your video! If you have ads on your YouTube channel, figure out a way to not have it for your promo video on the Play Store (users don't want to see a 15s ad instead of the video showing your app!) |

Keep these key points in mind when optimizing your app video:

- There are significant differences between promo videos (Play Store videos) and App Previews (App Store videos). They are not interchangeable. You want to optimize your video(s) for each store.
- That said, some rules do apply to both types of videos, such as keeping it simple, leading with the value proposition, making it clear without sound and showing your best content.
- Be sure to test the impact of your videos, and tweak things if needed.

## Apple Assets: App Preview Video

The first thing to note is that App Previews are device specific, and you upload them on iTunes Connect.

This means that you are supposed to have one video for each device. In reality, some devices have the same ratio and one video with a 9:16 ratio will be enough for all of them : iPhone 5/6/7/8/6 Plus/7 Plus/8 Plus. You simply upload the highest resolution (1080x1920) on iTunes connect and are then able to generate automatically the lower resolutions. Same with the iPad Pro and iPad.

Because the iPhone X and the iPads have a different screen ratios from the other iPhones, you are supposed to create separate versions for these devices.



*The screen ratios of the 3 devices are different. App Previews being device specific, this means you need 3 different videos.*

The iPhone X App Preview is optional for now, but we've seen Apple ask developers for one to feature them. Here's what iPhone X users see so far if you do not have an iPhone X App Preview.

If you do not upload iPhone X screenshots, then iPhone X users will see the "other iPhones" App Preview (the 9:16 video for portrait) in both the search results and the app listing, i.e the "normal" behavior. The only difference is that if they tap from the app listing to view the App Preview full screen, they'll see black bars on top and bottom of the video for a portrait app (the black bars are on the sides for a landscape app/video of course). This is because a 886x1920 resolution (the iPhone X App Preview resolution) is "taller" than a 1080x1920 resolution (the resolution of the iPhone 6/7/8 Plus).



*This is how an iPhone 6/7/8 App Preview would show to iPhone X User*

If you upload iPhone X screenshots but not an iPhone X App Preview, then iPhone X users will see the “other iPhones” App Preview in the search results but not on the app listing.

Apple TV apps are on a different store, the tvOS App Store, so if you have a tvOS app and want an App Preview in that store, you need to produce another video. We won’t expand on this in this book.

Apple most likely put the device-specific app previews in place because the goal of these App Previews is to give an accurate view of the user experience, and apps are often different based on whether you use them on a phone, a tablet or a TV.

Here are all of the App Preview resolutions:

|                                      |  |   |
|--------------------------------------|--|---|
| 5.5-Inch Retina Display Screenshots  | 2208 x 1242 (Rendered Pixels)<br>1920 x 1080 (Physical Pixels) | 1080 x 1920 pixels for portrait<br>1920 x 1080 pixels for landscape                                   |
| 4.7-Inch Retina Display Screenshots  | 1334 x 750   | 750 x 1334 pixels for portrait<br>1334 x 750 pixels for landscape                                     |
| 4-Inch Retina Display Screenshots    | 1136 x 640 (16:9 aspect ratio)                                 | 1080 x 1920 pixels for portrait<br>1920 x 1080 pixels for landscape                                   |
| 12.9-Inch Retina Display Screenshots | 2732 x 2048 (4:3 aspect ratio)                                 | 1200 x 1600 pixels for portrait<br>1600 x 1200 pixels for landscape<br>900 x 1200 pixels for portrait |

*Source: developer.apple.com*

With iOS 11, it is possible to have up to 3 App Preview videos in one app page listing. But more on that later.

If you want to add a video to your App Store page then you are supposed to follow Apple's guidelines.

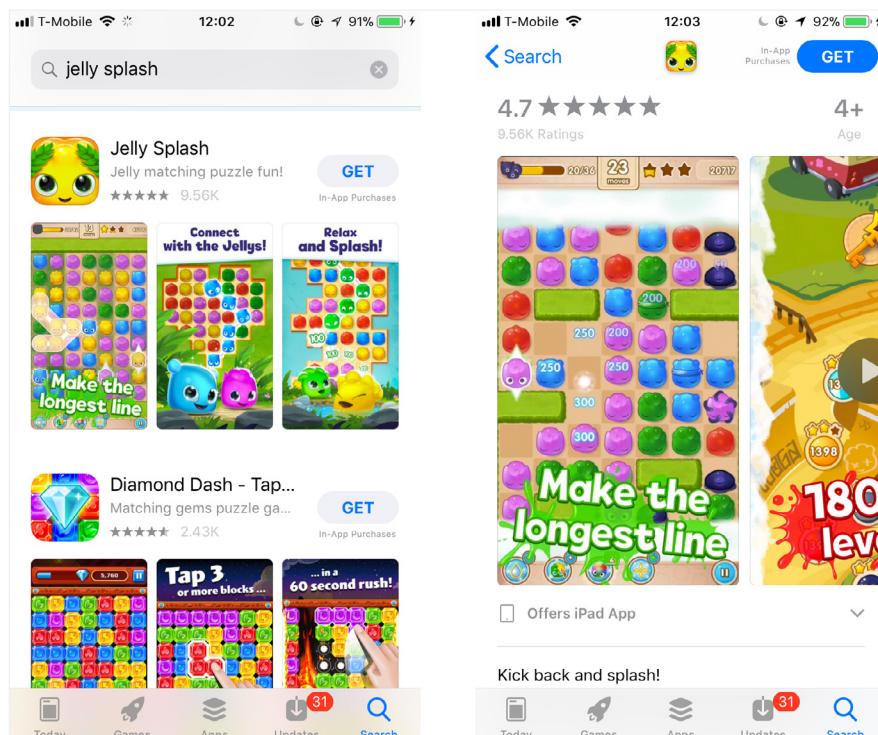
Historically, the guidelines (<https://developer.apple.com/app-store/app-previews/>) have been pretty strict and enforced by Apple. It seems Apple is getting a little more flexible. Some publishers are definitely operating beyond the guidelines and getting away with it. It is of course safer to play by the rules, and if you explore the grey area (it's always more fun!) make sure you have a backup plan.

Also, you can only update the App Previews when updating your app, so plan accordingly.

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## FIRST APP PREVIEW AUTOPLAYS IN SEARCH RESULTS

The App Preview now auto plays on mute, alongside the first 2 screenshots. Even when there are 3 App Previews, only the first one is displayed in the search results.

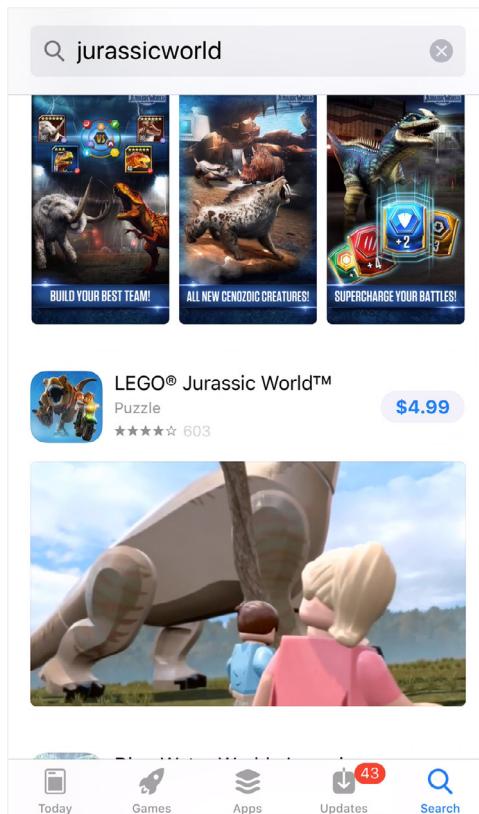


*Screenshot in iOS 11 showing Jelly Splash: the first App Preview autoplays in the search results, along with the first two screenshots.*

Once again, this puts a bigger emphasis on the video rather than the poster frame (and the other two screenshots when in portrait mode) as the eye gets attracted by the moving images. It becomes quite obvious when seeing search results for apps in landscape mode:

*The landscape Lego Jurassic World App Preview video takes almost the full width, and the moving images make that app listing very visible and compelling.*

One of the interesting things that happens in the search results is that when the App Preview of the app in focus completes its showing, the App Preview of the next app starts auto playing.



11

## SHOULD YOU USE ALL THREE APP PREVIEWS?

As mentioned, you can have up to three App Previews...but should you take advantage of that?

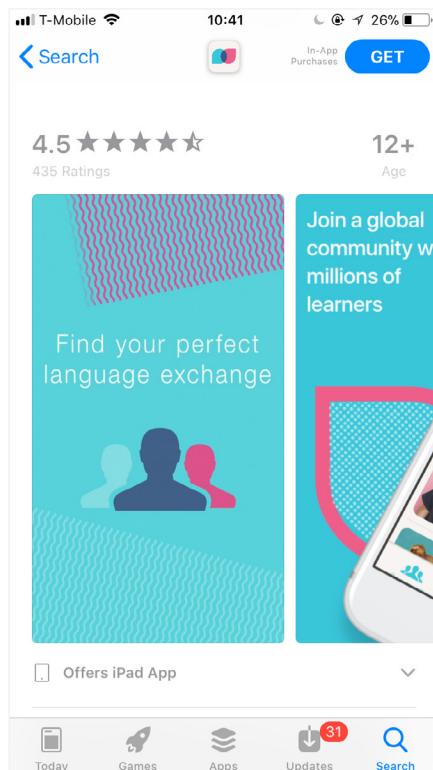
The answer is that it's too soon to tell, and it might depend on your app as well. For simpler apps, our gut reaction would be that one App Preview is enough to consider at first. But again, the only way to really know is to test it!

We can see the additional App Previews being useful though.

- The first App Preview displays in both the search results and is displayed first in the store listing. We believe it should allow users to get a good overview of the app or the game, starting with the most important (see the “best practices” section above). The video pace should also be catchy and dynamic.
- The 2 additional App Previews complement the first one. They can be shorter and illustrate one or several specific features, such as “gratifying moments” or “pro tips”. Keep in mind that there a minimum length of 15s.

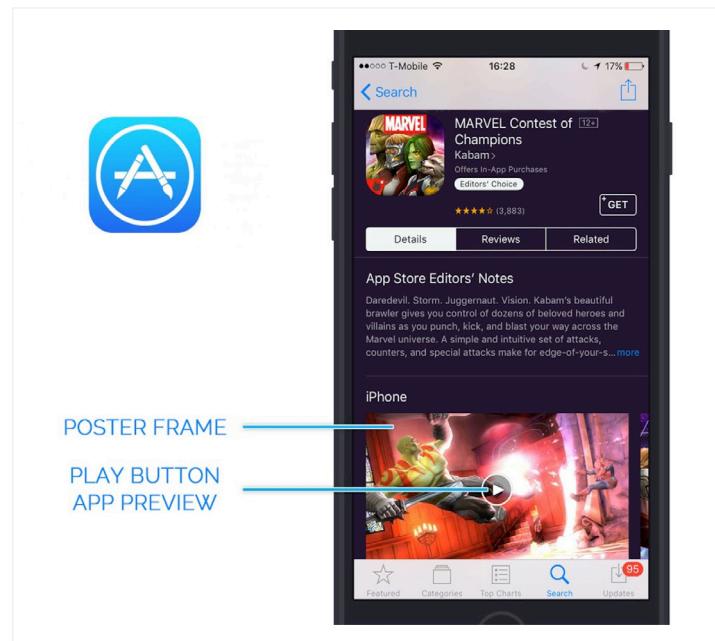


For *Jelly Splash* the App Preview #2 we created is an “infinite scroll” of the map, differentiating it from App Preview #1.



For *Tandem*, we only created 1 App Preview. But a good App Preview #2 could be showing just a text a change or a video call between users (that show later in App Preview #1).

The app experience itself should give you ideas and help you decide whether it's worth testing or not. If you do add 2 more App Previews, we would recommend using copy as well for maximum impact (see "best practices" section below).



*Screenshot diagram showing the video poster frame*

## APPLE POSTER FRAME

"Feature frames" refer to the thumbnails that show before playing the video. In the App Store this is called the "Poster frame".

"Poster frame" (pre-iOS 11) and autoplay (post iOS 11) for the App Previews.

**Apple calls the visual over which the play button sits the “poster frame”. In the App Store the “poster frame” previously (pre-iOS 11) acted as the first screenshot. This had made the poster frame a critical asset, because it showed up in both the search results and as the first visual (besides the icon) in the App Store page.**

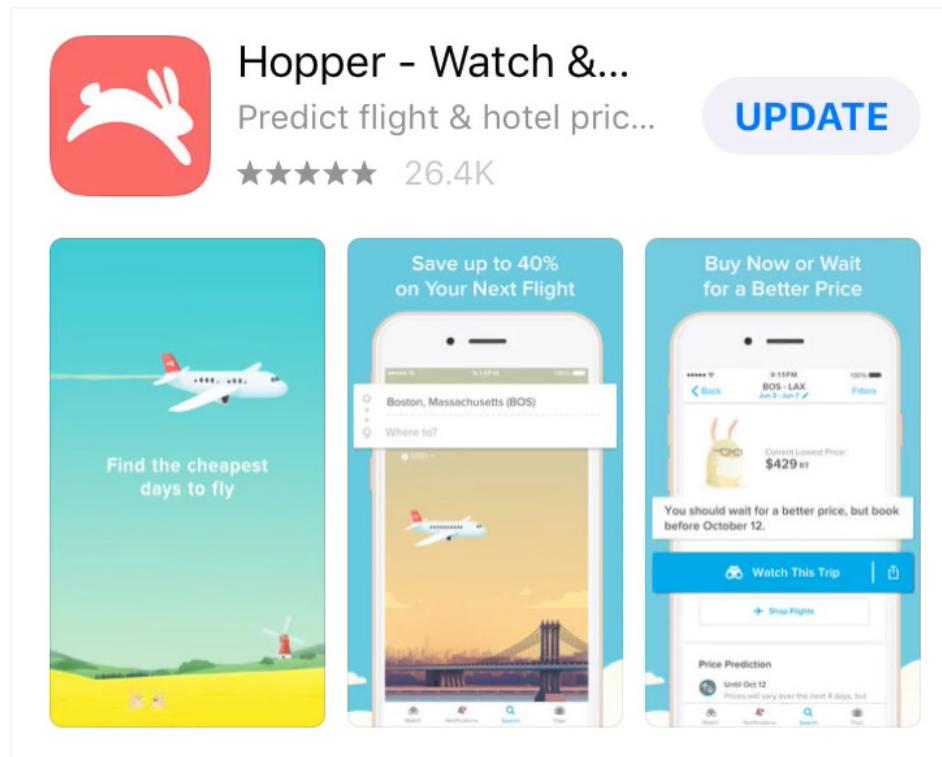
With the fact that App Previews autoplay, this is of lesser importance, so long as your video starts strong. But don't neglect it, as the poster frame can still be seen in the following circumstances:

- In the search results (while the 1st App Preview of the app above or below is playing)
- Before your app preview video is “in focus” for the 2nd and 3rd App Previews in the App Store listing
- By people with slower internet connections before the video begins playing.
- By people browsing the App Store in India or China, where autoplay is currently not in place.
- By people that have turned off autoplay in their App Store settings

So you still want to think it through and decide on a good poster frame.

You should plan in advance (i.e when scripting your video) what your poster frame will be. It needs to convey what your

app does, and fit in nicely with your app's screenshots.



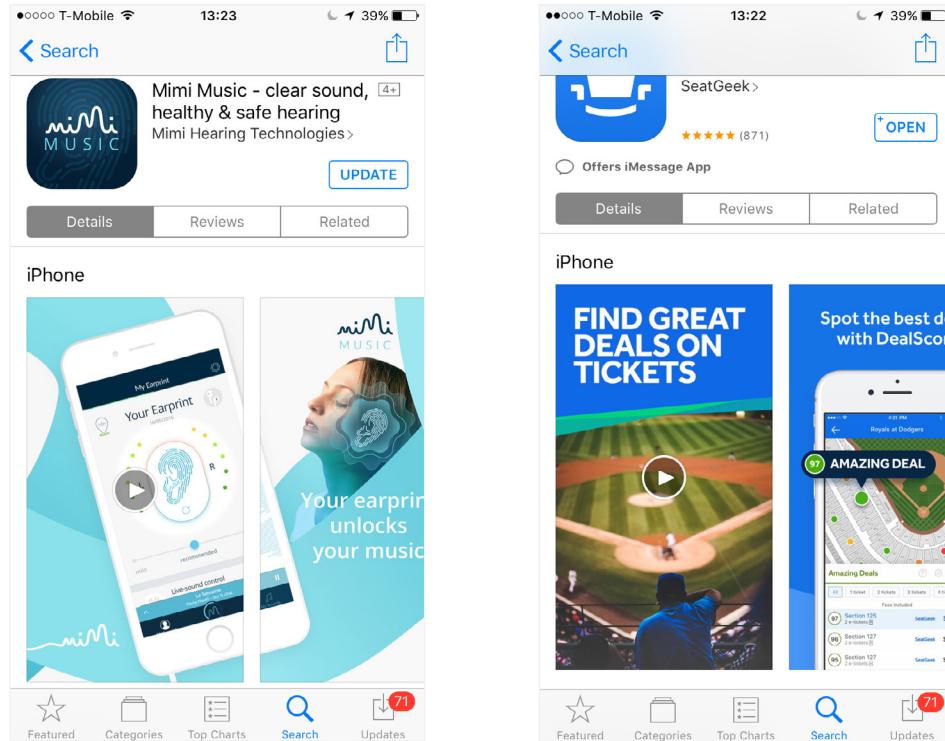
*Make your poster frame fit nicely with your screenshots*



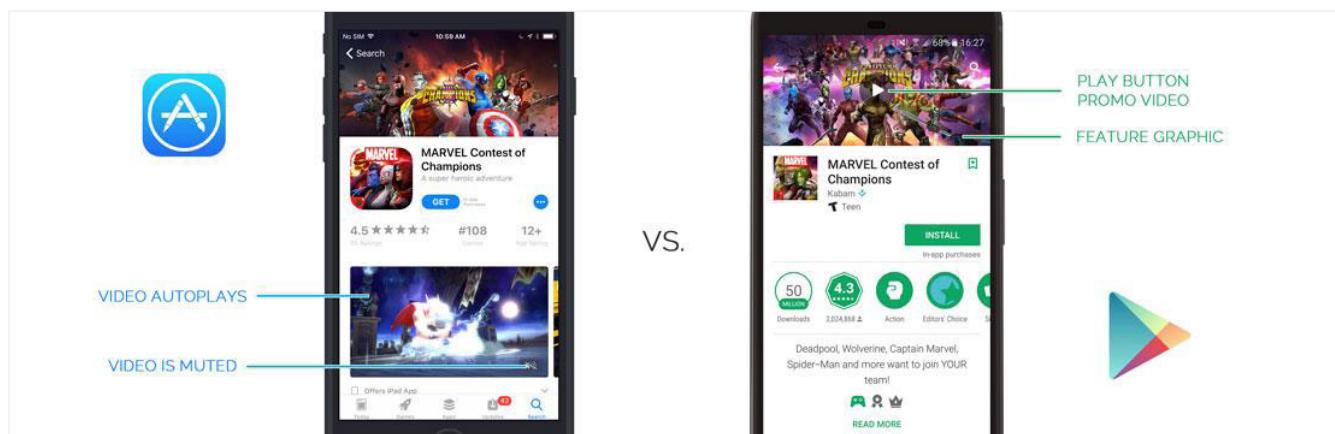
To put it briefly: if it were to make a good screenshot, it would make a good poster frame.

Something that some developers have tried that is perhaps towards a grey area (but which has seemed OK with Apple

in several occurrences) is to actually use the screenshot that you would otherwise use as the first screenshot, as the poster frame for a split second at the beginning of your preview video.

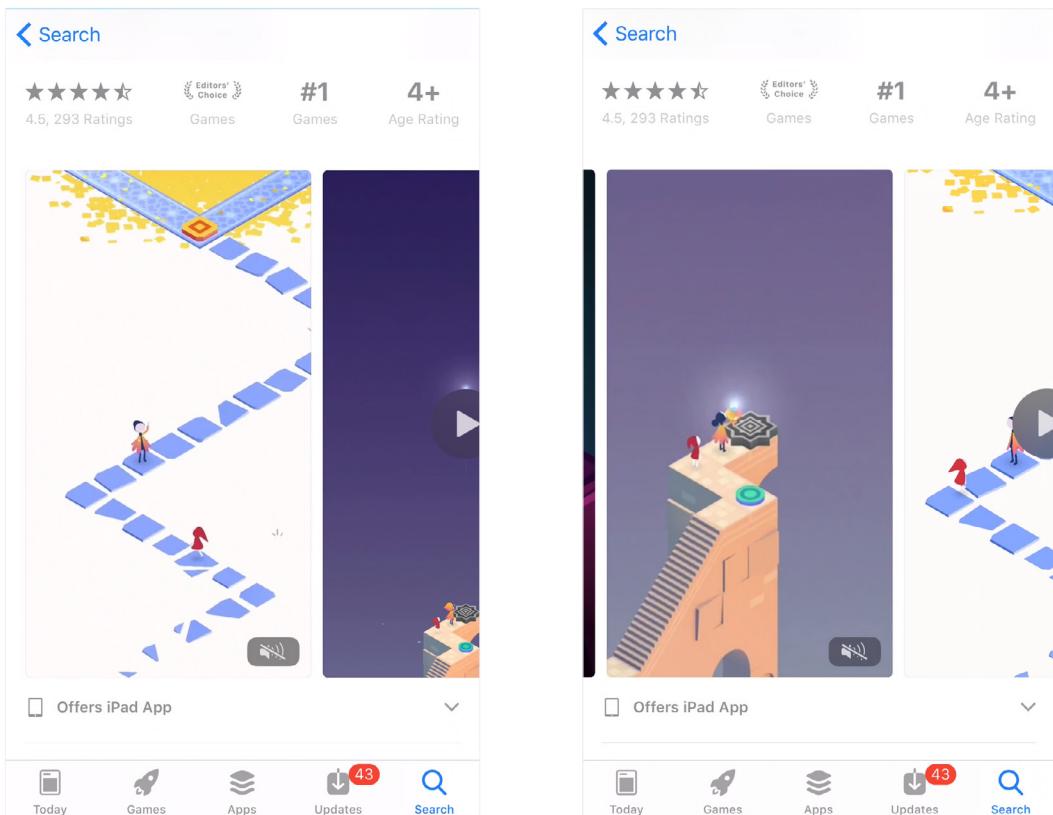


*Screenshots showing interesting examples of video poster frames*



*Screenshots depicting videos in the App Store vs in the Google Play Store*

When there are multiple App Previews, each is displayed before the screenshots, and autoplay as soon as they become “in focus.”



*Screenshot depicting multiple preview videos showing, with the first autoplaying, and the second queued to play, with the poster frame and a play button showing.*

## BEST PRACTICES WHEN CREATING APP PREVIEWS FOR THE APP STORE

App Previews need to be based mostly on captured footage from within the app, but you also have the ability to add some overlays or interstitial text as well. Here are some tips:

- **Look at the competition:** What are apps in your category or niche doing? How could you improve on it?
- **Put the most important benefit first (as long as it looks good):** don't wait until the end to show what's unique about your app, lead with it! Your icon is already in your app page, so there is no need to waste time by showing it again at the start of the video. Make sure that the imagery moves in the very first few seconds, so people don't confuse the video with a screenshot and keep scrolling. Captivate them! You want to show something very visual very quickly from your app/game, as some users will only watch the first few seconds of your video.
- **Use copy, and quickly:** because App Previews autoplay muted in both the search results and the App Store listing, having some copy (very short and easily readable - even in the smaller sized search results) can help viewers understand your app's benefits faster (or your game's awesomeness/story). You can also leverage text screens to give character to your video, by (reasonably) adding animations or live action video backgrounds.
- **Don't try to show everything:** you only have between up to 30s, so you need to select what's really important to make the most out of the time you have. That means no login screen or settings! Splitmetrics even estimates that 80% of users don't watch past the first 12s (pre-iOS 11).

- **Show relevant app content and gameplay:** This is even more important than in the Play Store, because App Previews must stay within the app. Create content or show gameplay that put your app in its best light.
- **Add a nub/touch circle when tapping/interacting with the screen:** You can't show hands, so add a touch indicator so viewers understand what's happening and what's being tapped.
- **Keep it simple:** You can't really show the context in which the app is being used, so make sure that you show things in a way that doesn't confuse viewers.
- **Be care not to be too salesy:** Apple doesn't want this video to be an ad, but rather something that accurately showcases your app. But you also need to convince people, so try to find the right balance.
- **End with a call to action:** The user is already considering downloading your app, so now that you have the viewer excited, make sure you explicitly remind them to actually download your app!
- **Don't forget the poster frame:** Again, the poster frame will show for a split second (or longer depending on the internet connection).

Because of where they appear and how they are displayed, App Previews are evolving and becoming more like ads. One sign of this is the fact that Apple says you should use copy to add context, because the video is on mute by default. Several developers also create videos that are more dynamic than before and explore the grey area, often successfully (i.e the video is approved). A few examples of this “dark grey” area is:

- Using a landscape video even for a portrait app, which means they show things (text, background) around the UI and sometimes a device
- Using less UI and more animations
- Using live action shots (the riskier in my opinion if those shots are not shown within the actual app)

Now be careful when you experiment: you should still keep in mind Apple's guidelines. So you can have a backup plan in case the video is not approved.

## HOW TO MEASURE YOUR APP PREVIEW'S IMPACT

This is a bit more tricky and less accurate than on the Play Store.

There are two main options:

- **The pre-post report:** Analyze your conversion rate in your iTunes analytics. Keep marketing/acquisition efforts at the same level and compare the results between the week before you add the App Preview, and the week after.
- **Testing tools:** Tools like Storemaven or Splitmetrics “clone” your app page and allow you to run an A/B test on the cloned page. You define what you want to test and then send the cloned App Store page some paid traffic. The results give you an indication of what works best, and the fact that you can use attribution links can help you identify the quality of users from each variation post-install, too.

It certainly will be really interesting to measure the impact of App Previews, now that they are going to have a much larger importance. We've already had clients (both gaming and apps) for which adding a video since iOS 11 has been increasing conversion, ranging from 3-5% to 30-35%.

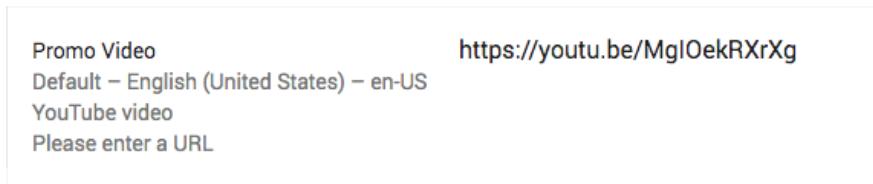
## LOCALIZATION

So far if you were to add an App Preview in English to an App Store app listing, then all users everywhere in the world would see that App Preview in English. This changes with having three App Previews per localization. You can therefore decide which locale displays App Previews (or not) as well as have localized App Previews.

Apple offers the following advice about localization: “If you’re targeting multiple countries with your marketing message, you may want to localize your app preview’s narration for different languages. You can also adjust the order of your app previews to emphasize videos without narration.”

## Google Assets: Store Videos

**Videos in the Play Store (“Promo videos”)** are **YouTube videos**. You upload them to YouTube, and then indicate the link in your store listing in the Google Play Store developer console (Graphic Assets section) if you want the video to appear on your app’s Play Store page.



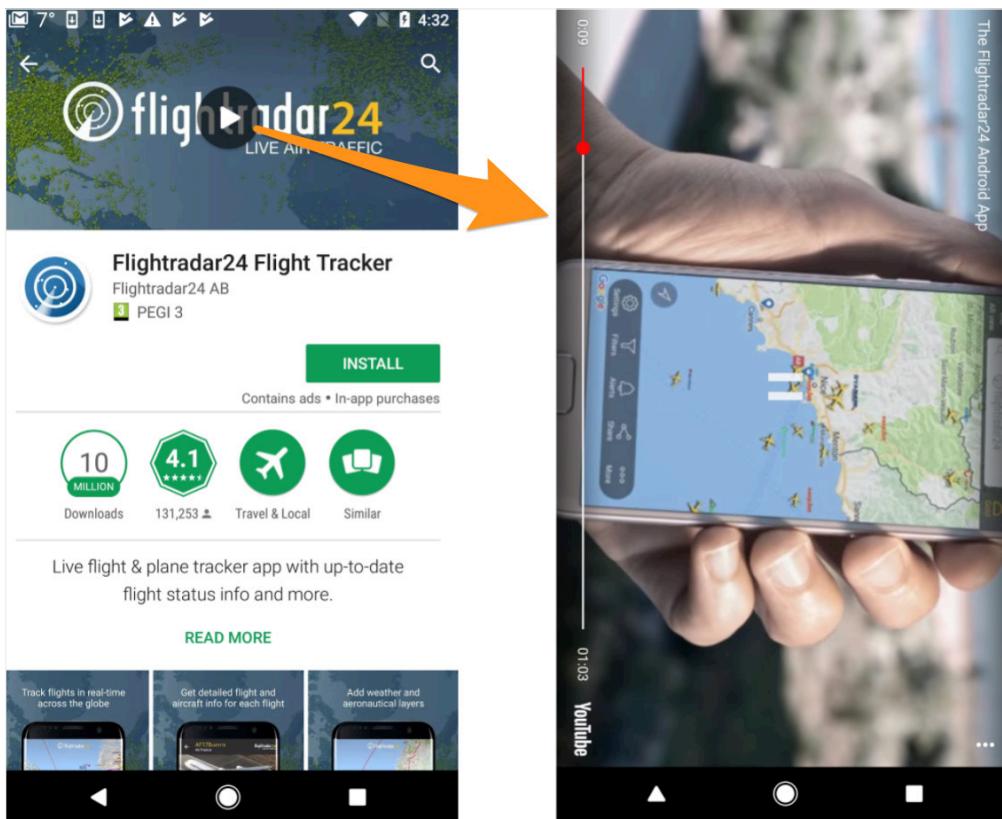
*Screenshot depicting the metadata for adding video in Google Play*

Because it’s a YouTube video, the only constraint when creating your Play Store video is that it needs to be 16:9 (1080x1920 is the most common resolution).

This main difference between App Previews and Play Store videos has led to seeing what we call at Apptamin the “big black bars” syndrome: publishers using their portrait App Preview as a YouTube video for the Google Play Store. And it makes us cringe a little each time.



If this App Preview video was used on the Play Store, it would show the wrong UI, and there is also tons of space lost on each side. Don't think that because you upload a portrait video for the Play Store it will be displayed in portrait: no matter what, users will have to turn their phone to watch the video.



The YouTube video format provides you with a lot of freedom creatively, and also comes in handy when you want to show multiple devices, interactions between users or use live action video (not allowed on the Apple App Store).

The only real constraints we've seen is when Google wants to feature apps: they only want the Play Store badge and Android devices. So you might as well anticipate that.

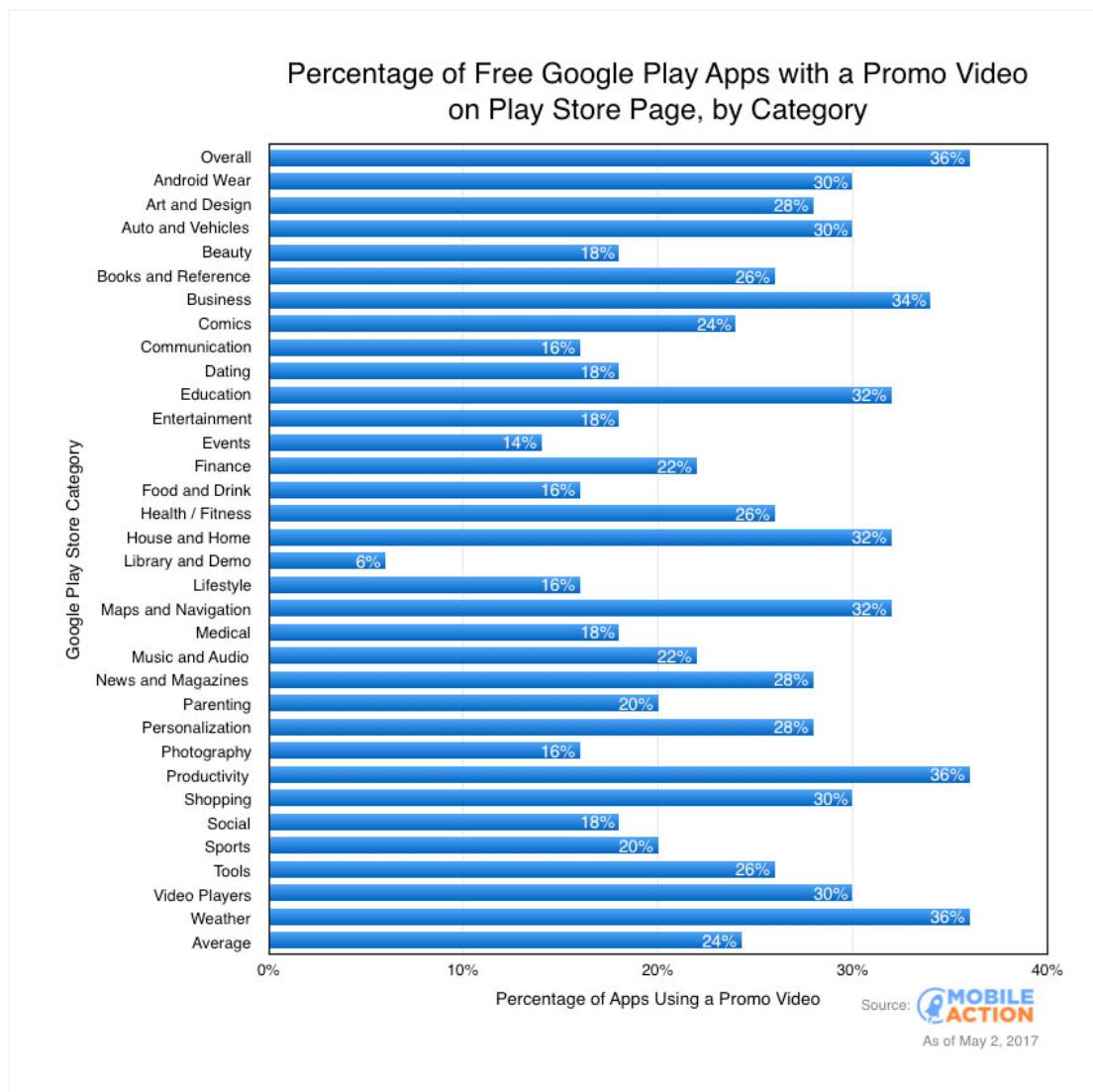
Conveniently, you can update the video in your app details page whenever you want: just change the YouTube link!

Regarding the style of your video, it should depend on the type of app/game, your audience, and your goal. A good way to go about it is to first look at what types of videos top apps in your category or niche use. You can get a start there, and then try later to think outside the box and do A/B tests to improve.

Added bonus: you can add the video (or shorter versions of it!) to your pool of creatives for Universal App Campaigns (UAC).

## OVERALL USE OF PROMO VIDEOS ON THE PLAY STORE

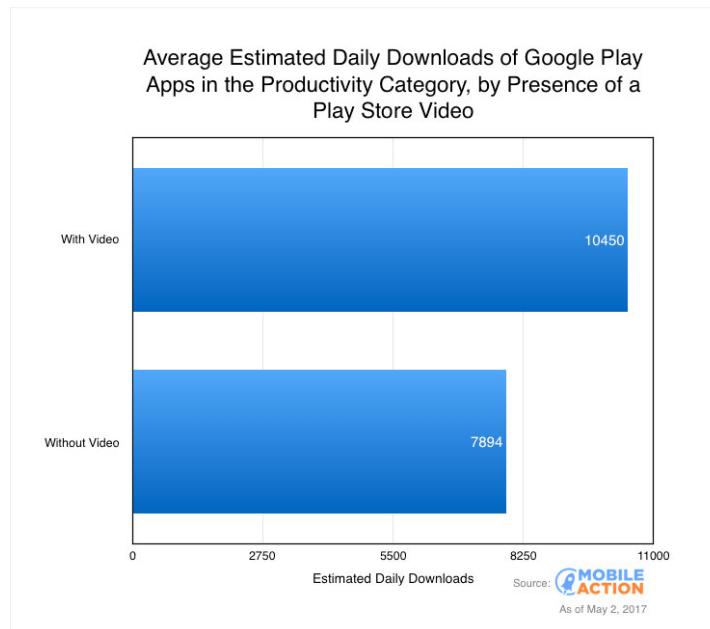
Let's take a quick look at the overall use of promo video in each category.



*Screenshot showing % of apps per categories that use promo videos; Mobile Action study*

We can see some significant differences between categories, and that an overall average of 24% of apps have a promo video.

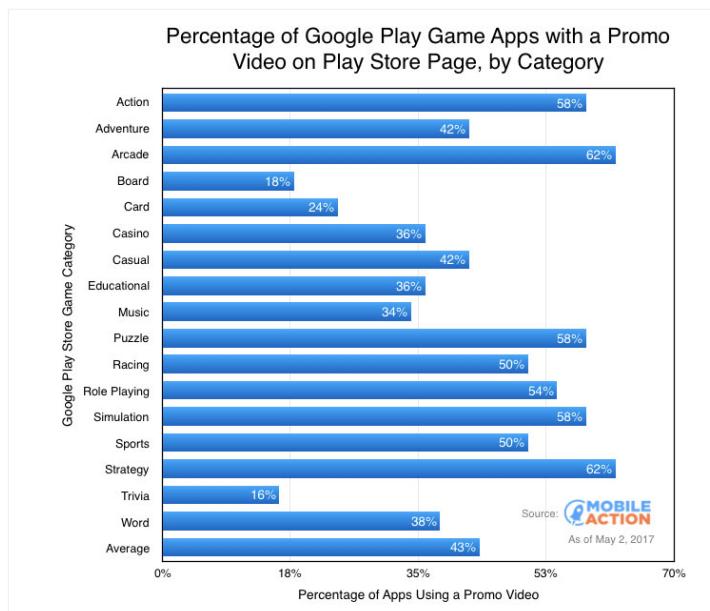
If you're in a competitive category, using a video might help give you an edge. Here is what we see when we look at the estimated downloads for the Productivity category.



*Screenshot showing daily downloads by apps with videos vs. without. Source: Mobile Action study*

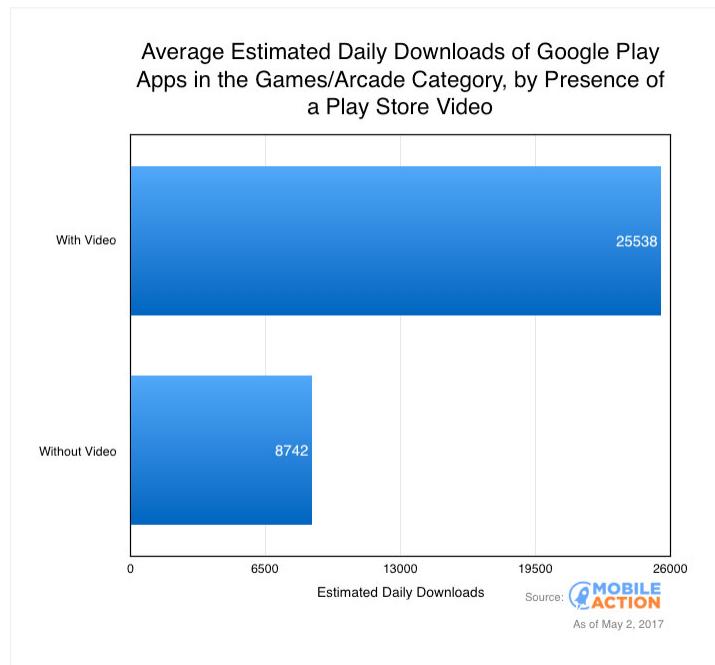
While the favoring here is clearly for apps with videos, of course, there could be other factors than the video affecting the number of downloads. You should dive in deeper to see whether video is worth considering for you.

Here is a graph of the use of promo videos on the Play Store in the Top 50 games:



*Screenshot showing video usage by the top 50 games, broken out by category. Source: Mobile Action study*

The majority of the Arcade category apps have a video, and even though here too it is not the sole factor, games with videos seem to be performing well.



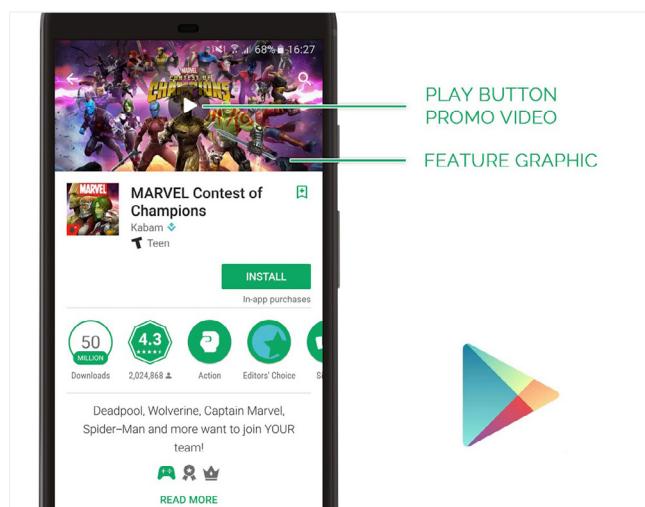
*Screenshot showing daily downloads arcade games with video vs. without. Source: Mobile Action study*

Something else you'll notice when looking at usage of video is that paid apps tend to use it more, as well as the Top 50 Grossing (70% use video on the US Google Play Store as of June 1st, 2017).

## FEATURE GRAPHIC AS A THUMBNAIL

“Feature frames” refer to the thumbnails that show before playing the video. In Google Play this is the “Feature graphic,” which shows as a thumbnail which is overlaid with a play button that leads to the Play Store Video.

Video is displayed differently in Google Play than in the App Store. Besides a few layout tests by Google or specific brand keywords search, the feature graphic is not displayed in the search results (so there is no way to play the video there).



*Screenshot depicting the Google Play Store video thumbnail/feature graphic*

When seeing an app's Play Store page on mobile, the play video button is layered on top of the "feature graphic" at the top of the page. On desktop, the thumbnail of the YouTube video is displayed in lieu of the first screenshot.

## BEST PRACTICES WHEN CREATING PROMO VIDEOS FOR THE PLAY STORE

### General Tips

Here are a few tips when it comes to producing promo videos for your Play Store page:

- **Look at the competition:** What are apps in your category or niche doing? How could you improve on it? Check their YouTube stats (views, average view duration) and compare them.
- **Put the most important benefit first:** It is not a TV ad; users can stop watching it anytime. So get straight to the point and show the most important benefit first. Unless your brand is well-known or your app/game uses a famous IP, there is no need to show a logo or icon at the beginning: it is already in your app details page. If you do show it, keep it extra short. Storemaven estimates that an average of 10% of viewers drop every five seconds (you can see that in your YouTube Analytics and compare).
- **Don't try to show everything:** You need to keep things short (30-40 seconds is good), which means you can't show everything from your app. Focus on the main value proposition and max three features or benefits.
- **Make it understandable with no sound:** Your potential users might be checking your app somewhere public and/or with their device on mute or low volume. So make sure that the message is clear without sound. Short and easy to read captions can go a long way here.
- **Show relevant app content and gameplay:** Don't show an empty app! Make sure great content is populated when displaying footage from inside your app; viewers need to get excited (but not lost) about what they can get. Make sure that the actions shown within the app are smooth (scrolls, swipes, etc.).
- **Don't go too fast:** People don't know your app yet, so be careful about the "expert syndrome." Get feedback from people who don't know your app about your video's pace.
- **Optimize for mobile:** The creative freedom you have doesn't mean you should forget where people watch this video: on their mobile devices (views of the Play Store videos on desktop are very often below 1%). So make sure everything shows well on a small screen!
- **End with a call to action:** People are just one tap away from downloading your app, so make sure you push them over the edge by including a clear call to action ("Download today," "Play now," etc.).

## COMING UP WITH THE SCRIPT AND MAKING THE VIDEO COME TO LIFE: THE PROCESS

So how do we actually go about scripting and making a video? It would be too long to describe each little step, but below are the most important ones, along with some visuals from one of the projects that Apptamin worked on with Vivino.

This promo video increased conversion on the Google Play Store by 15% ([here \[http://www.apptamin.com/our-work/vivino-case-study/\]](http://www.apptamin.com/our-work/vivino-case-study/)) is the case study, which also goes into how the video was cut into separate video ads—one for each use case).

**Discovery/Brief:** When making a video, we first try the app, take a look at the different marketing assets (website, Play

Store page, general communication, etc.), and discuss with the client to get a better understanding of what's important to highlight. Of course, if you produce the video internally, those are discussions you can have within your team only; the idea is to plan for a video that is in line with your branding and tone.



*Insights: we noticed that Vivino used this type of graphics styles, which played into our video planning*

**Synopsis:** We then put together a synopsis, or a high-level script/scenario for the video. In the case that a voice-over adds value, we put a first script down for this as well. It's very important to take the time to define this high-level view; you can make sure that the message is right, and it helps you get a better sense of the timing of the video. Plus, at this stage, modifications are just text edits and therefore not costly...So share it with the relevant persons on your team! Of course, we also add a few sentences about our approach and why we make certain choices, usually referring back to the general tips given in the section above.

Your app might be used in a specific context/use case. This and its benefits are a good starting point.

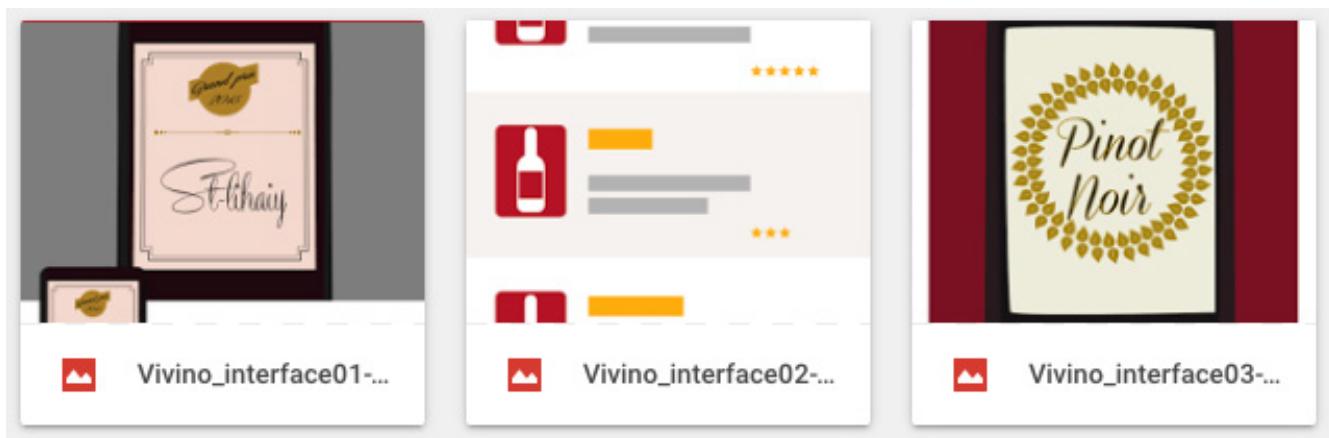
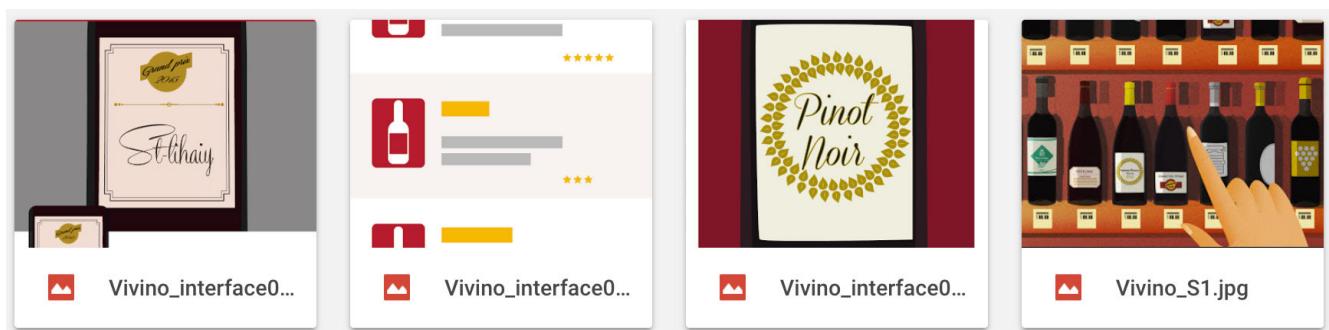
|   |  |
|---|--|
| 1 | Show a bottle shop. Show a hand touching a bottle, then touching another and hesitate between the two<br><b>VO: Unsure if you're picking the right wine?</b>   |
| 2 | Show the hand whipping a device out and scanning the bottles. Show some rates popping out of them. Show the wine page of the highest rated bottle.<br><b>Text: Pick the perfect wine</b><br><b>VO: With Vivino, never pick the wrong wine again! Take a photo of any wine label and instantly see ratings and reviews, helping you make the right choice every time.</b> |

*Define beforehand what you plan on showing and saying*



*There is a small introduction (#1 in the synopsis), but we made sure the app would be shown within the first five seconds.*

**Visual style:** Because that “vintage” design style was used in some of their online marketing (see #1), we thought it would be interesting to explore. After confirming, we sent them visuals for each of the main scenes. Because in this specific case we “recreated” the UI (vs. screen recording) in order to keep the style consistent, we also sent a few examples of how this would look.



*You might see a few changes in the final video, but it is overall pretty similar to those designs*

**01. Detailed script:** Not the most exciting part, but a very important one: at this step we define things like the

music, the voice-over talent, and also exactly what will be shown from the app (which screens, what data—like which wine to scan, which order, etc.).

**02. Animation:** With the designs part, this is when things really come to life and the initial planning really pays off!

Each project is different, but we recommend following these tips and general process. In short, it's about carefully planning (and making edits early on) and making sure you stay on brand and on message.

## OPTIMIZE THE FEATURE GRAPHIC

As we've seen, the play button for the video is located on top of the feature graphic when seeing the app page on mobile.

The feature graphic is the first asset in the store listing on mobile and therefore an important graphic asset. You should test/optimize it to see what performs best.

Make sure the play button integrates nicely, and make the feature graphic consistent with both your screenshots and your promo video (same featured characters for a game, etc.).

## HOW TO MEASURE YOUR PLAY STORE VIDEO'S IMPACT

Creating and adding a promo video to your App Store listing is useless (except for the reason of getting featured) if you don't test and measure the results. Google lets you run split tests on different elements of your store listing with their store experiments.

This means you can see if you get better conversion with a video or without, and also see which video performs better. You can test up to 4 versions (including "no video") at the same time, but you should start by testing only video vs. "no video".

Later, you can do new experiments to try out alternative versions (different value proposition first, different concept, different lengths, etc.). To get ideas on ways to tweak the video, look at the Analytics of your video on YouTube (especially the Audience retention part, to see if there are any sudden drops).

Trying a completely different approach for the video and A/B testing it is of course also an option!

Looking at the demographics, if you see some countries watch video more than others, it might be worth it to localize the video for those countries.

You can (and should) localize your Play Store video if your user base is strong in different languages. There are two options here:

- 01.** If you created a **different video for a language**, just put the YouTube link of that localized video in the Google Play Developer Console for that language.
- 02.** If you're using **YouTube's captions** for translations, then just put the same link and Google/YouTube should display the captions in other languages when necessary.

To get more relevant results, try to maintain the same level of marketing/acquisition efforts. Or even better (if you can), stop them while the experiment is ongoing. If people are already sold on your app when they get to your page (through an ad somewhere else for example), then they are less likely to look at your store listing assets (including the video).



**Pro tip:** You can set your YouTube video as unlisted, so that all the views come from the Play Store. By looking at the YouTube Analytics, you can then get valuable insights on number of views and engagement of only people visiting your App Store page. Once your store listing experiment is done, you can put the video to public mode, so that anyone can find it through YouTube (or even a Google search), and you can maximize the number of views your video receives. The views you got when the video was unlisted will still count to total views.

Subchapters authored by Sylvain Gauchet.

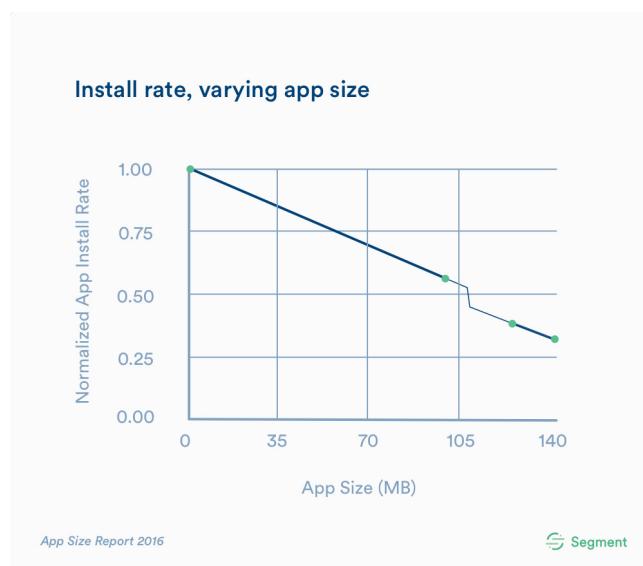
## Other Metadata Elements: App Size

For many users, phone storage sizes and data streaming costs make downloading apps a challenge, and smaller apps have a leg up in this regard. This is especially true when we start talking about regions with low-end Android devices and marginal connectivity.

The relationship between an app's size and its conversion rate is difficult data to find; however one study by Segment on the conversion rate of an app that was released multiple times—each time with different file sizes—found that increasing the size of the app reduced conversion rate by up to 66%.

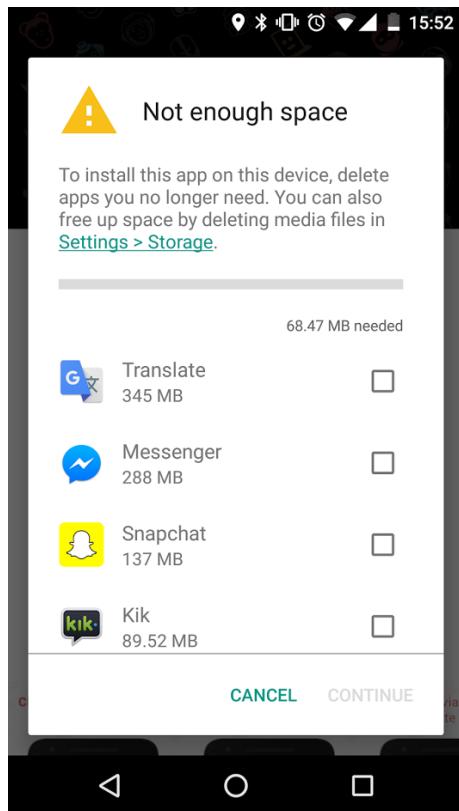


**Beware:** Apps over 100MB require the user to access the App Store via WiFi before downloading, which introduces friction to acquiring new users for larger apps.



Study showing the negative correlation between app size and conversion rate. Source: [Segment study \[https://segment.com/blog/mobile-app-size-effect-on-downloads/\]](https://segment.com/blog/mobile-app-size-effect-on-downloads/)

Not only does your app's App Size have an influencing factor on conversion to install, the Google Play Store also suggests which apps to uninstall if you don't have enough space on your device.



Screenshot showing suggested apps to uninstall, based on size. Source: [AndroidPolice \[ http://www.androidpolice.com/2016/06/01/play-stores-uninstall-manager-intelligently-suggests-apps-uninstalled-clear-space/ \]](http://www.androidpolice.com/2016/06/01/play-stores-uninstall-manager-intelligently-suggests-apps-uninstalled-clear-space/)

If you want to reduce your file size for Android, read up on **Keval Patel's** Medium post: "[How you can decrease application size by 60% \(In only 5 minutes\)?](https://medium.com/@kevalpatel2106/how-you-can-decrease-application-size-by-60-in-only-5-minutes-47eff3e7874e) [https://medium.com/@kevalpatel2106/how-you-can-decrease-application-size-by-60-in-only-5-minutes-47eff3e7874e]"

## CRO Loop Step #5: Testing, Running A/B Tests & Experiments

After creating elements loaded up with the proper messaging and imagery, it's time to set up a test to see how your hypothesis and assets perform against your expectations. Be careful in this step, as without a proper test setup, the results can be contaminated, offer low confidence in the results, yield inconclusive or false positive results, and generally mislead you in terms of identifying the proper decision to make.

Running an A/B test involves three steps:

01. Organize your assets into test variations.
02. Drive people to your test and split it randomly between the variants.
03. Determine when your test has produced statistically significant results, or are otherwise confident in the results.

After step three per above, you can move onto the final step in the CRO loop: Analyzing the results.

We will cover a few different ways to run your test, but first consider these tips for running an A/B test:

- When creating a test, be sure to use a **homogeneous context/cohort**, to ensure that differences in performance are produced as a result of the test variations, rather than differences in the users viewing the test variants. For example, run experiments in only one OS or country, as users of each OS or from each country will likely have unique reactions.
- Try not to test **too many changes** at once—this can lead to the conundrum of not understanding what change caused what outcome in performance (e.g., was it the color, visual, text, symbols, etc. that produced the outcome?).
- Be careful **not to end tests early** or without enough data. Often, test results may begin favoring one variant, only to shift to another variant and ultimately declare the latter the winner. If you cannot afford to drive enough traffic to run a statistically significant test, then be cautious when applying the results.

## TESTING BOLD THINGS VS. INCREMENTAL CHANGES

One of the best ways to make significant conversion rate gains via A/B testing is to test big, bold changes (e.g. trying a completely different app icon) with each variation vs. incremental changes (e.g. changing the size of the app icon); however, making a habit of testing bold changes is not without concerns.

- Pros of Bold A/B Testing:
  - Easier to uncover **big gains** by trying novel approaches that may work better than the current iteration.
  - Keeps your app listing fresh by trying the latest trends (e.g. animated device designs) in order to **fend off the stagnation** that can arise from keeping an app listing the same for months or years.
  - Facilitates brainstorming, research, and discovery that can benefit other areas of development/design/marketing beyond the app listing.
  - Changes are less likely to lead to performance variation smaller than the margin for error, meaning that **learnings of what works** and does not work are uncovered quicker.
- Cons of Bold A/B Testing:
  - For Google Play experiments, bold A/B testing can negatively impact regular performance if the test variants perform worse. **Test with a lower percentage** of traffic when trying bold changes to mitigate potential negative test results.
  - Bold testing often requires significant **extra resources** to execute (e.g. design), with an unknown payoff.
  - If the changes are very bold and very different (i.e. many material changes), it can be **difficult to diagnose** what aspect of the change caused the variance in performance.
  - Requires **more effort** in queuing up **future new variations** for future A/B testing.

## TESTING COMBINATIONS OF CHANGES

In some cases you may want to try a group of changes at once, such as a complete revamp of an entire store listing.

While testing one thing at a time is a best practice, testing a confluence of changes has benefits, such as having a higher likelihood of producing a statistically significant test outcome, or creating an improvement where the sum of the parts is greater than the parts individually, as in the case studies on cohesive messaging.

In this case, it is important to track exactly what is changing and ensure that you have a hypothesis or reason as to why

each change should improve performance, for analysis and posterity. This exercise will also help you ensure that each change is well-founded and makes sense when taken as a whole, rather than combining several individual good ideas which may not combine well.

If possible you will also want to return to testing afterwards, to see whether you can uncover the effects of individual change and increase your confidence in the whole. Try reverting each of the changes to see whether the results are similar or lead to worse results, and uncover insights for running further tests.

If the test is a success, then celebrate it! So long as your testing is founded in research and set up to help you continue to iterate on your optimizations, then you are making good progress.

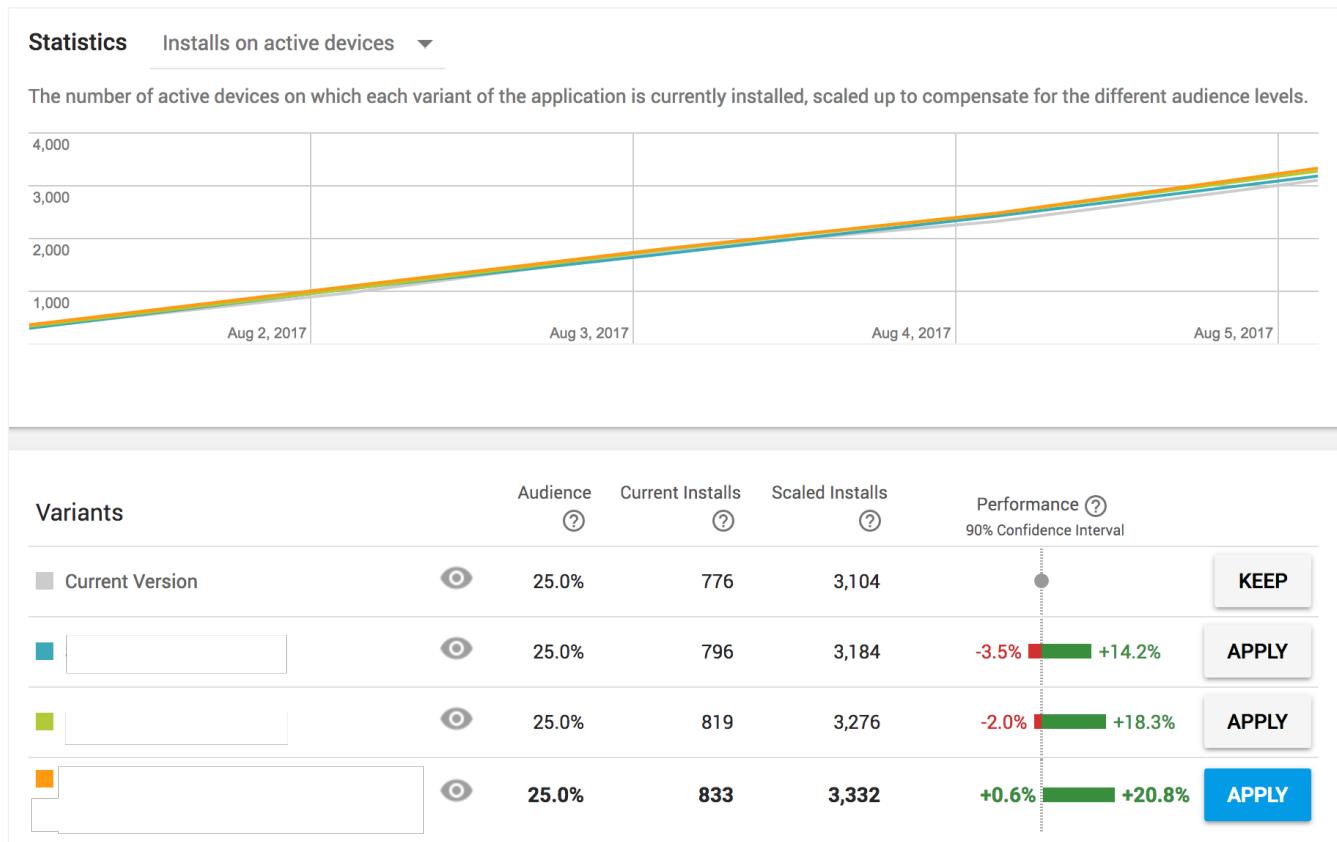
## RUNNING TESTS VIA GOOGLE PLAY LISTING EXPERIMENTS

Using the Google Play Experiments engine is one of the best and most common A/B testing tools available to ASOs. Not only do Play Store experiments use **actual store traffic** and provide insight into uninstalls/retention rate, but they are also **free** to use, **calculate a statistically significant winner**, and make applying variants extremely **easy** to do.

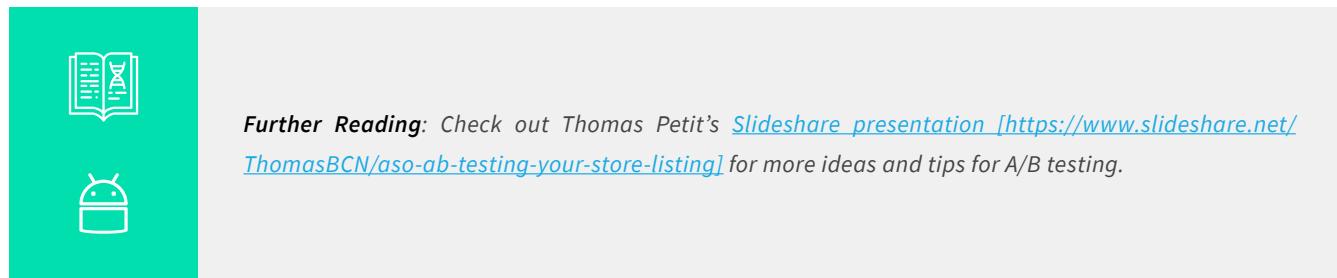
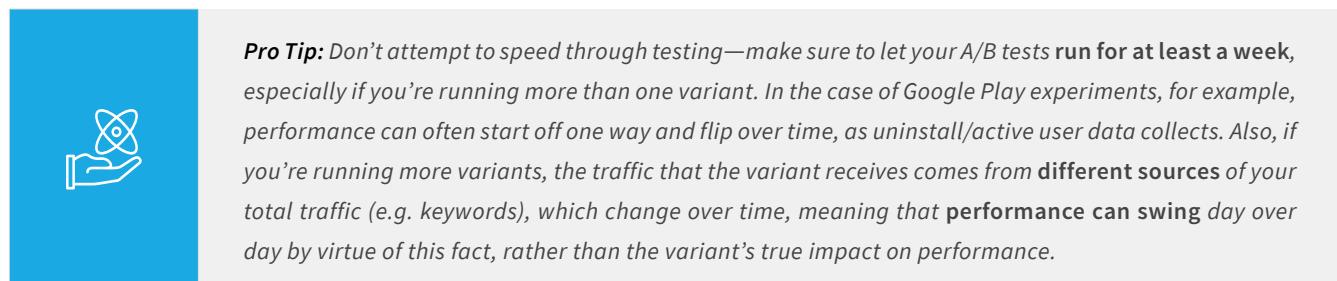
The two major disadvantages are that Google Play A/B test results **do not necessarily reflect** what results may be like in the **App Store** (in addition to the differences in users of each platform, the search UX and app listings are also materially different), and Thomas Petit points out that Google's 90% confidence interval is **not the highest bar of significance**, and may thus lead to cases where positive test results do not yield similar results once applied live.

The screenshot shows a user interface for managing Google Play experiments. At the top, there is a green circular icon with a white checkmark. To its right, the text "Your experiment is complete! Variant" is followed by a text input field containing the word "best". To the right of the input field is a blue button labeled "APPLY WINNER". Below this section, there is a summary table with three rows of data:

|                                    |                        |                         |
|------------------------------------|------------------------|-------------------------|
| Status ⓘ                           | Started Aug 1, 8:02 PM | Result ⓘ                |
| Serving 3 variants to 75% of users |                        | Variant "best" performs |
|                                    |                        |                         |



*Screenshot of a concluded Google Play experiment (variant names removed).*



## RUNNING TESTS VIA 3RD PARTY A/B TESTING TOOLS

3rd party A/B testing tools offer more control over the A/B test parameters, provide more data on user behavior, and can be used for App Store listings and even search results pages.

Yet, 3rd party tools **can be expensive and require traffic** from a 3rd party sources, which skew results of tests by virtue of harboring different install intents than live App Store traffic. 3rd party A/B testing tools will be covered in the tools section later, but the main A/B testing tools include:

- Splitmetrics: Good breadth of product, e.g. provides Search Ads A/B tests.
- Store Maven: Premium product suited for larger apps with larger creative departments.
- RaiseMetrics: Affordable A/B testing.

## OTHER WAYS TO RUN A/B TESTS

In addition to running an actual A/B test, there are a few other methods by which experimenting with a store listing can be done:

- Running ads, such as **Facebook Ads**. While the results will not be nearly as reliable as a true A/B test, using ads can allow you to test different **messaging**, text, and visual **creative** and is useful in providing research and direction for future A/B test variations.
- Experimentation can also be done by simply pushing a **change live with a new app version** and measuring the pre-post impact on performance. While this is a more risky approach and takes more time to potentially reverse in the App Store than the Play Store (by way of the approval process), **live testing** is the most surefire method by which to ensure test results yield a positive outcome. This is especially true in the App Store, which does not provide a first party A/B testing solution. When measuring performance change pre- and post-update, it's important to take several precautions to ensure the most accurate analysis:
  - Use the same **period of time** to compare performance (e.g., the same number of days of the week prior to and after the change, such as the Monday-Sunday before and the most immediate Monday-Sunday following the change), to ensure that performance differences are not due to trends in seasonality or the day of the week.
  - Do **not make any other changes** to your app listing or your keyword mix, which could cause noise in analyzing the impact of your experiment.
- Running a country-by-country experiment, i.e. by pushing new screenshots live in Australia but not in the U.S. and comparing the conversion rates after.



**Pro tip:** Using Apple Search Ads creative sets can be used to run AB tests as well, by testing the difference in tap-through-rate and conversion rate for different creative sets. Running AB tests using creative sets requires adding screenshots and videos to your live store listing, and then selecting subsets of your app's live assets to test as a creative set.

Report on the data from each creative set vs the default creative set, over the same time period to measure the change in performance. and see whether a new variation outperforms the default arrangement. Creative sets can also be used to test the performance of certain assets with individual keywords, by creating an ad set with a single keyword in it, which is not possible with other AB testing methods, including Google Play experiments.

## CRO Loop Step #6: Report & Analyze

After your test is complete comes possibly the most important, yet oftentimes tedious parts of managing a CRO strategy: reporting and analysis. Reporting produces data, which is the raw input, and analysis spins that data into insights. These days, data is the best way to make decisions, vs. the hunch-driven decision making of the older, Mad Men-esque era in marketing. This is because data is objective, and less prone to biases or other factors that can skew the analysis and thus the resulting decision.

For example, while a hunch is that changing the background color to blue will succeed, and may lead to a full store listing update without running a test, a data-driven decision is to run an A/B test with 25% of your total store traffic to confirm whether this is the case, before making a decision that affects 100% of your store traffic.

Reporting may produce the data that in this particular A/B test, the blue background has a 22% conversion rate, vs. your control white background's 20% conversion rate.

Analysis takes the data one step further and focuses on the actionable outcome of data produced by the report. Below are a few entirely different, yet entirely logical conclusions that could be drawn based on the analysis of the prior report. However, be aware that while reporting (data) is inherently objective, analysis (insights) is subjective, because it depends on conclusions drawn by the person interpreting the analysis.

**Conclusion #1:** The test improved conversion rate by 10%. **Recommendation:** apply the test.

**Conclusion #2:** The test did not produce a statistically significant difference in conversion rate due to being based on not enough traffic. **Recommendation:** continue testing.

**Conclusion #3:** 10% is not a significant enough improvement. **Recommendation:** try another test.

While implementing the results of this test may not cause harm (given the information on hand, it will likely result in no change to performance), it does represent an opportunity cost of trying something else.

Though, implementing the results of a test with a poor analysis may indeed be harmful, such as applying a screenshot change that starts off very positive due to a high install rate, but ends up very negative due to both a poor retention rate and an initial sampling of a set of high converting users.



**Beware:** Changes to your marketing efforts can introduce noise into analyzing the efficacy of your CRO activities. Try to minimize other activities that can impact your CRO. If this is not possible, mark the time periods where noise is to be expected, and draw performance data from other time periods to reduce the impact of the noise in your analysis.

Thankfully, A/B testing tools take most of the heavy lifting out of measuring the results of the test. When running a test in a 3rd party, look for a variant's chance to outperform the control, or the result in Google Play Store listing experiments. Keep in mind that, while other metrics such as scroll depth, time to tap install, or total time on page may be interesting, the ultimate KPI for an A/B test should be **earning more Installs as a percentage of total eligible visits**.

After applying the results of an A/B test to your live listing, be sure to measure the results of the report. Tips for measuring results include:

- Report on the **conversion rate before and after** making the change to your listing, and determine whether the test results held true once applied. However, be aware that data in performance reports may lag by several days, and that changes may also take some time to be fully realized.
- Report on the change in your app's performance against the conversion rate benchmark to make sure your

test has **outperformed the benchmark** conversion rate, rather than just improving results in an “up-market.”

- Report not only on the change in your app’s Installs, but your chosen **downstream KPI** as well. While KWO is more likely than CRO to change your KPI performance, it is possible that by acquiring more or fewer downloads from a particular subset of your listing, visitors can cause your KPI levels to change, too. Keeping your KPI top of mind when analyzing any marketing optimizations, no matter the optimization is a good mindset to acquire.

If you report on your A/B test and see worse performance, or no change, you may consider one of a few options:

- For results that are **neutral**—wait for more data to see whether positive or negative performance is revealed before making a decision.
- For results that begin significantly **negative**, but gradually improve—wait to see whether the performance continues improving to a positive point before disrupting the change you implemented. If performance worsens, take defensive action.
- For results that show sustained, worse performance, take evasive action by either:
  - **Revert** to the prior control. While appealing and the most safe option, reverting to the control is not always guaranteed to immediately revert performance back to where it had been before, due to the fact that your app’s visibility is based on historic data, so the most recent worse performance will have an affect on the performance of the control variant.
  - **Run another test** based on the latest insights and push significant budget to your test to quickly garner enough data to make a confident decision. The risk here is that the new test is not guaranteed to produce better results and will take some time to determine, during which performance remains low. Choose this option if you have learned something significant in the latest attempt.
  - Apply the **next-best variant**. The risk is that the likelihood that this variant will outperform is lower than the current underperforming variable, so only take this route if the next-best variant also tested well.



**Pro tip:** Consider the fact that **negative test results** can actually be a good sign. Because when performance is significantly negative, you’ve found something that has a **significant impact** on performance overall, and thus by process of elimination you can work your way to a change that produces a positive impact! Lower significance intervals can cause lower confidence in test results, so seek high significance intervals and large changes in performance for best results.

After applying the results of an A/B test, be sure to measure the performance to ensure that the performance yield has actually improved. Running a B/A test can help increase confidence in the outcome (testing the prior winner/control against the newly applied winner).



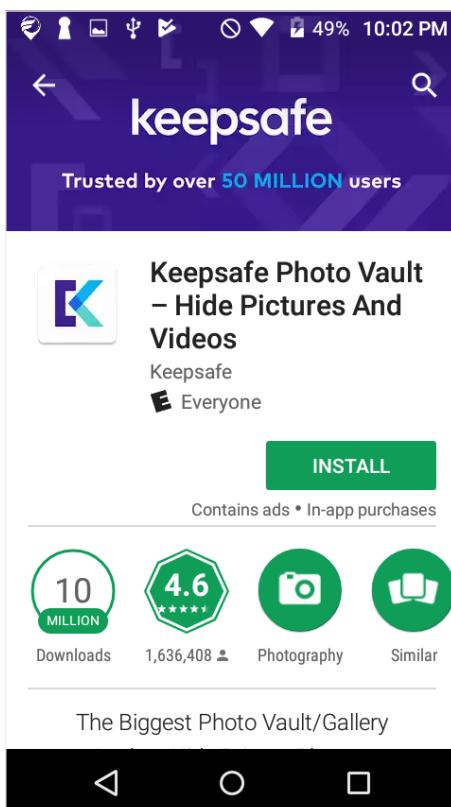
## A Case Study in: CRO with Keepsafe

With photo lock app [Keepsafe](#), we based our research on the messaging that could position Keepsafe into a stronger stance relative the competition.

We began with research into what positioned Keepsafe best against the competition (e.g., feature set, total users, total

user events...) and crafted messaging for each of those competitive advantages (Keepsafe has 15+ features, Keepsafe has been downloaded by 50 million people, Keepsafe has been used by millions to store over 1 billion photos...).

We then pushed the messaging through several elements in Google (screenshots, feature graphic, short description, long description), and even expanded the test to localized versions to six non-U.S. countries. We ended up discovering a winning messaging (millions of people using Keepsafe to save over a billion photos) still in use today, several months later in the feature graphic and long description.



*Screenshot showing Keepsafe's feature graphic tested variant*



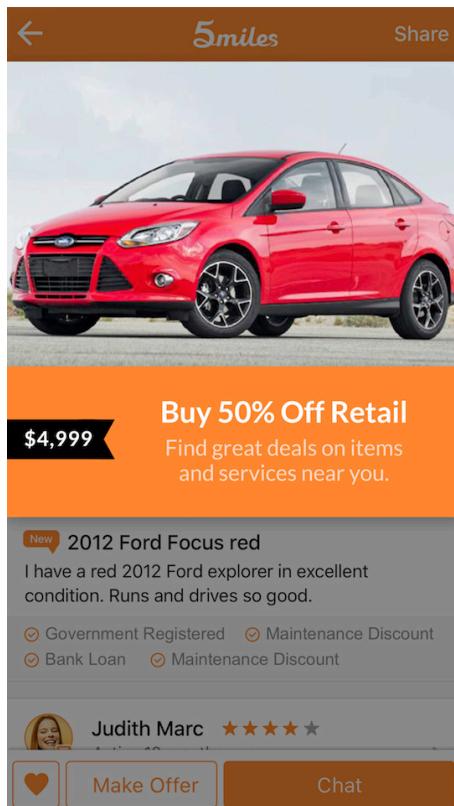
## A Case Study in: CRO with 5miles

For local marketplace app, [5miles](#) our research involved several different threads of insights:

- 01.** First, we realized that in 5miles' Android listing, the traditional caption style of one or two sentences on top of the screenshots underperformed screenshots without any captions at all; but we also saw that one competitor had made use of a caption style that blended captions into the screenshots themselves.
- 02.** We also saw strong trends in products that were listed very frequently in the 5miles marketplace, and hypothesized that the products shown in the screenshots would have a strong impact on performance if linked to such frequently posted from the 5miles marketplace.

**03.** We also drew the conclusion based on competitive research that people in buy/sell mode wanted captions focused on features that helped them to buy or sell faster/easier, rather than more generic branding or social proof.

With this information, we set up a series of progressive A/B tests in the Google Play Experiments engine to test several new caption-styles, new caption text, and focused photos on several different popular products being sold on 5miles. The result was a brand-new screenshot style that was not only successful on Android, but also iOS!



*Screenshot showing one of 5miles' new screenshot test variants*

## Reporting on Conversion Rate Optimization

When considering how to measure the impact of your CRO efforts, the best numbers to consider are naturally ratios and relative data points, as CRO is about improving your app's efficiency.



Metric: Impressions to Product Page View Click-Through Rate (Apple-Only)

For Apple apps, this top-of-funnel metric is mainly useful to understand the ability of your app preview to encourage a deeper look. This is useful to determine how well your app preview does at drawing users deeper into your product page, but because a product page view does not always generate an install, it should be considered just a metric and secondary to an install-related KPI.



**Beware:** Changing both keywords and your app's store listing at the same time can make it difficult to determine whether a change in product page view CTR or install conversion rate happened because of your new keyword mix or because of your new CRO changes. Try to make changes to either your visibility or conversion at the same time, and only one CRO element at a time for best measurement confidence.

KPI: Impressions to App Units conversion rate (Apple) OR Store Listing Visitors to Installs (Google)

This main ratio KPI for measuring CRO performance revolves around the (unique) visitor to install conversion rate in the App or Play Store. Making improvements to your listing are ultimately done with the goal of increasing the chance that each visitor (which is most accurately measured by impressions or Store Listing Visitors) will decide to install your app.

For Apple, be sure to measure the conversion rate from the App Store Browse source (affected by your smaller app preview) or App Store Search source (affected by your larger app preview). For Android, be sure to measure the Google Play organic conversion rate (at a country level).

Keep two important factors in mind about your impression conversion rate:

- Shifts in impressions can also cause changes to your conversion rate, independently of your CRO efforts. For example, changing keyword ranks due to competitive changes, algorithm updates, or seasonality can all affect your impression conversion rate independent of any change in your store listing.
- Because users can download apps from an impression, this is the lowest common denominator for measuring install conversion rate; however, per the TUNE study, sometimes users may not download until they have viewed your app's product page, causing this conversion rate to appear very low.



KPI: Product Page Views to App Units conversion rate (Apple)

While the impression conversion rate is the best metric for measuring the performance of your CRO efforts overall, in order to measure Apple changes that only affect your product page, it's necessary to measure the product page to install conversion rate. Elements that only affect your product page view conversion rate include your promotional text, description, screenshots 4-5 (or screenshots 3-5 if you use a preview video), what's new, and your promoted In-App Purchases, though these can also affect your impression conversion rate).



**Pro Tip:** When measuring the PPV to App Units conversion rate, be aware that advertising efforts which direct users to your product page will skew this conversion rate ratio more-so than the impression to app unit conversion rate.



**Beware:** Your app may have a higher number of downloads than Product Page Views due to the fact that users can direct-install your app from a search impression.

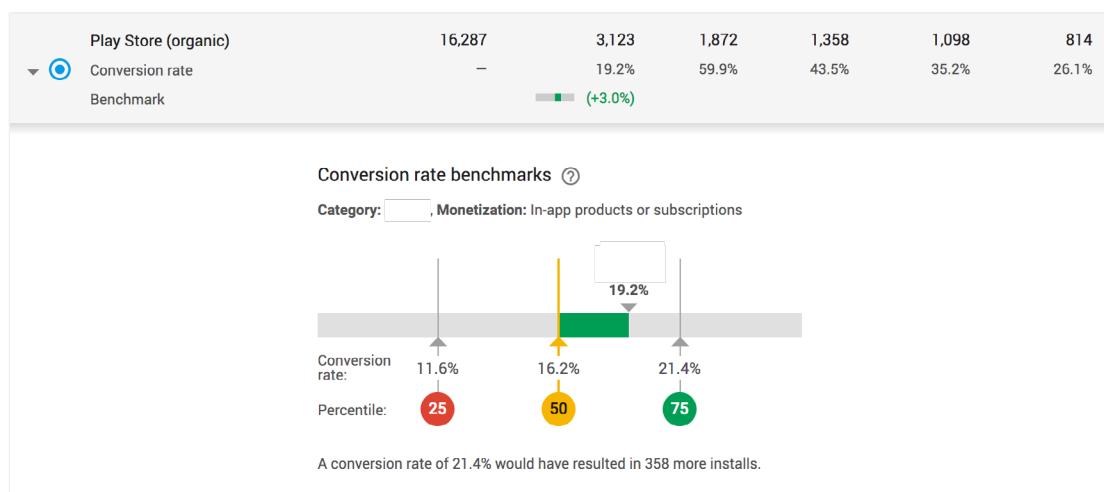
KPI: Installs

The classic metric for measuring the impact of visibility improvements is also an important KPI for measuring the success of CRO. While install conversion rate helps measure efficiency, the ultimate goal of ASO revolves around

increasing install volume. Over time, not only will improvements in CRO raise your conversion rate, but also the number of Installs your app receives. In this light, **keyword ranks** are also a metric that can be used to point to the success of CRO, as your app climbs up the ranks by converting more visitors into users, and thus earning more favorable organic rank placement from the keyword algorithm.

### KPI: Google Play Conversion Rate Benchmark (Google)

Google Play's benchmark is a great quality signal for determining how your performance stacks up to the competition, which can often be more useful than comparing against your app's own performance, as ASO is very much involved in positioning your app for better performance against the competition. Additionally, as a comparative data point, the conversion rate benchmark can also help you determine whether your visibility optimization efforts are likely to bear sustainable fruit or not, as a low conversion rate will cause your visibility to decline over time.

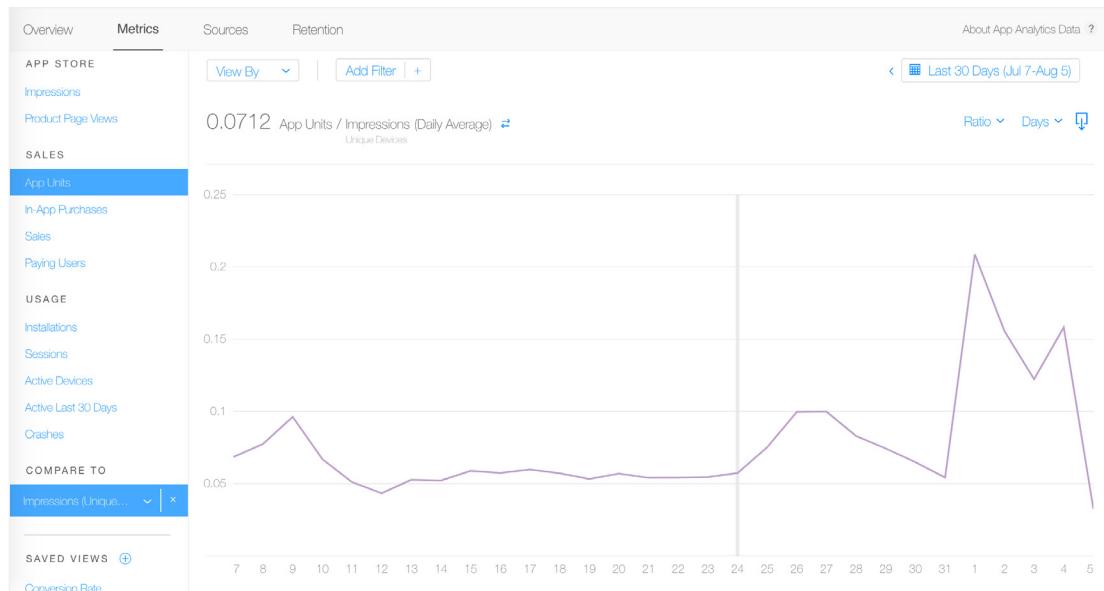


*Google Play conversion rate benchmark data (app name and category data removed)*

The simplest method of reporting on CRO (or visibility improvements) performance is to create a weekly/monthly log of store performance data, and use this historic data as your benchmark.

By using **benchmarks** for what **normal data** looks like, you can also create a system that saves time analyzing by indicating on a daily, weekly, monthly, and yearly basis whether performance is normal, or whether something is off and requires a deeper review. Abnormalities in performance uncovered by reporting can also be used to raise a red flag for issues related to **factors outside of your direct control**, such as identifying potential issues in ratings/reviews or shifts in competitors or the store algorithm.

In the metrics view in the iTunes Connect App Analytics dashboard, Apple also uses a gray line to indicate when app or iOS updates occur, helping you to zero in more quickly on the right dates.



Conversion rate shown in the App Analytics dashboard

## TEMPLATES FOR REPORTING ON CRO

You can also use data from your reporting to correlate with keyword metadata and conversion rate optimization changes, affirm or debunk your hypotheses, and inform future hypotheses. An easy way to do so is to create a **log tracking changes** to your app listing along with pre-post analysis. **Pre-post analysis** looks at the change in the same period of time before and after a change occurred, thus allowing you to isolate the probable outcome on performance of that change. Again, many ASO changes take time to be fully realized, so looking at longer periods of time is most often the best method of truly running a pre-post analysis.

| Date  | Change comments                                   | Element           | 7 day Installs change | 28 day Installs change | 7 day store listing visits change | 28 day store listing visits change | Installs 7 days pre | Installs 7 days post |
|-------|---|-------------------|-----------------------|------------------------|-----------------------------------|------------------------------------|---------------------|----------------------|
| 1-Mar | swapped first screenshot with fourth              | Screenshot        | 25%                   | 25%                    | 30%                               | 37%                                | 400                 | 500                  |
| 1-Apr | added imagery related to main keyword intent icon | Icon              | 22%                   | 22%                    | 14%                               | 26%                                | 550                 | 670                  |
| 1-May | applied test variant "social proof"               | short description | -3%                   | -3%                    | -4%                               | 5%                                 | 600                 | 580                  |
| 1-Jun | added keyword "summer vacation"                   | long description  | 18%                   | 18%                    | 13%                               | 32%                                | 603                 | 714                  |
|       |   |                   |                       |                        |                                   |                                    |                     |                      |
|       |   |                   |                       |                        |                                   |                                    |                     |                      |
|       |   |                   |                       |                        |                                   |                                    |                     |                      |
|       |   |                   |                       |                        |                                   |                                    |                     |                      |
|       |   |                   |                       |                        |                                   |                                    |                     |                      |
|       |   |                   |                       |                        |                                   |                                    |                     |                      |

| Date  | Change comments                                   | Element           | 7 day CVR change | 28 day CVR change | CVR 7 days pre | CVR 7 days post | CVR 28 days pre | CVR 28 days post |
|-------|---|-------------------|------------------|-------------------|----------------|-----------------|-----------------|------------------|
| 1-Mar | swapped first screenshot with fourth              | Screenshot        | +4.04%           | -8.61%            | 1%             | 1%              | 1.05%           | 0.96%            |
| 1-Apr | added imagery related to main keyword intent icon | Icon              | +6.45%           | -3.23%            | 1%             | 1%              | 1.01%           | 0.98%            |
| 1-May | applied test variant "social proof"               | short description | +1.10%           | -8.09%            | 1%             | 1%              | 1.09%           | 1.00%            |
| 1-Jun | added keyword "summer vacation"                   | long description  | +4.76%           | -10.20%           | 1%             | 1%              | 0.91%           | 0.82%            |

And, by adding conditional formatting you can more easily visualize the results and quickly eyeball the changes that produced the most success or failure.

| Date  | Change comments                              | Element           | 7 day installs change | 28 day installs change | 7 day store listing visits change | 28 day store listing visits change | Installs 7 days pre | Installs 7 days post |
|-------|--|-------------------|-----------------------|------------------------|-----------------------------------|------------------------------------|---------------------|----------------------|
| 1-Mar | swapped first screenshot with fourth         | Screenshot        | +25%                  | +25%                   | +30%                              | +37%                               | 400                 | 500                  |
| 1-Apr | added imagery related to main keyword intent | Icon              | +22%                  | +22%                   | +14%                              | +26%                               | 550                 | 670                  |
| 1-May | applied test variant "social proof"          | short description | -3%                   | -3%                    | -4%                               | +5%                                | 600                 | 580                  |
| 1-Jun | added keyword "summer vacation"              | long description  | +18%                  | +18%                   | +13%                              | +32%                               | 603                 | 714                  |

| Date  | Change comments                              | Element           | 7 day CVR change | 28 day CVR change | CVR 7 days pre | CVR 7 days post | CVR 28 days pre | CVR 28 days post |
|-------|--|-------------------|------------------|-------------------|----------------|-----------------|-----------------|------------------|
| 1-Mar | swapped first screenshot with fourth         | Screenshot        | -4.04%           | -8.61%            | 1.05%          | 1.01%           | 1.05%           | 0.96%            |
| 1-Apr | added imagery related to main keyword intent | Icon              | 6.45%            | -3.23%            | 1.01%          | 1.08%           | 1.01%           | 0.98%            |
| 1-May | applied test variant "social proof"          | short description | 1.10%            | -8.09%            | 1.09%          | 1.10%           | 1.09%           | 1.00%            |
| 1-Jun | added keyword "summer vacation"              | long description  | 4.76%            | -10.20%           | 0.91%          | 0.95%           | 0.91%           | 0.82%            |



**Pro tip:** Add a ‘caveats’ or ‘comments’ column to your changelog in order to identify noise or other events that could have influenced the impact of the change and thus contaminated the analysis. In the case below, what looked like the most successful change was actually found to have been influenced by a PR campaign, not by merit of the screenshot change. Be aware that, even if you can calculate the change in Installs that the external event garnered, **algorithms work on trends and velocity**, meaning that earning more Installs could in and of itself have produced better visibility and even more Installs.

| Date  | Change comments                              | Element           | Caveats          | 7 day installs change | 28 day installs change | 7 day store listing visits change | 28 day store listing visits change | installs 7 days pre |
|-------|--|-------------------|------------------|-----------------------|------------------------|-----------------------------------|------------------------------------|---------------------|
| 1-Mar | swapped first screenshot with fourth         | Screenshot        | earned PR on 3/7 | 25%                   | 25%                    | 30%                               | 37%                                | 400                 |
| 1-Apr | added imagery related to main keyword intent | Icon              |                  | 22%                   | 22%                    | 14%                               | 26%                                | 550                 |
| 1-May | applied test variant "social proof"          | short description |                  | -3%                   | -3%                    | -4%                               | 5%                                 | 600                 |
| 1-Jun | added keyword "summer vacation"              | long description  |                  | 18%                   | 18%                    | 13%                               | 32%                                | 603                 |

| Date  | Change comments                              | Element           | 7 day CVR change | 28 day CVR change | CVR 7 days pre | CVR 7 days post | CVR 28 days pre |
|-------|--|-------------------|------------------|-------------------|----------------|-----------------|-----------------|
| 1-Mar | swapped first screenshot with fourth         | Screenshot        | -4.0%            | -8.61%            | 1.05%          | 1.01%           | 1.05%           |
| 1-Apr | added Imagery related to main keyword intent | Icon              | 6.45%            | -3.23%            | 1.01%          | 1.08%           | 1.01%           |
| 1-May | applied test variant "social proof"          | short description | 1.10%            | -8.09%            | 1.09%          | 1.10%           | 1.09%           |
| 1-Jun | added keyword "summer vacation"              | long description  | 4.76%            | -10.20%           | 0.91%          | 0.95%           | 0.91%           |

## A NOTE ON SEASONAL OR OTHERWISE TIME-SENSITIVE CROPS

There are many instances where there arises a **time-sensitive opportunity** for improving conversion rates by taking advantage of a current event or trend. Changing **seasonality** or holidays each year are chief amongst these, but others include **political events** (e.g. a presidential election), large **sports** events (e.g. the World Cup) and shifts in **popular culture** (e.g., the Occupy Wallstreet or #blacklivesmatter movements of the United States).

01. While some such time-sensitive opportunities may actually last for several weeks or months, optimizing for them should be viewed as a luxury, rather than a necessity. Taking advantage of a time-sensitive represents a risk due to: The fact that these opportunities may **not be as pervasive** throughout the general market for app users as, say the intent of a keyword search or category of apps.
  02. There is **less data** available on how to cater to trends than the regular rhythm of business.
  03. Such **trends are also often ephemeral**, meaning that learnings gained become obsolete afterwards.

As a luxury activity, you should only attempt to optimize for these opportunities if your overall performance is sound, if the trend matters to your target market, and if you have the **ability to test** your optimization before applying the results to your live app listing.

The only exception to this rule is if taking a risk on a trend with unknown results does not stand to jeopardize your

performance, such as when your downloads or store views are near a nadir and latching onto a trend is one remedy at your disposal. In such cases, successfully “catching the wave,” so to speak, may prove capable of catapulting your app’s performance out of the depths.



*Image of Gardenscape's icon during the holidays; Source: [Toad App Development \[http://toappdevelop.com/app-developers-guide-for-the-holiday-season/\]](http://toappdevelop.com/app-developers-guide-for-the-holiday-season/)*

## PORTRAIT APPROACH: OPTIMIZING AGAINST YOUR OTHER APPS

Developers with **multiple apps** in the App or Play Store possess a unique opportunity to optimize against their portfolio, generating learnings applicable that can benefit all apps and thus producing self-virtuous growth of knowledge.

Even if the apps exist in different categories and cater to different target users, there are still many mutually beneficial tests and learnings that can be discovered using the portfolio optimization approach, such as:

- Testing the impact of different general **screenshot** or **preview video designs** (e.g., screenshot in a real phone profile, screenshot in an animated phone profile, screenshot-only).
- Probing **nuances** of how the keyword and top chart **ranking algorithms** operate, via standardized tests.
- Testing the **structure** and layout of your description.
- Testing different **messaging styles** for IAPs (e.g. use case vs. straightforward description vs. data points).

There is also an important caveat to be aware of when optimizing against apps targeted towards different types of users: the learning outcomes will always carry the risk of being influenced primarily by the **intent of the users**, rather than the test you have run. In order to overcome this, you should test your learning against the app you want to apply it to before doing so, to ensure that the **hypothesis holds true**.

Along these lines, you can also test for learnings of one app across Apple and Google; but again, be sure to test the learnings in the other platform before assuming they will hold true.

07

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## RATINGS AND REVIEWS

# 07

## RATINGS AND REVIEWS

“How important are ratings and reviews for ASO?”

## On the Importance of Ratings & Reviews

One of the most influential ASO activities involves maximizing the number of positive star ratings (4 and 5 star) and positive user reviews that your app receives. Having a high star rating and positive reviews are important for convincing users that your app is actually worth downloading, via the wisdom of the crowd.

Both ratings and reviews are important and serve the same functions for users by different methods: **Ratings** convey the quick, **quantitative** information for measuring an app’s quality, and **reviews** carry the more substantive, **qualitative** information for measuring an app’s quality.

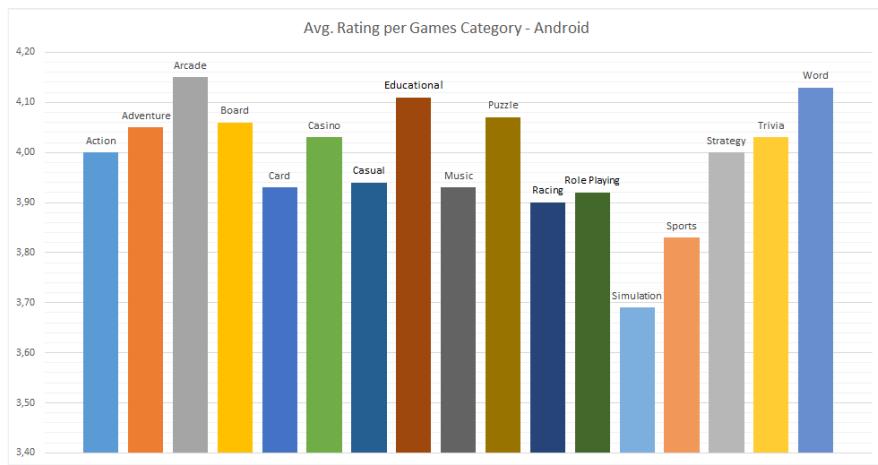
An app’s star rating can be thought of as the most important single data point affecting an app’s conversion rates.

This is because the star rating is presented early-on (in store search results, in the app listing, and even in ads) and is easily consumable by users, given that it is a single, aggregated data point. Generally, a star rating of between 3 and 3.99 serves as the threshold for average apps, while a star rating under 3 serves as a warning flag to users to stay away, and a star rating of 4 or higher indicates that an app is of good-to-excellent value.

| STAR RATING | TYPICAL USER QUALIFICATION |
|-------------|----------------------------|
| < 3         | “Bad app”                  |
| 3-3.99      | “Average app”              |
| 4-4.75      | “Good app”                 |
| 4.75+       | “Excellent app”            |

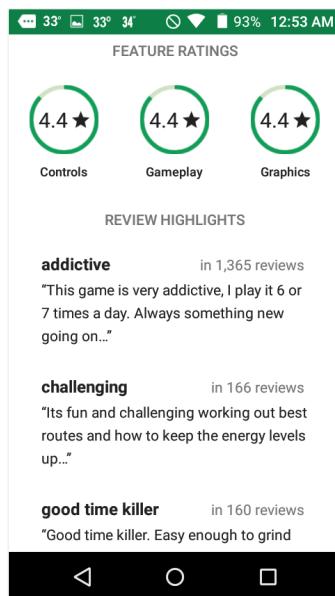
Additionally, because some developers pay for 5-star ratings (see the upcoming [chapter on black hat ASO](#)), or have

otherwise gamed their star ratings and even their reviews, this means that a perfect 5-star rating may be a suspicious signal. Apps which have a larger number of total ratings and reviews containing more substantive information are seen as more credible and less likely to have gamed rating/reviews.



*To really benchmark your app against what should be achievable, it's also important to realize that different types of apps/games have different average ratings. Ido Schoonen provided this graph of average rating per games category on Google Play (data from late 2016).*

Google Play has also began providing additional insights into ratings and reviews for users, including the top keywords found in reviews. Google also asks users to rate specific aspects relevant to the app, such as stability, gameplay, or design.

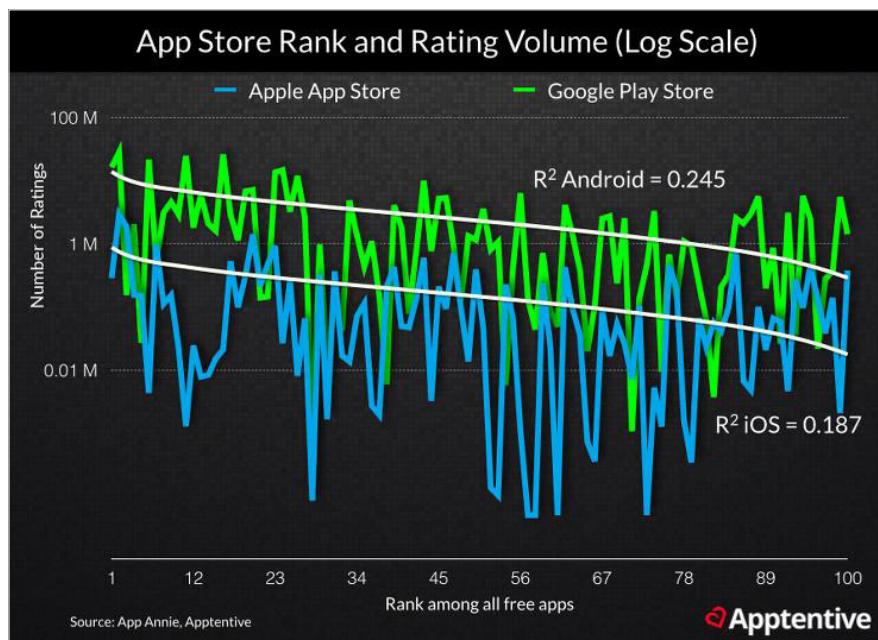


*Screenshot showing advanced reviews from a Google Play app*

## The Impact of Ratings & Reviews on Search

In addition to affecting your app's conversion rate, having a high star rating and earning a steady stream of ratings is also important for your top chart and keyword ranks. While the ASO industry has long held this as a ranking tenet, a

study in 2015 by Moz, App Annie, and Apptentive provided further proof of this, finding a correlation between apps with higher ratings volume and higher rankings, to the tune of +29% for the App Store and +40% in the Play Store.



*2015 Study by Moz, App Annie, and Apptentive*

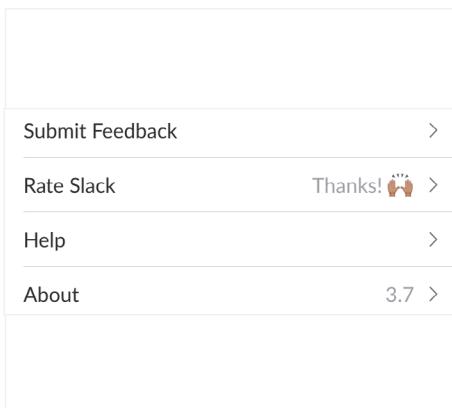
A [Google Play blog post](https://android-developers.googleblog.com/2017/02/welcome-to-google-developer-day-at-game.html) [https://android-developers.googleblog.com/2017/02/welcome-to-google-developer-day-at-game.html] in February 2017 also formally confirmed the importance of star ratings with the following comment:

*“Recently, we’ve begun tuning our **algorithms to optimize for user engagement**, not just downloads. This is one of our ways to reward quality, which for games means promoting titles with stickiness (strong engagement and retention metrics) **as well as a more traditional measure like a high star rating.**”*

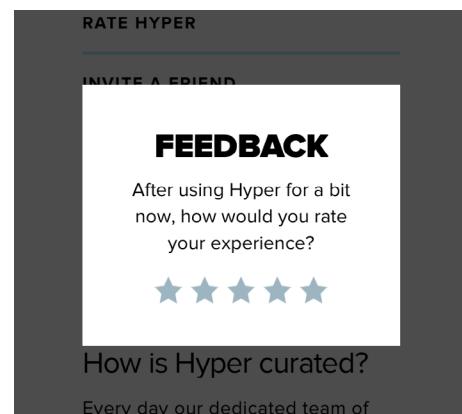
Generally, increasing the number of ratings and maintaining a high star rating will improve your app’s rank, unless other factors such as a worsening conversion rate, or comparatively higher ratings metrics from competitors push your app’s overall rank score down.

## Setting Up a Review Strategy

While it’s easy to add a “rate our app” link into your app’s setting screen, a passive prompt like this will result in fewer ratings than an active pop-up prompt or dynamic banner.



Screenshot showing Slack asking for ratings in a menu, a tactic which only will get very few eyeballs.



Screenshot showing Hyper asking the user with an in-app dialog, a more effective tactic.

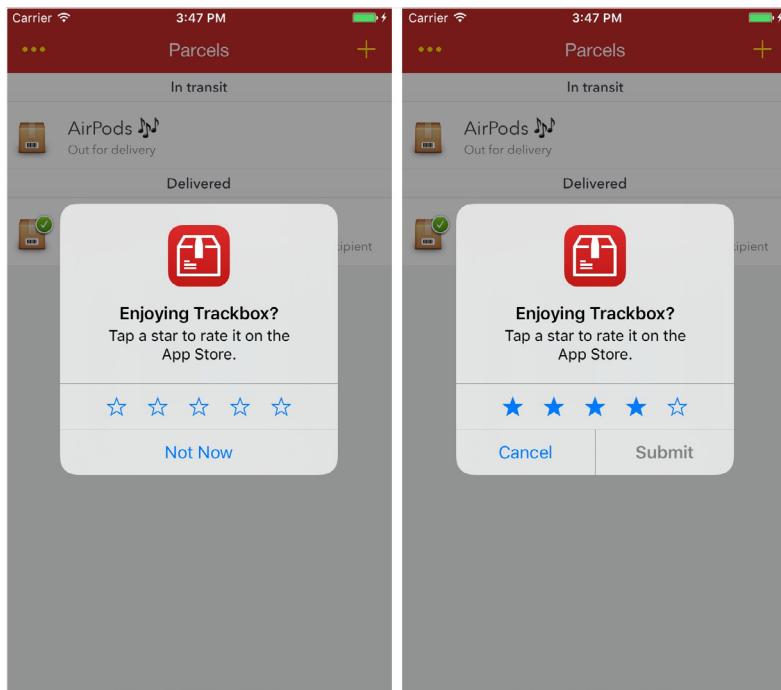
Creating an effective review strategy encompasses three steps:

- 01.** Rating prompt **Trigger**
- 02.** **Dialog** and flow of the rating prompt (Google-only)
- 03.** **Replying** to user reviews

You can either manage these activities directly by adding the requisite code to your app or managing reviews through iTunes Connect or the Google Play Console. Alternatively, you can use an ASO tool, such as Appbot, to help manage ratings and reviews.



**iOS:** With the release of iOS 10.3, Apple created an ability for developers to request users to rate their app from within the app, rather than sending the user to the App Store to leave a rating/review, which created friction in acquiring ratings and led to the potential for drop-offs along the way. Moreover, this official 10.3 rating prompt is now required by Apple for requesting reviews, replacing custom rating prompts. Keep in mind that Apple's in-app rating prompt can only be presented **three times per user per year** before it is disabled. To ensure the most efficient use of your rating prompt, use the right trigger logic to identify the most optimized time to prompt users.



Screenshot showing the new rating flow in iOS (source: [Macstories](#))



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**Beware:** While it is up to developers whether or not to follow Apple's guidelines, proceed with caution when using custom prompts since iOS 11, Apple has disallowed such custom prompts, requiring developers to solely use iOS 10.3 rating prompt.

## Using the Right Trigger

The rating trigger is the biggest factor influencing a user's intent to leave a review. Asking users at the wrong moment will waste a precious prompt, whereas waiting to ask users at the right time will drastically increase the likelihood of earning a rating.

| TYPE OF TRIGGER    | EXAMPLE   |
|--------------------|---|
| Usage trigger      | After the third session                             |
| Key action trigger | After successfully booking a flight                 |
| Negative trigger   | Do not prompt if the app has crashed within 30 days |
| Other triggers     | After an update to the newest version               |

## USAGE TRIGGERS

Usage triggers are the simplest to set up and therefore the most common, but they are also the least effective at converting new ratings, given time is not as correlated with user satisfaction as key actions. Here are a couple of examples of usage triggers:

- Prompt users when they have achieved the average number of launches (this ensures users have come back and are regular users before prompting).
- Prompt users when they achieve the average number of consecutive days of use spent in-app (this selects only users whose usage patterns indicate a strong attachment to the app).

## KEY ACTION TRIGGERS

While key action triggers require more effort to set up, they are the most effective method for requesting a rating from a user. Here are a few examples of key action-based triggers:

- Wait until a user has performed one or more **key actions** (this ensures users have derived some value before asking).
- Trigger the prompt once a user has completed some “**happy path**” chain of several key actions (this instills more confidence than a single key action that users have received good value). Thomas Petit points out that this trigger can be made even more effective by prompting users who have gone through one or more “failures” and have then achieved “success,” such as failing a game level three times and completing it on the fourth try.
- Wait until after a user has made a **purchase** (it doesn’t hurt to ask and a purchase is a significant indicator that they like your product).

## NEGATIVE TRIGGERS

Add negative triggers to your rating prompt logic in order to avoid asking users at a time which you know will lead to a poor likelihood of earning a good rating from the user. Try testing one of these negative triggers in your rating prompt:

- If you can track **crash-related** data, do not prompt after a user has experienced a crash in the last seven days.
- Do not prompt users who have **already tapped “yes, I would like to leave review” in your custom prompt** in the last 30-90 days (but reset this after a big update).
- Do not prompt users who have said they do **not want to** leave a review in the last 180 days

## OTHER TRIGGERS

- Prompt for a rating when a user **updates** your app (combine this with a “what’s new” bullet list in the messaging).
- While not as effective as a managed prompt, adding a “rate us” button in the **settings** of your app is an easy way to maximize your potential ratings volume.

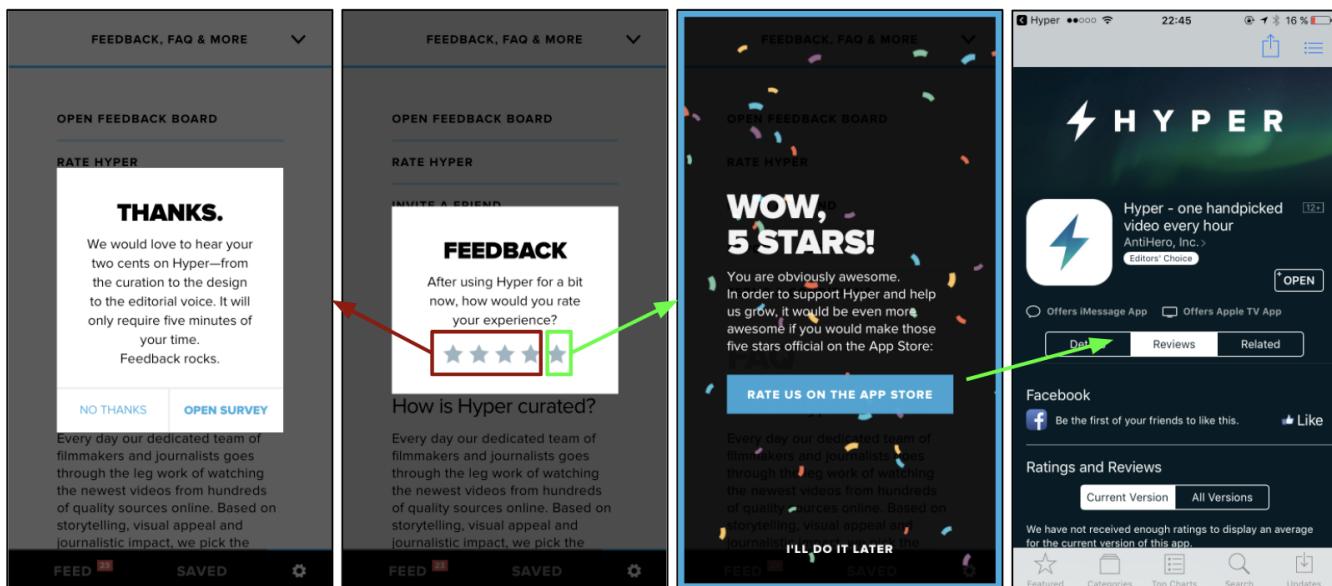


**Pro Tip:** Store logic for the rating prompt trigger on a server vs. client-side, so that you can easily update the logic without requiring a new app version.

## Using the Right Dialog and Flow

While Apple has disallowed custom rating prompt systems, Google has provided no such guidance, meaning that a custom dialog and flow is still a good optimization step for **Android** apps.

The visual design, messaging, and implementation aspects of the rating prompt UI that users interact with will also have a big influence on your rating prompt's success. Many apps set up custom triggers, yet neglect to optimize the way their prompt shows, leading to an optimization gap.



Screenshot showing the review flow from Hyper

## DESIGN

Design refers to the text and visual UI of each pop-up in your rating prompt. Here are a few tips for improving your rating prompt design:

- Visually **appealing UIs** grab more attention. Improve engagement with your review prompt by having a UI designer add an on-brand touch to your prompt window with custom colors, fonts, and icons.
- Add a fun **animation** for displaying the review prompt to entertain your users.
- Explain why you're asking users for a review, but don't **write a novel** to increase the chances that your text will be fully read.

## VOICE

Voice refers to the messaging and the feel of the prompt that users take away from reading the text in your pop-ups. Here are a few tips for improving your rating prompt's voice:

- Ask users **nicely** ("Pardon the interruption—would you mind leaving us a review?") rather than demanding ("Rate us 5 stars!").
- Refer to your users with a level of **respect** and connection by greeting them as a "power user," "super user,"

"valued customer," or some personable nickname for users that is unique to your app (e.g. Hey Power Redditor!).

- Ask users to leave a review telling others about their **favorite feature** or use case.

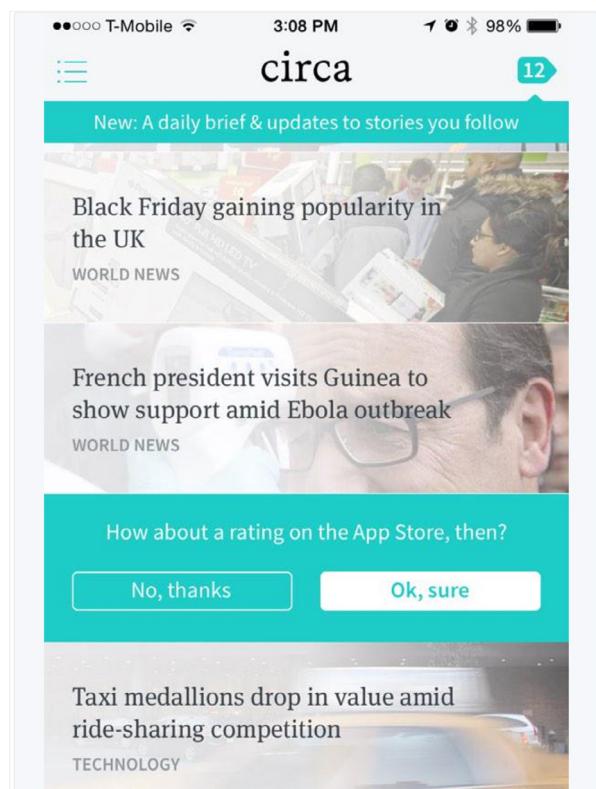
## IMPLEMENTATION

Implementation refers to the actual mechanics of how the rating prompt flow operates once the trigger initiates the prompt. Here are a couple tips for improving your rating prompt implementation:

- Implement the popular dissatisfied 'response to **feedback form**' logic. That is, when you ask whether users are enjoying your app and they reply "no," link them to an email to send feedback directly or open a support ticket, rather than writing a negative review.
- Track which **key actions/workflows** triggered the prompt and mention that key action/workflow in the review prompt to call out the value the user received.



**Pro Tip:** In addition to active pop-up prompts, try placing a constant reminder of your prompt in high visibility locations as a passive banner. These passive prompts can increase the top-of-mind status for users, and also don't interrupt users while they are in the middle of a task.



Screenshot showing how Circa depicts a passive banner prompt in-line with content in a popular blog post [<https://medium.com/circa/the-right-way-to-ask-users-to-review-your-app-9a32fd604fca>]

## Replying to Reviews

Replying to user reviews is a must for three reasons:

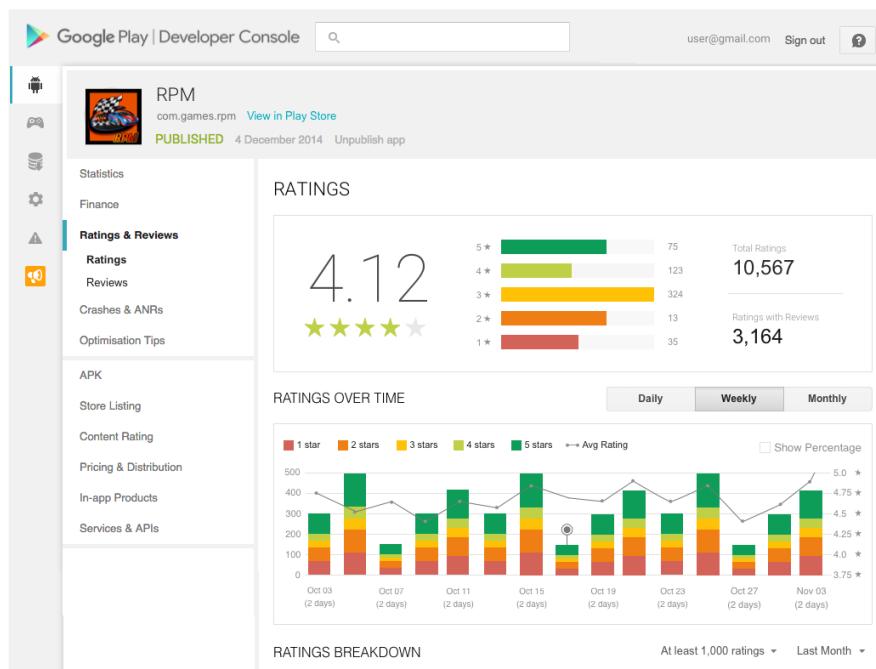
**The 1-to-7 ratio:** Did you know that in order to maintain a 4.5 average star rating after receiving **one 1-star rating** [you need seven 5-star ratings \[https://www.slideshare.net/ThomasBCN/reviews-ratings-thomasbcn-2016-applauseio-62526535\]](https://www.slideshare.net/ThomasBCN/reviews-ratings-thomasbcn-2016-applauseio-62526535)?

**Social influence:** Many users **read reviews** to determine whether they want to download your app or not, and your reply to a negative comment can help influence these users' decisions.

**Re-engaging the individual:** With your reply, you may be able to get the user to enjoy your app again. While not extremely impactful for apps with millions of users, for some apps regaining the individual might be attractive if the user:

- A. is a high ARPU user (i.e. whale)
- B. may turn from a detractor into a promoter (this can influence other users' conversion decisions).

Viewing, analyzing, and managing app ratings, reviews, and replies in Google Play is easy to do, thanks to Google's focus on empowering developers since 2013, per below.



*Screenshot of the Google Play Console's ratings and reviews analysis*

With the release of iOS 10.3, Apple also began allowing developers to reply to reviews in the App Store.

The screenshot shows the 'Ratings and Reviews' section in iTunes Connect for the app 'Forest Explorer'. The average rating is 4 stars from 58 reviews. One review from 'username\_example1' on May 5, 2014, says 'Forest explorer is one of my favorite apps on market right now. I have managed to get 4 stars on all of the levels and unlock all of the items. Although it is a fantastic app, I am hoping that you can please add more levels in an update to continue our gaming experience. Thank you'. Another review from 'username\_example2' on April 13, 2014, says 'Best platformer for iOS'. Both reviews have a 'Reply' link next to them.

*Screenshot of the iTunes Connect ratings and reviews view*

Here are some tips on how to effectively reply to user reviews:

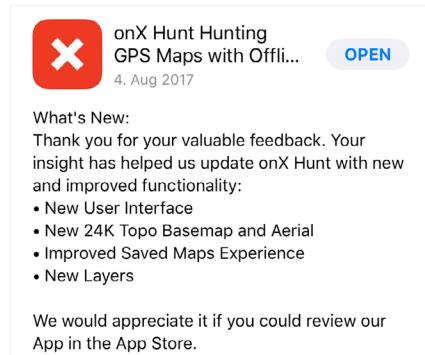
- Address your users by **name** and apologize for their inconvenience—be personable!
- Address their **concern** directly—help them troubleshoot their issue in your review reply if possible, and tell them whether it will be fixed in an upcoming update or that you are actively looking into it.
- Provide a **support email** for the user to provide extra information.
- Prioritize replying to the **most useful** reviews first—these are promoted by Google at the top of the list.
- **Don't reply to every single review**—this can lead to a templated-reply approach, which will lead to less genuine replies, something that users can and do pick up on.

## Using Your App Listing to Ask for Ratings and Reviews

In addition to prompting users from within your app, you can also leverage your app listing to ask for app ratings.

You can **prime new users** to leave a rating after downloading your app by asking them to do so, towards the bottom of your description. You can even let users know what your ratings triggers are in the description, which can reduce the user's surprise or annoyance of being prompted, and thus increase their receptiveness to the prompt.

You can also leave a note in the What's New-section of your new version to encourage existing users to leave a rating when downloading updates of your app (especially given that the **What's New-section** appears higher in the iOS product page for apps a user has already downloaded). This can be a very low effort activity to generate new reviews, especially when the latest release adds significant new functionality that users are likely to value.



*Screenshot of onX Hunt asking for a review in their updates*

08

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LOCALIZATION

# 08

## LOCALIZATION

“I feel like I’ve tapped out on growth in my home country; how can I continue to grow my user base?”

## Addressing a Global Audience Through Localization

In 2014 when SoundCloud began localizing, they saw a large uptick in downloads in countries where they had localized, even though they had only localized their keywords. The numbers were presented a few months after the change in the App Promotion Summit and they weren’t lying: for example SoundCloud saw 376% MoM download growth in Russia and 264% growth in South Korea.

This was not just a strategy that worked for SoundCloud, either; in Peggy Anne-Salz’s 2016 ASO Report for Venturebeat, she quoted Steve P. Young from App Masters on his findings that localization had brought in a **10x increase** in downloads.

It’s not difficult to see how localization of your assets can be a high impact ASO activity, from both a **visibility** as well as a **conversion standpoint**.

While English is often perceived as a global language given that 1.5 billion people speak English, it’s easy to forget that the other 6 billion people don’t consider it as such. Not only does a large portion of the global population search the App Stores with local keywords (even in Australia people search for “pokies” instead of “slot machines”), having a localized App Store presence increases conversion as well as the chances of being featured. In fact, some local editorial teams even make localization a requirement.

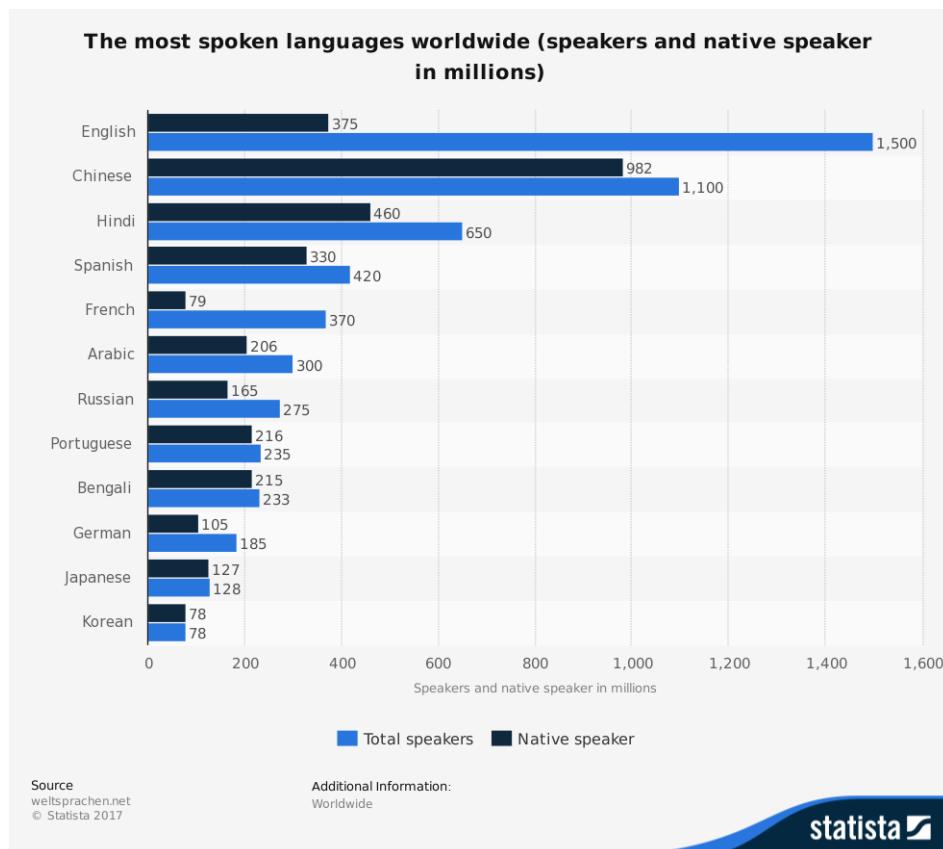


Table showing the most spoken languages worldwide (speakers and native speaker in millions). Source: Statista [<https://www.statista.com/statistics/266808/the-most-spoken-languages-worldwide/>]

In this chapter we'll take you through several important topics in localization that can inform your visibility and conversion strategy, including how the stores work, figuring out which languages to optimize for, minimal viable translation, and other localization tips and tricks.

## How the Stores Work: Available Languages

Let's start with the available localizations that you can localize your store presence in.

The **App Store** has up to **28 localizations** available, whereas **Google Play** supports up to **77 localizations**. This is not to be confused with the number of localizations that you can localize your app into.

In both stores, you can set one primary language. By doing so, you specify the fallback language for the event that a user is browsing the store in a language that you didn't localize in.



### LOCALIZATIONS AVAILABLE VIA GOOGLE PLAY (77 TOTAL)

- Afrikaans – af
- Armenian – hy-AM
- Basque – eu-ES
- Amharic – am
- Azerbaijani – az-AZ
- Belarusian – be
- Arabic – ar
- Bangla – bn-BD
- Bulgarian – bg

- Burmese – my-MM
- Catalan – ca
- Chinese (Hong Kong) – zh-HK
- Chinese (Simplified) – zh-CN
- Chinese (Traditional) – zh-TW
- Croatian – hr
- Czech – cs-CZ
- Danish – da-DK
- Dutch – nl-NL
- English – en-AU
- English – en-IN
- English – en-SG
- English – en-ZA
- English (Canada) – en-CA
- English (United Kingdom) – en-GB
- English (United States) – en-US
- Estonian – et
- Filipino – fil
- Finnish – fi-FI
- French – fr-FR
- French (Canada) – fr-CA
- Galician – gl-ES
- Georgian – ka-G
- German - de-DE
- Greek – el-GR
- Hebrew – iw-IL
- Hindi – hi-IN
- Hungarian – hu-HU
- Icelandic – is-IS
- Indonesian – id
- Italian – it-IT
- Japanese – ja-JP
- Kannada – kn-IN
- Khmer – km-KH
- Korean (South Korea) – ko-KR
- Kyrgyz – ky-KG
- Lao – lo-LA
- Latvian – lv
- Lithuanian – lt
- Macedonian – mk-MK
- Malay – ms
- Malayalam – ml-IN
- Marathi – mr-IN
- Mongolian – mn-MN
- Nepali – ne-NP
- Norwegian – no-NO
- Persian – fa
- Polish – pl-PL
- Portuguese (Brazil) – pt-BR
- Portuguese (Portugal) – pt-PT
- Romanian – ro
- Romansh – rm
- Russian – ru-RU
- Serbian – sr
- Sinhala – si-LK
- Slovak – sk
- Slovenian – sl
- Spanish (Latin America) – es-419
- Spanish (Spain) – es-ES
- Spanish (United States) – es-US
- Swahili – sw
- Swedish – sv-SE
- Tamil – ta-IN
- Telugu – te-IN
- Thai – th
- Turkish – tr-TR
- Ukrainian – uk
- Vietnamese – vi
- Zulu – zu



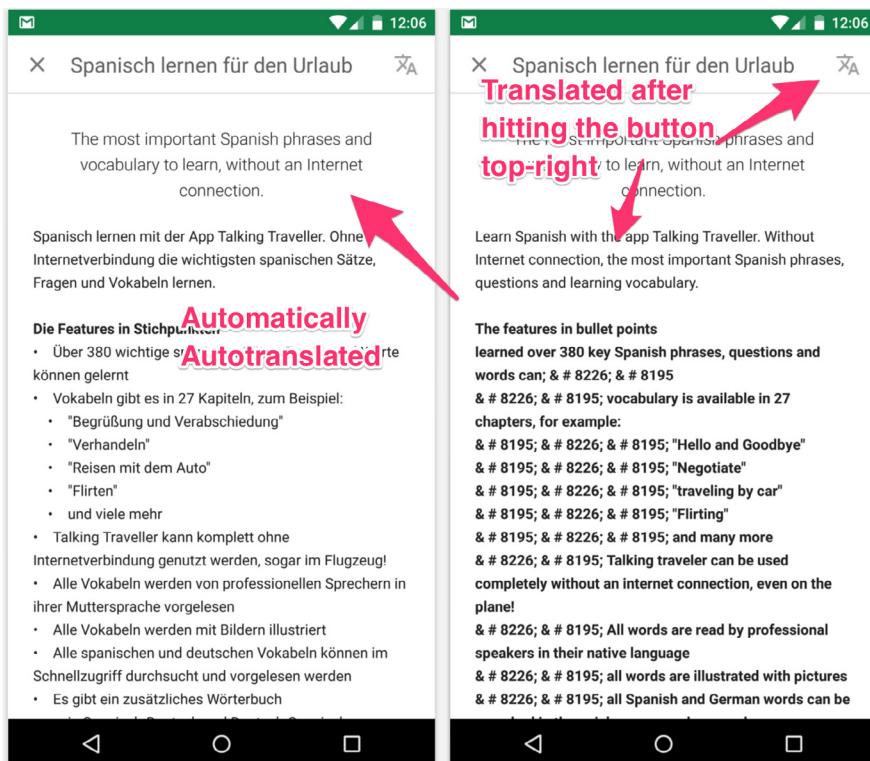
#### LOCALIZATIONS AVAILABLE VIA THE APP STORE (28 TOTAL)

- Chinese (Simplified)
- Chinese (Traditional)
- Danish
- Dutch
- English (Australia)
- English (Canada)
- English (U.K.)
- English (U.S.)
- Finnish

- |                   |                         |                   |
|-------------------|-------------------------|-------------------|
| ■ French          | ■ Korean                | ■ Spanish (Spain) |
| ■ French (Canada) | ■ Malay                 | ■ Swedish         |
| ■ German          | ■ Norwegian             | ■ Thai            |
| ■ Greek           | ■ Portuguese (Brazil)   | ■ Turkish         |
| ■ Indonesian      | ■ Portuguese (Portugal) | ■ Vietnamese      |
| ■ Italian         | ■ Russian               |                   |
| ■ Japanese        | ■ Spanish (Mexico)      |                   |

## Google Play Store Localization

Even if you don't provide any translations yourself, the Google Play Store Listing long description will still be translated via Google Translate and shown to the user in their own language upon the user's request.



Screenshots showing Google's Play Store listing translation UX



**Beware:** It's noteworthy that the short description is automatically translated without any user interference. While Google Translate has become better and better, it's not perfect and the automated translations of the short description can lead to weird, undesirable outcomes. Especially for brands: if you decide to stay English-only in your App Store presence, it might be worth verifying that these auto-translations aren't poorly translated in your core languages, and fixing those that are.



**Pro Tip:** Google's auto-translate also auto-translates parts of your keyword corpus. If you rank for "shop healthy" in English, then it's likely that you might also rank for "gezond shoppen" (Dutch) without having a Dutch app or having ever translated and published a Dutch store presence.

## App Store Localization

The App Store is a bit more rudimentary in that it doesn't provide auto-translations, except for **translations of some keywords** that you specify in English (U.S.) into Spanish. This isn't visible to users, but your app can indeed be displayed in the US to people searching for Spanish keywords.

Even more interesting for ASO is that each App Store Territory indexes for at least two or more localizations. You can use this to your own benefit by leveraging keywords in the lower priority localization for the higher priority localization.

As Apple offers some, but not all, data on which localizations are indexed where, we ran a couple of tests with fake keywords such as '**enuk1201**' in the English (GB) localization and then tracked these keywords across the different App Store territories. Here's what we found:

| L A N G U A G E                           | A P P S T O R E T E R R I T O R Y |                              |                                |           |           |             |  |
|---|-----------------------------------|------------------------------|--------------------------------|-----------|-----------|-------------|--|
|   | U N I T E D<br>S T A T E S        | U N I T E D<br>K I N G D O M | G E R M A N Y                  | S P A I N | C H I N A | C A N A D A |  |
| E N G L I S H (U N I T E D S T A T E S)   |                                   |                              | Unless English (UK) is not set |           |           |             |  |
| E N G L I S H (U N I T E D K I N G D O M) |                                   |                              |                                |           |           |             |  |
| E N G L I S H (A U S T R A L I A)         |                                   |                              |                                |           |           |             |  |
| S P A N I S H (M E X I C O)               |                                   |                              |                                |           |           |             |  |
| S P A N I S H (S P A I N)                 |                                   |                              |                                |           |           |             |  |
| G E R M A N                               |                                   |                              |                                |           |           |             |  |
| C H I N E S E T R A D I T I O N A L       |                                   |                              |                                |           |           |             |  |
| C H I N E S E S I M P L I F I E D         |                                   |                              |                                |           |           |             |  |
| F R E N C H (C A N A D A)                 |                                   |                              |                                |           |           |             |  |
| E N G L I S H (C A N A D A)               |                                   |                              |                                |           |           |             |  |

We drew a couple of conclusions from this test:

- In the **United States**, apps rank for **Spanish (MX)** and **English (U.S.) localized keywords**.
- **Globally** except for Canada and the U.S., apps rank for at least keywords found in **English (UK)**, except if the app doesn't have English (UK) specified, in which case the app ranks for **English (US)** or whatever is set to the app's Primary Language

**What's noteworthy is that you will also rank globally (except in Canada and the US), for English (AU).** Why Australian English would rank worldwide is a mystery and needs to be treated with caution as Apple might revert this phenomenon.

Keywords **are not combined across localizations**, meaning that if you have "learn" only in the English (U.S.) keywords field and "spanish" only in the Spanish (MX) keywords field, you will rank for "**learn**" and "**spanish**" in the U.S., but won't rank for "**learn spanish**".

The above rules apply to the app **title**, **subtitle**, and **keywords field**.

## SETTING UP YOUR STRATEGY AROUND MULTIPLE INDEXED LOCALIZATIONS IN THE APP STORE

Say that you have a recipe app with all kinds of recipes from **vegetarian recipes**, to **christmas recipes**, and **pasta recipes**. The app is in English and the core market is the United States.

With so many recipes, the 30 character title, the 30 character subtitle, and the 100 character keywords field are not enough to store every keyword you want to rank for.

The first step is to sort the keywords according to the methods mentioned in the [chapter on keyword optimization](#). In that research you will want to pull data from your own app usage too: what types of recipes do you offer and how are they represented? Next, continue by entering the most powerful keywords in the English (U.S.) metadata:

| ENGLISH (UNITED STATES) |  |                |
|-------------------------|--|----------------|
| Title                   | MyApp - Best Healthy Recipes   | 28 char length |
| Subtitle                | Pasta, Pizza, Veggie and more  | 29 char length |
| keywords field          | meat, chicken, bbq, grill, stews, seafood, noodles, poultry, lunch, cocktails, appetizers, chili, side, dishes | 97 char length |

Then with the other keywords, you will want to make sure to target as many as possible in the **Mexican Spanish keywords field**. You can also place English keywords into the Mexican Spanish title/subtitle and target more English keywords.

While frowned upon by Apple, so far no rejections have been made public about reviewers not accepting English in non-English localizations. In general, it would be a best practice to at least localize the title/subtitle to target your main localized language, so as to increase conversion. Even if your product is not available in Mexico, keep in mind that even in the U.S. there is a Spanish speaking population that might be more likely to find and download your app if you use Mexican Spanish keywords.

| SPANISH (MEXICO) |   |                |
|------------------|---|----------------|
| Title            | MyApp - <b>Recetas saludables</b>   | 26 char length |
| Subtitle         | <b>Italiana, Mexicana</b> y más   | 24 char length |
| keywords field   | recipes, salad, holiday, christmas, vegan, vegetable, pancakes, pork, salmon, meatloaf, asian, french, american | 99 char length |

Highlighted above you see the newly targeted Spanish keywords in the title/subtitle. You can also see new types of recipes your U.S. users might be looking for in the keywords field. You can also see the keyword “recipe;” while this word is in your English (U.S.) metadata, too, recall that keywords can’t be combined across localizations, so in order to target “salmon recipes,” you will need to repeat ‘recipes’ in the Spanish (MX) keywords field.

## APPLE LIST OF APP STORE TERRITORIES WITH CROSS-LOCALIZATION BENEFITS:

| APP STORE TERRITORY    | LANGUAGES THAT AN APP CAN BE INDEXED FOR |                     |                     |                     |  |
|------------------------|--|---------------------|---------------------|---------------------|--|
| United States          | English (U.S.)                           | Spanish (Mexico)    |                     |                     |  |
| United Kingdom         | English (U.K.)                           | English (Australia) |                     |                     |  |
| Australia, New Zealand | English (Australia)                      | English (U.K.)      |                     |                     |  |
| Belgium                | English (U.K.)                           | French              | Dutch               | English (Australia) |  |
| Brazil                 | Portuguese (Brazil)                      | English (U.K.)      | English (Australia) |                     |  |
| Canada                 | English (Canada)                         | French (Canada)     |                     |                     |  |
| China, Singapore       | Chinese (Simplified)                     | English (U.K.)      | English (Australia) |                     |  |
| Cyprus                 | English (U.K.)                           | Greek               | Turkish             | English (Australia) |  |
| Denmark                | English (U.K.)                           | Danish              | English (Australia) |                     |  |
| Finland                | English (U.K.)                           | Finnish             | English (Australia) |                     |  |

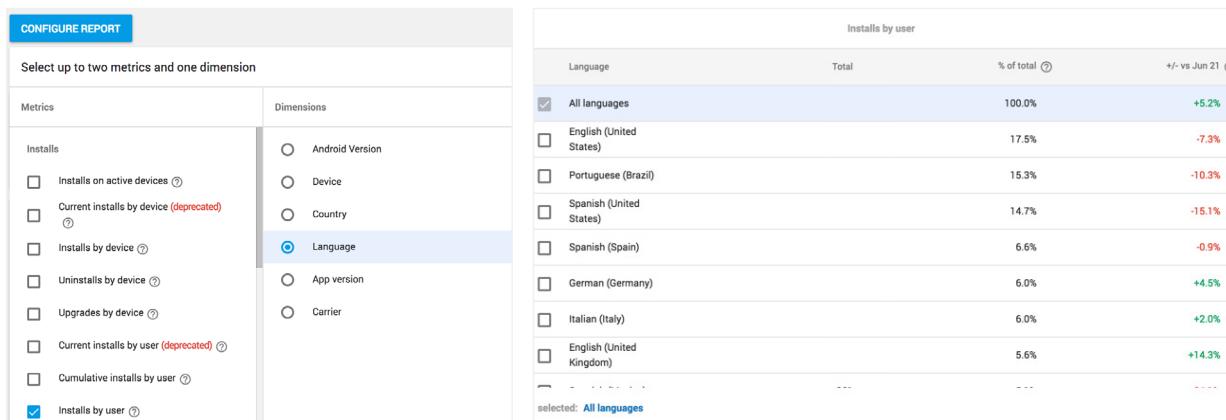
| APP STORE TERRITORY      |                       | LANGUAGES THAT AN APP CAN BE INDEXED FOR |                     |                |
|--------------------------|-----------------------|--|---------------------|----------------|
| France                   | French                | English (U.K.)                           | English (Australia) |                |
| Germany, Austria         | German                | English (U.K.)                           | English (Australia) |                |
| Greece                   | Greek                 | English (Australia)                      | English (U.K.)      |                |
| Hong Kong, Macau, Taiwan | Chinese (Traditional) | English (Australia)                      | English (U.K.)      |                |
| Indonesia                | Indonesian            | English (Australia)                      | English (U.K.)      |                |
| Italy                    | Italian               | English (Australia)                      | English (U.K.)      |                |
| Japan                    | Japanese              | English (U.S.)                           |                     |                |
| Korea                    | Korean                | English (Australia)                      | English (U.K.)      |                |
| Luxembourg               | French                | German                                   | English (Australia) | English (U.K.) |
| Malaysia                 | Malay                 | English (Australia)                      | English (U.K.)      |                |
| Netherlands              | Dutch                 | English (Australia)                      | English (U.K.)      |                |
| Norway                   | Norwegian             | English (Australia)                      | English (U.K.)      |                |
| Portugal                 | Portuguese (Portugal) | English (Australia)                      | English (U.K.)      |                |
| Russia, Ukraine          | Russian               | English (Australia)                      | English (U.K.)      |                |
| Spain                    | Spanish (Spain)       | English (Australia)                      | English (U.K.)      |                |
| Suriname                 | Dutch                 | English (Australia)                      | English (U.K.)      |                |
| Sweden                   | Swedish               | English (Australia)                      | English (U.K.)      |                |

| APP STORE TERRITORY   | LANGUAGES THAT AN APP CAN BE INDEXED FOR |                     |                     |                     |                |
|---|--|---------------------|---------------------|---------------------|----------------|
| Switzerland   | German                                   | French              | Italian             | English (Australia) | English (U.K.) |
| Thailand  | Thai                                     | English (Australia) | English (U.K.)      |                     |                |
| Turkey  | Turkish                                  | English (Australia) | English (U.K.)      |                     |                |
| Vietnam   | Vietnamese                               | English (Australia) | English (U.K.)      |                     |                |
| <b>Spanish-speaking LATAM</b><br>Argentina, Bolivia, Belize, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela | Spanish (MX)                             | English (U.K.)      | English (Australia) |                     |                |

| APP STORE TERRITORY  | LANGUAGES THAT AN APP CAN BE INDEXED FOR   |
|--|--|
| <b>Rest of World:</b><br>Albania, Algeria, Angola, Anguilla,<br>Antigua and Barbuda, Armenia,<br>Azerbaijan, Bahamas, Bahrain,<br>Barbados, Belarus, Benin, Bermuda,<br>Bhutan, Botswana, Brunei Darussalam,<br>Bulgaria, Burkina Faso, Cambodia, Cape<br>Verde, Cayman Islands, Chad, Congo,<br>Croatia, Czech Republic, Dominica,<br>Egypt, Estonia, Fiji, Gambia, Ghana,<br>Grenada, Guinea-Bissau, Guyana,<br>Hungary, Iceland, India, Ireland, Israel,<br>Jamaica, Jordan, Kazakhstan, Kenya,<br>Jamaica, Kuwait, Kyrgyzstan, Laos,<br>Latvia, Lebanon, Liberia, Lithuania,<br>Macedonia, Madagascar, Malawi,<br>Mali, Malta, Mauritania, Mauritius,<br>Micronesia, Moldova, Mongolia,<br>Montserrat, Mozambique, Namibia,<br>Nepal, Niger, Nigeria, Oman, Pakistan,<br>Palau, Papua New Guinea, Philippines,<br>Poland, Papua New Guinea, Qatar,<br>Romania, Saint Lucia, São Tomé<br>and Príncipe, Saudi Arabia, Senegal,<br>Seychelles, Sierra Leone, Slovakia,<br>Slovenia, Solomon Islands, South<br>Africa, Sri Lanka, St. Kitts and Nevis, St.<br>Vincent and The Grenadines, Swaziland,<br>Tajikistan, Tanzania, Trinidad and<br>Tobago, Tunisia, Turkmenistan, Turks<br>and Caicos, Uganda, United Arab<br>Emirates, Uzbekistan, Virgin Islands,<br>British, Yemen, Zimbabwe | English (U.K.)      English<br>(Australia) |

## Picking Your Languages

As we've seen there are a lot of languages to choose from, so where should you start? Of course, this will depend on your broader internationalization strategy, which should incorporate many different factors such as total addressable market size, monetization capabilities, your genre, and available internal resources. However, if you just want to test, you can start by looking at in which languages **your app is already popular** in. Look at your app analytics data to see how many new or active app users your app has per language and country. Alternatively, in the Google Play Console you can look at Installs by user by Language (Statistics > Configure Report).



For iTunes Connect a language breakdown is not available, and you would need to base your localization choices on statistics broken down by Territory.

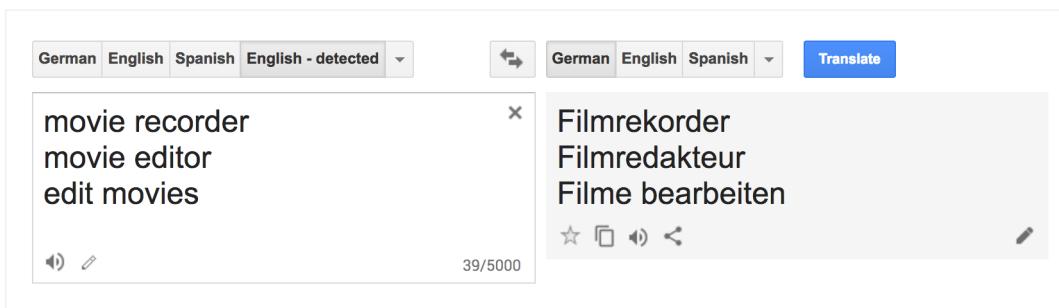
## Minimum Viable Translations

A minimum viable translation is the minimum you can do in App Store localization to get initial traction in terms of visibility and conversion, which will give you the signal to divest or invest in further localizing for that market.

### APP STORE

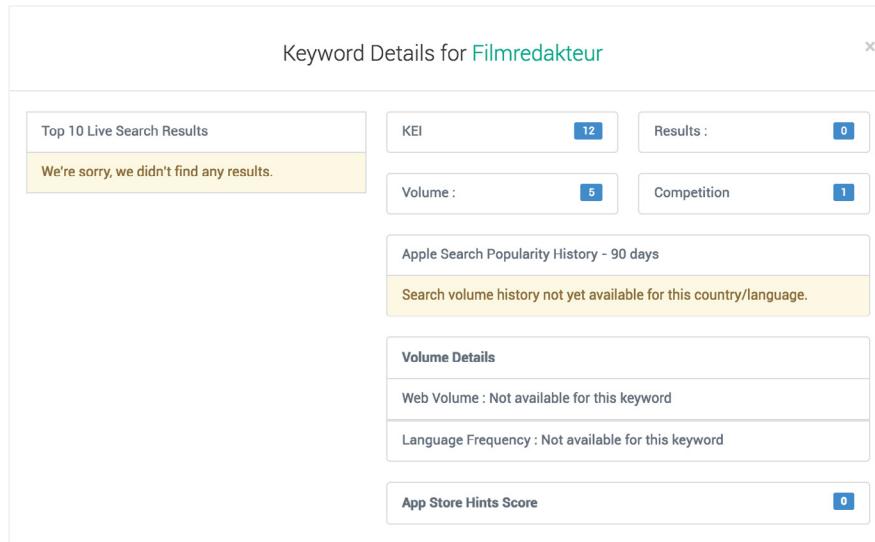
Frowned upon by Apple as well as your users are automated translations. Still, these automated translations are useful for helping increase visibility in local markets for the App Store. That's what makes them the definition of minimum viable translations, at least when it comes to the keywords field, which is hidden from users and the public. Adding a localized keywords field does not impact your conversion, and you also still rank for your primary language.

If you have a movie recorder/editor and want to gauge if there's any appetite in the German market, you start by going to Google translate and entering the main keyword you've identified in English.



*Screenshot showing Google Translate; for your top-terms you will want to do some minor research.*

This specific example is nice as it explains also why you should be on guard about using Google translations in user-facing messaging; while the concepts have been translated correctly, the app-specific meaning got lost in the translation. For example, for the keyword **movie editor**, it was translated as the person who edits movies (**Filmredakteur**). You probably wouldn't know this if you don't speak German! As an ASO, you should also go one step further to research how each of these translated keywords looks in the App Store using a live search or ASO tool.



*Screenshot showing how Apptweak displays that there are no results for Filmredakteur in Germany*

If the keyword is one of your focus keywords, then the research you will want to do is mainly focused on the root keyword: "Film." Entering this in a tool like Appkeywords.net yields the following:

The screenshot shows the AppKeywords.net interface with the keyword 'film' entered. The results section lists several related terms with small icons next to them. The results are categorized under 'film' and 'film + " "'.

- film
  - filme kostenlos downloaden legal ganze filme ↗
  - filmmusik ↗
  - filme ↗
  - filmorago ↗
  - filme gucken ↗
- film + "
  - film bearbeitungs programm ↗
  - film soundtracks ↗
  - film maker ↗
  - film downloader kostenlos ↗
  - film quiz ↗

*Screenshot from Appkeywords.net showing search results*

Search one of these high-volume search results to get a good idea on what other apps are ranking for this keyword, and whether or not you're in good company on this term.

Once you've assembled your list of German keywords, you can add them into iTunes Connect, leaving all the user-

facing assets the same (Title, Screenshots, etc):

The screenshot shows the 'App Information' section of the App Store's developer portal. On the left, there's a sidebar with tabs for 'App Store', 'Features', 'TestFlight', and 'Activity'. Under 'APP STORE INFORMATION', there's a 'Pricing and Availability' section with a note about preparing for submission. Below that is a 'VERSION OR PLATFORM' section. The main area is titled 'App Information' and contains fields for 'Name' (Adventure App), 'Privacy Policy URL', 'Bundle ID' (Adventure - com.Adventure.App), 'Primary Language' (English (U.S.)), and 'Category' (Entertainment). A dropdown menu is open for 'Primary Language', showing 'English (U.S.)' as the selected option, with other choices like Chinese, Traditional, Danish, Dutch, English (Australia), English (Canada), and English (U.K.) listed.

Track your main localized keywords in your favorite ASO tool and also track the number of App Store search Impressions, as well as App Units from App Store search. If the translation seems to earn some initial traction, try doing another round of optimizations or move on to Localization.

**Pro Tip:** You can switch to another App Store territory by following the next steps:

1. In the Today tab, click on your profile image
2. Click on your profile image again
3. Click "Country/Region"
4. Click "Change Country or Region"
5. Select a new country or region and click "Next"
6. When asked to accept the ToS, you can safely click "Cancel"

You're now in another App Store territory, and you'll be able to browse it, but not download any apps.

## PLAY STORE

With Google Play, on the other hand, you won't want to mess around with automated translations. You are indexed for many keywords in local searches already without translating your metadata, and adding auto-translated metadata as if it were professional translations can decrease your conversion rate. We therefore advise you to order a translation of at least your Title and Short description, as these are most visible and influential on your conversion rate. You can use a service like Gengo for this.

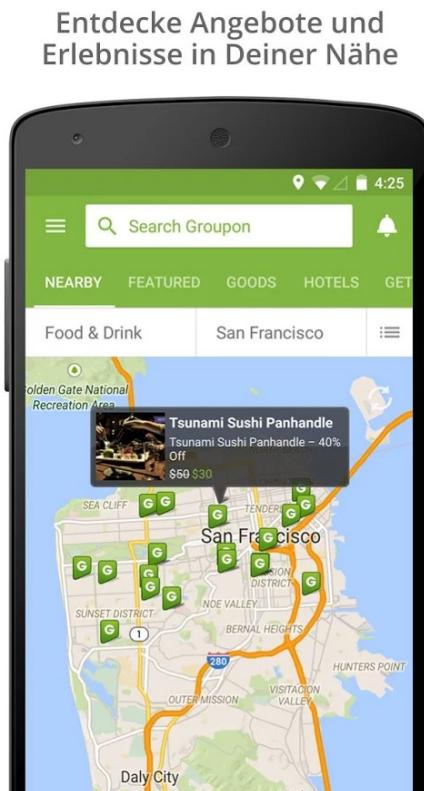
## True localization

Localizing languages is not just about translation, which is where many ASOs stop. In order to achieve the best CRO results, consider these tips:

- Use language that resonates with the local culture (e.g., slang or other colloquialisms), rather than even

logical, 1:1 translations.

- Use locally correct references in your graphics and text, such as listing local units of measurement or punctuation in your description (e.g., commas vs. periods for prices, like \$2,99 in Europe), or including local cities in screenshots.



*Groupon screenshot depicting localized captions, but with an English UI (Instead of German), showing San Francisco (instead of Berlin) and showing \$ (instead of a euro sign)*

- Use locally understood cultural references and trends. For example, try using the color red in China (the color of luck), or adding overlaid text into your app icon in Japan, which is a common trend for apps.
- Optimize for local holidays and seasonality, such as local independence days, or summertime in the southern hemisphere at the same time as wintertime in the northern hemisphere.
- Especially for regionally relevant apps (such as weather apps), it might make sense to address the local relevancy in the app icon (only available in the Google Play Store).

**Waze: GPS, Navigation, Karten & Verkehr**

Waze Karten & Navigation

Empfehlung der Redaktion

★★★★★ 6.533.429

USK ab 0 Jahren

Enthält Werbung

Du hast keine Geräte.

Zur Wunschliste hinzufügen

Installieren

**Waze - Navigation GPS, Trafic & Itinéraires**

Waze Plans et navigation

Choix de l'équipe

★★★★★ 6 533 270

USK : Tous publics

Contient des annonces

Vous ne disposez d'aucun appareil.

Ajouter à la liste de souhaits

Installer

Screenshots showing Waze adding local relevancy in Germany by adding a flag, but in France going even one step further with a baguette!

- Optimize your listing for the features that resonate most with local users; don't assume that users in each country will all prefer the same features of your app to equal degrees.
- If your app offers customer support in a country's local language(s), call it out! By doing so, you can assure users that they will be taken care of if they download your app.
- Earn local ratings; while ratings in the Play Store are aggregated globally, App Store ratings are visible only from the local country, and additionally, users will want to read reviews in their own language.
- If your app is newly launched, tell people that you are new to the country. By acknowledging that you are new to the country and just getting started, you can build a feeling of genuineness and even excitement with local users.



**Further Reading:** For more detail on localization, check out the following resources:

Localizing your App Store presence can add quite a lot of overhead. Teams working with a lot of localizations will want to ensure you have automated some of that overhead. To reduce this workload, you can use tools such as **Fastlane** or AppRadar Publisher.

For more information on screenshots specifically, check out Philip Engberg's post: [How I nailed App Store screenshot automation](https://medium.com/tonsser/how-i-nailed-app-store-screenshot-automation-8e3c47c00589) [<https://medium.com/tonsser/how-i-nailed-app-store-screenshot-automation-8e3c47c00589>], which expands on how he automated the generation of localized screenshots with the help of snapshot (a Fastlane tool).

09

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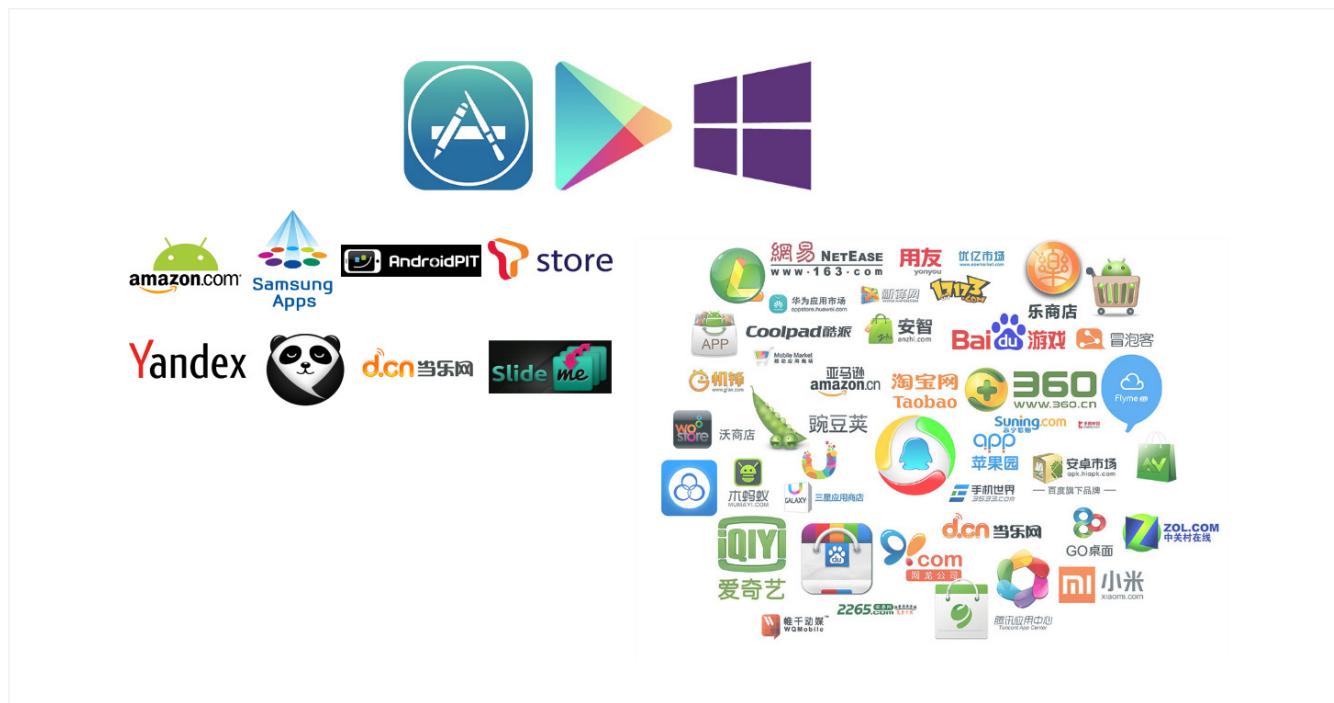
3RD PARTY ANDROID DISTRIBUTION

# 09

## 3RD PARTY ANDROID DISTRIBUTION

“Google Play isn’t the only Android App Store, right? Where else can I submit my Android app?”

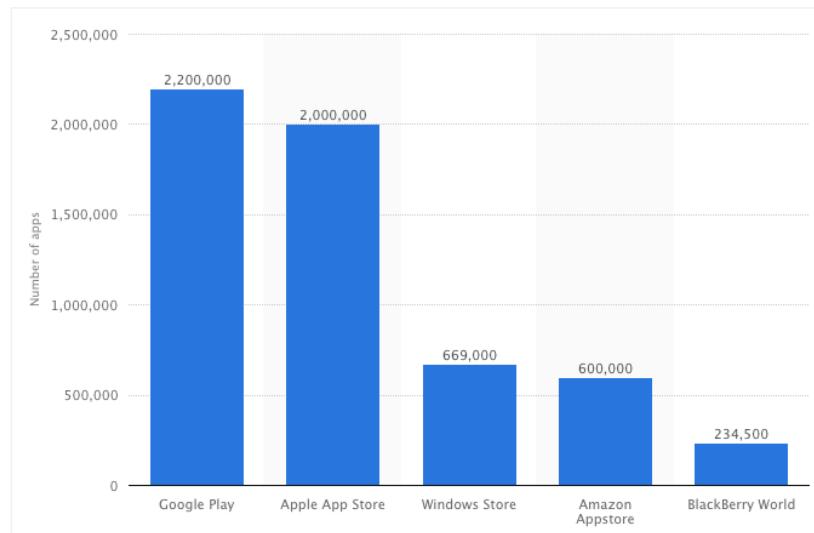
While for iOS and Windows Phone you only have one store to distribute to, for **Android** there is a broad palette of stores available.



*Image depicting the number of 3rd party App Stores*

If you’re looking to increase your global reach outside of China, we suggest considering the Amazon App Store, Blackberry World, and Samsung apps. Be warned, though, that the **opportunity compared to the Play Store is much smaller for these stores**, as only a small percentage of Android users are on these alternate App Stores. That said,

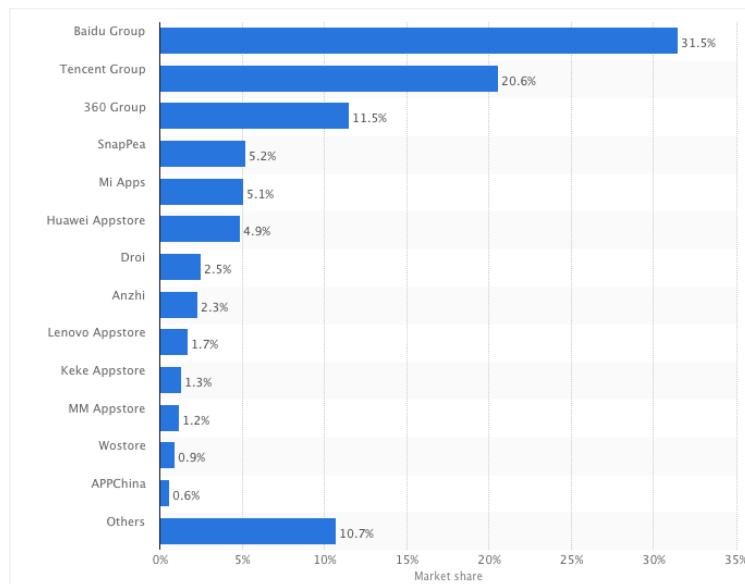
you can expect less competition and easier access to the editorial teams of those stores, which might make it worth the effort.



*Screenshot showing the number of apps available in leading App Stores as of June 2016. Source: Statista [ <https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/> ]*

If you want to tap into the ever-growing number of smartphone users in China, you will have to work with alternate Android Stores; in fact, the Google Play Store is not available in China as Google was actually blocked as of mid-2014.

For **distribution in China** on Android, consider Baidu App Store, Tencent App Gem, Xiaomi App Store, Qihoo 360 Mobile Assistant, and the Huawei App Store. These stores combined have the vast majority of Android market share in China.



*Screenshot showing the leading mobile app distribution stores in China in 2015, by market share. Source: Statista [ <https://www.statista.com/statistics/646357/china-leading-mobile-app-stores-by-market-share/> ]*



**Pro Tip:** As it can be quite daunting to upload your apps into 300+ different Android Stores, and all the stores have different metadata requirements, tools like CodeNgo or AppScatter can be of help. Codengo aims to provide a self-publishing platform for many 3rd party Android stores.

# 10

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BLACK HAT ASO

# 10

## BLACK HAT ASO

“How can I make sure that I stay on the good side of Apple and Google and not run the risk of having my app taken down?”

The goal of ASO is to boost visibility and conversion, while still abiding to the rules of the App Stores. In contrast, the Black Hat sect of ASO disregards these rules completely and uses unfair optimization tactics to gain a competitive advantage. To prevent such unfair competition, Apple and Google lay out strict penalties (such as removal from their App Stores and developer programs) for apps that break the rules or use forbidden tactics.

This chapter aims to give an outline of which practices of Black Hat ASO are out there and how to be effective with ASO while at the same time steering clear of dangerous or shady black hat tactics.

| Black Hat Tactics per Activity             |  |
|--|--|
| ASO ACTIVITY                               | BLACK HAT ASO TACTICS KNOWN              |
| Keyword optimization                       | Yes                                      |
| Ranking visibility                         | Yes                                      |
| Conversion rate optimization               | Yes                                      |
| Choosing platforms & distribution channels | No                                       |
| Getting featured                           | Unknown, but possible (bribery/nepotism) |

*Black Hat tactics exist for almost all ASO activities*

Both Apple and Google have a set of strict guidelines and rules ([Apple App Store Guidelines](https://developer.apple.com/app-store/review/guidelines/) [<https://developer.apple.com/app-store/review/guidelines/>] and [Google Play Store Guidelines](https://play.google.com/about/developer-content-guidelines) [<https://play.google.com/about/developer-content-guidelines>])

[content-policy/](#)) but also at other times keep it necessarily vague on what exactly is considered overstepping the line. According to Apple's [review guidelines \[https://developer.apple.com/app-store/review/guidelines/\]](https://developer.apple.com/app-store/review/guidelines/), developers will know the line when they cross it.

The App Stores rely on developers to optimize for discovery to deliver a great user experience. Apple encourages developers to optimize their apps' metadata, from text elements like the app description to visual elements like screenshots, so that users can enjoy the optimal store experience. Apple even actively seems to embrace ASO and give tips on how to [optimize for search \[https://developer.apple.com/app-store/search/\]](https://developer.apple.com/app-store/search/). Google Play goes one step further and provides tools like Store Listing Experiments to optimize assets, next to other useful features for conversion rate optimization (CRO).

### [Black Hat ASO is used to artificially increase both visibility and conversion](#)

In CRO terms, Black Hat ASO is used by spammers to gain an unfair advantage against legitimate apps by manipulating the areas of CRO that deliver the most impact.

Burst campaigns, one of the main tools in the Black Hat ASO's toolkit, are mostly used for growing an app's visibility. Yet for Android apps (where the total downloads are visible to users), burst campaigns can also increase an app's conversion rate by **making apps appear more popular than they actually are** through this social proof-based data point. This can also occur in the App Store, where top chart ranks show in an app's product page.

Campaigns that raise an app's **star rating** and generate **fake reviews** are also a big Black Hat CRO tool. By raising an app's total star ratings, boosting its star rating, and/or filling an app's store listing with flattering reviews, Black Hat ASOs can fool unwitting, legitimate users that an app's value is higher than it actually is, and earn a boost in organic downloads.

While it is effective in the short term, over the longer term Black Hat ASO tactics cannot improve an inherently poor quality app. As such, it offers a view into the fact that having a good conversion rate is required in order to maintain or grow visibility, as explained throughout this book.

To illustrate this fact, we conducted a [case study \[http://incipia.co/post/app-marketing/aso-google-play-store-app-spam/\]](http://incipia.co/post/app-marketing/aso-google-play-store-app-spam/) investigating a weather app spammer that used a set of apps to infiltrate the top keyword ranks for "weather" searches in the Google Play Store. While the spammer used fake reviews and a keyword burst campaign to initially gain a top rank for weather searches, the app subsequently lost ranking as legitimate users stopped downloading it or wrote bad reviews.

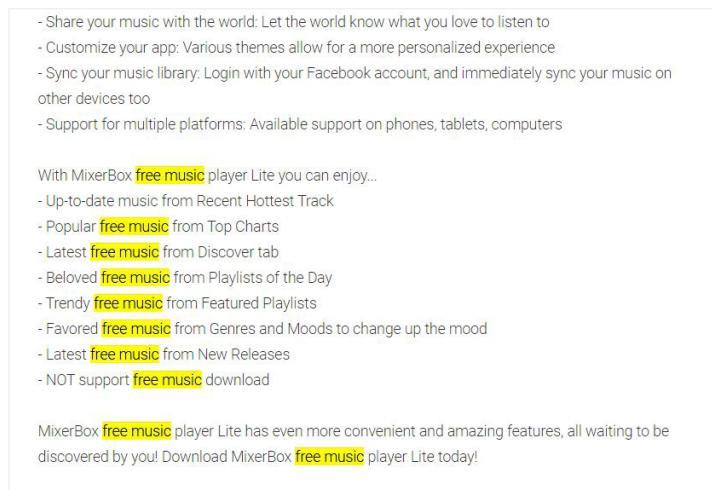
| White Hat / Grey Hat / Black Hat Techniques |                              |                                     |                              |
|---|------------------------------|-------------------------------------|------------------------------|
|   | WHITE HAT                    | GREY HAT                            | BLACK HAT                    |
| VISIBILITY                                  |                              | Incentivized Installs               |                              |
|   |                              |                                     | Bot Installs                 |
|   |                              |                                     | "Retained" Bot Installs      |
|   |                              | Non-Incentivized Search Installs    |                              |
|   |                              |                                     | Incentivized Search Installs |
|   |                              |                                     | Bot trending searches        |
|   |                              |                                     | Top Grossing Refund"-trick   |
|   | Keyword "dropping"           |                                     |                              |
|   |                              |                                     | Keyword "stuffing"           |
|   |                              |                                     | Lifting of brand names       |
| REVIEWS                                     |                              | Lifting of trending keywords        |                              |
|   | Leverage localization tricks |                                     |                              |
|   | Asking for reviews           |                                     |                              |
|   |                              | Asking for reviews after segmenting |                              |
|   |                              | Asking for reviews                  |                              |
|   |                              |                                     | Paid Negative Reviews        |
|   |                              |                                     | Paid Human / Bot Reviews     |
| OTHER                                       |                              |                                     | Incentivized Reviews         |
|   |                              |                                     | Writing your own reviews     |
|   |                              |                                     | Review Contests              |
|   |                              |                                     | Paid FB likes or Google +1s  |
| OTHER                                       |                              | Not abiding the guidelines          |                              |
|   |                              |                                     | Fake apps & rip-offs         |

## Black Hat Strategy: Keyword Metadata Manipulation

The following are a few of the most common Black Hat tactics around keywords in the app metadata.

### KEYWORD STUFFING

In the Play Store, where the descriptions rank for keywords, one simple tactic is to shove as many keywords as many times into the app description, in hopes of earning higher rank for those keywords. The app below offers a view into keyword stuffing for the keyword: “free music”



The screenshot shows a portion of an app's description. It includes a bulleted list of features, several instances of the keyword "free music" highlighted in yellow, and a concluding sentence encouraging users to download the app.

- Share your music with the world: Let the world know what you love to listen to
- Customize your app: Various themes allow for a more personalized experience
- Sync your music library: Login with your Facebook account, and immediately sync your music on other devices too
- Support for multiple platforms: Available support on phones, tablets, computers

With MixerBox **free music** player Lite you can enjoy...

- Up-to-date music from Recent Hottest Track
- Popular **free music** from Top Charts
- Latest **free music** from Discover tab
- Beloved **free music** from Playlists of the Day
- Trendy **free music** from Featured Playlists
- Favored **free music** from Genres and Moods to change up the mood
- Latest **free music** from New Releases
- NOT support **free music** download

MixerBox **free music** player Lite has even more convenient and amazing features, all waiting to be discovered by you! Download MixerBox **free music** player Lite today!

*Screenshot example of an app keyword stuffing in their app description*

### KEYWORD DROPPING

Keyword dropping is a more elegant tactic than keyword stuffing. It has its roots in SEO tactics of optimizing for popular phrases people actually search for (think ‘cheap flights to New York’, ‘cheap flights to Paris’, ‘cheap flights to Dubai’ type SEO texts found often on websites). The same principle applies in the app stores, within limits. For instance, a music app could include a long list with names of popular artists in its description, which would not strictly be descriptive about the app but still related and relevant to the app’s content.

### LEECHING OFF OF BRAND NAMES

Using well-known brand names and sometimes even their logos to deceive users into downloading the black hat app instead of the original. Taking into account that, according to Google, [more than half of the users are searching for a specific title \[https://research.googleblog.com/2016/11/app-discovery-with-google-play-part-1.html\]](https://research.googleblog.com/2016/11/app-discovery-with-google-play-part-1.html), this is naturally a widespread Black Hat tactic. Sometimes, an app that’s legitimate by itself may resort to using the better-known brand name to mislead users and boost its presence.

In other cases, the app is entirely fake and designed to scam or spam users (<https://www.forbes.com/sites/thomasbrewster/2017/11/06/google-whatsapp-fake-problem-is-big/#3a96316f597d>). Fake apps are using blank spaces and Unicode characters to make the developer name and titles look like the real ones.

While Apple reset star reviews after each update in iOS 10 or earlier, these fake apps could simply submit a new version after getting too many negative reviews. While iOS ratings do not auto-reset, developers have the option to manually

reset their ratings and reviews.



*Example of fake apps next to the original*

## APPLE TRENDING SEARCH MANIPULATION

A position in the trending searches can result in a [significant amount of downloads](https://sensortower.com/blog/the-ultimate-power-of-trending-searches) [<https://sensortower.com/blog/the-ultimate-power-of-trending-searches>] from users casually browsing the App Store. The Trending Searches are displayed whenever a user is tapping the search icon in the Apple App Store. This presents an opportunity for [fraudulent searches](https://techcrunch.com/2014/09/29/ios-app-stores-trending-searches-section-shows-evidence-of-gaming/) [<https://techcrunch.com/2014/09/29/ios-app-stores-trending-searches-section-shows-evidence-of-gaming/>] which can be used to increase exposure and get short-term growth.

A slightly less aggressive, yet borderline Black Hat technique is incorporating trending search keywords that aren't relevant to the app itself. It is also prohibited in the guidelines of both stores and can result in getting banned. But of course it is legitimate to adapt an app so it becomes relevant to a trending keyword, such as "Halloween," by changing the app temporarily to a Halloween edition.

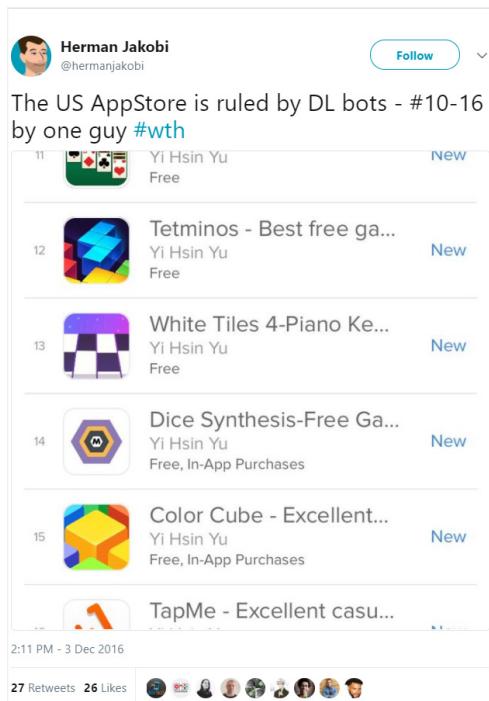
## Black Hat Strategy: Ranking Manipulation

App Store rankings are one of the major drivers for traffic and app discovery, whether it's ranking in the Top 100 downloaded charts, ranking within a category, or keyword ranks.

Because simple download data or download velocity data are highly important factors in the ranking algorithms, the algorithms are left vulnerable to a number of Black Hat tactics.

## TOP CHART MANIPULATION USING FAKE INSTALLS

Black Hat methods acquire massive numbers of cheap installations, which can come from many sources, such as people who are paid to download apps, bots, or incentivized ads. Some bot installs can even go as far as pretending to be "retained" installs (fake users opening the app after X amount of time), manipulating rankings beyond the initial burst. The main target of burst campaigns is acquiring organic downloads from the visibility attained by achieving high top-chart rankings, but keywords can also be affected, per the following page.



*Example for manipulated download charts, pointed out by developer Herman Jakobi [<https://twitter.com/hermanjakobi/status/805172558949662720>]*

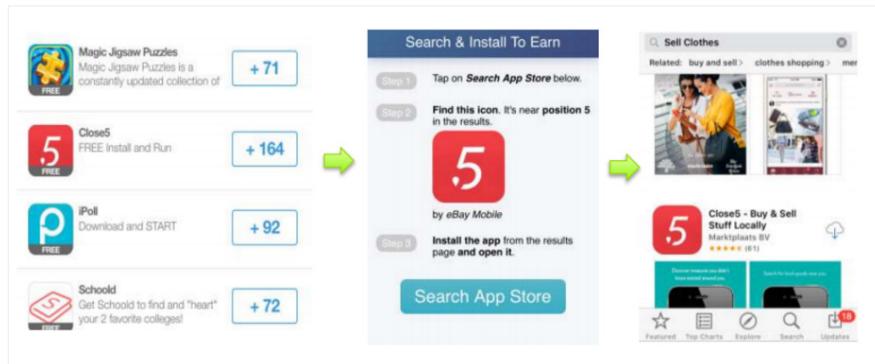
## CHART MANIPULATION USING INCENTIVIZED INSTALLS

In the case of incentivized installs, the users are real but their intent for downloading an app isn't genuine. In 2011, Apple prominently [cracked down on incentivized app installs](https://gigaom.com/2011/04/19/apple-reportedly-rejecting-apps-with-pay-per-install-campaigns) [<https://gigaom.com/2011/04/19/apple-reportedly-rejecting-apps-with-pay-per-install-campaigns>] campaigns by rejecting apps that had implemented offer walls for incentivized downloads. One issue with incentivized Installs is that they usually lead to a low quality user base, which can hurt an app's engagement metrics. This can be mitigated by using incentivized video ads where a view is rewarded with in-game currency but the actual download is optional.

While incentivized Installs are mostly regarded as a **Gray Hat tactic** and can be used by legitimate apps, incentivized Installs are still designed to manipulate rankings by acquiring a large number of Installs from users who have little-to-no interest in the app itself other than simply earning an incentive (such as unlocking content in another app).

Taken in the context of purely building brand awareness, this is not a problem; however, when considering that app rankings are a zero-sum game where downloads of all kinds affect rankings, this means that apps which gain rank via incentivized downloads push out apps that have worked hard to acquire downloads from more legitimate sources, often over a longer period of time; this fact marks the transition of incentivized Installs from being acceptable to becoming harmful to the legitimacy of the App Store.

## SEARCH & INSTALL CAMPAIGNS



*Example flow for a search & install campaign where users are sent to the App Store via a certain query and download an app in exchange for virtual currency*

Here, users are incentivized to download an app coming from a specific search query instead of directly downloading from the App Store page. This results in both a higher click-through-rate as well as a higher amount of users that convert from this particular keyword. Also, it can affect the trending searches section if done at scale.

In addition to affecting the total downloads, recall that the App Stores consider conversion rate as a major signal for keyword rank. This has implications for search & install campaigns, because if an app is able to acquire artificial keyword searches that convert at 100%, they can game the system by raising their conversion rate for that keyword overall. While store ads can be used in some ways for the same purpose, this can be a far more expensive approach.

While search & install campaigns are seen by many as Black Hat ASO, others consider it legitimate, and providers that are manipulating the search scores are openly promoting these type of campaigns.



## MANIPULATING THE TOP GROSSING CHART

This tactic, [highlighted by Gabriel Machuret \[http://asoagency.com/black-hat-aso/\]](http://asoagency.com/black-hat-aso/), includes increasing the price of an app to astronomic heights and then asking friends to buy it.

The trick is to let them demand a refund right away after the transaction has been processed. This will lead to climbing on top of the Top Grossing charts within a category to then just change the pricing back to normal and profiting off the increased visibility due to the top grossing ranking spot.

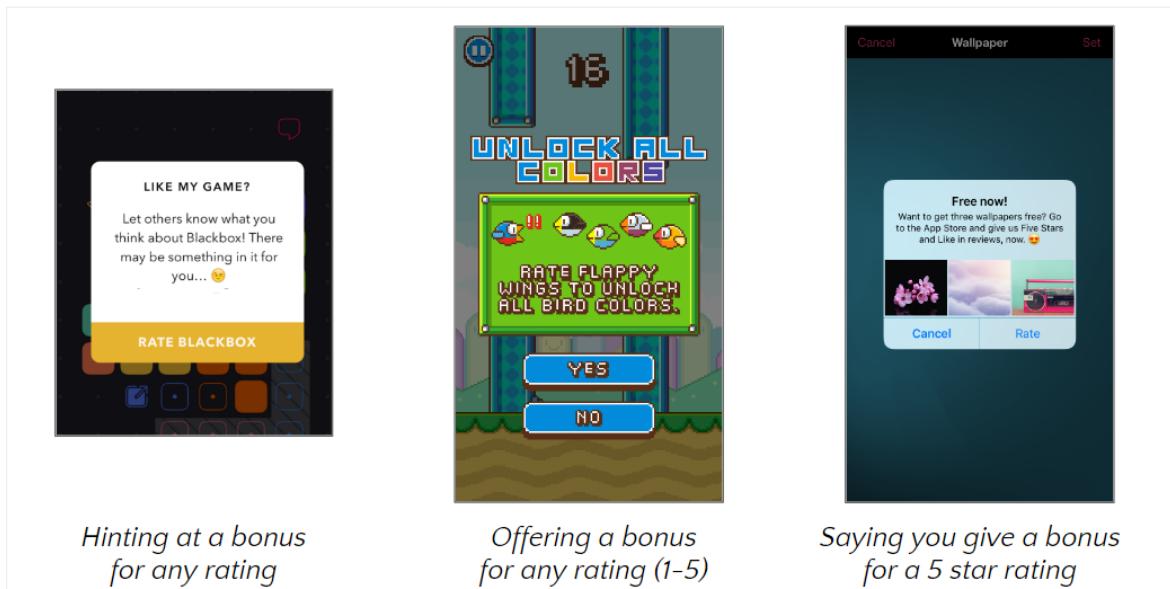
With the removal of Top Grossing charts, this option became obsolete for the App Store.

## Black Hat Strategy: Manipulating Ratings & Reviews

User reviews are one of the most important factors for App Store ranking and conversion rate optimization. A common way is to ask the users to rate their experience within the app first, and then send only the happy users to the App Store to leave a rating (this is called segmenting), but recently Apple seems to be [taking an issue](#) with this approach [<https://twitter.com/pietbrauer/status/791883047373246464>], and now requires developers to abandon custom prompts, and instead use only Apple's 10.3 in-app rating system.

There are a number of Grey-to-Black Hat tactics to boost user reviews, all of which are illegal but nevertheless commonly found.

## INCENTIVIZED REVIEWS



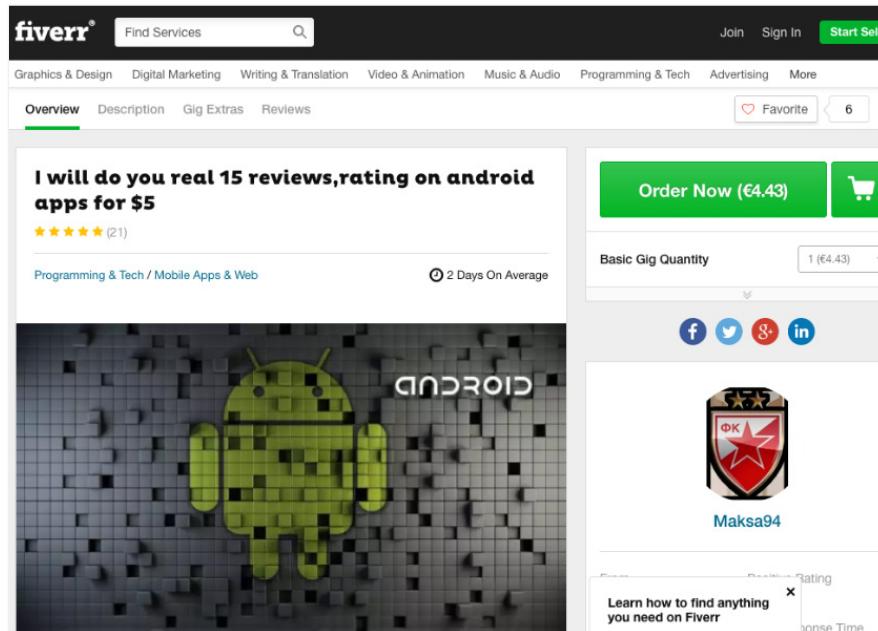
*Screenshot depicting an incentivized review process*

This tactic includes everything where the user is offered something in return for leaving a review. Apple prohibits offering for example in-app currency, content, or upgrades in the app to get reviews and ratings in return. In their guidelines, [Apple is stating](#) “Developers who attempt to manipulate or cheat the user reviews or chart ranking in the App Store with fake or paid reviews, or any other inappropriate methods will be removed from the iOS Developer Program.” [<https://developer.apple.com/app-store/review/guidelines/>]

## PAID REVIEWS

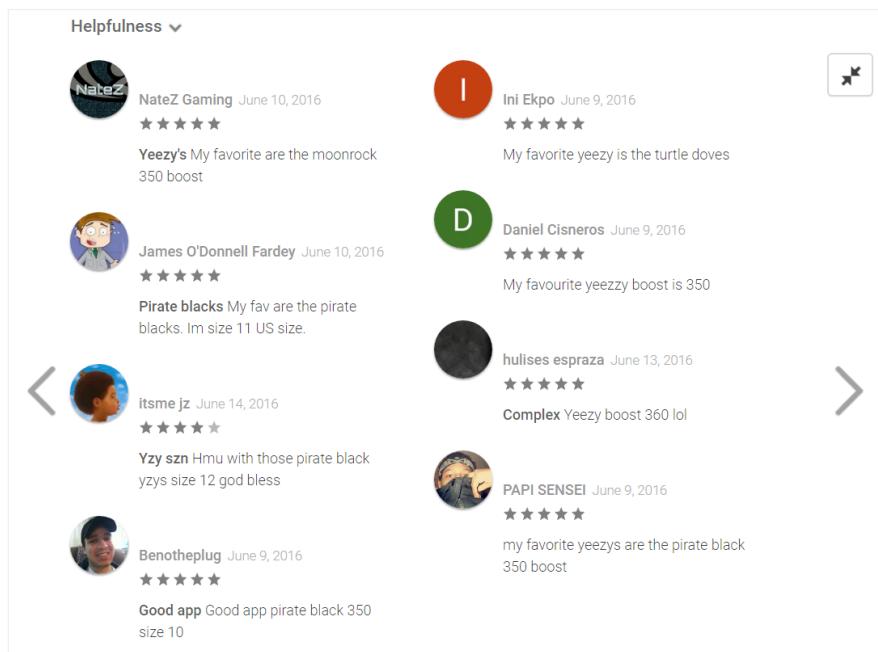
Buying reviews is a prohibited, but very common Black Hat tactic. Normally these reviews are quite easy to recognize when taking a look at the wording. If there are a lot of reviews with almost identical wordings, it's safe to assume that

these reviews are bought. It also happens that identical reviews from competitors are used.



*Example of paid reviews offer on fiverr*

## REVIEW CONTESTS



*Screenshot depicting a review contest*

Because the Google Play Store indexes the keywords in user reviews, there are multiple ways for Android apps to manipulate keyword rankings. Two of the most popular are to give users entries into a contest to win something in return for leaving a keyword-laden review.

## REVIEWING YOUR OWN APP

Another tactic generally regarded as Gray Hat, many developers will write reviews for their own app, or ask friends to do the same. This is especially common with indie developers, or apps with low rating volume after having ratings reset after an update.

With the App Store move to non-resetting of reviews, this practice has likely diminished in usage.

## RATING COMPETITORS' APPS NEGATIVELY

There are many cases where publishers have chosen the unfair route to attack their competition. [Rating the competition negatively \[http://www.imore.com/whats-happening-dash-and-app-store\]](http://www.imore.com/whats-happening-dash-and-app-store) is one of them. Needless to say, this tactic is prohibited by Apple and Google.

## SUMMARY

As mentioned before, it's not always 100% clear which tactics are considered Black Hat and which are legitimate. Even the standard practice of putting an important keyword in the app name itself is clearly unpopular with Apple who reduced the space to 30 characters and added a subtitle field for indexable descriptions.

This table summarizes all of the above-mentioned tactics in the spectrum of White-to-Black Hat. Keep in mind that successful ASO practitioners steer away from Black Hat completely but instead focus on mastering the balance between 'White Hat' and 'Grey Hat' tactics.

**2.3.7** Choose a unique app name, assign keywords that accurately describe your app, and don't try to pack any of your metadata with trademarked terms, popular app names, or other irrelevant phrases just to game the system. App names must be limited to 30 characters and should not include prices, terms, or descriptions that are not the name of the app. App subtitles are a great way to provide additional context for your app; they must follow our standard metadata rules and should not include inappropriate content, reference other apps, or make unverifiable product claims. Apple may modify inappropriate keywords at any time.

11

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TOOLS

# 11

## TOOLS

“What tools are useful for managing ASO?”

Trying to manage an ASO strategy without using tools is not recommended.

One reason among many is that neither Apple nor Google provide data for **keyword** or **top chart ranking**. ASO tools have been developed to make repetitive or difficult tasks easy to manage, thereby helping you to gain more insight and improve your ASO results with less effort.

Here is a table mapping the tools listed in the ASO Stack to a number of popular ASO Tools available.

| TOOL                            | KEYWORD RANK<br>TRACKING | KEYWORD RESEARCH | RATINGS &<br>SENTIMENT<br>TRACKING | REPLYING TO REVIEWS | COMPETITIVE<br>INTELLIGENCE | USER EXPERIENCE<br>FEEDBACK | METADATA<br>MANAGEMENT | KEYWORD<br>PRIORITIZATION AND<br>WEIGHTING | IN-APP RATING<br>PROMPTS | SCREENSHOT<br>BUILDERS | APP STORE ANALYTICS | A/B TESTING TOOLS |
|---------------------------------|--------------------------|------------------|------------------------------------|---------------------|-----------------------------|-----------------------------|------------------------|--|--------------------------|------------------------|---------------------|-------------------|
| <a href="#">App Annie</a>       | ■                        |                  |                                    |                     |                             |                             |                        | ■  |                          |                        | ■                   |                   |
| <a href="#">AppBot</a>          |                          |                  | ■                                  | ■                   |                             |                             |                        |  |                          |                        |                     |                   |
| <a href="#">AppFigures</a>      |                          |                  | ■                                  |                     | ■                           | ■                           |                        |  |                          |                        | ■                   |                   |
| <a href="#">AppFollow</a>       | ■                        | ■                | ■                                  | ■                   |                             |                             |                        | ■  |                          |                        | ■                   |                   |
| <a href="#">Appkeywords.io</a>  |                          |                  |                                    |                     |                             |                             |                        |  |                          |                        |                     |                   |
| <a href="#">Appkeywords.net</a> |                          | ■                |                                    |                     |                             |                             |                        |  |                          |                        |                     |                   |
| <a href="#">AppLaunchpad</a>    |                          |                  |                                    |                     |                             |                             |                        |  | ■                        |                        |                     |                   |
| <a href="#">AppRadar</a>        | ■                        | ■                |                                    |                     |                             |                             | ■                      | ■  |                          | ■                      |                     |                   |

| TOOL                                   | KEYWORD RANK<br>TRACKING | KEYWORD RESEARCH | RATINGS &<br>SENTIMENT<br>TRACKING | REPLYING TO REVIEWS | COMPETITIVE<br>INTELLIGENCE | USER EXPERIENCE<br>FEEDBACK | METADATA<br>MANAGEMENT | KEYWORD<br>PRIORITIZATION AND<br>WEIGHTING | IN-APP RATING<br>PROMPTS | SCREENSHOT<br>BUILDERS | APP STORE ANALYTICS | A/B TESTING TOOLS |
|--|--------------------------|------------------|------------------------------------|---------------------|-----------------------------|-----------------------------|------------------------|--|--------------------------|------------------------|---------------------|-------------------|
| <a href="#">AppScatter</a>             |                          |                  |                                    |                     |                             |                             |                        |  |                          |                        |                     |                   |
| <a href="#">Apptentive</a>             |                          |                  |                                    |                     |                             |                             |                        |  |                          |                        |                     |                   |
| <a href="#">Apptrimize</a>             |                          |                  |                                    |                     |                             |                             |                        |  |                          |                        |                     |                   |
| <a href="#">Apptopia</a>               |                          |                  |                                    |                     |                             |                             |                        |  |                          |                        |                     |                   |
| <a href="#">AppTweak</a>               | ■                        | ■                | ■                                  |                     |                             |                             |                        |  |                          |                        |                     |                   |
| <a href="#">ASOdesk</a>                | ■                        | ■                | ■                                  |                     |                             |                             |                        |  |                          |                        |                     |                   |
| <a href="#">CodeNGo</a>                |                          |                  |                                    |                     |                             |                             | ■                      | ■  |                          |                        |                     |                   |
| <a href="#">Fastlane</a>               |                          |                  |                                    |                     |                             |                             |                        |  | ■                        | ■                      |                     |                   |
| <a href="#">MobileAction</a>           | ■                        | ■                | ■                                  |                     | ■                           |                             | ■                      | ■  |                          | ■                      |                     |                   |
| <a href="#">Prioridata</a>             | ■                        | ■                | ■                                  |                     | ■                           |                             | ■                      | ■  |                          | ■                      |                     |                   |
| <a href="#">RaiseMetrics</a>           |                          |                  |                                    |                     |                             |                             |                        |  |                          |                        |                     | ■                 |
| <a href="#">SensorTower</a>            | ■                        | ■                | ■                                  |                     | ■                           |                             | ■                      | ■  |                          | ■                      |                     |                   |
| <a href="#">SplitMetrics</a>           |                          |                  |                                    |                     |                             |                             |                        |  |                          |                        |                     | ■                 |
| <a href="#">StoreMaven</a>             |                          |                  |                                    |                     |                             |                             |                        |  |                          |                        |                     | ■                 |
| <a href="#">TheTool</a>                | ■                        | ■                | ■                                  |                     |                             |                             |                        | ■  |                          | ■                      |                     |                   |
| <a href="#">TUNE</a>                   | ■                        | ■                | ■                                  |                     | ■                           |                             |                        | ■  |                          | ■                      |                     |                   |
| <a href="#">Google Trends</a>          |                          |                  |                                    |                     |                             |                             |                        |  |                          |                        |                     |                   |
| <a href="#">Google Keyword Planner</a> |                          |                  |                                    |                     |                             |                             |                        |  |                          |                        |                     |                   |

## Platform Tools

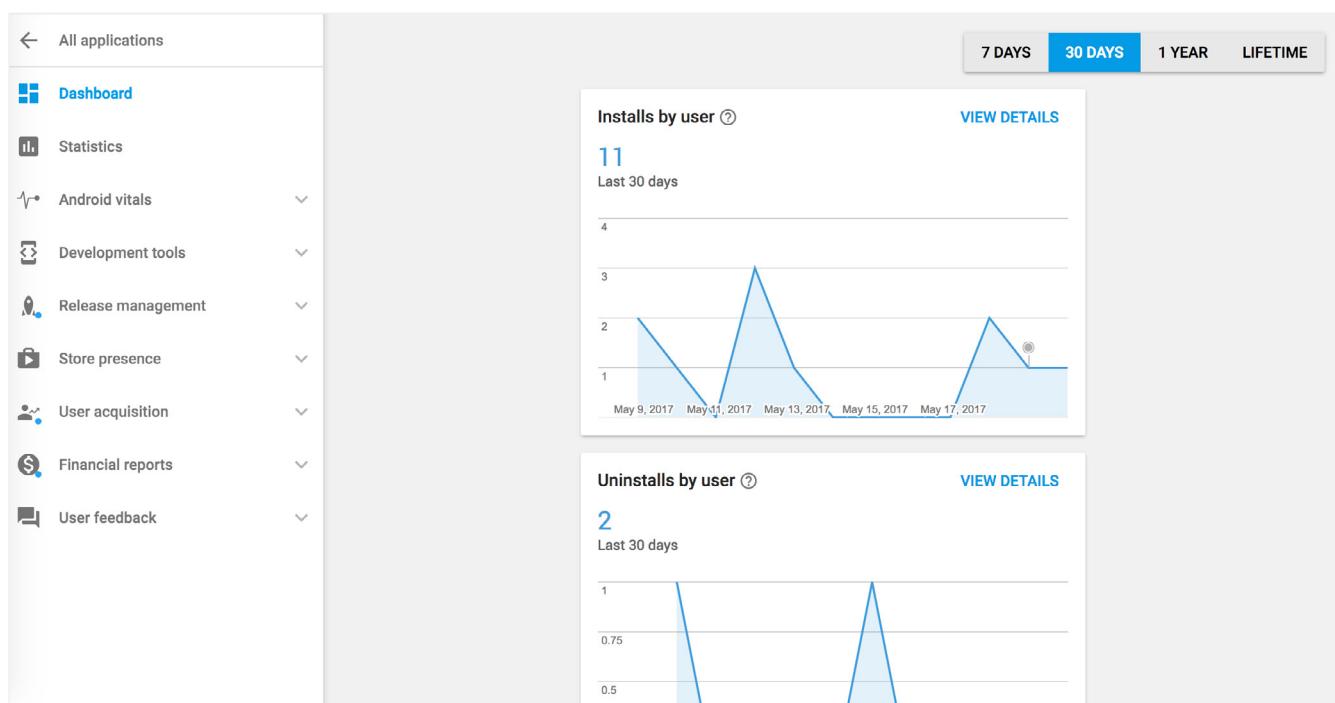
Notwithstanding the above comment, Apple and Google do provide plenty of data via their **first party reporting** platforms, with more data being released by both Apple and Google on a regular basis.

## Google Play Console

### DASHBOARD VIEW

The **dashboard** is the main screen in the Google Play Console that you will arrive at after selecting an application. The Play Console dashboard is meant to offer an **overview of the health** of your app and includes the following data points:

- **Installs** by user
- **UnInstalls** by user
- **Installs** by user **by country**
- **Installs** on active **devices** (only available per the last 30 days)
- **Ratings** volume
- **Average** rating
- **Crashes**



*Screenshot of the Google Play Console dashboard*

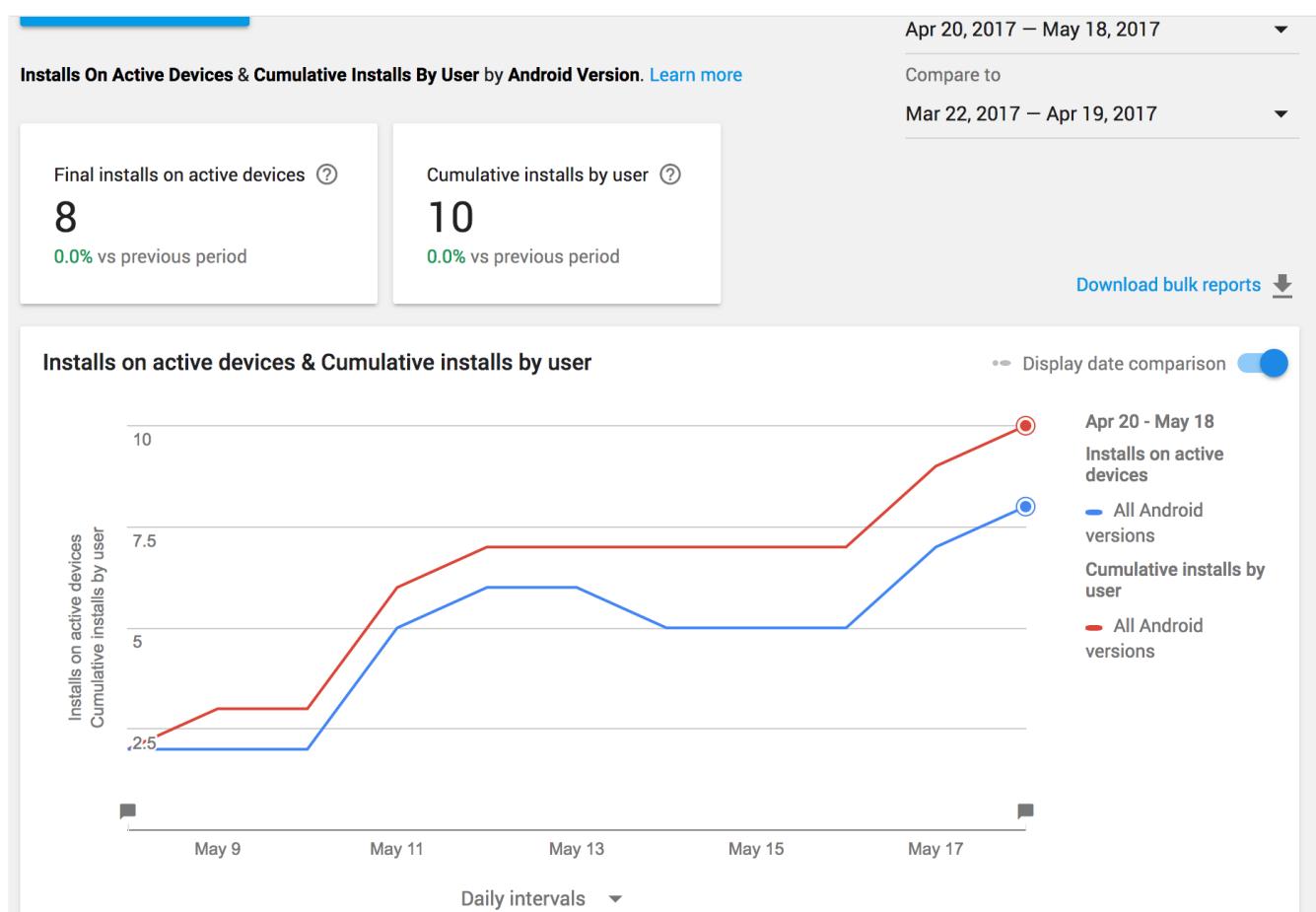
Use this data to check in on the overall health/growth of your app. But be aware that this data is not filtered by source, meaning that you cannot distinguish between, say organic traffic and paid traffic; an increase in either will show up as an increase in Installs. Use the User Acquisition view to compare performance by sources.

## STATISTICS VIEW

The **Statistics** view offers a deeper look into your app's data along several data points and even comparison dates. Downloading the data will export a collection of reports in comma-separated format from the time period you have selected (7 days, 30 days, 1 year, lifetime).

By **configuring your report**, you can view up to two data points across one of the following:

- Android version
- Device type
- **Tablet size** (10 inch and above vs. 7 inch to 10 inch, not inclusive of 10 inch)
- Country
- Language
- App version
- Carrier



Screenshot of the Google Play Console Statistics view

Use this data to see how your app is trending based on the prior period, information that the User Acquisition view does not provide. But similarly to the Dashboard view, be aware that you cannot filter by acquisition source in this report.

This report is more handy than the Dashboard view for drilling down into your app's performance along dimensions such as country, but the statistics report is generally less useful for ASO than the User Acquisition view.

## ANDROID VITALS

Data points here include insight for developers to analyze app performance in terms of stability, battery, and rendering times.

## DEVELOPMENT TOOLS

Developers can use this view to manage Firebase Cloud Messenger, as well as services and APIs.

## RELEASE MANAGEMENT

Developers and marketers can tap into Google's abilities to manage new app releases, Android Instant Apps, device catalogues, and app signing here.

## STORE PRESENCE

This view is a big one for app developers/marketers, as it houses the levers that determines how your app's store listing appears in the store, including the following two major areas:

- Store listing

The store listing is where you enter your app's metadata (both text and visuals), category, contact/privacy information, as well as add translations for localized listings

**Store listing**

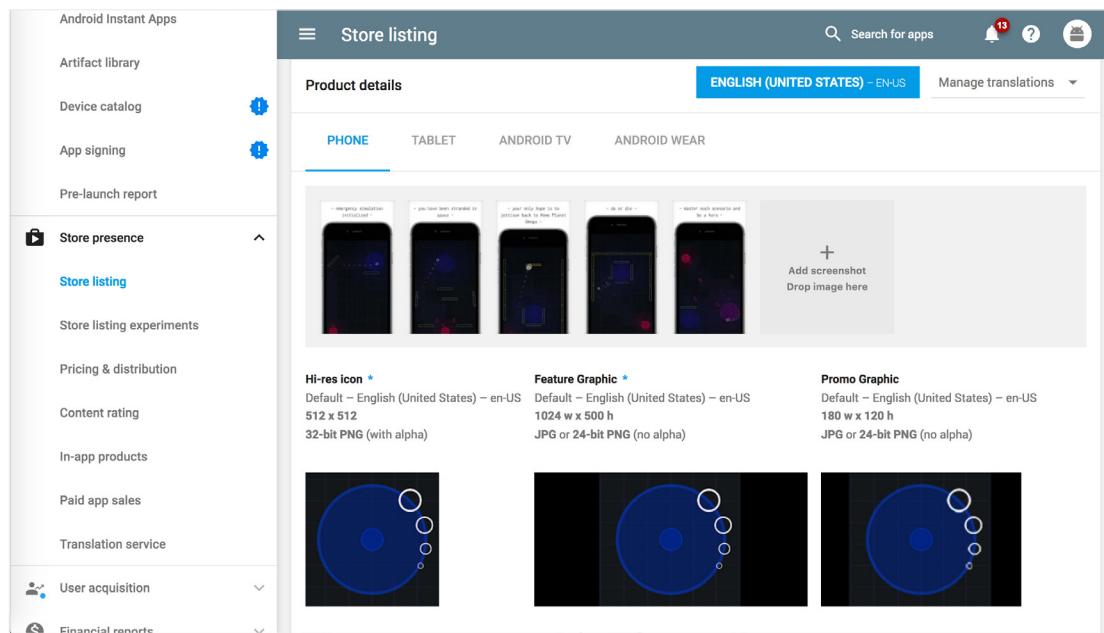
**Product details**

**Title \***  
English (United States) – en-US      **Viscosity: Master the Bounce**

**Short description \***  
English (United States) – en-US      **Welcome to: Viscosity**

**Full description \***  
English (United States) – en-US      **Welcome to: Viscosity**  
**Captain Emergency Preparedness program found...**  
**Emergency simulation initialized...**  
**- You have been stranded in outer space with no fuel.**  
**- Your only hope for survival is to jettison safely back to Home Planet Omega.**  
**- You have only one chance to do so. Pick your timing and aim wisely.**

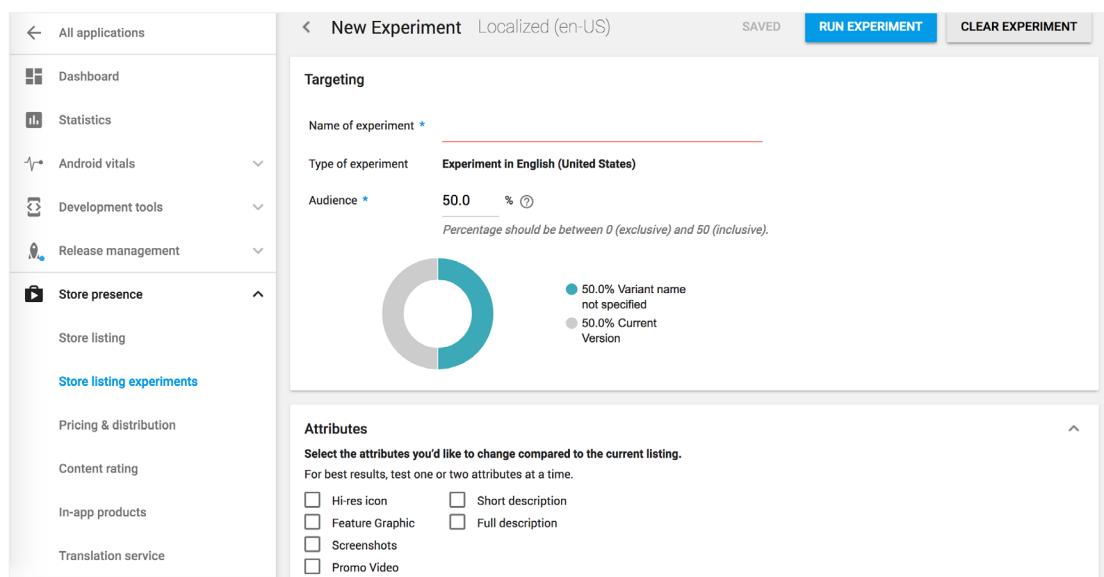
Please check out our [Metadata policy](#) to avoid some common violations related to app metadata. Also, please make sure to review all the other [program policies](#) before you submit your apps.



Screenshots of the Google Play Console Store Listing view

## ■ Store listing experiments

One of the biggest differentiators between the Google Play Console and iTunes Connect is the ability to **run experiments (A/B tests)** through the Google Play Store. Experiments can test all elements of an app listing (except the app title), and experiments can be run on **up to 75% of an app's live store traffic**.



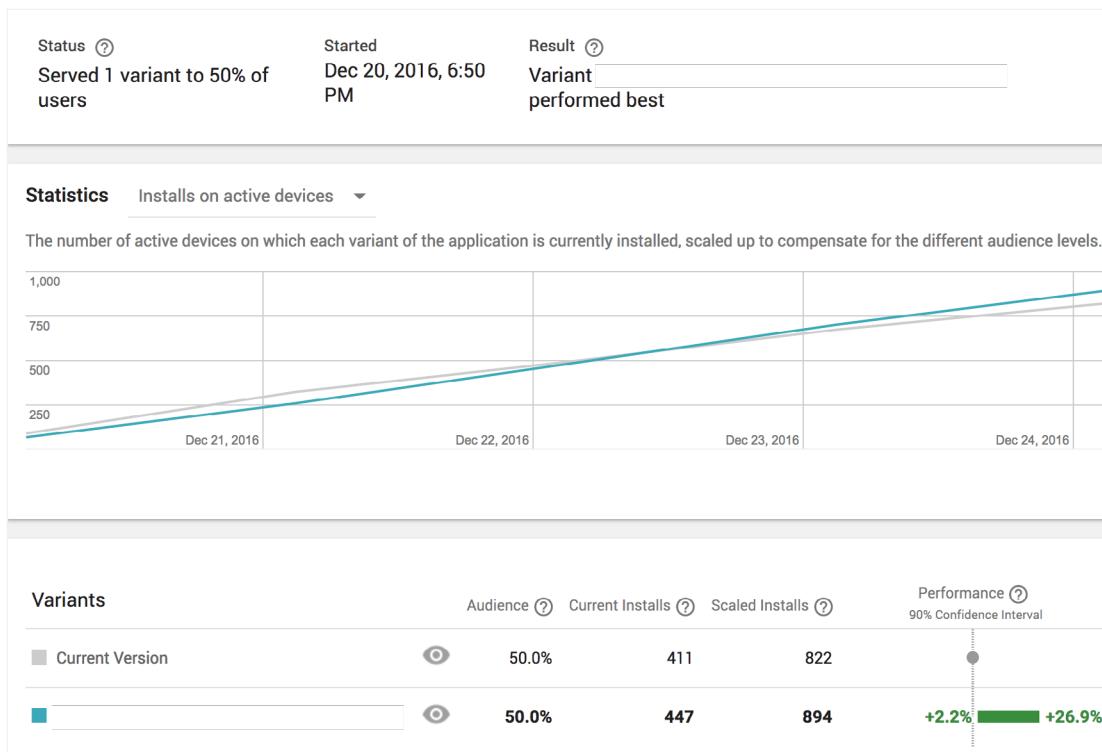
Screenshot of the Google Play Console Store Listing Experiments view

While highly useful and the best way to obtain a true test of a live App Store listing, there are several limitations to note with Google's A/B testing engine:

- The **confidence interval is locked** at 90%, which may not be a high enough level of confidence for marketers

who want a more precise reading.

- Testing is done with **all visitors** to an app's listing, which cannot be manipulated (e.g. search vs. top chart browsing).
- Experiments provide data on retained users, however, they **do not allow** for reporting on other **post-install metrics**, such as revenue.
- Per the above point, experiments provide no insight into which types of users were sent to each variant.
- Running multiple experiments only provides data on performance for a variant all-up, which while useful for a cohesive report, makes it difficult to distinguish the effect of each variable.
- Experiments do not provide insight into other metrics, such as engagement or view-rate of each element.



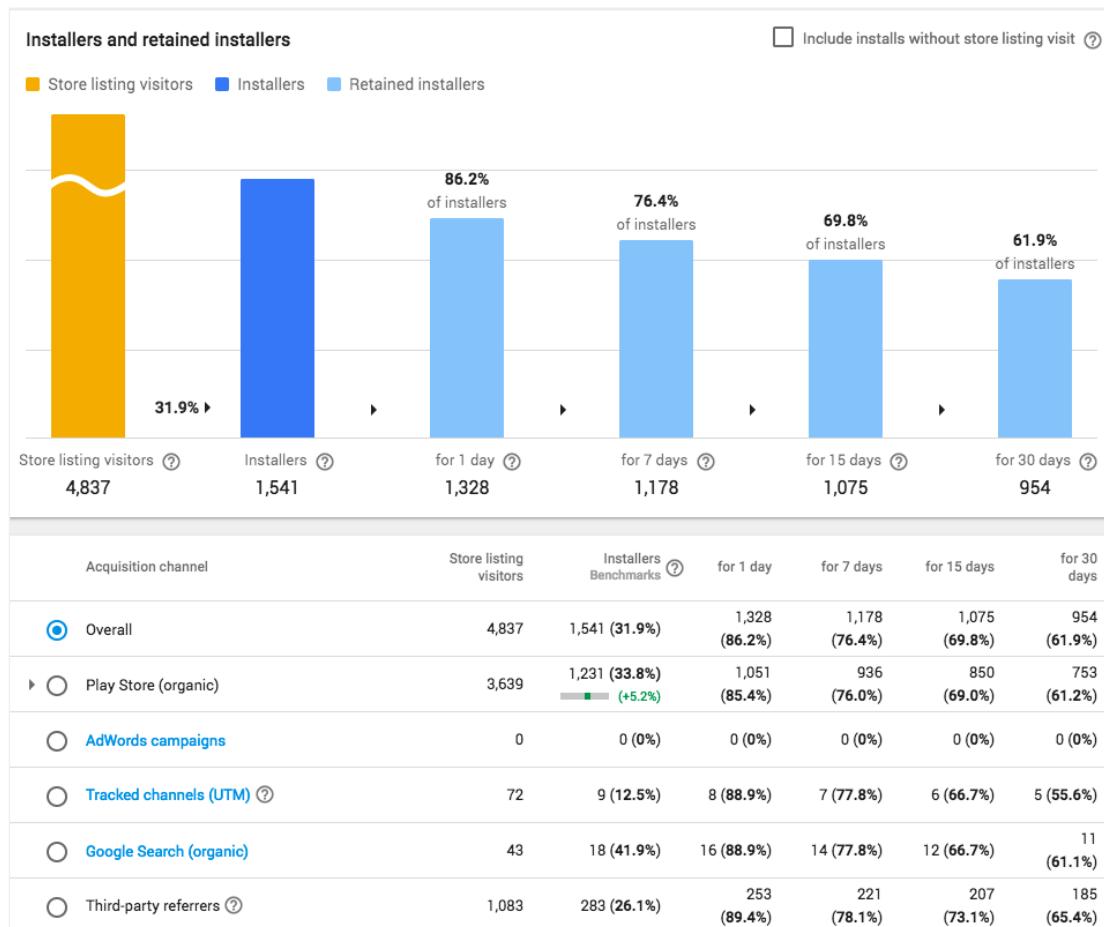
*Screenshot of a Google Play Experiment*

Other options available in the Store Presence view include:

- Pricing & distribution
- Content rating
- In-app products
- Paid app sales
- Translation services

## USER ACQUISITION

The user acquisition tab is another important area for app developers/marketers focusing on ASO. Here, Google provides data on both **acquisition as well as retention**, broken out along several dimensions.



Screenshot of the Google Play Console User Acquisition report

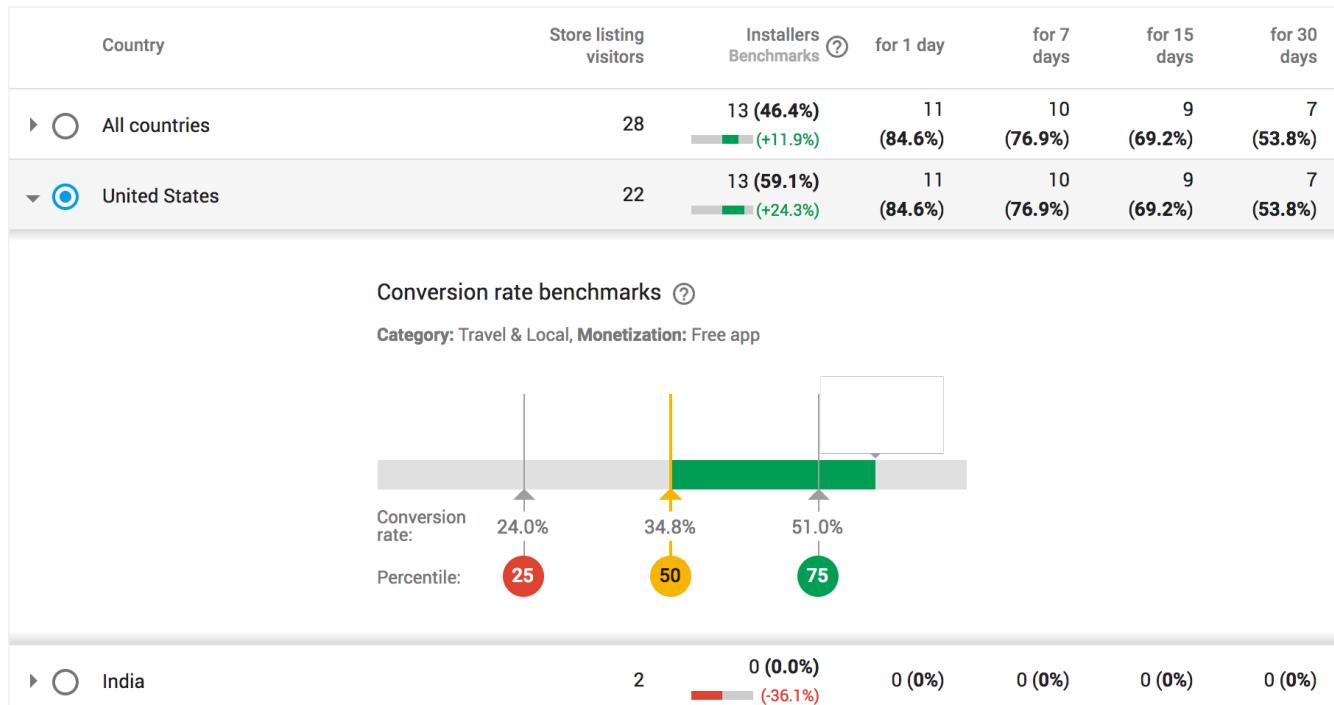
Google's acquisition data is quite useful and extensive, especially for ASOs who don't have a Mobile Measurement Partner (MMP). Use this data for some of the following analyses:

- Measuring the real change in performance after an optimization (e.g. how a screenshot change effected conversion rate).
- Measuring the performance of each acquisition source, such as how SEO Installs converted purchases (and which keywords drove Installs), or how each AdWords campaign performed.
- Analyzing your app's AARR (acquisition, activation [i.e. 1 day retention], retention [i.e. 7-30 day retention], and revenue [i.e. purchases]).
- Identifying subscription rates, as well as maturation rates (i.e. users who reached the end of the initial subscription period), and drop-off rates from subscription payment #1 to subscription payment #2.
- Measuring funnel performance for each country.

Google's "Installs without a store listing visit" refers to downloads that occurred without a visit to your app's page, such

as direct downloads from Google.com, or Installs pre-loaded onto new phones.

In addition to general acquisition and retention rate data, ASOs can also dive into Google's **conversion rate benchmark** data to compare their performance vs. the marketplace of peer apps (i.e. apps that share a category and monetization-type).



Screenshot of the Google Play Console User Acquisition report showing an app's conversion rate vs. the benchmark conversion rate

Other information provided via the acquisition reports view includes:

- **AdWords campaigns:** Reports on AdWords campaign budget, spend, target CPI vs. actual CPI, status, and conversions.
- **Promotions:** Allows you to create promotion codes for paid apps or In-App Purchases, which can be distributed to users for marketing/retention purposes. Apps can provide up to 500 promo codes per quarter.
- **Optimization suggestions:** Programmatic suggestions from Google, such as adding a localized store listing version for a country with a poor conversion rate.

As mentioned earlier in the book, Google Play will now allow marketers and developers to see the same breakdown of app store search vs browse that Apple does, and even takes this visibility one step farther by showing the top actual search terms that users entered, along with data on store listing visitors, installs, retained installs, and buyers. This allows marketers to optimize for not only keywords that produce installs, but keywords that have higher ARPU statistics, thus producing a higher return on investment.

| Major Google Play Update breaks down Search & Browse installs |                        |            |           |            |             |             | ASO Stack |
|---|------------------------|------------|-----------|------------|-------------|-------------|-----------|
| Acquisition channel   | Store listing visitors | Installers | for 1 day | for 7 days | for 15 days | for 30 days |           |
| Overall Conversion rate                                       | 260,066                | 66,263     | 53,734    | 49,315     | 46,579      | 43,082      |           |
| Play Store (organic) Conversion rate                          | 38,363                 | 21,710     | 19,249    | 18,066     | 17,265      | 16,192      |           |
| Conversion rate Benchmark                                     | —                      | 56.6%      | 88.7%     | 83.2%      | 79.5%       | 74.6%       | (+1.6%)   |
| Search ⓘ Conversion rate                                      | 10,115                 | 3,439      | 2,312     | 2,021      | 2,000       | 1,980       |           |
| Browse ⓘ Conversion rate                                      | 27,900                 | 11,941     | 657       | 626        | 601         | 562         |           |
| AdWords campaigns Conversion rate                             | 39,967                 | 13,219     | 10,430    | 9,765      | 9,352       | 8,925       |           |
| Tracked channels (UTM) ⓘ Conversion rate                      | 1,840                  | 788        | 657       | 626        | 601         | 562         |           |
| Google Search Conversion rate                                 | 551                    | 217        | 175       | 168        | 161         | 153         |           |
| Third-party referrers ⓘ Conversion rate                       | 70,927                 | 7,901      | 6,470     | 5,713      | 5,268       | 4,776       |           |

Screenshot of the search vs browse installs view in the Google Play Console User Acquisition report

| Major Google Play Update reveals top 100 play store search terms |                        |            |           |            |             |             | ASO Stack |
|--|------------------------|------------|-----------|------------|-------------|-------------|-----------|
| Search terms   | Store listing visitors | Installers | for 1 day | for 7 days | for 15 days | for 30 days |           |
| All search terms Conversion rate                                 | 17,790                 | 6,560      | 4,940     | 4,540      | 4,230       | 3,860       |           |
| Other ⓘ Conversion rate  | 16,230                 | 6,360      | 4,830     | 4,450      | 4,150       | 3,780       |           |
| news apps Conversion rate  | 2,200                  | 400        | 300       | 300        | 200         | 200         |           |
| news reader Conversion rate                                      | 2,200                  | 200        | 0         | 0          | 0           | 0           |           |
| rss reader Conversion rate                                       | 1,200                  | 200        | 0         | 0          | 0           | 0           |           |
| read news Conversion rate  | 1,100                  | 0          | 0         | 0          | 0           | 0           |           |
| newsreader Conversion rate                                       | 1,000                  | 100        | 100       | 0          | 0           | 0           |           |
| rss app Conversion rate  | 700                    | 200        | 0         | 0          | 0           | 0           |           |
| rss reader app Conversion rate                                   | 700                    | 200        | 200       | 100        | 100         | 100         |           |
| newsreader app Conversion rate                                   | 400                    | 100        | 100       | 100        | 100         | 100         |           |

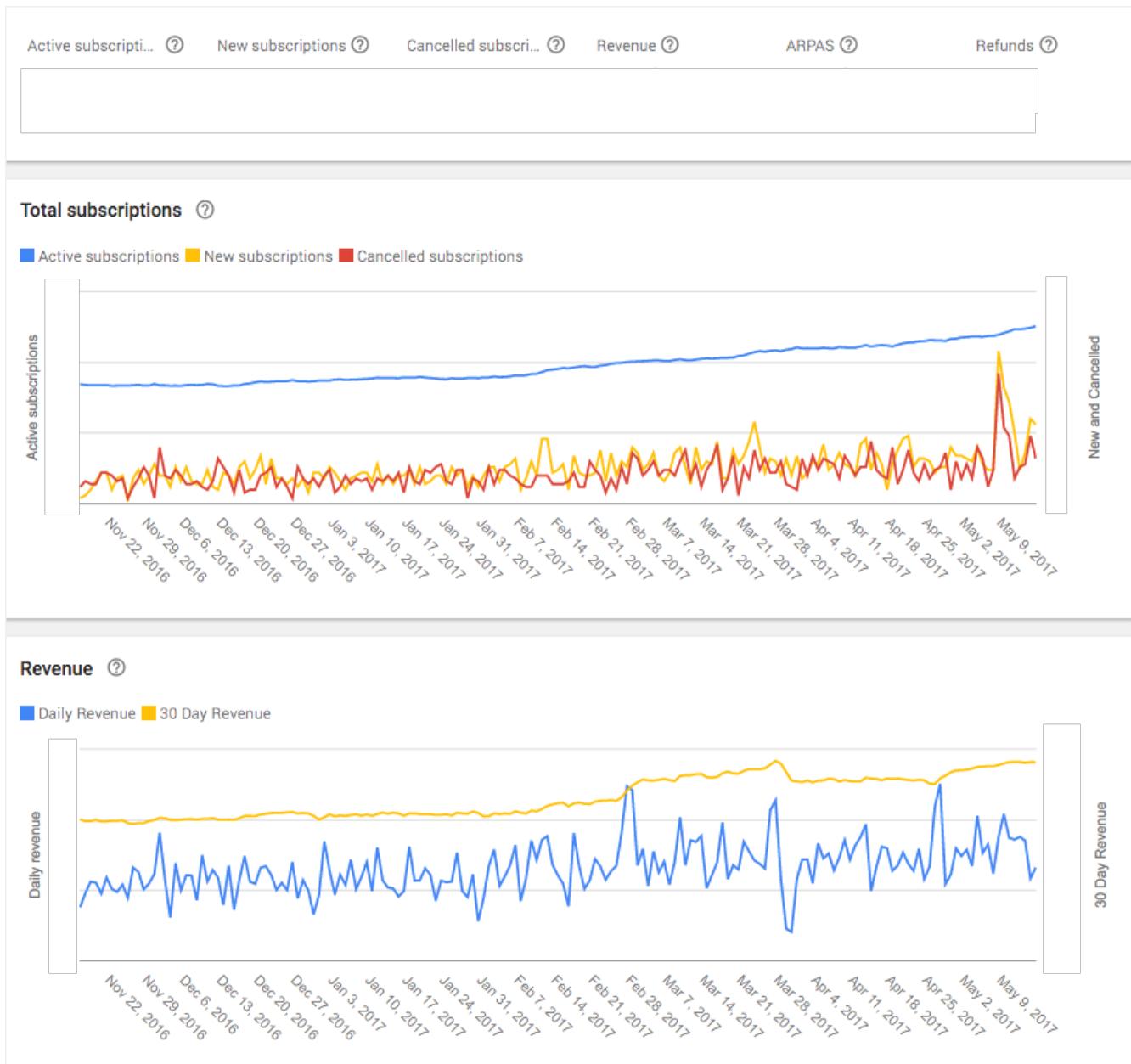
Screenshot of the search vs browse installs view in the Google Play Console User Acquisition report

## FINANCIAL REPORTS

The financial views of the Google Play Console provide financial data in several unique sub-views:

- **Overview:** Provides revenue, buyer, and average revenue per transaction/user data, broken out by several summary time periods (last day, last 7 days, last 30 days, overall) and by country

- **Revenue:** Breaks down revenue per individual product (with subscription products also broken out separately), as well as by day over select time periods, and by country
- **Buyers:** Explains total/unique/returning buyer data broken out per country and by day over select time periods.
- **Conversions:** Offers conversion and (cumulative) spending per buyer data broken out by weekly/monthly cohorts over select time periods.
- **Subscriptions:** Provides a window into your active subscriptions vs. cancellations vs. new subscription volume, and revenue over time.



Screenshot of the Google Play Console Financial reports showing a subscription report

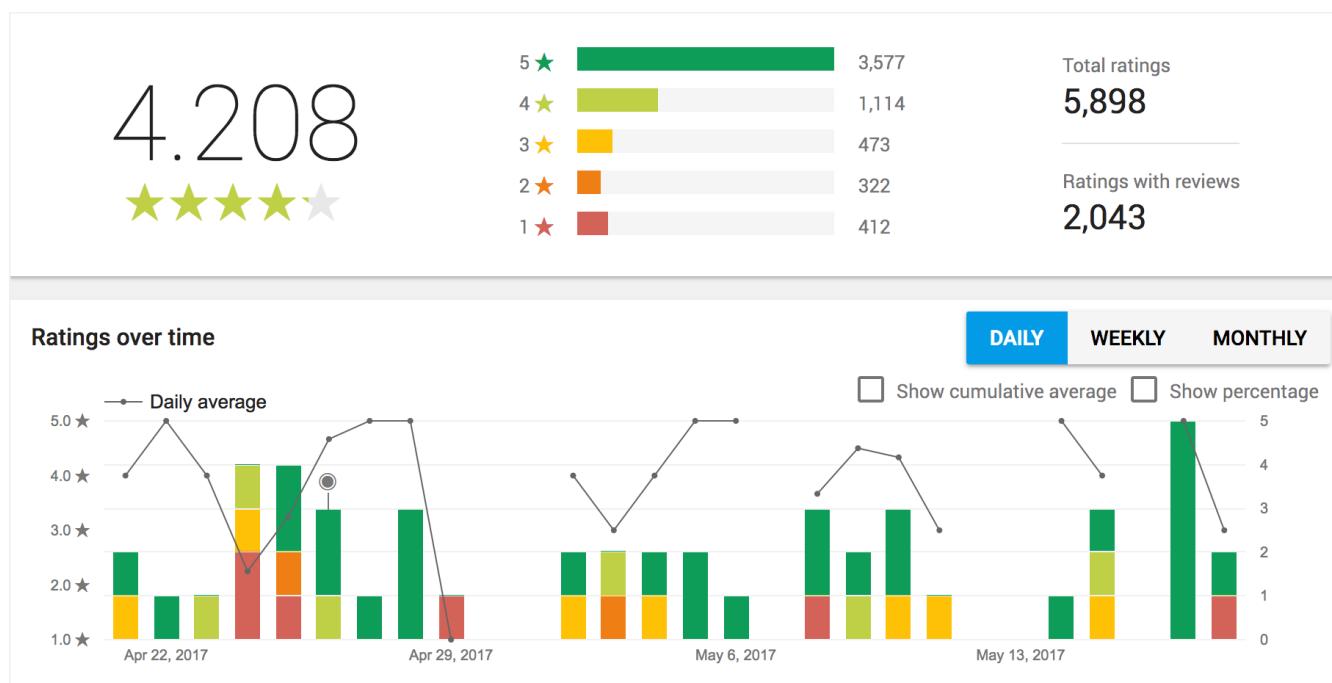
## USER FEEDBACK

This last view contains inputs from users, including both ratings/reviews and beta feedback. User feedback data is provided in one of four sub-views:

### RATINGS

Google provides great summary data on reviews via daily/weekly/monthly and cumulative time grains. Google also provides several dimensions for drilling-down into ratings health, including:

- Country
- Language
- App version
- Android version
- Device & tablet type



*Screenshots of the Google Play Console Ratings reporting view*

Use Google's ratings report information to:

- Analyze the impact of your rating prompt.
- Allocate customer service resources, based on the rating per country data.
- Prioritize QA resources, depending on the rating per device or Android version data.
- Decide to take action if your app's rating is consistently trending lower.

## REVIEW ANALYSIS

Google also provides a similarly deep level of insight for review analysis, with the following data points:

- The impact on ratings of reviews that were and were not replied to by you (the developer).
- The most common phrases found in reviews (review highlights).
- Insights into each rating functional area (i.e., common topics, such as app design or updates) and a comparison for each functional area of your app's performance vs. your app's category peers.

| ▲ Common topic ⓘ | Average rating | Rating versus peers | Number of reviews | Number versus peers | Effect on rating ⓘ  |
|------------------|----------------|---------------------|-------------------|---------------------|---|
| design ⓘ         | 3.000 ★        | -1.584 ★            | 2                 | 1.36 ×              |    |
| profile ⓘ        | 2.250 ★        | +0.355 ★            | 56                | 11.30 ×             |    |
| resource usage ⓘ | 2.739 ★        | -0.489 ★            | 23                | 10.39 ×             |    |
| speed ⓘ          | 2.909 ★        | -1.199 ★            | 11                | 0.79 ×              |    |
| stability ⓘ      | 2.581 ★        | +0.102 ★            | 179               | 4.88 ×              |    |
| uninstalls ⓘ     | 2.057 ★        | +0.307 ★            | 35                | 6.66 ×              |   |
| update ⓘ         | 2.352 ★        | -0.362 ★            | 54                | 4.13 ×              |  |
| usability ⓘ      | 3.879 ★        | -0.795 ★            | 33                | 0.46 ×              |  |

*Screenshots of the Google Play Console Reviews analysis*

Specific, dynamic topics mentioned in reviews by users are also provided, for several languages.

| ALL              | ENGLISH                  | JAPANESE       | SPANISH           |                    |
|------------------|--------------------------|----------------|-------------------|--------------------|
| Translated topic | Original Topic           | Average rating | Number of reviews | ▲ Effect on rating |
| facebook         | facebook (English)       | 2.048★         |                   | 21                 |
| gps              | gps (English)            | 2.581★         |                   | 31                 |
| screen           | screen (English)         | 2.143★         |                   | 21                 |
| concept          | concept (English)        | 3.204★         |                   | 49                 |
| battery          | battery (English)        | 2.813★         |                   | 16                 |
| times            | times (English)          | 2.571★         |                   | 7                  |
| internet         | internet (English)       | 1.333★         |                   | 3                  |
| notifications    | notifications (English)  | 2.400★         |                   | 5                  |
| user interface   | user interface (English) | 2.400★         |                   | 5                  |
| sound            | sound (English)          | 1.667★         |                   | 3                  |

| ALL              | ENGLISH            | JAPANESE       | SPANISH           |                    |
|------------------|--------------------|----------------|-------------------|--------------------|
| Translated topic | Original Topic     | Average rating | Number of reviews | ▼ Effect on rating |
| money            | money (English)    | 4.325★         |                   | 40                 |
| others           | others (English)   | 4.625★         |                   | 16                 |
| time             | time (English)     | 3.926★         |                   | 27                 |
| idea             | idea (English)     | 3.760★         |                   | 50                 |
| game             | game (English)     | 4.429★         |                   | 7                  |
| people           | people (English)   | 3.759★         |                   | 29                 |
| everyone         | everyone (English) | 4.750★         |                   | 4                  |
| thanks           | thanks (English)   | 4.750★         |                   | 4                  |
| work             | work (English)     | 4.750★         |                   | 4                  |
| download         | download (English) | 4.333★         |                   | 6                  |

Screenshots of the Google Play Console Reviews analysis

Use Google's Reviews reports to:

- Prioritize developer time based on feature/bug feedback.
- Identify features and functional areas to highlight in your CRO efforts.
- Identify common root words useful for visibility optimization.
- Come up with messaging and ideas for your marketing and advertising efforts outside of the store.

## REVIEWS

Google also allows developers/marketers to view/analyze/manage replies to individual reviews, and filter the reviews displayed by several dimensions, including:

- Rating
- Android version
- App version
- Specific review phrase (highlight) mentioned
- Language
- Specific functional area (common topic)
- Developer reply state
- Specific topic mentioned
- Device
- Search review text for custom input

## BETA FEEDBACK

Provides data similar to the reviews subview, but limited to beta feedback and the following dimensions:

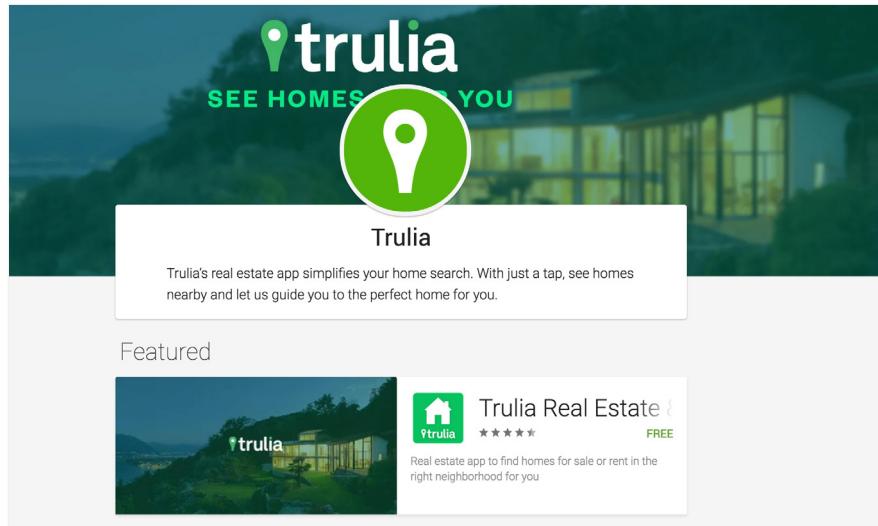
- Language
- App version
- Android version
- Developer reply state
- Search review text for custom input

Android app developers/marketers can also create a developer page, which can help increase downloads for all apps in a developer account.

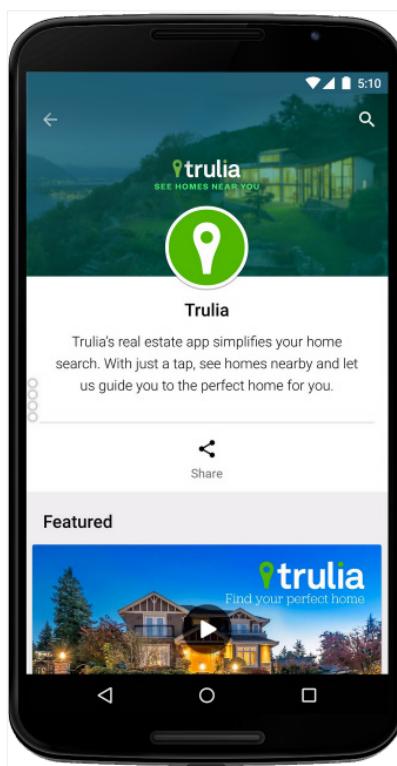
Developer pages can include the following information:

- Promotional text (140 characters)

- Website URL
- Graphic assets (developer icon 512x512 and header image 4096x2304)
- Featured app



*Screenshot of Trulia's developer page via Google Play web app*



*Screenshot of Trulia's developer page via Google Play mobile app*

Other information found in the Google Play Console includes:

- Developer account details

- API access details
- Pricing templates: help template the management for pricing across multiple apps
- Managing testers
- Pre-launch report: identifies crashes, display issues, and security vulnerabilities.
- Preferences for notifications
- Game services

## iTunes Connect

While Google has out-innovated Apple when it comes to app developer tools, Apple has nonetheless built a solid platform and committed to a regular series of updates to its iTunes Connect platform. Apple's iTunes Connect platform is separated into four main navigation views, as well as several sub-tab views within each.

### MY APPS

Similar to Google's Store Listing view, the App Store subview is where developers and marketers adjust the metadata that shows in the App Store. The major subviews here include:

**App Information:** This includes the app title, category, and localization selection.

**Pricing and Availability :** This provides visibility into pricing-related distribution details.

**App (with version #):** This is where the major metadata (besides the title and category) are submitted, including:

- Screenshots
- Icon
- Description
- What's New
- Localization

Developers can add a localized app listing for a specific country or countries in the App information subview by clicking the default language name dropdown and selecting a country to localize for. Localizations require a new build/version to be queued for submission.

### FEATURES

The Features subview provides control and visibility over In-App Purchases, subscriptions, the Game Center, encryption, and promo codes.

### TESTFLIGHT

The TestFlight sub-view provides control and visibility over beta testers (internal and external), as well as requisite testing information. This sub-view includes useful information on tester invites sent, tester installation status, and app crashes, for both each version, as well as for individual testers.

## ACTIVITY

The activity subview provides details on build submissions, App Store versions, and ratings and reviews, which also enables the ability to reply to user reviews.

This screenshot shows the 'Activity' section of the iTunes Connect interface for the app 'Goalie Free – Your Pal and To Do List Task App'. The top navigation bar includes links for 'App Store', 'Features', 'TestFlight', and 'Activity'. A banner at the top reminds users about the holiday submission schedule. The main content area displays the 'iOS App Ratings and Reviews' section for the United States. It shows a rating of 3.3 based on 6 ratings. Two reviews are listed:

- No sharing options? ★☆☆☆☆** by Original reviewster – Nov 8, 2016
 

When will this be available to do? Otherwise app is useless to me. Many apps out there that allow subcategories and sharing the app/list with another person you invite in also allowing you to assign chores to anyone list is shared with. Allows easy realtime data on what's done, needs to be completed, who needs to do it. Sharing list also allows a partner or husband ect to add items in also that will then prompt you via alert of any updated data.
- Love the app! ★★★★☆** by AlexanderRohrig – Oct 28, 2016
 

This app has now become my primary task management and to do app. There are a couple things I think the developers should add though, mainly a badge for tasks.

Screenshot of the iTunes Connect Ratings and Reviews view

This screenshot shows a modal window titled 'Reply to Review' over the iTunes Connect interface. The modal contains the following text from a user review:

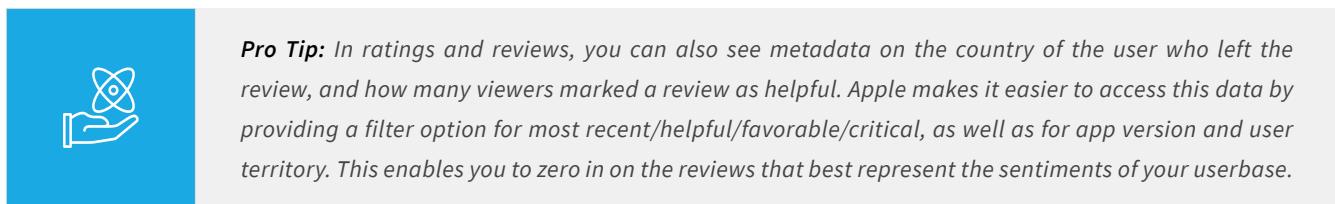
**No sharing options? ★☆☆☆☆**  
by Original reviewster – Edited Nov 8, 2016

When will this be available to do? Otherwise app is useless to me. Many apps out there that allow subcategories and sharing the app/list with another person you invite in also allowing you to assign chores to anyone list is shared with. Allows easy realtime data on what's done, needs to be completed, who needs to do it. Sharing list also allows a partner or husband ect to add items in also that will then prompt you via alert of any updated data.

Version 1.2 | United States

The modal includes a large text input area for a reply, with a character count of 5970 shown below it. At the bottom are 'Cancel' and 'Submit' buttons.

Screenshot of iTunes Connect reply to user review option

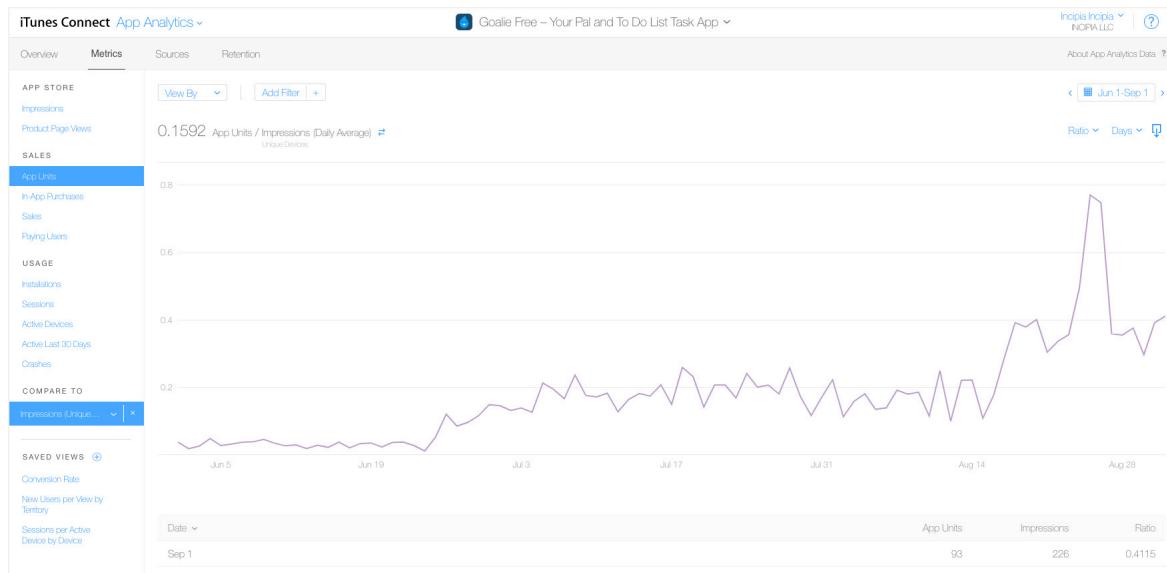


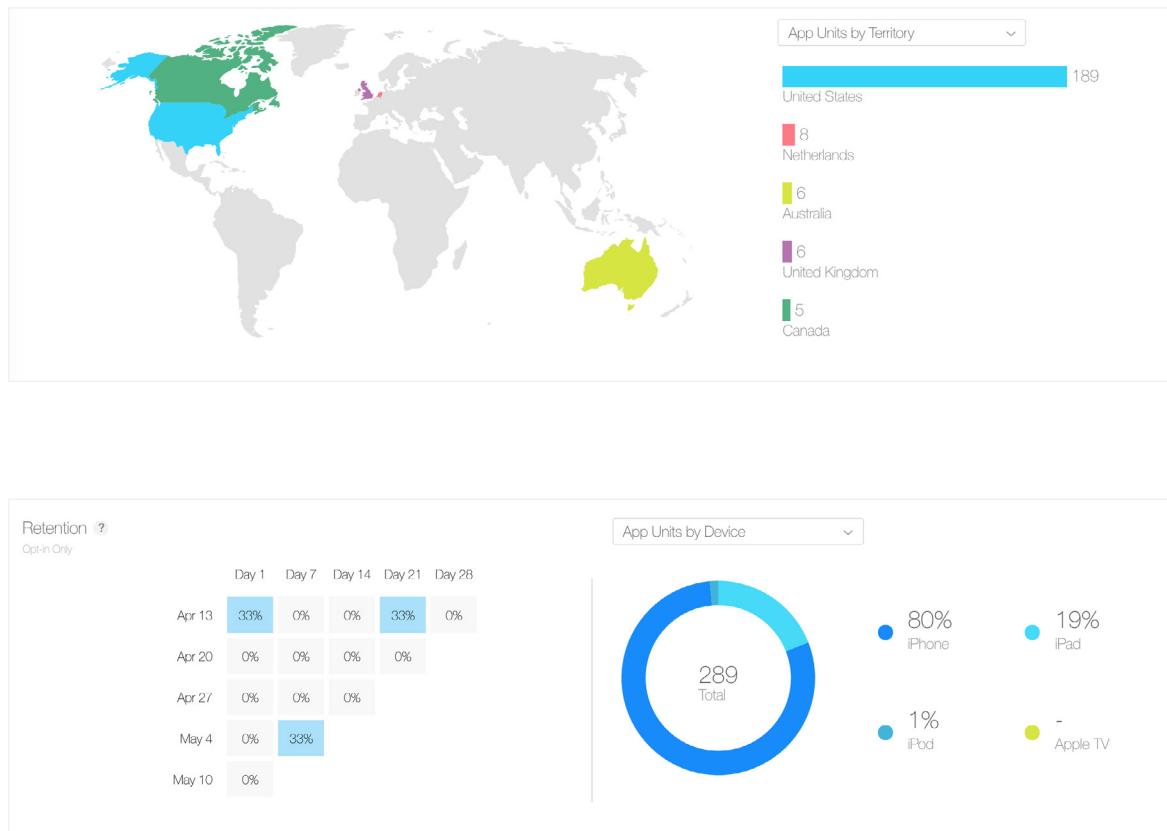
Version 3.10.1 | United States | 1 of 3 viewers found this review helpful | Report a Concern

## APP ANALYTICS

As with Google's User Acquisition view, App Analytics is the location that ASOs will spend the most time investigating in ITC, as it provides the data points necessary to judge the success of an ASO strategy. App analytics can be viewed in summary across all of a developer account's apps/bundles, as well as individually.

In the initial overview subview, marketers and developers will see a high-level look into the selected app's performance, along with retention and geographic data.



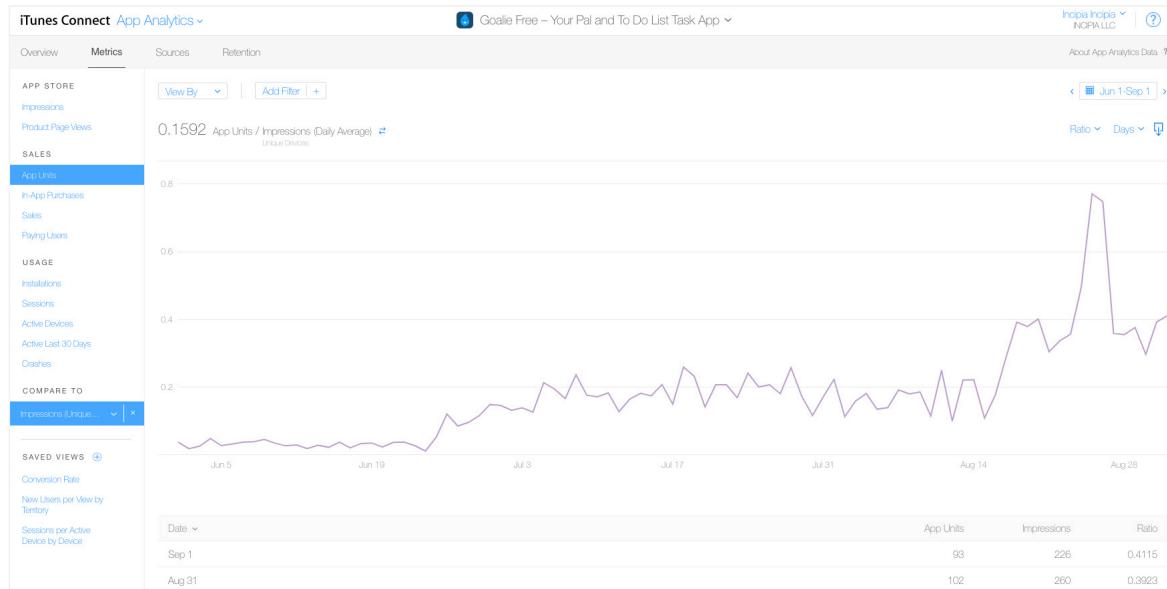


*Screenshot of iTunes Connect App Analytics Overview dashboard*

Similar to Google's Dashboard view, but more detailed, the Overview subview is great for gaining a quick look at the health and performance of your app, to see whether things are trending in the right direction or whether a problem is developing.

Keep in mind that the latest day or two days' data may be delayed in reporting, and may not show (especially for app units and revenue data).

The metrics subview provides an ability to drill-down into dimensions such as App Store Browse and filter by dimensions like territory. Data from the metrics subview can be compared to one another in dual axis or calculated ratio, as well as downloaded to CSV. New app version updates or Apple software updates are indicated by gray, vertical bars (annotations). You can also save views, such as TTR (ratio of Product Page Views/Impressions).

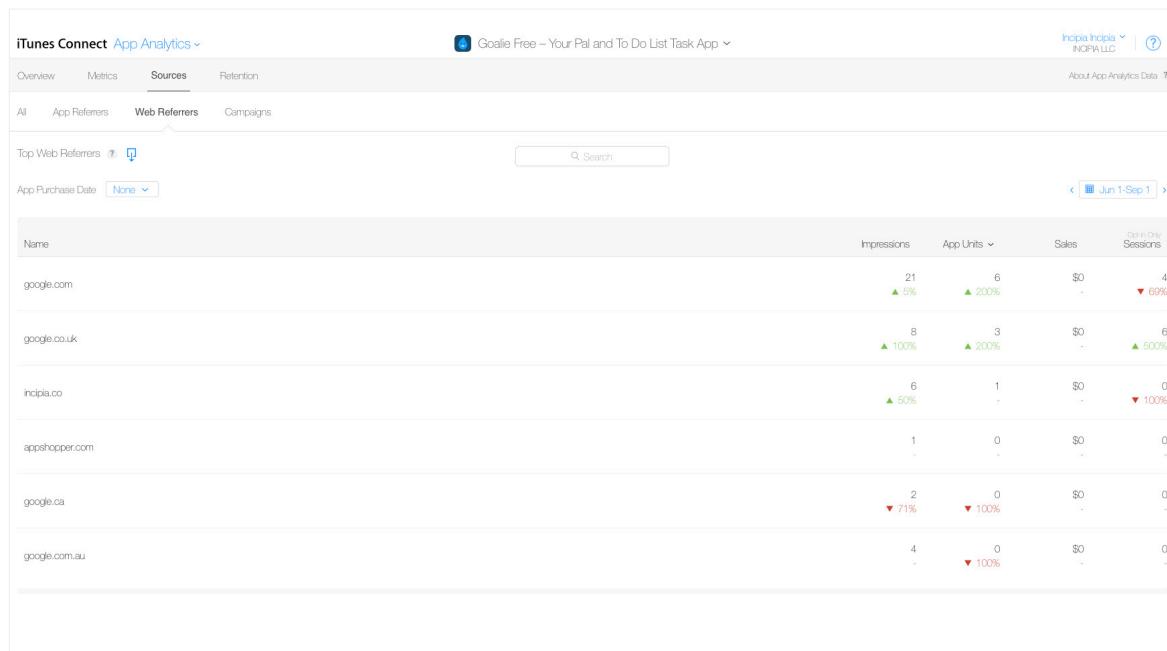
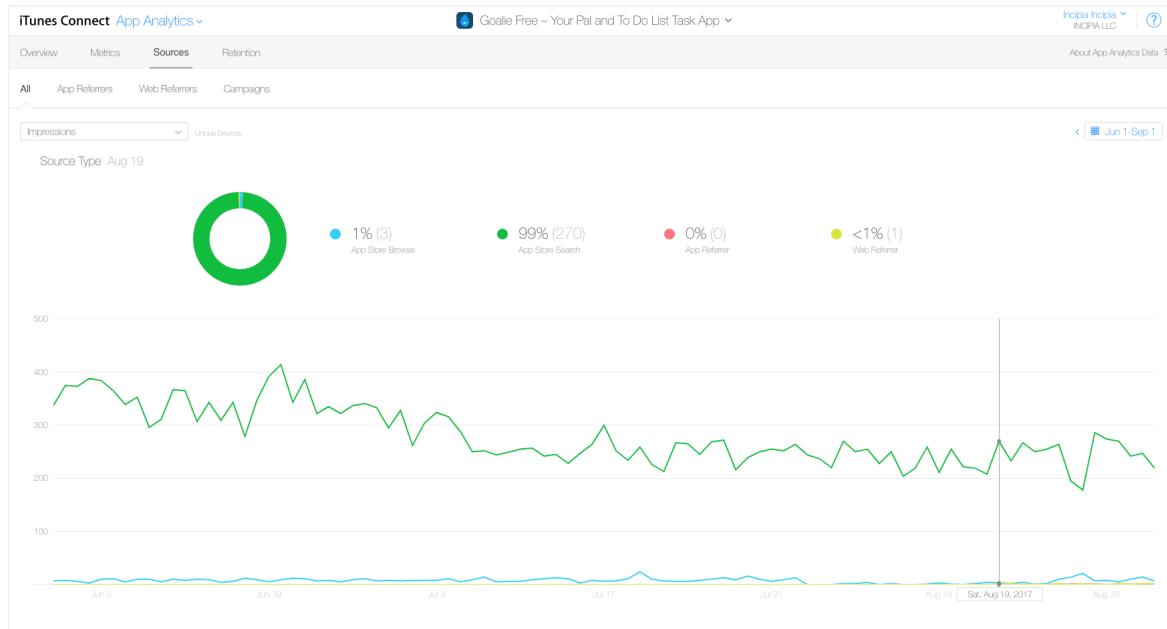


*Screenshot of iTunes Connect App Analytics Metrics view*

The Metrics subview is excellent for configuring data for download into your own reports, as well as drilling into a trend noticed in the overview subview, such as worsening downloads. Use this data for some of the following analyses:

- Comparing the conversion rate by country.
- Determining the uplift in App Store search impressions from a recent metadata update.
- Determining whether the uplift from a recent visibility optimization led to a worse ARPU.
- Viewing macro trends in metrics like impression volume or KPIs like app units, spanning months, to understand the long-term success of your ASO efforts.

The sources subview contains some information found in Google's User Acquisition view, but with additional clarity into sources within the App Store via the App Store Search and App Store Browse segments.



*Screenshots of iTunes Connect App Analytics Sources view*

Some of the ways that you can use Apple's source data include:

- Disambiguating the impact of search vs. top charts/features in terms of driving performance for your app.
  - With this data, it is also now possible to more accurately determine the return of earning your way to an above-the-fold top chart position.
- Identifying top referrer apps, in order to strengthen those relationships and/or marketing connections.

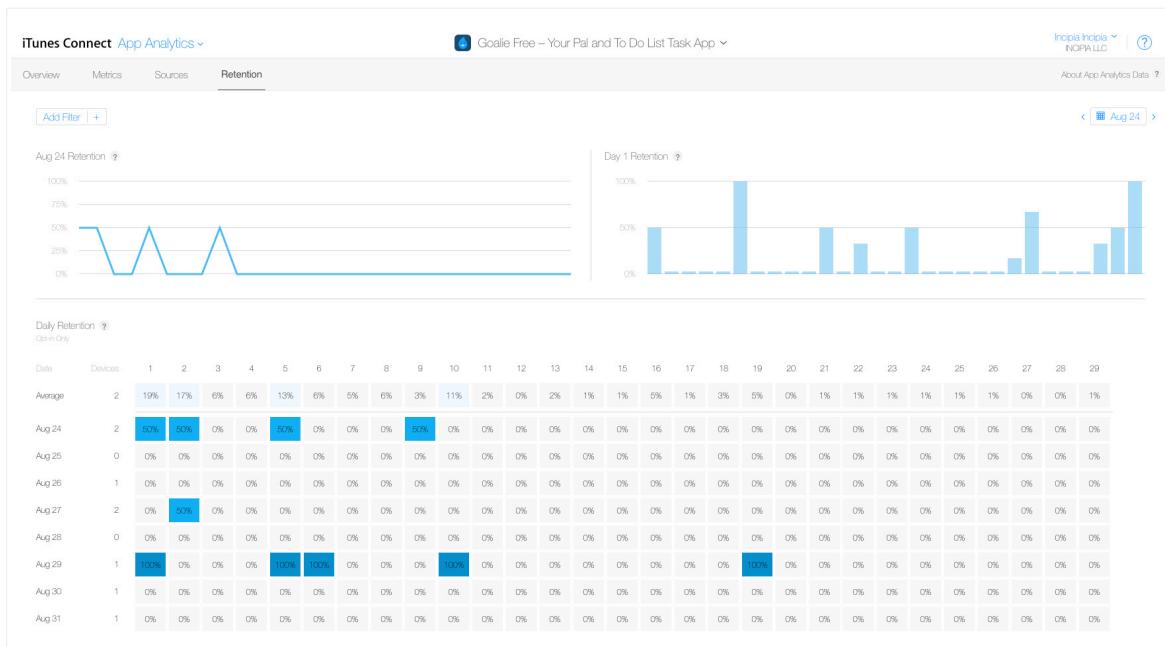
- More easily correlating the impact of keyword ranking changes, via analyzing only data from the App Store Search segment.

Some caveats of the new iTunes Source data include:

- From Thomas Petit:
  - The data is only available since 4/15/17.
  - There is a massive post-install misattribution.
  - Organic/Paid Search Ads breakdown undisclosed.
- From Gabor Papp:
  - This data is based only on opt-in data (for us, that's only 26-30% of all user data).

The retention subview offers insight into your app's retention performance, broken out across the following dashboards:

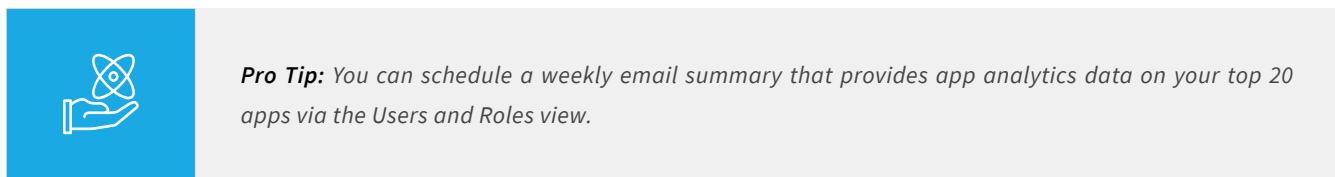
- Retention per day for users acquired 30 days ago
- Day 1 retention for the past 30 days
- Daily retention for each of the past 28 days



Screenshot of iTunes Connect App Analytics Retention view

Use this data for some of the following analyses:

- Analyzing your app's retention data if you do not have an MMP.
- Analyzing the impact of your engagement campaigns on raising retention.
- Analyzing the quality/retention of users sourced from changes in ASO/marketing strategy.



| App Analytics Weekly Summary |          |       |  |
|------------------------------|----------|-------|--|
| May 1-7, 2017                |          |       |  |
|                              |          | iOS   |  |
| Impressions                  | 961,958  | +24%  |  |
| App Units                    | 2,779    | +44%  |  |
| Sales                        | \$11,359 | +45%  |  |
| Sessions Opt-in Only         | 7,730    | +9%   |  |
| Crashes Opt-in Only          | 4        | -43%  |  |
|                              |          | iOS   |  |
| Impressions                  | 9,754    | -100% |  |
| App Units                    | 441      | -88%  |  |

*Screenshot example of an App Analytics summary email report (identifiable app details removed)*

## SALES AND TRENDS

**Sales and Trends** provides a more in-depth analysis than App Analytics does, into downloads and products purchased by users.

**Subscription products** (filterable by app or subscription product), **active subscriptions**, and **daily subscriptions**.

There are a variety of ways in which you can use these reports. For example, you can:

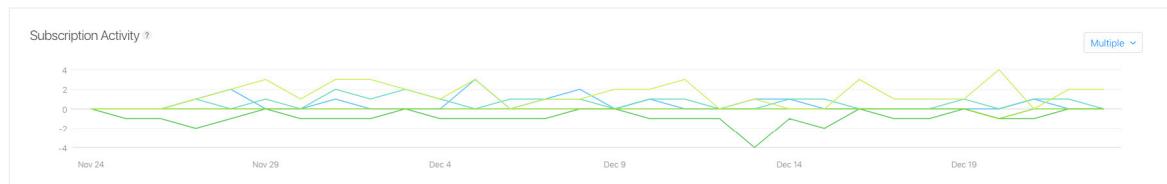
- Analyze your **push campaign** effectiveness for increasing the number of new subscription signups (pre-post).
- **Cross-reference** your new user **acquisition** reports with new subscriptions to determine whether you're acquiring quality users and what the lag time in subscribing is.
- Diagnose the overall health of your **subscription volume** and, with a daily/weekly/monthly revenue goal, determine when you need to turn up your marketing activities to increase subscription cash flows.



*Screenshot of iTunes Connect Sales and Trends subscriptions general view*

- Subscription activity, listing a count of the individual subscription events per day, includes:
  - New subscribers
  - Renewals
  - Reactivations (users who cancelled and returned)
  - Refunds
  - Cancellations
- The number of active free trials.
- A breakdown, per month of conversion rates per subscriptions and trials, along with average rates over the past 12 months.

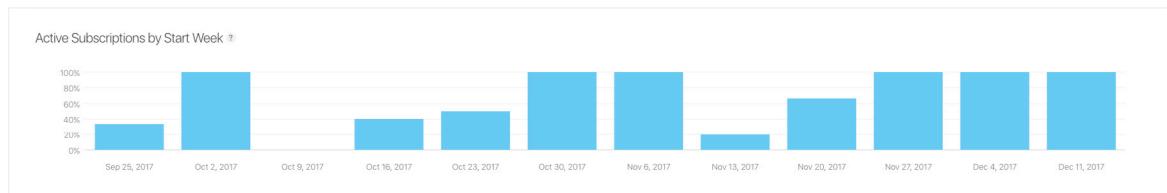
You can use these reports to determine how well your optimization activities are doing in terms of improving the **conversion rate** of both free and paid subscriptions. Track the dates on which your activities (such as promoting free trials, running remarketing campaigns, or implementing a push or in-app notifications system) are occurring and then compare the conversion rate pre-and-post the start date of your optimization activities.



*Screenshot of iTunes Connect Sales and Trends subscription retention view*

- Subscription **cohort analysis**, showing active subscriptions by starting week, stretching back from the current week.

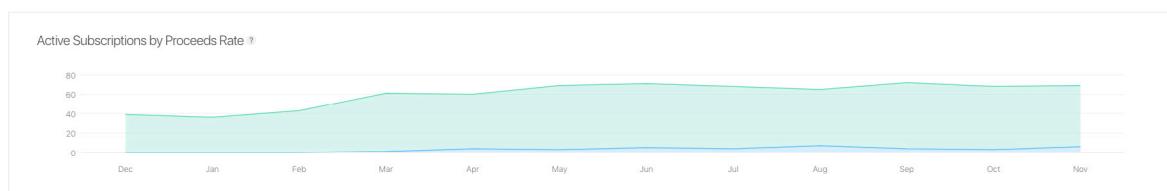
This report is useful for determining the lifetime length of subscriptions, which helps when calculating the lifetime value of your customer (LTV is a must-know number in order to scale effectively, especially when running paid marketing campaigns). You can also use this report to determine how your subscription optimization efforts are doing, similar to the prior conversion rate report, yet this time in terms of total length of each subscription.



*Screenshot of iTunes Connect Sales and Trends Active Subscriptions per week view*

- Subscription **revenue** (by dollar and percentage of the total) of **users over time**, segmented into those who have been subscribed for over or under 1 year, when Apple's cut of revenues swaps from 30% to 15%.

This report is useful for determining how much of your subscription revenue is being earned by higher margin > 1 year users



*Screenshot of iTunes Connect Sales and Trends Active Subscriptions view*

It includes a list of the top subscriptions for a developer account, by app and subscription name with a count of active subscription and active free trials.

Use this report to determine which subscription products are performing better than others in terms of total conversions and free trials. Two other useful data points that can be calculated from this report include:

- Determining the **importance of a trial** in producing a full subscription for each individual subscription by dividing the number of trials by active subscriptions (as applicable).
- Determining whether **free trials** lead to **more subscriptions** in general by segmenting subscriptions into “offers free” and “does not offer free trial,” and summing the total subscriptions for each segment.

Apple also offers a couple of additional reports for developers and marketers, including:

- Subscriptions: Higher-level audience or market data such as active subscriptions by country or subscription ID.
- Subscription Events: A more detailed view within individual subscriptions, such as days before cancellation, cancellation reason, and days cancelled.

## S A L E S

**Sales** offers reports on all products sold (including free downloads and paid purchases). Sales reports can also filter returned items by the following options:

- Content (the name or ID of the unit sold, such as an IAP item)
- Territory

- Device
- Category (each item's category, such as iOS Apps > Business)
- Content type (drill-down into different distribution categories of items, including apps, bundles, In-App Purchases broken out by iOS apps, tvOS apps and Mac apps)
- Transaction type (free/paid/re-downloaded/refund/update)
- CMB (short for Complete My Bundle, shows action taken by customers to purchase the remaining apps in a bundle beyond those already purchased)
- App version
- Store currency (e.g. USD, EUR, INR)
- Client (App Store/iMessage App Store/News)



Screenshot of iTunes Connect Sales and Trends General view

**Reports** provide a way to easily download data.

**Payments and Financial Reports** provides a breakdown of payments and units sold per date range across regions, including original currencies, currency conversions, and taxes/adjustments.

**User Roles** allows developers to control access to all or partial access of an iTunes Connect account, as well as access to TestFlight for beta testing purposes. There are 7 different roles that a user can gain access to. Users can also be limited to access only a certain app(s), except for the admin or finance roles, or if the reports add-on is added to a role.

|                                     | Legal | Admin     | Finance   | App Manager | Developer | Marketer | Sales |
|-------------------------------------|-------|-----------|-----------|-------------|-----------|----------|-------|
| Manage Users and Roles              | ✓     | ✓         | ✗         | ✓           | ✗         | ✗        | ✗     |
| Manage App Access                   | ✓     | ✓         | ✗         | ✓           | ✗         | ✗        | ✗     |
| Manage Sandbox Testers              | ✓     | ✓         | ✗         | ✓           | ✗         | ✗        | ✗     |
| Manage Agreements, Tax, and Banking | ✓     | ✓         | ✓         | ✗           | ✗         | ✗        | ✗     |
| Sign Agreements                     | ✓     | Read Only | Read Only | ✗           | ✗         | ✗        | ✗     |
| View Payments and Financial Reports | ✓     | ✓         | ✓         | ✗           | ✗         | ✗        | ✗     |

**Done***Screenshot of iTunes Connect User Permissions view*

**Agreements, Tax, and Banking** includes all the legal requirements to distribute and sell apps.

**Resources and Help** provides developers with videos, documentation, news, and links to help resources across the different products distributed through iTunes, such as apps or podcasts.

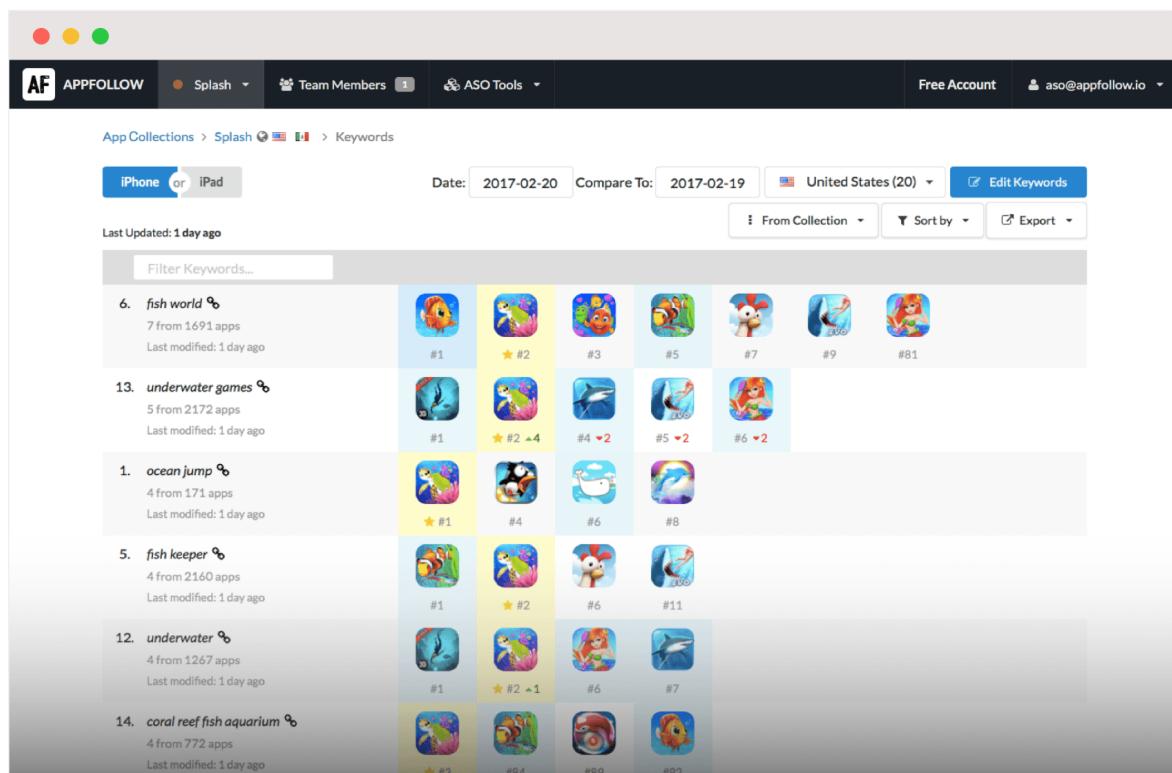
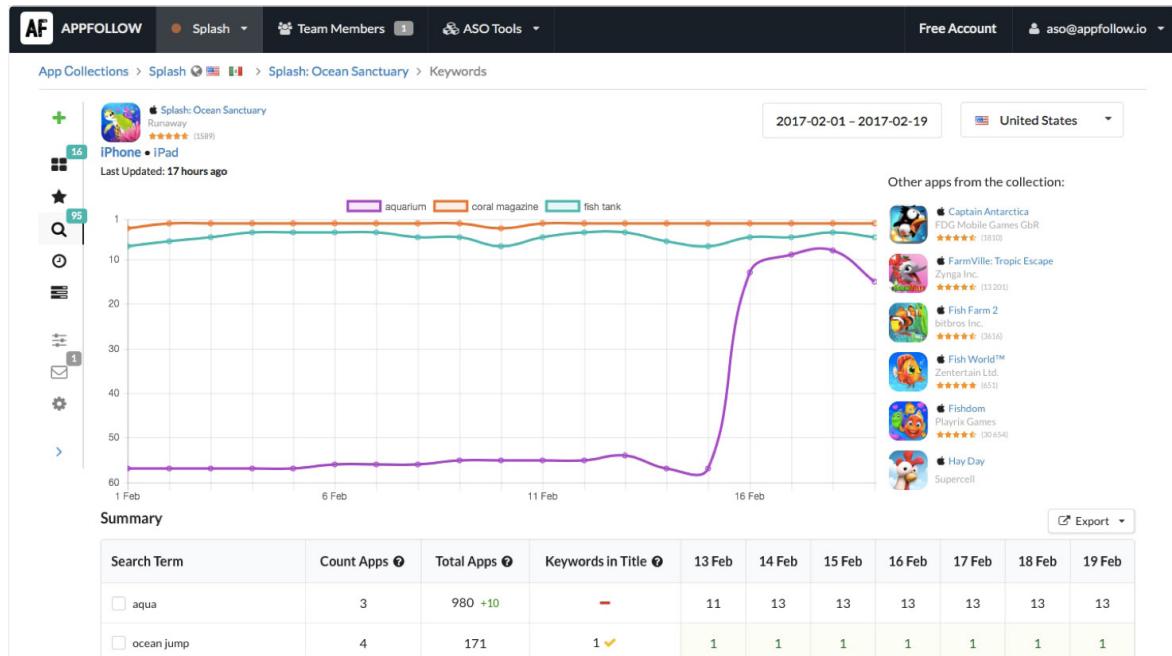
3rd party ASO Tools provide broad functionality to report on, analyze, optimize, and position the metadata elements of your ASO strategy. In the following pages, we list the major ASO tools, broken out by functionality that includes keyword research, keyword optimization, keyword ranking, top chart ranking, app performance data, ratings/reviews, and competitive research.

## General ASO Tools

**General ASO** tools focus on helping you analyze all the general elements of your ASO strategy, from ranking on keywords/top charts, to keyword research, to light competitive review and more.

### AppFollow

AppFollow is a Russian ASO tool started in 2015 and publicly launched in 2016 as a monitor for apps in the App Stores. Based on the data the service was aggregating, the AppFollow team started to develop internal ASO tools to support doing ASO for customers. AppFollow offers general ASO services, with unique features including **app reviews, ranks, keywords, downloads, and reports** delivered to Slack and email in real-time.



Screenshots: AppFollow

## AppRadar

AppRadar is an Austrian ASO tool that first went live in March 2016. Thomas Kriebernegg, the CEO of App Radar, had been working as an App Marketing Consultant since 2011. AppRadar specializes in **keyword research**, and some of AppRadar's unique features include **submitting metadata directly** to iTunes Connect and Google Play Console accounts.

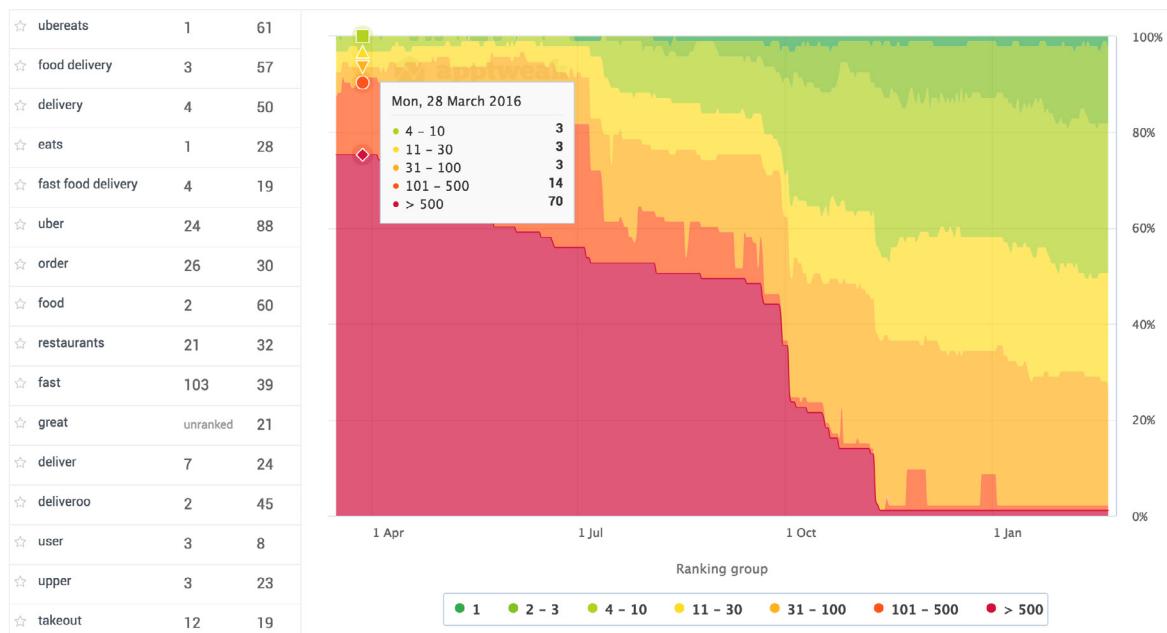
| App   | Top 10 | Ranking Keywords | Avg. Rank |
|---|--------|------------------|-----------|
| Do it! - Get stuff actually done. <small>(My App)</small><br>by appers gmbh | 72 ▲ 2 | 88 ▲ 6           | 1.2 ▲ 1.9 |
| OmniFocus 2<br>by The Omni Group  | 62     | 78 ▲ 4           | 3.1 ▲ 0.2 |
| Sorted - Stay Organized Fast<br>by OneReminder Limited                      | 41 ▲ 7 | 56 ▲ 2           | 3.2 ▲ 0.1 |
| Todoist: Todo List for Organizing Work and Errands<br>by Doist              | 10     | 90               | 4.2       |
| Wunderlist: To-Do List & Tasks<br>by 6 Wunderkinder                         | 19     | 62 ▲ 1           | 4.6 ▲ 0.4 |
| MeisterTask (task management)<br>by MeisterLabs                             | 28 ▼ 4 | 92 ▼ 8           | 4.9 ▼ 2.1 |

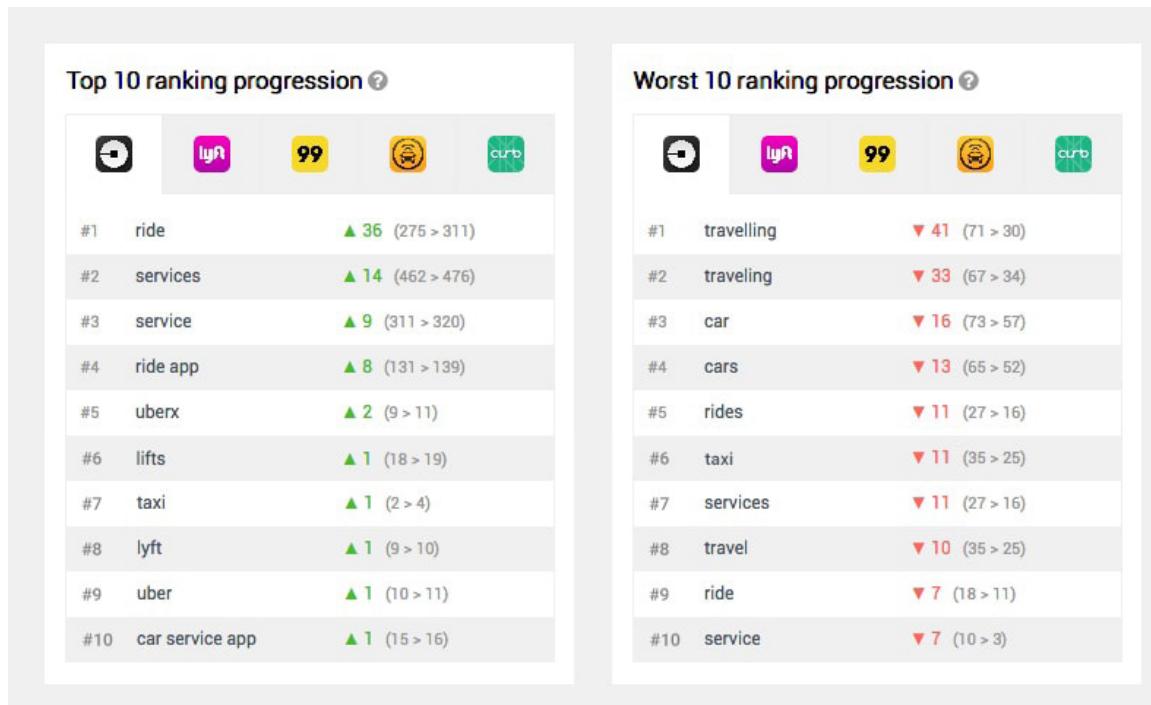
| All Keywords                        |   | Search for keywords |               |        | Add Keywords  |       |
|-------------------------------------|---|---------------------|---------------|--------|---------------|-------|
|                                     | Keyword   | Popularity          | Rank - Apr 19 | Change | Rank - Apr 26 | Rank  |
| <input checked="" type="checkbox"/> | tasks list  |                     | 1             | 0      | 1             | 1     |
| <input checked="" type="checkbox"/> | task list   |                     | 2             | 0      | 2             | 1.63  |
| <input checked="" type="checkbox"/> | to-do-list  |                     | 2             | 0      | 2             | 2     |
| <input checked="" type="checkbox"/> | task  |                     | 3             | ▲1     | 2             | 2.75  |
| <input checked="" type="checkbox"/> | to do list  |                     | 2             | 0      | 2             | 2     |
| <input type="checkbox"/>            | to do checklist - organize tasks, events and time |                     | 3             | 0      | 3             | 3     |
| <input type="checkbox"/>            | task manager                                      |                     | 3             | 0      | 3             | 3.63  |
| <input type="checkbox"/>            | to do list app                                    |                     | 3             | 0      | 3             | 3     |
| <input type="checkbox"/>            | list  |                     | 3             | 0      | 3             | 3     |
| <input type="checkbox"/>            | to do list free                                   |                     | 5             | ▲2     | 3             | 3.75  |
| <input type="checkbox"/>            | task manager app                                  |                     | 5             | 0      | 5             | 4.75  |
| <input type="checkbox"/>            | organization                                      |                     | 1             | ▼5     | 6             | 2.75  |
| <input type="checkbox"/>            | shopping list                                     |                     | 21            | ▲1     | 20            | 19.63 |

Screenshots: AppRadar

## AppTweak

AppTweak is a Belgium-based ASO tool, founded in 2013 by Olivier Verdin and Sébastien Dellis. AppTweak provides general ASO services, with unique features that include a percentage stack that shows **keyword download contribution margins** over time and **monitoring top keywords** by rank gain/loss.





Screenshots: AppTweak

## ASODesk

ASODesk is a Russian ASO tool, founded by Sergey Sharov. ASODesk provides general ASO services, along with unique features focused on providing accurate **attribution of organic downloads to keywords**.

The ASODesk dashboard for the keyword "linkedin" displays the following information:

- Line Graph:** Shows iPhone and iPad ranking trends from Jan 31 to Feb 7, 2017. The iPhone ranking (blue line) remains stable around 5. The iPad ranking (red line) starts at 4, drops to 5 on Feb 1, rises to 3 on Feb 2, and then stays at 3.
- Competitors:** A list of top-ranking apps including LinkedIn, LinkedIn Job Search, Flipboard, BBC News, and Glassdoor Job Search.
- Search Results:** A table showing search results for "linkedin", "outlook", and "indeed".

| Keyword  | Keyword suggestions | Estimated Users Per Day | Search Ads Popularity | Position iPhone | Total apps iPhone | Position iPad | Total apps iPad |
|----------|---------------------|-------------------------|-----------------------|-----------------|-------------------|---------------|-----------------|
| linkedin | ***                 | 5277                    | 74                    | 5               | 494               | 5             | 209             |
| outlook  | ***                 | 4162                    | 72                    | -               | 600               | -             | 467             |
| indeed   | ***                 | 3456                    | 70                    | 3               | 217               | 3             | 169             |

The screenshot shows the Hotelook Keyword Explorer interface. At the top, there's a navigation bar with tabs: Keyword Analytics, Keyword Explorer (which is active and highlighted in blue), Keyword Suggestions, Keyword Charts, Organic Report, Competitors, Reviews, and App Profile. Below the navigation is a search bar with the query 'hotel' and filters for 'iPhone' and 'iPad'. To the right of the search bar are buttons for 'Explore' and 'Save'. Further right are metrics: 'Estimated Users Per Day' (1044), 'Search Ads' (54), 'Total Apps' (18329), and 'App Position' (168). A note at the bottom left says 'Last update: 27/02/2017 4:01'.

| Rank | App Logo | App Name                                  | Rating  | Price  | Categories       | Latest Release | Add | Organic Report |
|------|----------|---|---|--------|------------------|----------------|-----|----------------|
| 1    |          | Hotels.com - Hotel booking and last ...   | ★★★★★ v 5.6.0<br>Current: 4.5, All versions: 3    | \$0.00 | Travel Shopping  | Sep 14, 2016   | Add | Organic Report |
| 2    |          | HotelTonight - Great Deals on Last M...   | ★★★★★ v 10.8<br>Current: 4.5, All versions: 4.5   | \$0.00 | Travel           | Sep 6, 2016    |     |                |
| 3    |          | Booking.com Hotels & Homes Travel ...     | ★★★★★ v 13.7<br>Current: 4.5, All versions: 4.5   | \$0.00 | Travel Lifestyle | Sep 8, 2016    | Add | Organic Report |
| 4    |          | trivago app: Hotel Deals, Top Travel ...  | ★★★★★ v 3.9.0<br>Current: 3.5, All versions: 3    | \$0.00 | Travel Reference | Oct 31, 2016   | Add | Organic Report |
| 5    |          | KAYAK Flights, Hotels & Cars              | ★★★★★ v 54.0.0<br>Current: 4.5, All versions: 4.5 | \$0.00 | Travel Business  | Aug 12, 2016   | Add | Organic Report |
| 6    |          | TripAdvisor Hotels Restaurants            | ★★★★★ v 19.8<br>Current: 4, All versions: 4       | \$0.00 | Travel Lifestyle | Aug 9, 2016    | Add | Organic Report |
| 7    |          | Hotwire: Travel Deals on Hotel Room...    | ★★★★★ v 8.5.2<br>Current: 4.5, All versions: 4.5  | \$0.00 | Travel Lifestyle | Oct 10, 2012   | Add | Organic Report |
| 8    |          | Priceline Hotel Deals, Rental Cars & F... | ★★★★★ v 14.7.1<br>Current: 4, All versions: 3     | \$0.00 | Travel Shopping  | Oct 27, 2009   | Add | Organic Report |
| 9    |          | Expedia Hotels, Flights & Vacation Pa...  | ★★★★★ v 9.1<br>Current: 4, All versions: 3.5      | \$0.00 | Travel Lifestyle | Aug 15, 2016   | Add | Organic Report |

To the right of the main search results, there's a sidebar titled 'Store suggestions' with a table:

| Store suggestion | Users per Day | Search Ads Popularity | Save all |
|------------------|---------------|-----------------------|----------|
| hotel            | 1044          | 54                    | +        |
| hotels           | 906           | 53                    | +        |
| hotel dash       | 133           | 43                    | +        |
| hotels.com       | 1808          | 60                    | +        |
| hotel deals      | 59            | 39                    | +        |
| hotel games      | 349           | 48                    | +        |
| hotel tonight    | 2118          | 62                    | +        |
| hotel combined   | Calculating   | Calculating           | +        |
| hotels tonight   | 545           | 50                    | +        |
| hotels combined  | 37            | 30                    | +        |

A blue button at the bottom right says 'Chat with us, we are online!'. A small note at the bottom left of the sidebar says 'To dashboard As competitor'.

Screenshots: ASOdesk

## Mobile Action

Mobile Action was started in 2013 by CEO Aykut Karaalioglu as an ASO and app marketing agency. The Mobile Action team built the tool to support clients and eventually launched the tool externally as a SaaS platform. Mobile Action provides general ASO services, with unique features that include an **estimate of daily/monthly active users** for apps and custom **alerts** for app changes.

**ASO Report** (? Learn)

**Trivia Crack** Etermax

**Publisher** Etermax **Price** Free **IAP?** Yes **View in Store** iTunes **Visibility Score** A+

**Daily Keyword Distribution**

| Keyword          | Rank    | Count                           | Category |
|------------------|---------|---------------------------------|----------|
| Apple Search Ads | TOP 1   | 296 <sup>+</sup>                | ?        |
|                  | TOP 5   | 758 <sup>+</sup> <sub>10</sub>  |          |
|                  | TOP 10  | 1052 <sup>+</sup> <sub>10</sub> |          |
|                  | TOP 50  | 1745 <sup>+</sup> <sub>5</sub>  |          |
|                  | TOP 100 | 1770 <sup>+</sup> <sub>5</sub>  |          |
|                  | TOP 250 | 1807 <sup>+</sup> <sub>5</sub>  |          |

**Keyword Ranking Distribution**

| Date    | TOP 1 | TOP 5 | TOP 10 | TOP 50 | TOP 100 | TOP 250 |
|---------|-------|-------|--------|--------|---------|---------|
| 17. Dec | 294   | 737   | 1 029  | 1 720  | 1 746   | 1 783   |
| 18. Dec | 296   | 739   | 1 023  | 1 731  | 1 757   | 1 794   |
| 19. Dec | 292   | 751   | 1 033  | 1 735  | 1 761   | 1 798   |
| 20. Dec | 292   | 751   | 1 027  | 1 735  | 1 761   | 1 798   |
| 21. Dec | 270   | 679   | 947    | 1 591  | 1 615   | 1 652   |
| 22. Dec | 297   | 748   | 1 045  | 1 739  | 1 764   | 1 801   |
| 23. Dec | 296   | 758   | 1 052  | 1 745  | 1 770   | 1 807   |

**App Report**

**Uber** Uber Technologies, Inc. **Visibility Score** 100 (? Learn) **Price** Free **Category** Travel **Rating** ★★★★☆ - 3.00

**Download Estimation** (? Learn)

**Revenue Estimation** (? Learn)

No historical data available for the selected date range.

Screenshots: Mobile Action

## SensorTower

SensorTower is an ASO tool founded in 2013 by AngelPad 6 alumni Alex Malafeev and Oliver Yeh. SensorTower offers general **ASO services**, with unique features that include **custom alerts** delivered via email and Slack for new/soft launches, download/revenue spikes, and app updates.

**Predictive Keyword Rank**

| iPhone Top 10 Chance | iPad Top 10 Chance |
|----------------------|--------------------|
| Yes (1)              | Yes (1)            |

**Traffic and Difficulty**

| Traffic | iPhone Difficulty | iPad Difficulty | iPhone Apps | iPad Apps |
|---------|-------------------|-----------------|-------------|-----------|
| 6.3     | 6.8               | 6.4             | 5,722       | 5,315     |

**iPhone Ranking**

| Rank | App                         | Developer            | Release Date | Last Update | In App Purchases | All Time Reviews | Current Reviews | Ranking | Category                              | Keyword Spy |
|------|-----------------------------|----------------------|--------------|-------------|------------------|------------------|-----------------|---------|---------------------------------------|-------------|
| 1    | Clash of Clans              | Supercell            | 8/2/2012     | 24 hours    | Yes              | 2,130,332        | 0               | 1       | Top Grossing iPad Apps Games/Strategy |             |
| 2    | Clash Royale                | Supercell            | 3/2/2016     | 16 days     | Yes              | 266,662          | 3,676           | 5       | Top Grossing iPad Apps Games/Strategy |             |
| 3    | Galaxy At War Online - S... | Sphinx Entertainment | 5/22/2013    | 18 days     | Yes              | 1,962            | 5               | 323     | Top Grossing iPad Apps Games/Strategy |             |
| 4    | Stick War: Legacy           | Max Game Studios     | 3/10/2016    | 9 months    | Yes              | 4,480            | 1,965           | 182     | Top Grossing iPad Apps Games/Strategy |             |
| 5    | Mobile Strike               | Epic War LLC         | 11/11/2015   | 3 days      | Yes              | 24,856           | 152             | 3       | Top Grossing iPad Apps Games/Strategy |             |

**iPhone History**

Date Range: May 2, 2017 – Jun 1, 2017 | Competitors: Updates: Hide Line

**Keyword Ranking History for: coc**

The chart shows the ranking history for 'coc' from May 4 to May 30, 2017. Clash of Clans (blue line) and Clash Royale (red line) are tracked. Clash of Clans was at rank 1 on May 29, while Clash Royale was at rank 4.

**iPhone Ranking**

| Rank | App                        | Developer                   | Category                              |
|------|----------------------------|-----------------------------|---------------------------------------|
| 1    | Clash of Clans             | Supercell                   | Top Grossing iPad Apps Games/Strategy |
| 2    | Layout for COC             | Jonny Dennington            | Top Grossing iPad Apps Games/Strategy |
| 3    | Free Gems Cheats For ...   | Feng Wang                   | Top Grossing iPad Apps Games/Strategy |
| 4    | Guide for Coc-Clash of ... | WEILUAN HU                  | Top Grossing iPad Apps Games/Strategy |
| 5    | ADAPT COC                  | ING XUAN XU                 | Top Grossing iPad Apps Games/Strategy |
| 6    | Clash Royale               | Supercell                   | Top Grossing iPad Apps Games/Strategy |
| 7    | GEMS                       | BlueGenesisApps             | Top Grossing iPad Apps Games/Strategy |
| 8    | Guide for Clash of Clans.. | Frankie Aplicativos LTDA ME | Top Grossing iPad Apps Games/Strategy |

Screenshots: SensorTower

## Priori Data

Priori Data is a German app marketplace intelligence and research tool founded by Patrick Kane in 2013 in Berlin. Priori Data offers **competitive intelligence and keyword rank tracking**, and recently added ASO features for researching and tracking keywords, along with unique features that include providing daily **app download and revenue for apps**.

The screenshot shows the Prioridata platform interface. On the left sidebar, under 'App Intelligence', there are sections for 'App Information', 'Downloads & Revenue', 'Country Split', 'Rank History', 'Daily Ranks', 'Keyword Intelligence', 'Publisher Intelligence', 'Market Intelligence', and 'App Store Accounts'. A message at the bottom of the sidebar says 'Your Plan includes: Unlocked Apps: 2/100 Tracked Keywords: 0/5 Lock Apps Before: May 30' and a button to 'Invite new members'.

The main content area displays the 'Hopper - Predict Watch & Book Flights' app details. It features a search bar, an 'Upgrade' button, and a user profile for 'Gabe K.'. Below this is a section titled 'Historical Download and Revenue Trends' with a line chart showing downloads over time from April 2015 to May 2017. The chart shows a general upward trend with some fluctuations. There are also sections for 'Totals' (April 25, 2017 – May 24, 2017) and 'Export Trend Data'.

The screenshot shows the Prioridata platform interface. On the left sidebar, under 'Keyword Intelligence', there are sections for 'Keyword Explorer', 'Keyword Ranking', 'Keyword Comparison', 'Publisher Intelligence', and 'Market Intelligence'. A message at the bottom of the sidebar says 'Your Plan includes: Unlocked Apps: 2/100 Tracked Keywords: 0/5 Lock Apps Before: May 30' and a button to 'Invite new members'.

The main content area displays the 'Keyword Explorer' results for the keyword 'travel'. It includes a search bar, an 'Upgrade' button, and a user profile for 'Gabe K.'. The results section shows 'TOTAL KEYWORD DOWNLOADS' (71), 'SEARCH POPULARITY' (51), and 'COMPETITIVE SCORE' (67). Below this is a table of keyword results:

| KEYWORD RANK | APP                                      | KEYWORD DOWNLOADS | SHARE              | LAST UPDATE      | CATEGORY | CATEGORY RANK | CURRENT VERSION RATINGS | STAR RATING | KEYWORD IN TITLE |
|--------------|--|-------------------|--------------------|------------------|----------|---------------|-------------------------|-------------|------------------|
| 1            | KAYAK Flights Hot...<br>kayak.com        | maps   65         | translator   64    | car   63         |          |               |                         | ★★★★★       | -                |
| 2            | TripAdvisor Hotels...<br>TripAdvisor LLC | subway   61       | translate   61     | booking.com   59 |          |               |                         | ★★★★★       | -                |
| 3            | Roadtrippers - Tri...<br>Roadtrippers    | cars.com   56     | weather app   56   | stop   55        |          |               |                         | ★★★★★       | -                |
| 4            | Travelocity Hotel E...<br>Travelocity    | planner   53      | weather ap...   53 | city   50        |          |               |                         | ★★★★★       | ?                |

Screenshots: Priori Data

## TUNE

TUNE App Store Analytics, formerly MobileDevHQ, was founded by Ian Sefferman in 2012 as the first ASO-focused product for mobile marketers. TUNE acquired MobileDevHQ in 2014, where it now sits within the TUNE Marketing Console product suite. TUNE provides a combination of **multiple ASO services**, with unique features that include **attribution, engagement, and A/B testing** support, as well as automated featured placement annotations and organic uplift measurement, which **measures the impact of marketing activity on organic installs**.

May 4, 2017

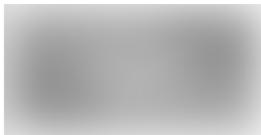
## Annotations

## Featured Start

First Seen: May 4, 2017  
Last Seen: May 4, 2017

## Featured Start

First Seen: May 4, 2017  
Last Seen: May 4, 2017



+ Add an Annotation

## Organic Uplift

Starting May 4, 2017 and calculating for the following 13 days

Baseline date range ?

Apr 4, 2017 - May 4, 2017

Uplift Window ?

13

## Baseline Average

2,071 installs/day

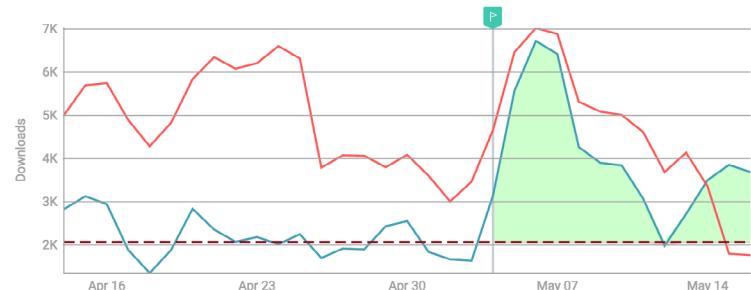
## Organic Uplift Average

4,053 installs/day (+96%)

## Total Organic Uplift

25,763

+96% avg. organic installs/day vs. the baseline, for a total organic uplift of 25,763

● Organic Installs   ● Paid Installs   ● Baseline


### App Store Analytics

ESPN: Get scores, news, alerts & watch live ▾ iPhone ▾ United States ▾ This app is 66% complete Continue Setup

**Keyword Suggestions**

Show me keywords where result count is less than or equal to 1000

AND composition of app results is greater than or equal to 20 % Sports

AND my competitor MLB.com At Bat ranks above 25

+ Add filter

Search

0 of 91 selected

|                                     | Keyword                 | My Rank | Apple Popularity | Difficulty | Category     | Result Count |
|-------------------------------------|-------------------------|---------|------------------|------------|--------------|--------------|
| <input checked="" type="checkbox"/> | bleacher report Tracked | 7       | 59               | 20         | Sports (78%) | 31           |
| <input type="checkbox"/>            | cbs sports app          | 7       | 55               | 24         | News (33%)   | 526          |
| <input type="checkbox"/>            | at bat                  | -       | 48               | 23         | Sports (55%) | 87           |
| <input type="checkbox"/>            | mlb live                | 20      | 43               | 32         | Sports (63%) | 861          |
| <input type="checkbox"/>            | detroit tigers          | -       | 40               | 25         | Sports (51%) | 76           |
| <input type="checkbox"/>            | red sox                 | -       | 38               | 29         | Sports (38%) | 124          |
| <input type="checkbox"/>            | ballpark                | -       | 38               | 25         | Sports (35%) | 65           |

Add Keywords Export

Screenshots: TUNE

## TheTool

TheTool is a newer ASO tool out of Spain, created by ASO and SEO experts at app marketing and mobile growth agency, PickASO. It was first built as an internal tool and then publicly released in 2017. TheTool provides general **ASO services**, as well as unique features such as a **mobile app interface** and a focus on **analyzing the organic multiplier of paid downloads**.

The screenshot shows the TheTool interface for the app "Super Mario Run". At the top, there are six boxes showing keyword rankings: 10 TOP 1, 2 TOP 5, 0 TOP 10, 1 TOP 50, 0 TOP 100, and 2 TOP 250. Below this is a chart titled "Keyword Rankings Distribution" showing the percentage of ranked keywords across different rank positions (Top 1, Top 5, Top 10, Top 50, Top 100, Top 250) for various date ranges (16-Jan, 17-Jan, 18-Jan, 19-Jan, 20-Jan, 21-Jan, 22-Jan). The chart uses a stacked bar format where each bar represents a date range and the segments show the proportion of keywords in each rank position.

The screenshot shows a detailed keyword ranking report for "Super Mario Run" in the United States from February 10, 2017, to February 16, 2017. The table has columns for Keyword, Difficulty, Traffic, Apps, iPhone Rank, and Change. The data includes various search terms like "mario", "super mario bros 2", "super run", etc., along with their respective metrics.

|    | KEYWORD            | DIFFICULTY | TRAFFIC | APPS | IPHONE RANK | CHANGE |
|----|--------------------|------------|---------|------|-------------|--------|
| 1  | mario              | Low        | 81      | 2155 | 1           | ▲ 2154 |
| 2  | super mario bros 2 | Low        | 29      | 1760 | 169         | ▲ 10   |
| 3  | super run          | Low        | 50      | 2143 | 221         | ▲ 9    |
| 4  | super mario 2      | Low        | 32      | 2154 | 43          | ▼ 1    |
| 5  | super mario 64     | Low        | 26      | 2154 | 4           | ▼ 3    |
| 6  | game               | High       | 100     | 2200 | 14          | ▼ 8    |
| 7  | super mario        | Low        | 55      | 2166 | 1           | -      |
| 8  | supermario         | Very Low   | 42      | 1775 | 1           | -      |
| 9  | mario bros         | Low        | 42      | 2152 | 1           | -      |
| 10 | super mario bros   | Low        | 88      | 2155 | 1           | -      |
| 11 | super mario run    | Low        | 45      | 896  | 1           | -      |
| 12 | run                | High       | 100     | 2145 | -           | -      |
| 13 | runner             | Medium     | 79      | 2178 | -           | -      |
| 14 | nintendo           | Low        | 62      | 1240 | 1           | -      |
| 15 | nintendo mario     | Low        | 43      | 2159 | 1           | -      |
| 16 | super mario 3      | Low        | 32      | 2158 | 1           | -      |
| 17 | super mario bros 3 | Low        | 37      | 1761 | 1           | -      |

Screenshots: TheTool

## Keyword Discovery Tools

**Keyword discovery** tools focus on helping you research keywords in either the genesis or iteration stages of your ASO strategy, but do not provide ranking or reporting for specific apps.

### Google Keyword Planner Tool

The Google Keyword planner tool is accessed through the **AdWords interface**, requiring users to sign up for an AdWords account.

While it only provides keyword research based on Google.com web search traffic, the Keyword Planner Tool is one of the most prolific keyword research tools available, and can nonetheless serve as a great starting point for keyword research. One handy feature is the ability to require certain words to be present in search queries (**keywords to include**), which can help zero in on searches for “apps,” “iPhone,” and “Android” and obtain more accurate suggestions. Another useful parameter is narrowing results for particular **countries**, **date ranges** (e.g. for seasonality), and **languages**.

This tool also provides insight into monthly **search volume** for keywords, which can directionally be used to prioritize keywords.

However, take **web search** trend data with a grain of salt and be aware that web search trends often **do not align with App Store** search trends. That said, for **app indexing** optimization, the Keyword Planner is an excellent resource for researching the right keywords to use to increase web-sourced organic Installs.

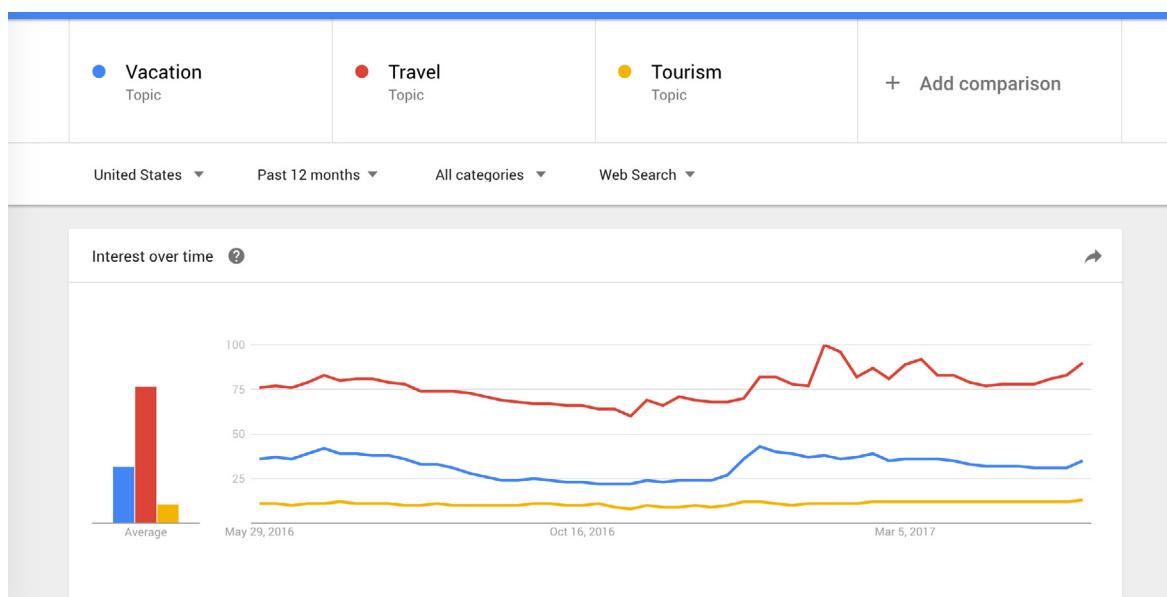
The screenshot shows the Google Keyword Planner interface. At the top, there's a search bar with placeholder text "Enter one or more of the following:" followed by three dropdown menus: "Your product or service" (with "100 apps" selected), "Your landing page" (with "www.example.com/page" selected), and "Your product category" (with a dropdown menu open). Below these are sections for "Targeting" and "Customize your search". The "Targeting" section includes dropdowns for "All locations", "English", "Google", and "Negative keywords". The "Customize your search" section includes a "Keyword filters" dropdown, a "Keyword options" section with "Show broadly related ideas", "Hide keywords in my account", and "Hide keywords in my plan", and a "Keywords to include" section with "app". At the bottom is a blue "Get ideas" button.

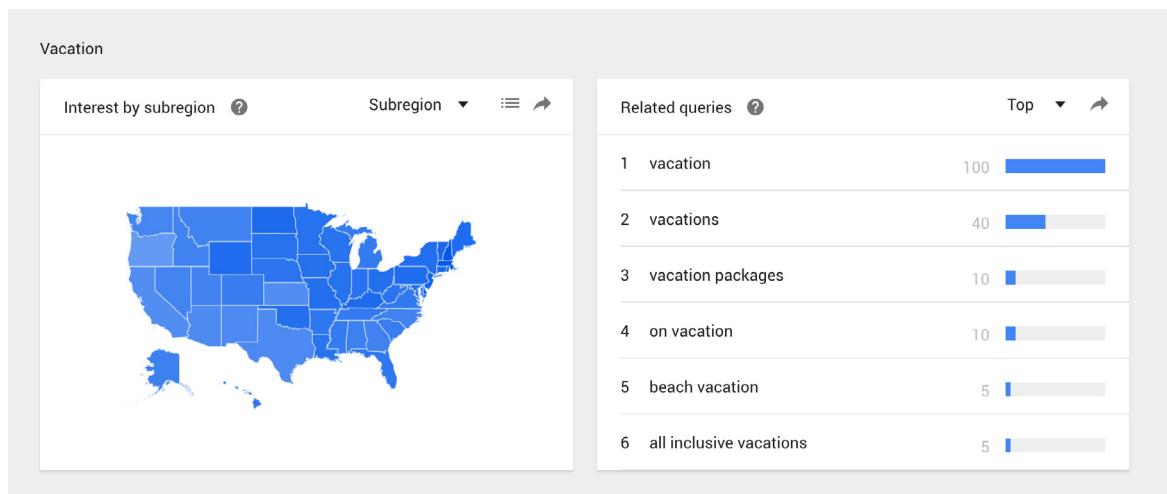
The screenshot shows the Google Keyword Planner interface. On the left, there are filters for location (All locations), language (English), and date range (Show avg. monthly searches for: last 12 months). Below these are sections for Keyword filters, Keyword options (Show broadly related ideas, Hide keywords in my account, Hide keywords in my plan), and Keywords to include (app). The main area displays two tables of keyword suggestions. The first table has columns: Search terms, Avg. monthly searches, Competition, Suggested bid, Ad impr., and Add to plan. The second table has columns: Keyword (by relevance), Avg. monthly searches, Competition, Suggested bid, Ad impr., and Add to plan. Both tables show results for 'to do app', 'task app', 'task list app', 'to do list app', 'task management app', and 'checklist app'. A sidebar on the right says 'Your plan is empty' and 'Add ad group and keyword ideas from the table to your plan'.

Screenshots: Google Keyword Planner Tool

## Google Trends

Google Trends is another tool that can be useful for comparing the web-based, relative **popularity of particular topics**, for up to five topics. One unique feature of Google Trends is that it rolls many individual keywords into a “topic.” This helps provide a more accurate macro-view when analyzing trends that may span a wide set of keywords that are alike. Again, a word of caution for using Google trends for anything other than directional analysis, as **web-based search trends** may not mirror App Store search trends.





Screenshots: Google Trends

## Appkeywords.net

Appkeywords.net is free a tool made by Sebastian Knopp that provides **auto-fill results for Google Play** for the U.S., UK, Italy, Germany, France, Brazil, and Spain, and had offered **App Store trending searches** for worldwide, the U.S., CA, Italy, Germany, France, China, and Spain (plus a count of the number of hours trending).

The screenshot shows the Appkeywords.net interface with the search term "travel" entered. The results are organized into sections based on search operators:

- travel**
  - travel apps
  - traveling wilburys
  - travelocity
  - travel
  - travel channel tv app
- travel + " "**
  - travel apps
  - travel channel tv app
  - travel channel
  - travel planner
  - travel games
- travel + "a"**
  - travel apps
  - travel and leisure
  - travel advisor
  - travel apps for driving
  - travel apps for flying

# Explore trending searches in App Store

See what keywords are trending on Apple's App Store. Hours indicate the accumulated time that a keyword was trending during last week (31. Jul 2017 to 07. Aug 2017).



## Worldwide

| #  | Keyword   | Hours trended |
|----|-----------|---------------|
| 1  | facebook  | 17025         |
| 2  | youtube   | 14322         |
| 3  | snapchat  | 13059         |
| 4  | whatsapp  | 12834         |
| 5  | instagram | 12585         |
| 6  | sarahah   | 5931          |
| 7  | imusic    | 4293          |
| 8  | uber      | 4281          |
| 9  | games     | 4185          |
| 10 | tubidy    | 3978          |



## United States

| #  | Keyword        | Hours trended |
|----|----------------|---------------|
| 1  | pictoword      | 81            |
| 2  | the moron test | 66            |
| 3  | sarahah        | 57            |
| 4  | flipp          | 57            |
| 5  | calm app       | 48            |
| 6  | nordstrom rack | 45            |
| 7  | tasty          | 39            |
| 8  | lollapalooza   | 36            |
| 9  | airtime        | 33            |
| 10 | duo mobile     | 30            |

Screenshots: Appkeywords.net

## Appkeywords.io

Created by ASO Tool AppTweak, AppKeywords.io provides **auto-fill results** for the App Store and Google Play Store.

The screenshot shows a search interface for app keywords. On the left, there's a search bar with 'song', a dropdown for 'Apple App Store', and another for 'United States'. A green 'Go' button is below. To the right, three columns of search suggestions are shown: 'Song' (including 'song pop 2', 'song pop', etc.), 'Song a' (including 'song apps', 'song app', etc.), and 'Song b' (including 'song beats'). At the bottom, there's a 'Share this on Twitter' button and a row of buttons for '0 keyword selected', 'Copy', 'Export', 'Select all', and 'Clear'.

*Screenshot: Appkeywords.io*

## A/B testing tools

A/B testing tools focus on empowering ASOs in **conversion rate optimization** and provide iOS ASOs with the functionality of Google Play Experiments, but with additional features; ASOs can also use A/B testing tools to run experiments for Android apps.

## RaiseMetrics

RaiseMetrics is an **A/B testing** tool publicly launched in 2016. It was initially built for a small group of people to help with an app optimization by mobile optimization experts Diana Sedunova and Adelina Voskresenskaya with technical help from Alexey Savitsky. Unique features include the ability to **pay per single experiment** and the ability to run a **2-step search page** test that provides insights into **competitor listings**, as well as your app's listing.

● CONTROL VARIANT   ● 🏆 WINNING VARIANT

**C Demo Variant A**

This is your Control Variant.  
It is used as a benchmark to measure how the other tested Variants do.

|                       |                                    |                          |                                    |                                  |  |
|-----------------------|------------------------------------|--------------------------|------------------------------------|----------------------------------|--|
| CTR ②<br><b>20.4%</b> | Successful Installs ②<br><b>94</b> | Visitors ②<br><b>460</b> | User Interaction ②<br><b>94.8%</b> | Install Clock ②<br><b>10.6 s</b> | Ave. Time on Page ②<br><b>1 min 41 s</b> |
|-----------------------|------------------------------------|--------------------------|------------------------------------|----------------------------------|--|

**#1 🏆 Demo Variant B**

**+26.9%** Result against control   **97.3%** Confidence against control

|                       |                                     |                          |                                    |                                 |  |
|-----------------------|-------------------------------------|--------------------------|------------------------------------|---------------------------------|--|
| CTR ②<br><b>25.9%</b> | Successful Installs ②<br><b>201</b> | Visitors ②<br><b>775</b> | User Interaction ②<br><b>95.9%</b> | Install Clock ②<br><b>9.5 s</b> | Ave. Time on Page ②<br><b>1 min 39 s</b> |
|-----------------------|-------------------------------------|--------------------------|------------------------------------|---------------------------------|--|

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**RaiseMetrics**

- [APPS](#)
- [EXPERIMENTS](#)
- [FEATURES & PRICING](#)
- [ALEXEY ▾](#)

### Create Experiment

**SELECT YOUR DEVICE**

Iphone

iPad

Android

**SELECT APP TO TEST**

Snapchat  
Mar 04, 2017

Bitmoji - Your Personal Em...  
Mar 04, 2017

Pandora - Free Music & Rad...  
Mar 04, 2017

**EXPERIMENT PAGE**

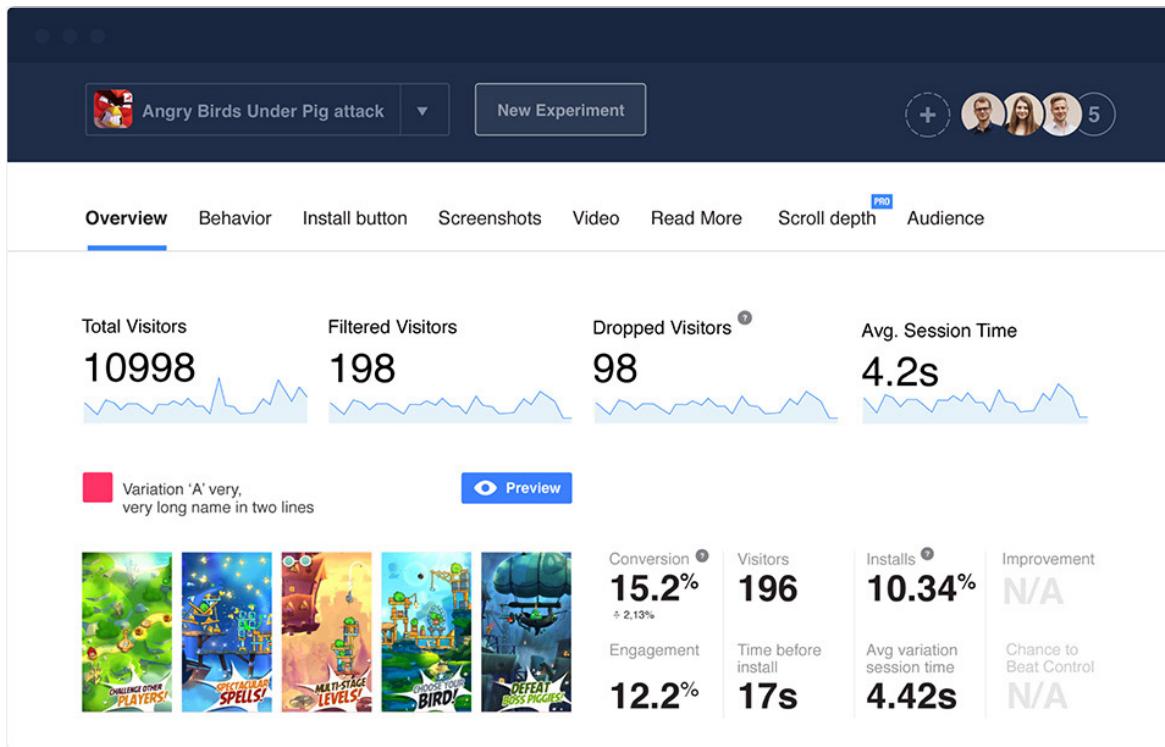
Choose experiment page

Landing Page

Screenshots: *RaiseMetrics*

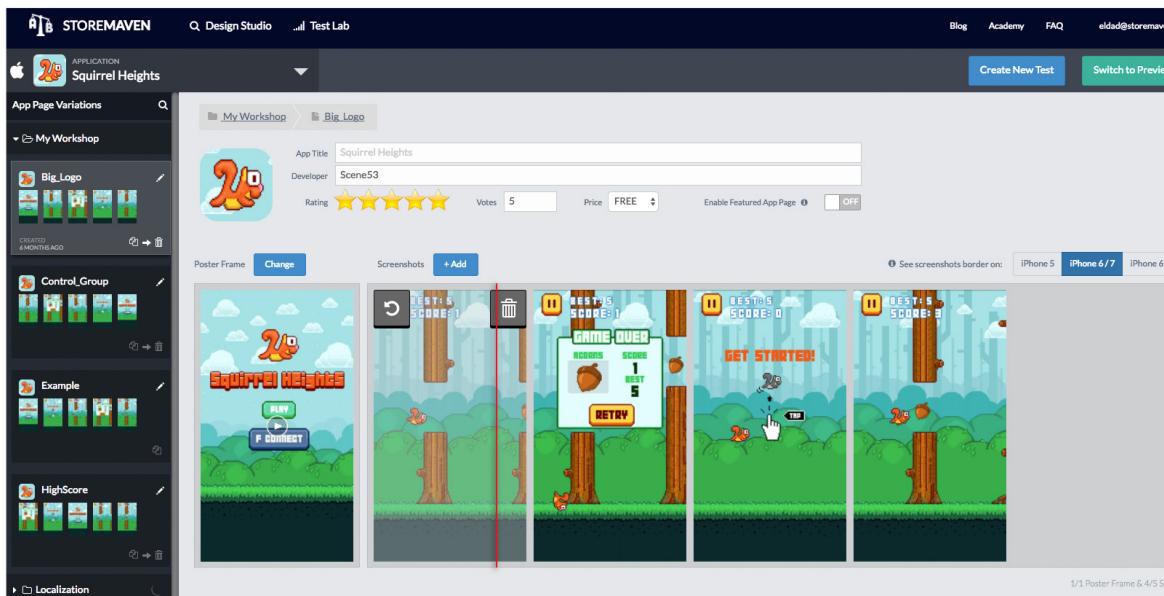
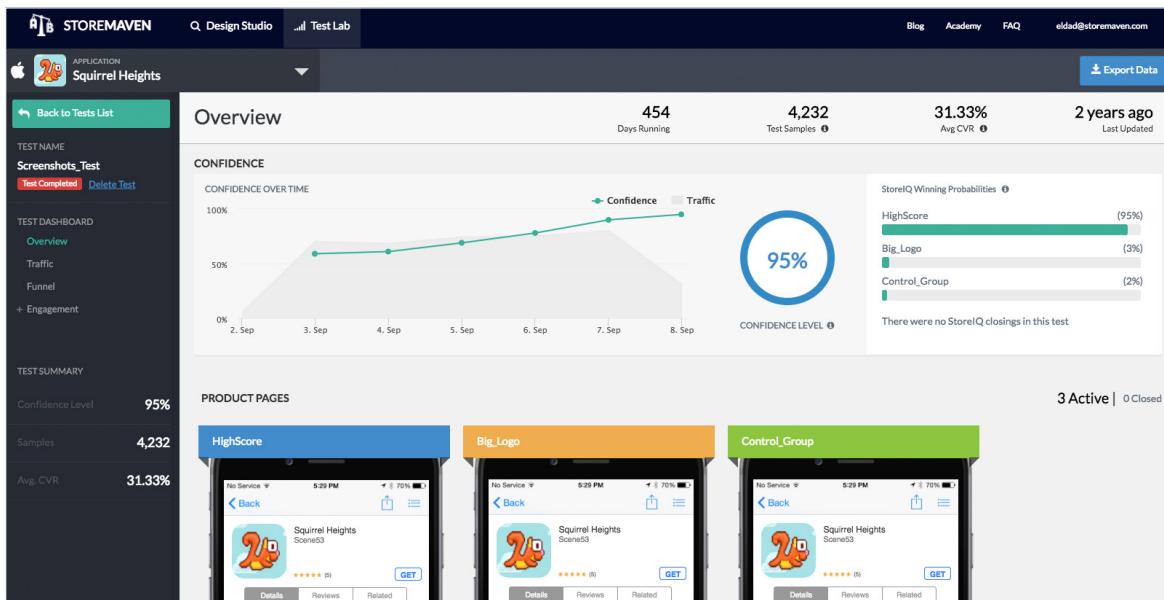
## SplitMetrics

SplitMetrics is an **A/B testing** tool founded in 2014 by Max Kamenkov, an ASO guru and a former chief architect at Pandadoc, and Eugene Nevgen, a founder at MSQRD. Unique features include an **instant audit** of an app's ASO strategy, as well as ASO consulting services and performance **benchmark data** for clients running tests.



## StoreMaven

StoreMaven is an **A/B testing** tool founded in 2014 by entrepreneurs with experience in gaming, mobile marketing, and big-data analytics. A unique feature of StoreMaven is its **machine learning** algorithm, which saves media costs by concluding **tests faster and with fewer samples**.



## Competitive Intelligence Tools

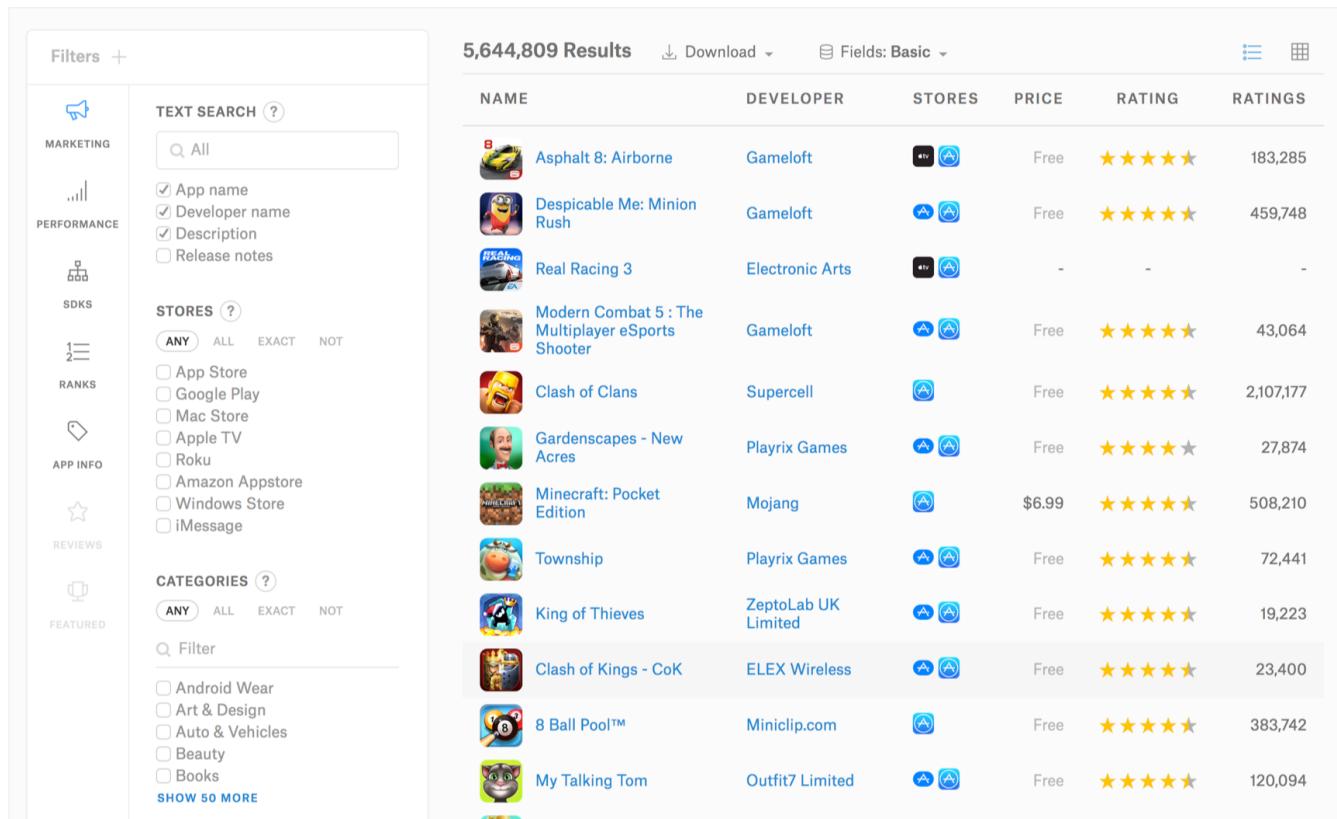
While some competitive intelligence tools provide features that overlap with general ASO tools such as app reporting and keyword/top chart ranks, competitive/**marketplace intelligence tools** focus on providing ASOs with data more difficult to obtain, such as **retention** rates and **usage** overlap for competitor apps and categories, country-level and **demographic** data, and advertising trends.

## AppAnnie

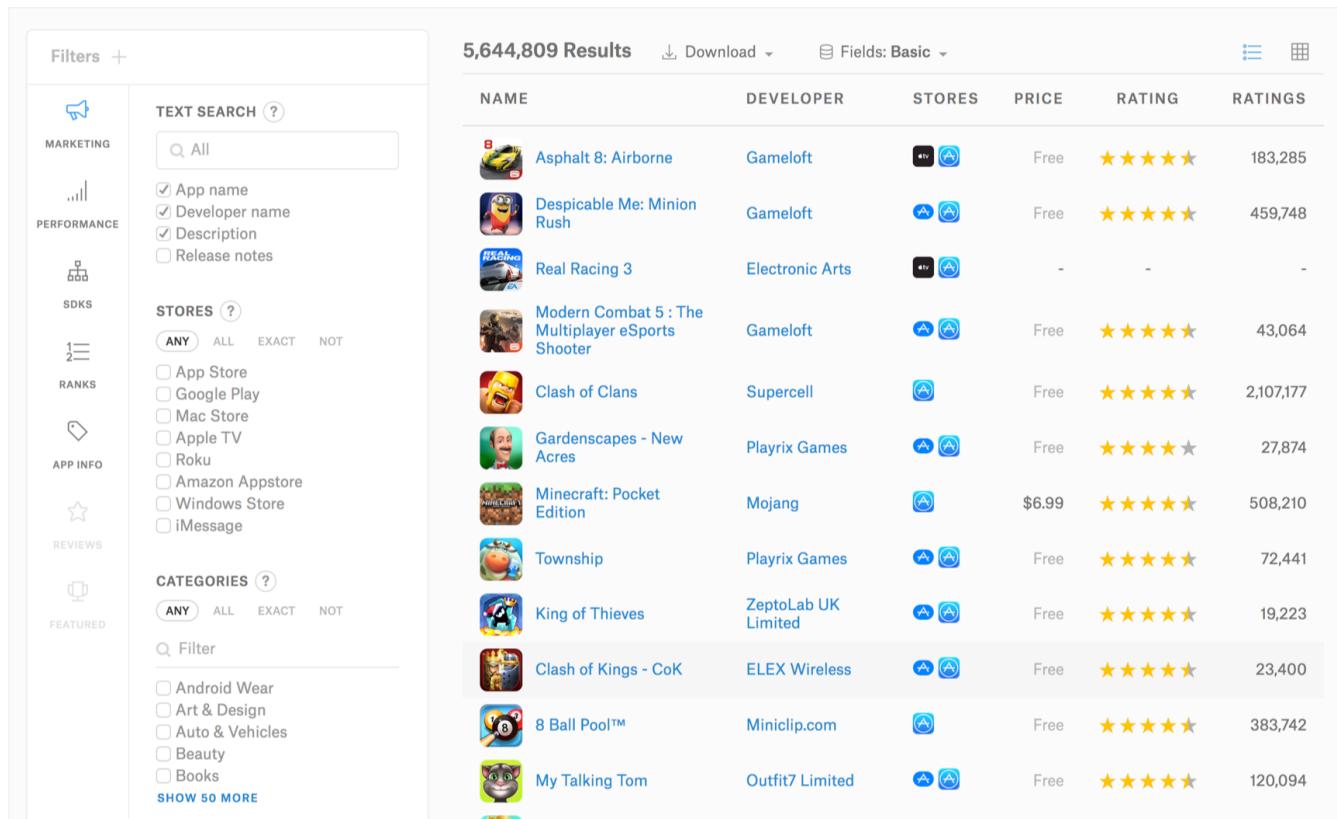
AppAnnie is the largest ASO tool, founded in 2010. AppAnnie provides a broad suite of products, primarily focusing on competitive/market intelligence. Some of AppAnnie's unique features include competitive **advertising intelligence**, **usage** intelligence, and **hourly top chart** rankings.

## AppFigures

AppFigures is an **app tracking and intelligence** tool founded in 2009. AppFigures focuses on providing unique value via integrations, robust API reporting, and real-time reports.



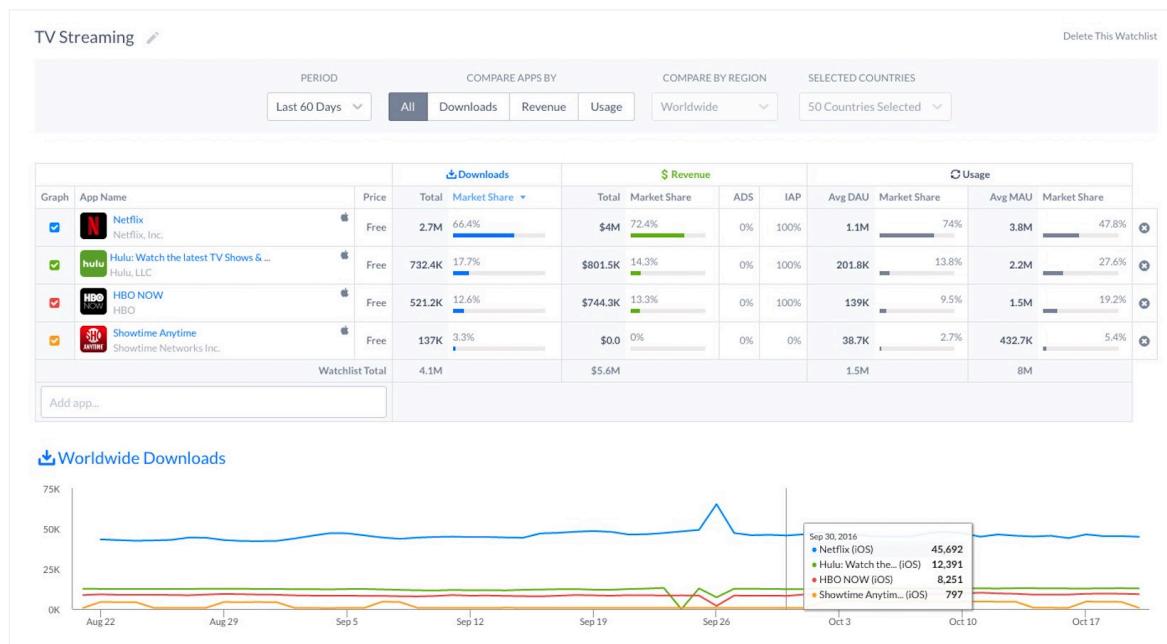
The screenshot shows the AppFigures search interface. On the left, there are filters for Marketing, Performance, SDKs, Ranks, App Info, Reviews, and Featured. The main search area displays 5,644,809 results for "Asphalt 8: Airborne". The results table includes columns for Name, Developer, Stores, Price, Rating, and Ratings. The top result is Asphalt 8: Airborne by Gameloft, which is free and has a rating of 4.5 stars with 183,285 reviews. Other popular results include Despicable Me: Minion Rush, Real Racing 3, Modern Combat 5: The Multiplayer eSports Shooter, Clash of Clans, Gardenscapes - New Acres, Minecraft: Pocket Edition, Township, King of Thieves, Clash of Kings - CoK, 8 Ball Pool™, and My Talking Tom.

| Filters +   |               | 5,644,809 Results   |           |        |       |        |         |
|---|---------------|---|-----------|--------|-------|--------|---------|
|   |               | Download ▾ Fields: Basic ▾  |           |        |       |        |         |
|   |               | NAME  | DEVELOPER | STORES | PRICE | RATING | RATINGS |
| MARKETING   | TEXT SEARCH ? | <input type="text"/> All  |           |        |       |        |         |
| PERFORMANCE   |               | <input checked="" type="checkbox"/> App name<br><input checked="" type="checkbox"/> Developer name<br><input checked="" type="checkbox"/> Description<br><input type="checkbox"/> Release notes   |           |        |       |        |         |
| SDKS  | STORES ?      | <input checked="" type="radio"/> ANY <input type="radio"/> ALL <input type="radio"/> EXACT <input type="radio"/> NOT  |           |        |       |        |         |
| RANKS   |               | <input type="checkbox"/> App Store<br><input type="checkbox"/> Google Play<br><input type="checkbox"/> Mac Store<br><input type="checkbox"/> Apple TV<br><input type="checkbox"/> Roku<br><input type="checkbox"/> Amazon Appstore<br><input type="checkbox"/> Windows Store<br><input type="checkbox"/> iMessage |           |        |       |        |         |
| APP INFO  | CATEGORIES ?  | <input checked="" type="radio"/> ANY <input type="radio"/> ALL <input type="radio"/> EXACT <input type="radio"/> NOT  |           |        |       |        |         |
| REVIEWS   |               | <input type="text"/> Filter   |           |        |       |        |         |
| FEATURED  |               | <input type="checkbox"/> Android Wear<br><input type="checkbox"/> Art & Design<br><input type="checkbox"/> Auto & Vehicles<br><input type="checkbox"/> Beauty<br><input type="checkbox"/> Books<br><a href="#">SHOW 50 MORE</a>   |           |        |       |        |         |
|  |               |   |           |        |       |        |         |

Screenshot: AppFigures

## AppTopia

AppTopia is an **app data and market** intelligence tool founded in 2011. AppTopia focuses on providing unique value through retention rate, app SDK usage figures, and breakout app alerts.



Screenshot: AppTopia

## 📱 In-App Rating Prompts

### Apptentive

Apptentive is a U.S.-based **ratings, reviews, and sentiment optimization** tool founded in 2011 to provide tools to developers to measure sentiment and gather feedback from their user base.

The screenshot shows the Apptentive platform interface. At the top, there are navigation links: Dashboard, Conversations (highlighted in red), Interactions, Settings, and a user profile. The main area is titled 'Conversations' and shows an 'Inbox' with 58 messages. On the right, a specific conversation with a user named 'Katie' is displayed. Katie reported a problem with favoriting, and the developer responded with screenshots and an update. The developer also assigned the issue to 'Hannah' and set 'Nate' as the support user. The conversation details include the app version (1.1), build number (31), and contact information for 'Person' (Email: katie.wolfe@columbia.edu, Name: Katie).

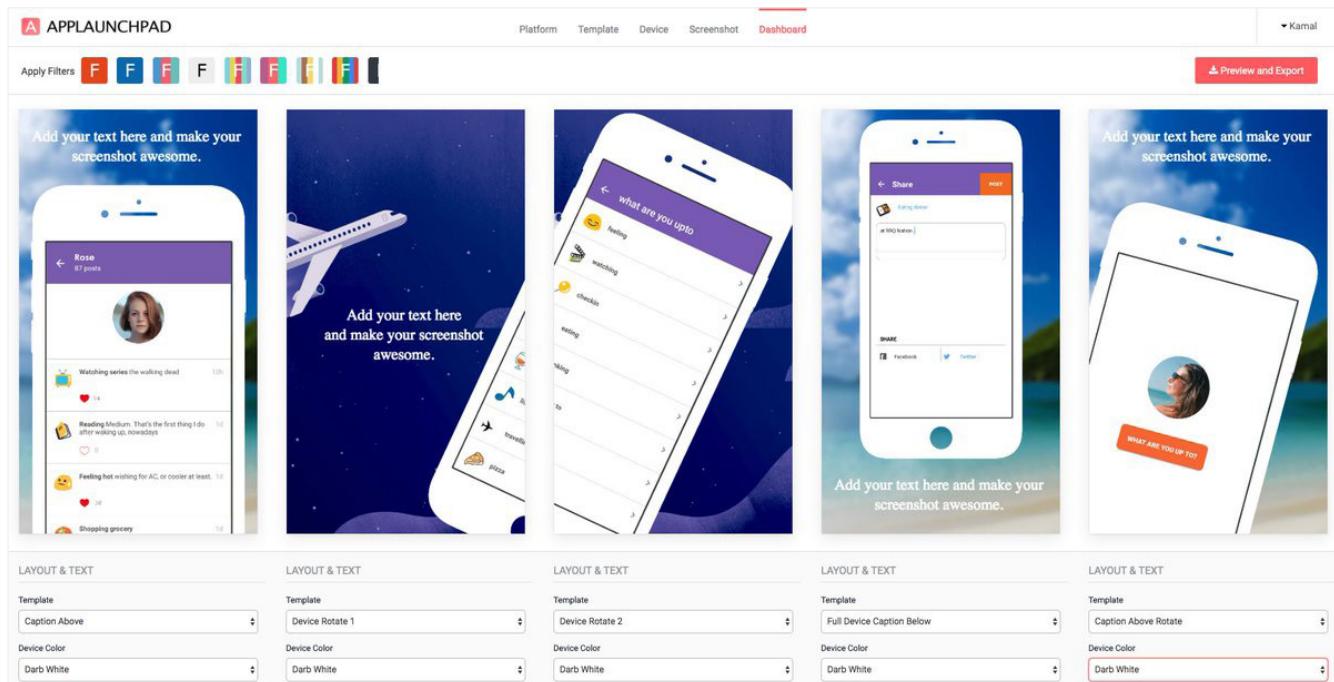
Screenshot: Apptentive

## Screenshot Builders

Screenshot builders make life less tedious, but offer features such as templates for custom screenshot design, as well as automation of localization buildout.

### AppLaunchpad

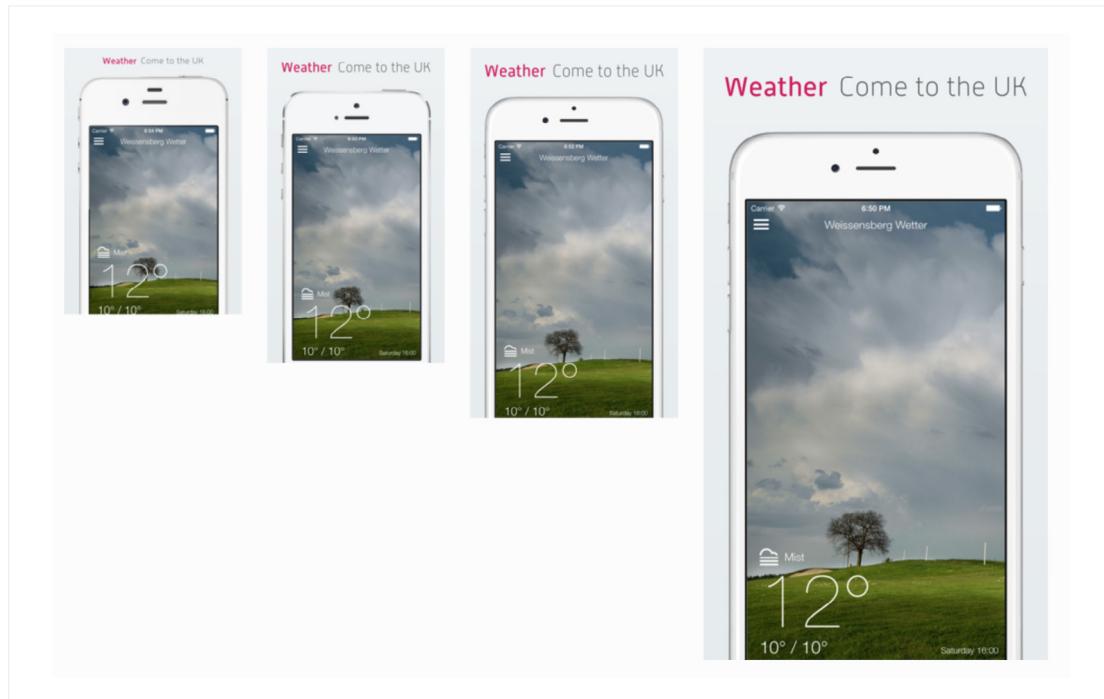
AppLaunchpad is a tool to create app **screenshots** for App Store & Google Play pages, and has taken the place of Launchkit.io, which Google bought and shut down.



*Screenshot: AppLaunchpad*

### Fastlane

Fastlane is an open source way to automate generating iOS and Android **screenshots**, in addition to other build/release features. Fastlane is owned by Fabric, which is owned by Google.



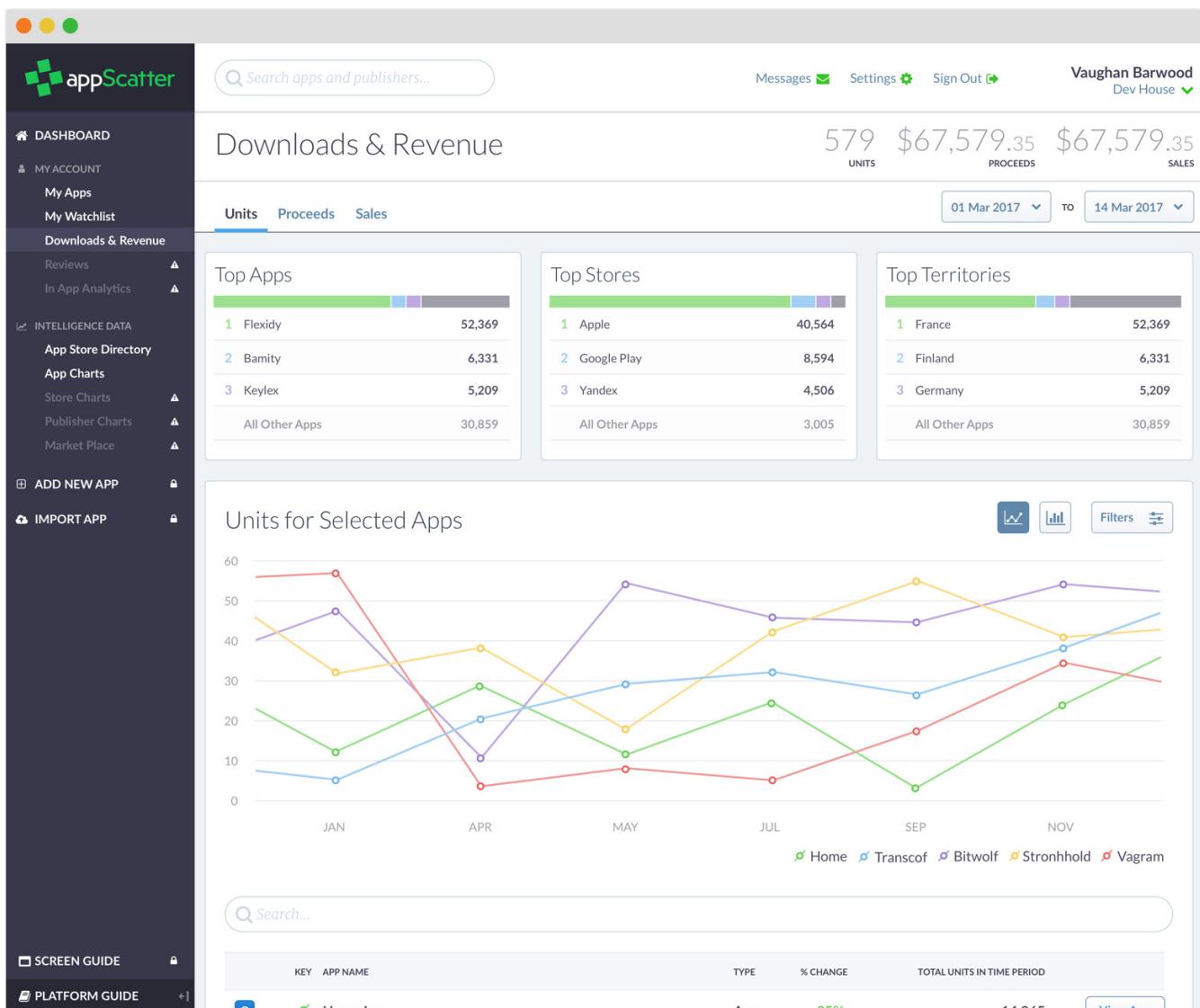
Screenshot: Fastlane

## Other ASO tools

Listed here are a couple of other tools that provide ancillary features useful for ASOs.

### AppScatter

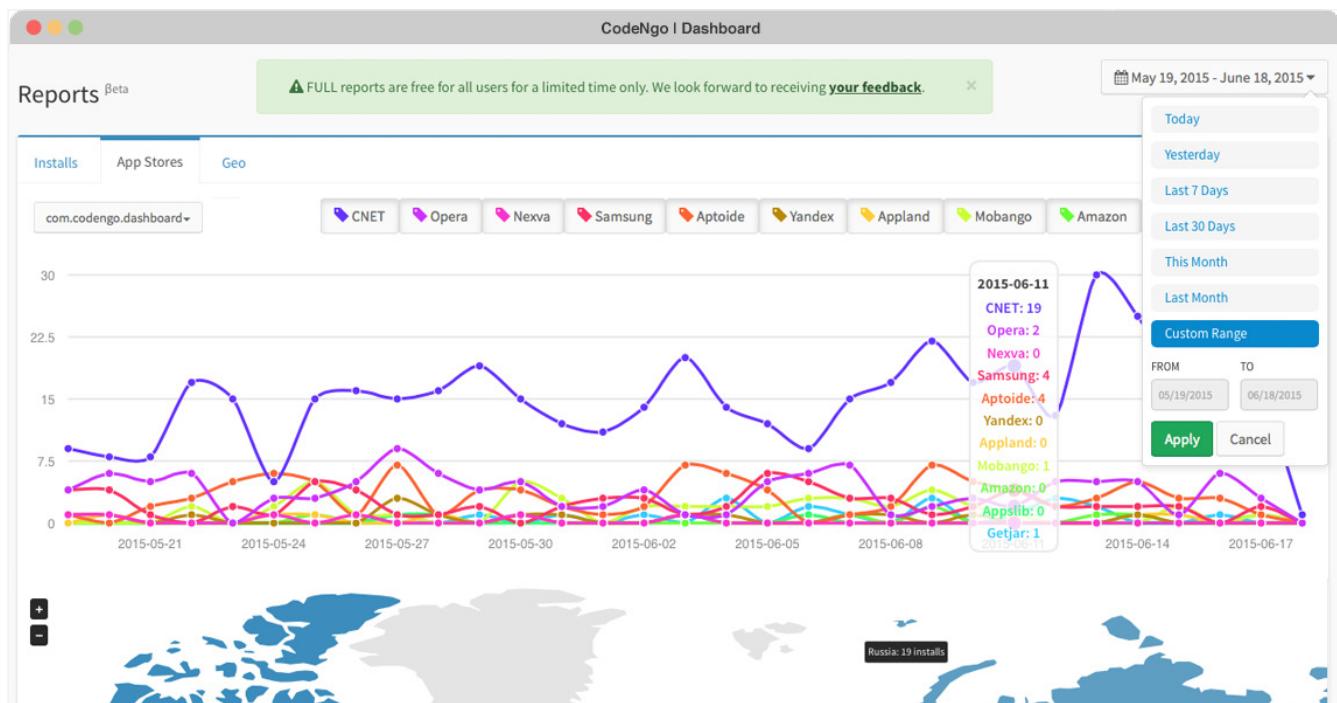
AppScatter helps you **publish** to and monitor hundreds of stores worldwide.



Screenshot: AppScatter

## CodeNGo

CodeNGo is a platform that helps developers **self-publish** their app to over 30 stores, as well as translate listings and report on data from 3rd party stores.



Screenshot: CodeNGo

## AppBot

AppBot is a tool for monitoring and managing **app ratings and reviews** across major App Stores. Unique features include integrations with communication, CRM, and project management platforms, as well as topic/sentiment/trending analysis.

*Screenshot: AppBot*

## General ASO Tools Survey

The following is a (very long, forewarning!) comprehensive table providing insights into the specifics of the different features offered by some of the ASO tools covered in this chapter. Tools covered include both ASO General Tools, as well as A/B Testing Tools. As with the ASO Tools mapping in the beginning of this chapter, the blue squares indicate that a tool does indeed have a particular feature. If applicable additional details offered by the tools we surveyed are contained with the cells pertaining to a tool (columns) and a feature (rows). *All data in these surveys was provided via survey by each tool.*

### General ASO Tools Survey: AppFollow-AppTweak

| General ASO Tools Survey  |                           |                          |                          |                          |
|---|---------------------------|--------------------------|--------------------------|--------------------------|
| FEATURE ITEM  | <a href="#">APPFOLLOW</a> | <a href="#">APPRADAR</a> | <a href="#">ASO DECK</a> | <a href="#">APPTWEAK</a> |
| <b>G E N E R A L   I N F O R M A T I O N</b>  |                           |                          |                          |                          |
| Total number of keywords tracked in aggregate   | 5,000,000                 | 300,000                  | 8,000,000                | 1,000,000                |
| <b>A P P   A N A L Y T I C S</b>  |                           |                          |                          |                          |
| App Store Top Chart Rankings  |                           |                          |                          |                          |
| App update timeline showing the what's new texts and updates  |                           |                          |                          |                          |
| App update timeline showing the difference of app titles, keywords, screenshots, and other metadata after an update |                           |                          |                          |                          |
| Apple Search Ads integration for advertiser   |                           |                          |                          |                          |
| App/Play Store Data integration   |                           |                          |                          |                          |
| Aggregated User reviews   |                           |                          |                          |                          |
| Translations of user reviews  |                           |                          |                          |                          |
| Review analysis showing mode words or phrases   |                           |                          |                          |                          |
| Download estimates from top charts  |                           |                          |                          |                          |
| <b>K E Y W O R D   A N A L Y T I C S ( D E T A I L S )</b>  |                           |                          |                          |                          |
| Download estimates from store feature   |                           |                          |                          |                          |

| General ASO Tools Survey  |                         |  |   |                            |
|---|-------------------------|--|---|----------------------------|
| AppFollow-AppTweak  |                         |  |   |                            |
| FEATURE ITEM  | APPFOLLOW               | APPRADAR   | ASO DECK  | APPTWEAK                   |
| US/AU/UK/NZ/MX/CH/CA App Store search volume is based on: search popularity or other? | Apple Search Popularity | Apple Search Popularity                            |   | Apple Search Popularity    |
| US/AU/UK/NZ/MX/CH/CA What is Play Store search volume based on?                       |                         | Apple Search Popularity                            | Mobile data: keyword suggestions                                | <i>See AppTweak Note 1</i> |
| What are non-US App Store Search volumes based on?                                    |                         | We don't provide made up values, only hard numbers | Mobile data: keyword suggestions, search ads, number of reviews | <i>See AppTweak Note 1</i> |
| How is difficulty score calculated?   |                         |  |   | <i>See AppTweak Note 2</i> |
| KEYWORD ANALYSIS  |                         |  |   |                            |
| Difficulty/Top 10 Chance score  |                         |  |   |                            |
| Organic download estimates for a keyword  |                         |  |   |                            |
| App & Play store territories supported for keyword research                           | 155                     |  | 74  | 70                         |
| Keyword suggestions   |                         |  |   |                            |
| Shows keyword autofills   |                         |  |   |                            |
| Competitor spy for keywords competitor is using                                       |                         |  |   |                            |
| Competitor ranking for keywords   |                         |  |   |                            |
| Keyword distribution graph showing how many keywords an app ranks for                 |                         |  |   |                            |
| Filters for keyword suggestions   |                         |  |   |                            |
| Suggests popular category Keywords  |                         |  |   |                            |
| MARKET INTELLIGENCE   |                         |  |   |                            |
| App download reports  |                         |  |   |                            |

| General ASO Tools Survey                            |  |  |                 |   |
|---|--|--|-----------------|---|
| AppFollow-AppTweak                                  |  |  |                 |   |
| FEATURE ITEM  | APPFOLLOW  | APPRADAR   | ASO DECK        | APPTWEAK  |
| App revenue reports                                 | ■  |  |                 | ■   |
| App cross-app usage reports                         |  |  |                 |   |
| App retention rate reports                          |  |  |                 |   |
| App install conversion rate reports                 | ■  |  | ■               | ■   |
| App demographics reports                            |  |  |                 |   |
| Number and type of App features (in app/play store) | ■  |  | ■               |   |
| App visibility score                                |  |  | ■               | ■   |
| P R I C I N G ( D E T A I L S )                     |  |  |                 |   |
| Pricing   | Free plan: 2 apps, 2 countries and 20 keywords. Premium plan: starting from \$9/month. For big companies and publishers we have Enterprise plan. | Starting at \$30/month   | Free basic plan | Starting at €49 per month.  |
| P R I C I N G                                       |  |  |                 |   |
| Pricing per 100 keywords                            | \$15/100 keywords  | \$30 include 150 keywords. We also offer keyword flatrates for enterprise customers. | \$49            | Price is decreasing with higher plan, down to €20 for 100 keywords in Enterprise Plan |
| S U P P O R T ( D E T A I L S )                     |  |  |                 |   |

| General ASO Tools Survey  |   |  |                    |  |
|---|---|--|--------------------|--|
| AppFollow-AppTweak  |   |  |                    |  |
| FEATURE ITEM  | APPFOLLOW   | APPRADAR   | ASO DECK           | APPTWEAK   |
| Tiers of customer support   | Web-chat, email, Slack community  | Email  | Email, online chat | Live chat support & emails for everyone; Skype calls for customers or free trial users; dedicated account manager for large accounts |
| SUPPORT   |   |  |                    |  |
| API access  | Slack, HipChat, Zendesk, Facebook Workplace, Microsoft Teams, Trello, Webhook, Twitter, iTunes Connect, Google Play Console, Analytics: Google Analytics, Search Ads, AppsFlyer, Appmetrica | Slack, iTunes Connect, Google Play Developer Console | Slack              |  |
| Non App-Store 3rd party integrations included? (i.e.. Slack etc.) |   |  |                    |  |

### AppTweak Note 1:

Our unique Volume formula using multiple elements such as: keyword's frequency in the store (app titles, description, reviews, etc.), keyword's frequency in the hints (auto-suggestions), keyword's frequency in the spoken language, keyword's length, and keyword's volume on the mobile web. A score is given for each keyword on each of these elements, which we will bring into a 1-100 scale indicator, where higher the number means higher the volume. Available in 12 languages (using native dictionaries) for now.

### AppTweak Note 2:

We take into account both the Volume (Search Popularity) and the Competition indicators (both numbers between 1-100). We consider that a good keyword is a keyword with a high volume and a low competition. The KEI reflects the keyword's performance so the higher the KEI means the better the ratio between the Volume and the Competition.

## General ASO Tools Survey: Mobile Action-TUNE

| FEATURE ITEM  | <a href="#">MOBILE ACTION</a> | <a href="#">PRIORI DATA</a> | <a href="#">SENSOR TOWER</a> | <a href="#">THE TOOL</a> | <a href="#">TUNE</a> |
|---|-------------------------------|-----------------------------|------------------------------|--------------------------|----------------------|
| <b>G E N E R A L I N F O R M A T I O N</b>  |                               |                             |                              |                          |                      |
| Total number of keywords tracked in aggregate   | Millions                      | 1,500,000                   | Millions                     | 1,000,000                | 4,000,000            |
| <b>A P P A N A L Y T I C S</b>  |                               |                             |                              |                          |                      |
| App update timeline showing the what's new texts and updates  |                               |                             |                              |                          |                      |
| App update timeline showing the difference of app titles, keywords, screenshots, and other metadata after an update |                               |                             |                              |                          |                      |
| App update timeline showing the difference of app titles, keywords, screenshots, and other metadata after an update |                               |                             |                              |                          |                      |
| Apple Search Ads integration for advertiser   |                               |                             |                              |                          |                      |
| App/Play Store Data integration   |                               |                             |                              |                          |                      |
| Aggregated User reviews   |                               |                             |                              |                          |                      |
| Translations of user reviews  |                               |                             |                              |                          |                      |
| Review analysis showing mode words or phrases   |                               |                             |                              |                          |                      |
| Download estimates from top charts  |                               |                             |                              |                          |                      |
| Download estimates from store feature   |                               |                             |                              |                          |                      |
| <b>K E Y W O R D A N A L Y S I S ( D E T A I L S )</b>  |                               |                             |                              |                          |                      |

## General ASO Tools Survey

Mobile Action-TUNE

| FEATURE ITEM  | <u>MOBILE ACTION</u> | <u>PRIORI DATA</u>      | <u>SENSOR TOWER</u> | <u>THE TOOL</u>                                     | <u>TUNE</u>  |
|---|----------------------|-------------------------|---------------------|---|--|
| US/AU/UK/NZ/MX/CH/CA App Store search volume is based on: search popularity or other? | Using apple data     | Apple Search Popularity |                     | In Store Data own Algorithm + Apple Search Ads data | Apple Search Popularity  |
|   |                      | Mobile search volume    |                     | In Store Data own Algorithm                         | Based on a combination of Apple Popularity (app store search data, even across platforms, is still the best data available), autocomplete data, review keyword frequency data, and mobile web search |
|   |                      |                         |                     | In Store Data own Algorithm                         | Based on a combination of autocomplete data, review keyword frequency data, and mobile web search  |

| General ASO Tools Survey  |               |   |              |   |  |
|---|---------------|---|--------------|---|--|
| Mobile Action-TUNE  |               |   |              |   |  |
| FEATURE ITEM  | MOBILE ACTION | PRIORI DATA   | SENSOR TOWER | THE TOOL  | TUNE   |
| How is difficulty score calculated?                                   |               | Size of the top 10 apps ranked for the keyword and weekly avg number of newcomers in the top 10 (constantly new apps => easier to rank for) |              | Machine learning: Competitors, Title Matches, Installs & Ratings, Age of the apps and more... | Based on a combination of result count (i.e., how many apps rank for a given keyword) and ranking volatility (i.e., how often do apps that rank in the top positions for a keyword change) |
| KEYWORD ANALYSIS  |               |   |              |   |  |
| Difficulty/Top 10 Chance score  |               |   |              |   |  |
| Organic download estimates for a keyword                              |               |   |              |   |  |
| App & Play store territories supported for keyword research           | 61            | 20  | 100          | 91  | 30   |
| Keyword suggestions   |               |   |              |   |  |
| Shows keyword autfills  |               |   | Custom       |   |  |
| Competitor spy for keywords competitor is using                       |               |   |              |   |  |
| Competitor ranking for keywords                                       |               |   |              |   |  |
| Keyword distribution graph showing how many keywords an app ranks for |               |   |              |   |  |
| Filters for keyword suggestions                                       |               |   |              |   |  |
| Suggests popular category Keywords                                    |               |   |              |   |  |

| General ASO Tools Survey                            |   |  |                         |                              |  |
|---|---|--|-------------------------|------------------------------|--|
| Mobile Action-TUNE                                  |   |  |                         |                              |  |
| FEATURE ITEM  | MOBILE ACTION   | PRIORI DATA  | SENSOR TOWER            | THE TOOL                     | TUNE   |
| M A R K E T I N T E L L I G E N C E                 |   |  |                         |                              |  |
| App download reports                                |   |  |                         |                              | For the user's app(s)? Yes; for competitor apps? No            |
| App revenue reports                                 |   |  |                         |                              |  |
| App cross-app usage reports                         |   |  | Custom                  |                              |  |
| App retention rate reports                          |   |  |                         |                              |  |
| App install conversion rate reports                 |   |  |                         |                              |  |
| App demographics reports                            |   |  |                         |                              |  |
| Number and type of App features (in app/play store) |   |  |                         |                              |  |
| App visibility score                                |   |  |                         |                              |  |
| P R I C I N G ( D E T A I L S )                     |   |  |                         |                              |  |
| Pricing   | Starting at \$69/month  | Starting at \$99/month for 500 keywords, all countries + keywords & DL/rev for 3 competitors | Enterprise Subscription | Starting at 29€/month (\$30) | Free forever plan for startups; paid plans start at \$69/month |
| P R I C I N G                                       |   |  |                         |                              |  |
| Pricing per 100 keywords                            | Contact for details on extra keywords (new plans coming soon) | \$99 for 500 keywords  |                         | \$15/100 keywords            | Unlimited at any plan  |
| S U P P O R T ( D E T A I L S )                     |   |  |                         |                              |  |

| General ASO Tools Survey  |  |                    |                    |                             |                                  |
|---|--|--------------------|--------------------|-----------------------------|----------------------------------|
| Mobile Action-TUNE  |  |                    |                    |                             |                                  |
| FEATURE ITEM  | MOBILE ACTION  | PRIORI DATA        | SENSOR TOWER       | THE TOOL                    | TUNE                             |
| Tiers of customer support   | Level 1: Email, Chat (free plans and above), Level 2: Previous + Skype call access (for all paid plans), Level 3: Previous + dedicated Customer Success Manager (Enterprise plans) | Email, Chat, Phone | Email, chat, phone | Email, chat, Skype, Zendesk | Email, chat, phone, in-person    |
| S U P P O R T   |  |                    |                    |                             |                                  |
| API access  |  |                    |                    |                             |                                  |
| Non App-Store 3rd party integrations included? (i.e.. Slack etc.) |  |                    |                    |                             | TUNE<br>Attribution<br>Analytics |

## A/B Testing Tools Survey

| A/B Testing Tools Survey |            |               |              |
|--------------------------|------------|---------------|--------------|
|                          |            |               |              |
| FEATURE ITEM             | STOREMAVEN | RAISE METRICS | SPLITMETRICS |
| P R I C I N G            |            |               |              |

| A/B Testing Tools Survey    |   |   |   |
|-----------------------------|---|---|---|
| FEATURE ITEM                | STOREMAVEN  | RAISE METRICS                                   | SPLITMETRICS  |
| Pricing                     | Depends on the level of services provided and the number of tests clients run annually. Besides providing the technological platform, StoreMaven also offers a "managed service." | free-\$250 per month                            | From \$499 per month with available discounts when purchasing an annual subscription. |
| SUPPORT                     |   |   |   |
| Tiers of customer support   | 24/7 Customer Support for everyone  | Email, chat on site, phone for priority clients |   |
| TEST VARIABLES              |   |   |   |
| Icon testing                |   |   |   |
| Screenshot testing          |   |   |   |
| Description testing         |   |   |   |
| Title/name testing          |   |   |   |
| Price/IAP testing           |   |   |   |
| Preview video testing       |   |   |   |
| Feature graphic testing     |   |   |   |
| Ratings & reviews testing   |   |   |   |
| TEST TYPE                   |   |   |   |
| Search results page testing |   |   |   |
| App store page testing      |   |   |   |
| Store featured testing      |   |   |   |
| EXTRA FEATURES              |   |   |   |

| FEATURE ITEM                      | STOREMAVEN | RAISE METRICS | SPLITMETRICS |
|-----------------------------------|------------|---------------|--------------|
| Support for apple watch testing?  |            |               |              |
| Records video results of testers? |            |               |              |
| Can create designs for clients?   |            |               |              |

# 12

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OUTSIDE OF THE STORE

# 12

## OUTSIDE OF THE STORE

“What outside of the App Stores can affect my app’s success in ASO?”

### Product

The app itself is not just the purpose for the existence of ASO, but also a major factor in the success potential for ASO. With advancements in store ranking algorithm criteria that factor more signals in new and deeper ways into the rank-scoring system, the app itself cannot be considered a separate set of levers that are ignored when considering ASO.

### Retention Rate

As highlighted throughout the book, store algorithms are increasingly factoring for retention rate, which is naturally a heavily product-influenced outcome. While acquisition source is a major factor in user quality and retention, the product is the largest factor and can fail to retain users, regardless of the acquisition source.

While the exact weighting of retention rate in the algorithm scoring system is unknown, the general ASO industry consensus is that retention is one of the major factors after download velocity and conversion rate, and alongside ratings/reviews.

If an app cannot retain users, or even worse causes users to uninstall at a rapid rate, then the app’s ASO success will falter as the store algorithms reduce the app’s visibility in response to the app’s low retention rate or high uninstall rate.



**Pro tip:** While the inner workings of the algorithms are unknown, it’s a likely bet that an app’s retention rate is compared to peer apps, either those in the same category or those ranking for the same keywords. This means that, even if your app’s retention rate may be decent across the entire app industry, if your app’s retention rate is low compared with your App Store peers, then your app will still score negative points in the retention ranking component.

Here are some reasons for which apps may have a low retention rate, or in other words cause higher churn:

- **Poor onboarding process:** If the process is confusing, not educational enough, or non-engaging, it could cause users to open the app and churn. Moreover, if an app lacks an onboarding process at all and requires users to sign up immediately after opening the app, this can cause users to churn.
- **Not enough features:** If users expect or look forward to certain features in the app and fail to find them, this can cause churn. If the app listing is misleading in favor of increasing downloads, this can backfire in the retention ranking component, which can cause the app to lose ranking and lose future downloads.
- **Lack of a clear, fundamental value:** If the app does not solve a problem or provide significant value to the user, it can fail to retain users.
- **Lack of engagement:** While too many push notifications, emails, and in-app messages can be a bad thing, the right mix can bring users back into the app who would have otherwise churned, and even make active users more active.
- **Lack of updates:** Apps that are released and never updated can lose users, especially if competitors continue to innovate and release new versions and features.

## Ratings/Reviews

Because they are most often sourced from within the app, ratings and reviews are also a factor that are influenced by the product, and not ASO. Yet, ratings and reviews are one of the major factors affecting an app's ASO visibility and conversion potential.

Additionally, recall that ratings are one of the most visible and objective **social proof** data points, and as such highly affect conversion rates, which is also a major ranking signal.

To unlock an app's true ASO success, the app must do a good job of encouraging users to leave positive ratings and reviews (both in terms of being a good product, and leveraging in-app rating prompts).

Above and **beyond prompting** users for ratings and reviews, here are a few methods to use your product to raise star ratings:

- Add features users ask for.
- Add features that competitors do not provide.
- Create an emotional connection with users by using in-app content, enabling people to use/benefit from the app with other people, or producing an impact on people in their real lives.
- Create an addicting experience; users who use an app on a daily basis are more prone to write reviews or rate the app.

## Crashes/Stability

While crashes are not yet considered as a factor in the App Store's algorithm weighting, they can affect **retention** rate, as well as **ratings** and reviews, and thus indirectly drag an app's ASO success potential down.

 However, in August 2017 Google announced that it would rank apps which drained user battery life or crashed often lower than other apps. More and more, ASOs must count the product team as a core partner in succeeding in ASO.

Furthermore, while some apps that are not 100% stable may end up being featured, having good **stability** marks is generally a requirement.

## UX/UI Design

An app's ASO can be directly affected by its UX/UI design in many different ways, such as determining:

- Components of the app's experience that can be described in the assets.
- Keywords that describe the app and its UX.
- An app's positioning against competitors, for better or worse.

Furthermore, an app's store listing is also built using visuals from the app itself, and therefore highly influenced by the **branding/look and feel**, and limited to what the product looks like in terms of screenshots and preview video content. For apps with great design, this can be a great boon for ASO, and vice versa.

As with stability, excellent app design is also a factor in being featured, as well as affecting an app's ability to retain users, and earn ratings and reviews.

## App Features

As a similar factor to UX/UI, features also shape the limits of how an app can be marketed in visibility terms, as well as terms of competitive positioning and conversion.

Features determine what **In-App Purchases** users can buy, and thus which IAPs the app can index or be featured for.

Features also determine what can be shown in the app's listing, as the content that fills in the app's UX/UI.

Also like UX/UI and stability, features naturally affect an app's ability to be featured, earn ratings/reviews, and retain users.

## Monetization

Monetization is one of the most direct and fundamental product factors influencing ASO. Unfortunately, it often serves only as a bottleneck to success.

While an app with a good monetization model does not benefit in direct ASO terms from earning revenue from its users (except in the case of the top paid/grossing charts, per below), an app with a poorly executed monetization model stands only to lose success potential, as the app is at higher risk for a poor conversion rate, negative ratings/reviews, poor user retention, and a lower chance of being featured.

For example, consider three examples of apps which are each free to download:

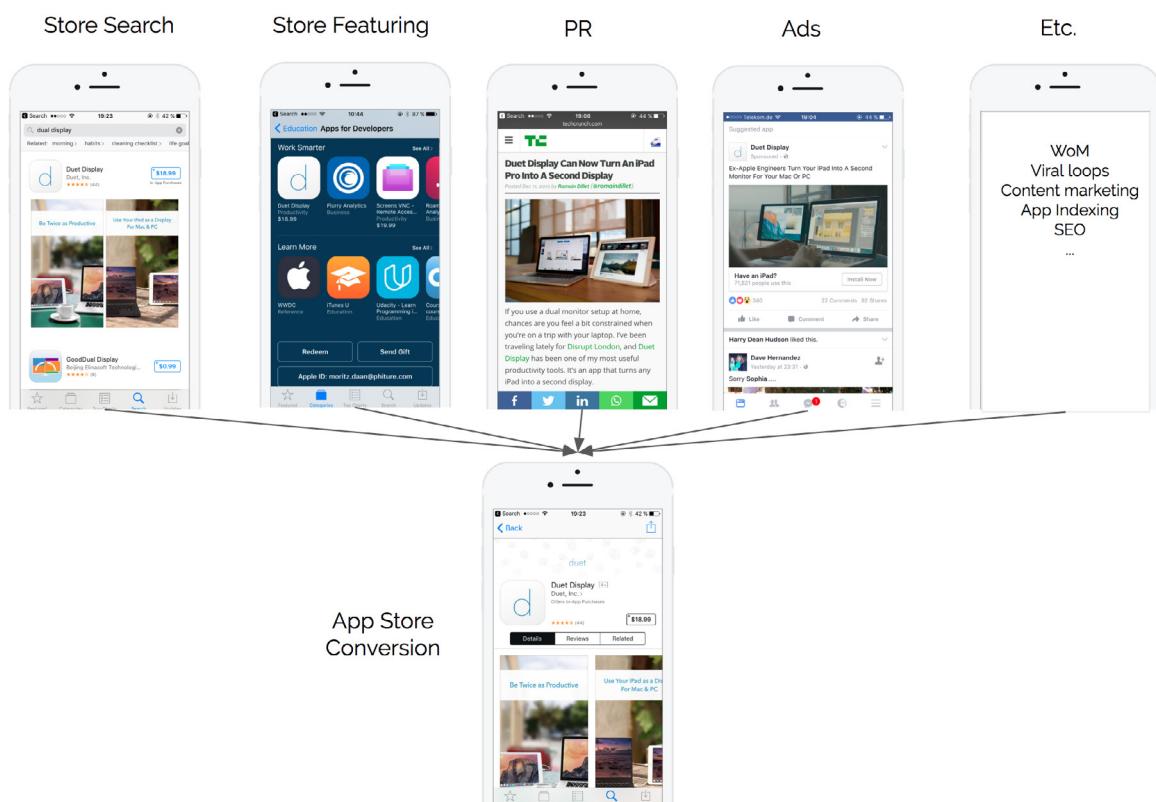
- 01.** App A offers all its features for free and **monetizes through ads**. While app A may not have the highest ARPU, app A will likely earn the highest visibility because more users will likely download the app, and users will likely use the app for longer.
- 02.** App B offers a subset of features for free, and charges for the rest as an **In-App Purchase**. App B will likely earn a higher ARPU and earn more visibility than app C, but app B will likely earn less visibility than app A, because app B has a more limited experience for users who do not pay. However, app B will benefit from being able to promote its In-App Purchases, which is an ability that neither app A nor app C can leverage.
- 03.** App C charges a **paid download** for its app. App C will most likely have highest ARPU and is eligible for bundles, but will also have the lowest visibility and conversion rate.

In this case, app B could improve its ASO performance by **combining ads with In-App Purchases**, to offer users who do not pay a chance to continue using the app, and thus improving its retention rate.

While it's unknown whether revenue plays a factor in an app's rankings, it isn't out of the question, and monetization certainly does play a factor in the Google top grossing chart, as well as the top paid charts, as the pricing model/level of an app will affect its download conversion rate.

## Alternative User Acquisition Sources

As highlighted throughout the book, because of the algorithmic reliance on download velocity as a major signal, acquiring downloads from other sources beyond ASO is of critical importance to earning and keeping significant growth.



*There are many sources that can provide downloads from outside of the store, and each can have a direct impact (albeit sometimes incremental) impact on an app's ASO success potential.*

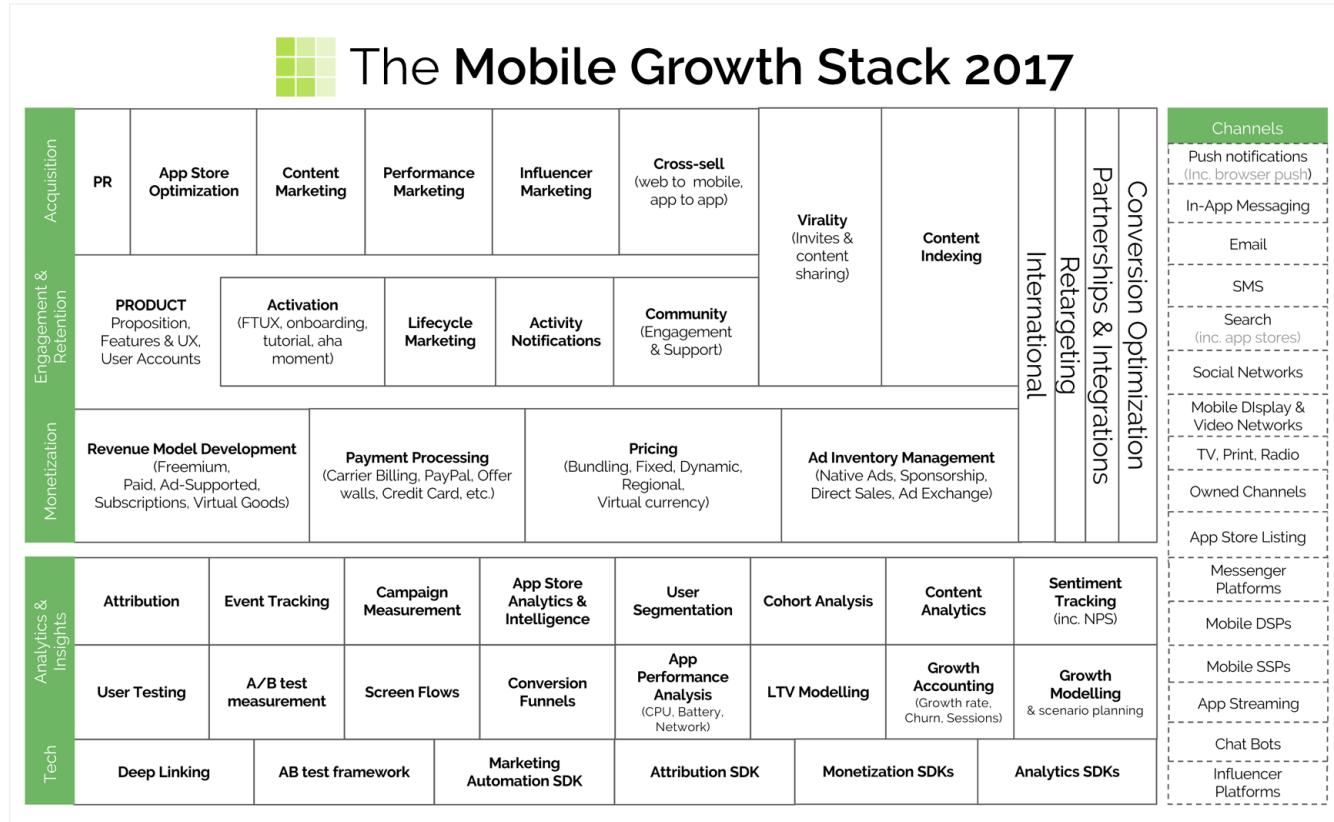
For upper-range keyword ranks, apps can even use alternatively-sourced downloads to **overcome the ranks on a keyword** of other apps that don't drive downloads outside of the store. Then, once in decent keyword rank position, the usurping app can climb the remaining keyword ranks organically by converting users better than other apps.

Additionally, we have also explored the fact that some apps use black hat methods to drive downloads from particular keyword searches, causing those apps to earn a doubly high score when ranking for those keywords.

Again, not only do downloads outside the store affect the visibility of an app, but they also affect the conversion rate of an app. In the Google Play Store, users can see a range of the app's **total actual downloads**, as well as an app's **best top chart ranking**.

Exploring downloads outside the store could fill the pages of a whole additional book (or two!), so to summarize:

while there are still apps that almost only grow because of their organic visibility in the stores, it's gotten a lot tougher nowadays with competition from millions of apps. ASO alone these days is not a sufficient strategy, and one should consider other mobile growth strategies in the **Acquisition layer** of Mobile Growth Stack to help get the most out of your App Store optimization.



*The Mobile Growth Stack (see [mobilegrowthstack.com](http://mobilegrowthstack.com))*

## Content Indexing



This chapter includes comments by guest author Emily Grossman, the Director of App Strategy at MobileMoxie. She specializes in app search marketing, with a focus on strategic deep linking, app indexing, app launch strategy, and App Store optimization.

Emily has spoken about mobile application marketing at national and international conferences and has collaborated with major U.S. brands on their mobile marketing and mobile app strategies. Before her work at MobileMoxie, Emily was one of the original employees at Double Encore, Inc, one of the first native application development agencies (acquired by WPP's POSSIBLE in 2014).

App indexing is the ability of a mobile app to be displayed in a **web search** results page. Each app that is live in the App or Play Store is automatically displayed in web searches with a link to that app's store permanent URL. While this is the basic definition of app indexing, most references to app indexing are with regard to indexing and **deep linking** to the content **within an app**, just like links to pages within a website are indexed in search results page.

Indexing the content from within an app does not occur by default for all live apps. This is because in order to index the content within apps, developers must implement technology to enable an app to support deep linking. The reason for this has to do with the way an app is built; in short, while a web page has a permanent URL for each of its web pages, apps have dynamic screens that are loaded only based on user interactions, and cannot be assumed to live in a permanent location within the app.

In order to set up deep linking, a developer must either implement Apple's [Core Spotlight API \[https://developer.apple.com/library/content/documentation/General/Conceptual/AppSearch/AppContent.html\]](https://developer.apple.com/library/content/documentation/General/Conceptual/AppSearch/AppContent.html), or Google's Android [deep linking technology \[https://developer.android.com/training/app-indexing/deep-linking.html\]](https://developer.android.com/training/app-indexing/deep-linking.html). You can also use tools to assist in app indexing setup, from MMPs (i.e., Adjust, AppsFlyer, Kochava, Tune) to free services like Branch Metrics.

Both Google and Apple have a concept of a public vs. private index of content, where public content is information that can be accessed by anyone and can be indexed for any user to see in search results (e.g. public profiles of stores in Yelp), while private content is information that should only be accessible to a particular user (e.g. direct messages in Twitter), and will only be visible in searches made by that particular user.

 The most important thing to understand about **Google App Indexing** in 2017 is that only Android deep links can be indexed.

 For iOS, Google is not actually indexing any separate URLs—Google is merely indexing web URLs and counting on Apple's Universal Links directive to route users into iOS apps. With this in mind, when we talk about Google's public vs. private index, we are talking exclusively about Android apps.

 The **public index** is available to any and all Android devices, and hosted centrally with Google. The **private index** is device-specific and hosted on an individual's Android phone. The private index depends on app downloads and individual user engagement, so each Android user will have a different private index. An individual device's private index can be accessed via the Google Search bar on Android devices by clicking on "in apps."

Developers can currently get valid deep links indexed in Google's public index through a few methods:

- Using http-scheme deep links and allowing Googlebot for Android to crawl.
- Calling Google's App Indexing API (part of Firebase) on http-scheme deep links.
- Referencing http or custom-scheme deep links in rel=alternate link tags in the <head> of a corresponding web page or in sitemaps.

Developers can currently get valid deep links indexed in Google's private index by calling Google's **Firebase App Indexing API** on app activities.

 Apple's Spotlight Search engine also leverages a private and public index that can contain deep links to app content. Like Google's private and public indexes, the private index is centrally hosted and can deliver results to any device. The private index is device-specific and depends on individual user engagement.

Unlike Google, the private index isn't independently accessibly via an "In Apps" feature; Apple mixes results from the user's private index and general public cloud index when it presents search results to users within the Spotlight interface.

 Additionally, Google has begun indexing content within apps, allowing users to see content from apps that they

have already downloaded appear in a Google search.

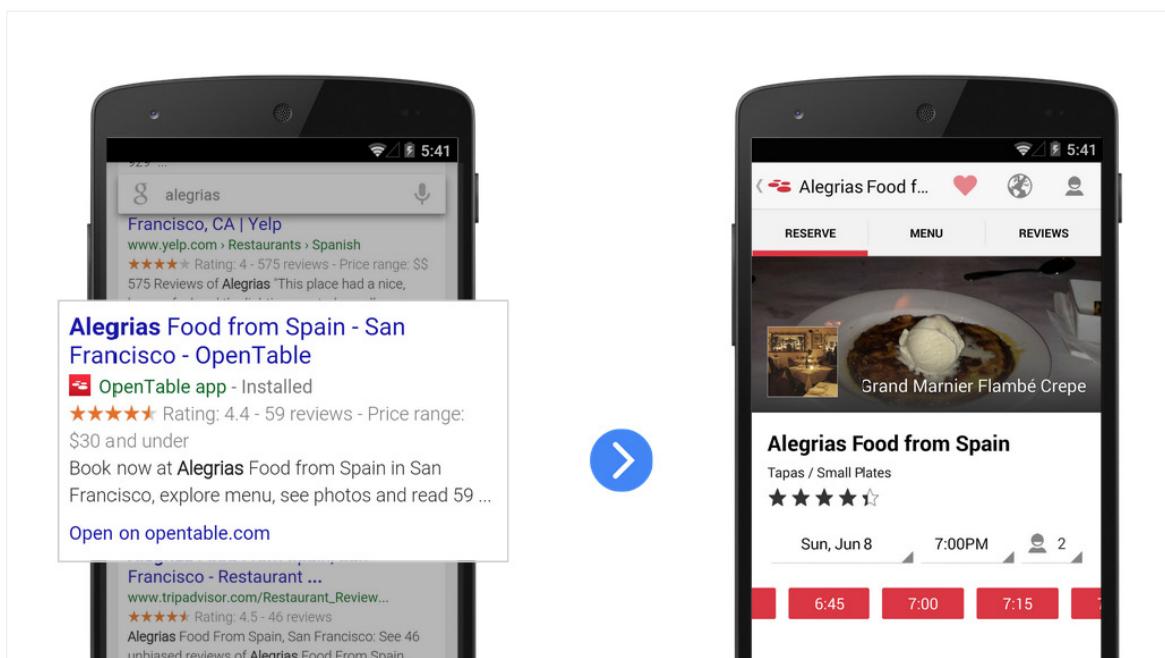
Deep links will not show for apps that users have not installed, and after that, traditional SEO factors (e.g., CTR, keyword relevance, etc.) influence where in the SRP a deep link shows up. Additionally, Google claims that using the Firebase App Indexing API gives deep links a rankings boost.

As it relates to deep links vs. web links, in Google Search, deep links to apps are returned when the app is installed on a user's device, the app supports Google App Indexing, and the deep links are **relevant to the user's query**. Results that link to the Google Play Store or iOS App Store (App Packs or Install Buttons) will be returned on mobile devices when the user's query has strong **app download intent** (i.e., "kids games" or "to-do list" or "travel apps"). That said, according to [Google \[http://searchengineland.com/google-amp-will-override-app-deep-links-foreseeable-future-259905\]](http://searchengineland.com/google-amp-will-override-app-deep-links-foreseeable-future-259905), for content that is found in both an accelerated mobile page (AMP) and mobile app, the AMP result will override the deep link result for the foreseeable future.

 Using the Firebase App Indexing API will initiate indexing on Android apps, but there are ways to get public deep links indexed without the API. Similarly, using other parts of Firebase will not automatically guarantee indexing.

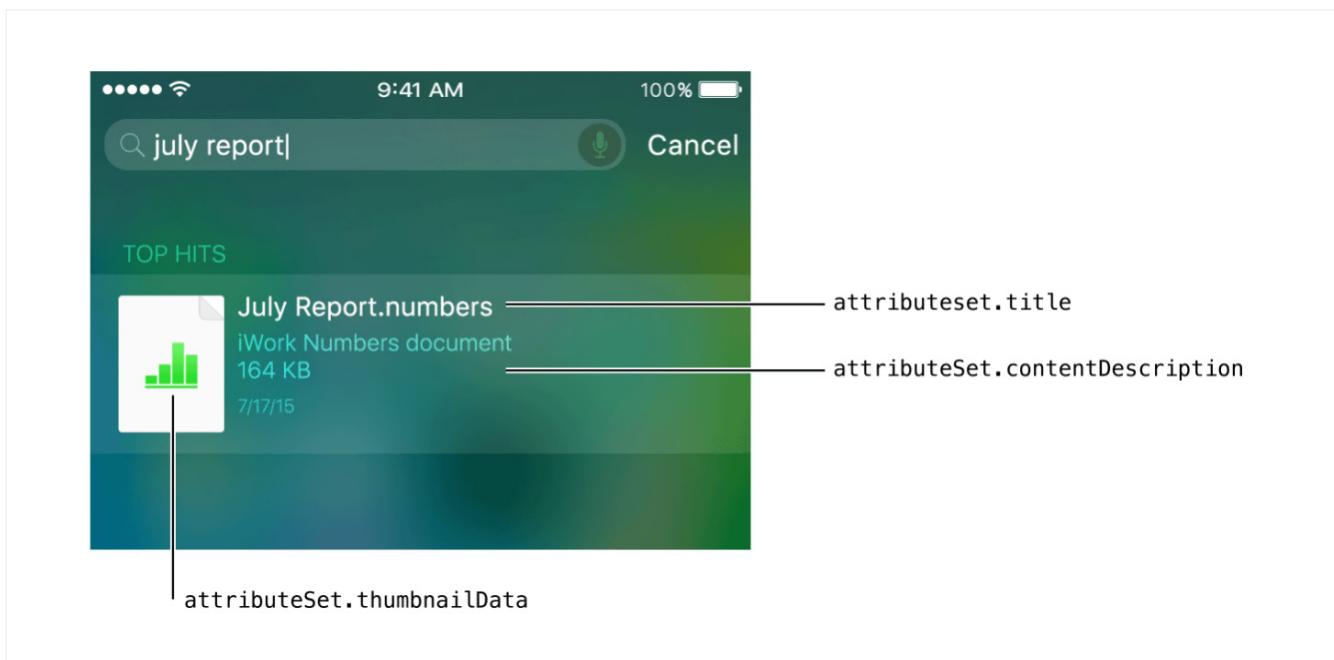
When it comes to what control a developer has over how a deep link result shows, on Android, the **app icon** associated with the app will appear in search results next to the deep link.

Publicly indexed deep links will pull the title and description set for corresponding web content through meta tags in the <head> of the html specified in the deep linking code. Via the Firebase App Indexing API, developers can specify a separate or distinct **Title ("mText")** that will appear for deep links when they are triggered in on-device search.



Screenshots of deep app linking via Google.com Image credit: Andevcon [<http://www.andevcon.com/news/steps-to-successfully-deep-link-an-android-app/>]

 For Apple spotlight search, developers input a title, description, and thumbnail.



Screenshot of a Spotlight search result. Image credit: Apple [<https://developer.apple.com/library/content/documentation/General/Conceptual/AppSearch/AppContent.html>]



**Further Reading:** For deeper detail on app indexing, check out these resources:

If you own an app, you can set up the Google Search Console in Google **Webmaster Tools** to report on your overall status of app indexing. On top of this, you can check individual URLs for indexing status with Google's tool, regardless of whether or not you own them: <https://firebase.google.com/docs/app-indexing/android/test> ("Test public content indexing")

App indexing case studies:

- <https://firebase.google.com/docs/app-indexing/partners/case-study-etsy.pdf>
- <https://www.smashingmagazine.com/2017/01/case-study-app-indexing-google-worth-the-effort/>
- <https://www.tune.com/blog/google-app-indexing-apple-spotlight-search-impact-aso/>

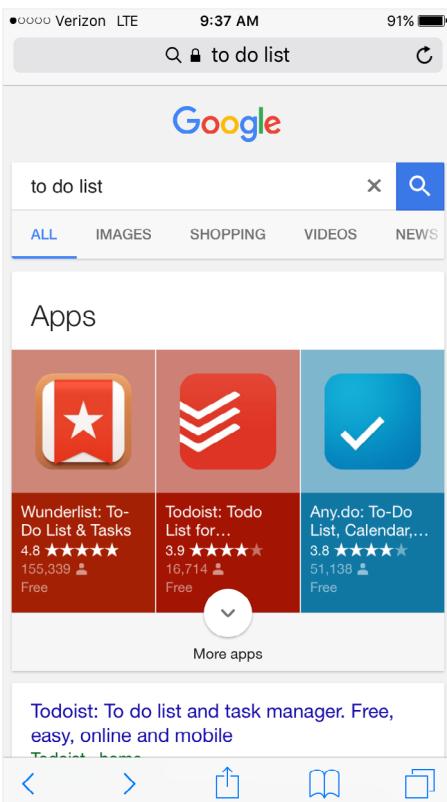
Content indexing subchapter written, including comments, by Emily Grossman.

## Google App Packs

In addition to regular results, Google.com searches also return app packs, which are **groups of apps** that are relevant for a particular web search from a mobile device (iOS devices will be shown only app packs for iOS apps, while Android devices will be shown only app packs for Android apps). App packs point to an app's store page and are **not deep linked** to content to within an app. All apps that are live in the App Store or Play Store are eligible to rank within an app pack.

For **iOS** apps, app packs return **30 apps** with three showing by default. The app title, description, in-app purchases, and user reviews can influence which keywords an iOS app ranks for.

**Android** apps return in app packs of **up to 100** apps with six showing by default. While the title and user reviews are the best ways to directly influence which keywords an Android app ranks for, Google also ranks apps with other keyword associations identified by Google's keyword ranking algorithm as relevant.



*Screenshot depicting app packs on Google.com*



This chapter is written by guest author Daniel Peris, co-founder of PickASO agency and TheTool—the first performance-based ASO tool developed in Spain by specialists with more than 10 years of experience in digital marketing and startups. Daniel has been doing SEO since 2007 and ASO since 2013 and has optimized over 200 apps from different niches: banking, retail, entertainment, gaming, etc.

## How to Use Google Search Console for Apps

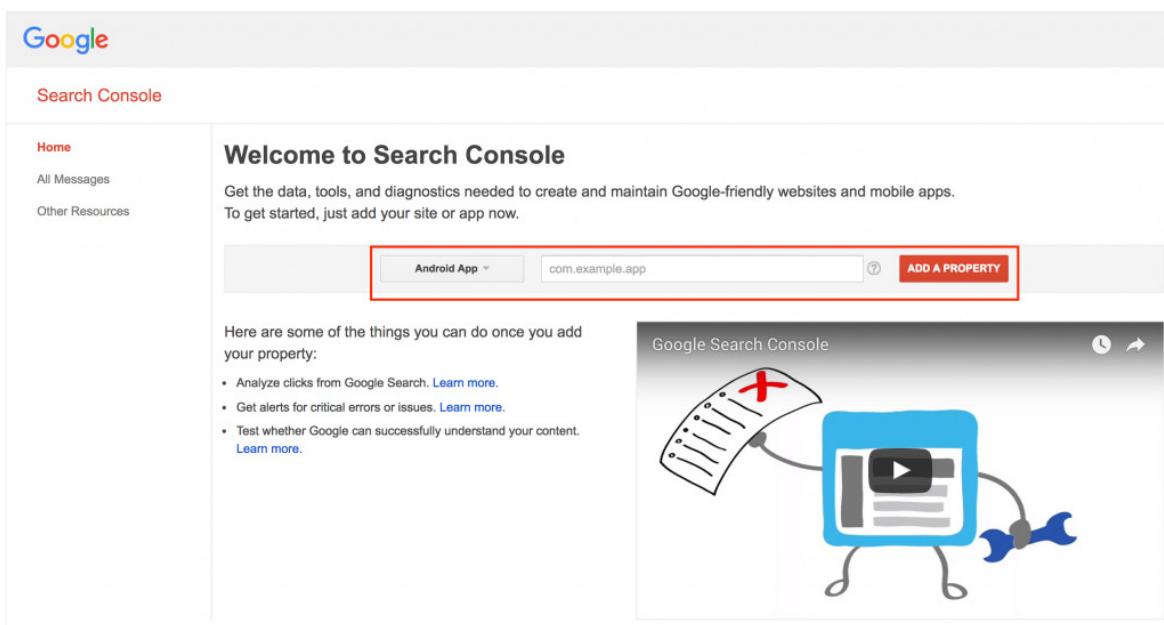
Google Search Console for Apps is the only way to monitor visibility (impressions, clicks, keywords, countries, etc.) of your Android app in the Google mobile web search. This free tool gives multiple possibilities to track your app's

performance in web search.

If you've already set up App Indexing, Google Search Console for Apps will report your app's content visibility and possible issues with its implementation.

## HOW TO ADD YOUR APP TO THE GOOGLE SEARCH CONSOLE (GOOGLE-ONLY)

01. Go to [Google Search Console](https://www.google.com/webmasters/tools/home?hl=en) [<https://www.google.com/webmasters/tools/home?hl=en>], click on “Add property,” select “Android App,” and insert your app or game’s package URL name:



02. Once you have submitted the app, you have to verify that you are the owner of this app, which can take up to 48 hours.

There are two ways of doing this:

- **Automatic verification:** Only available if you are the owner and have management rights on the app in Google Play Console and are logged in with the same account in Google Search Console:
- Enter the URL of your app using this format: android-app://{package\_name}/
- Example: android-app://com.example/
- Ask the owner of the app already verified for Google Search Console to give you user/owner rights for this app.

For this, the owner needs to click on Settings icon on his Search Console, select Users & Property Owners and select “Manage property owners” or “Add a new user.”

### Additional Resources:

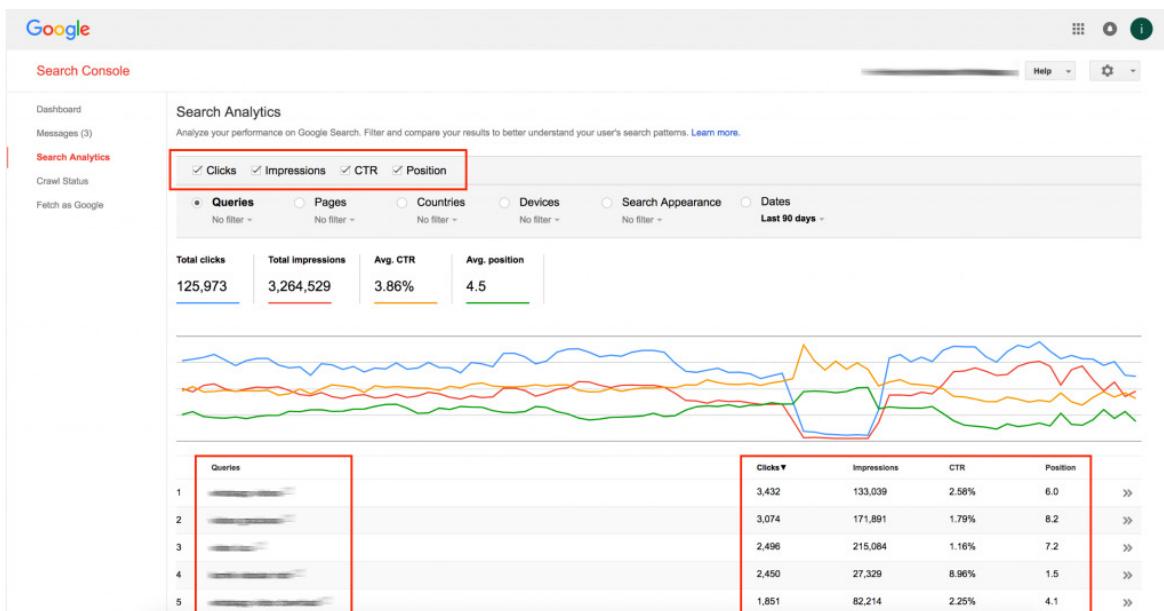
<https://support.google.com/webmasters/answer/6178088?hl=en>

<https://support.google.com/webmasters/answer/6178045?hl=en>

## How to Track App SEO performance

### GOOGLE WEBMASTER TOOLS SEARCH CONSOLE

To access the analytics and reports on SEO of your app, select “Search Analytics” in your App property on Google Search Console:



*Screenshot showing Google Webmaster Tool Search console view*

Similarly to Search Console for websites, in the App Search Analytics you can track the impressions, clicks, CTR, and position for ranked keywords, indexed content of the app (in case of App Indexing), and the breakdown per country or per device.

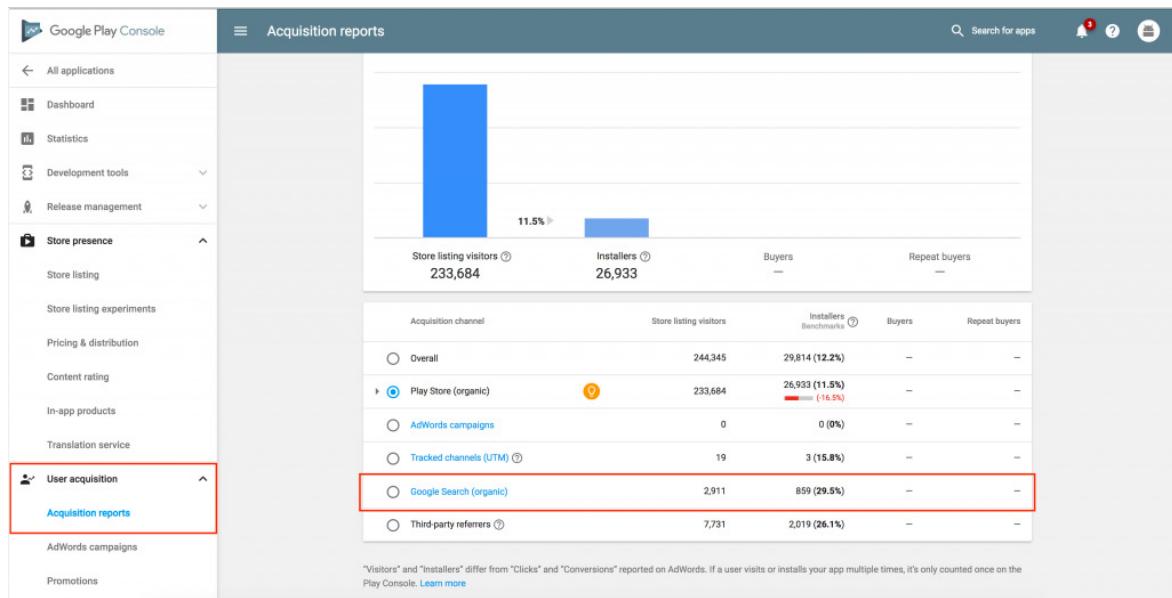
All this information is available for a maximum of 90 days.

Other sections include:

- **Messages:** Notifications and announcements from Google, error notices, advice, and tips.
- **Crawl Status:** An indicator of visibility of the app (how many pages Googlebot has indexed). This only applies if you've set up App Indexing.
- **Fetch as Google:** In case you use deep links in your mobile app, submit any of them in order to check whether Google can access it.

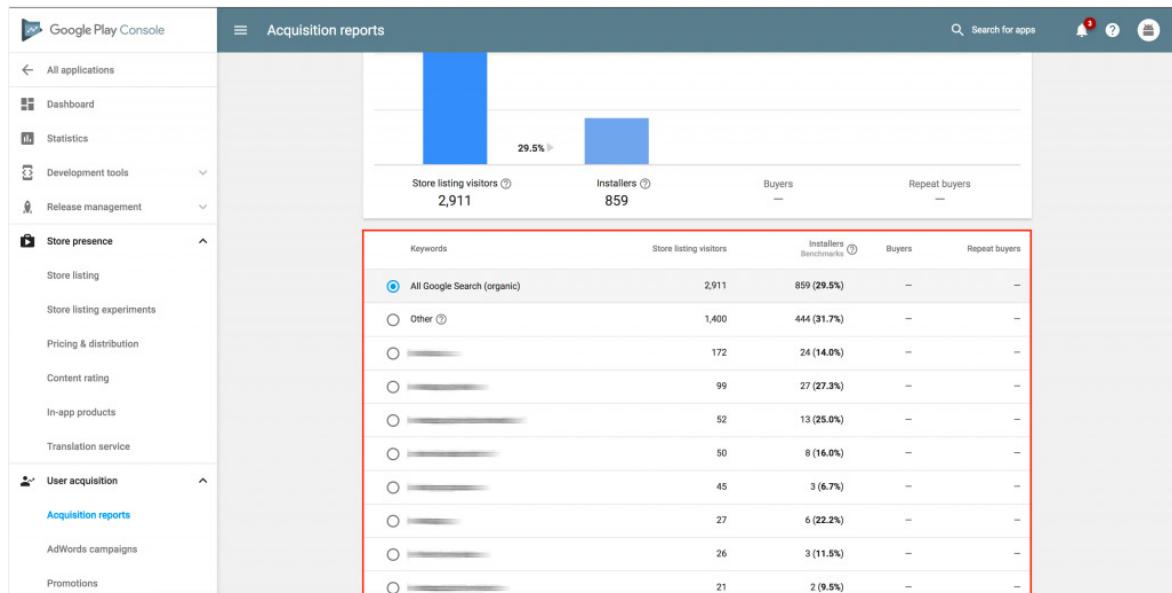
### GOOGLE PLAY CONSOLE

In Google Play Console, go to “User acquisition > Reports > Google Search (Organic)” to see which keywords bring Installs with Google web SEO / App Packs:



Screenshot depicting the Google SEO row in acquisition reports

Here you can see which keywords are bringing Installs from Google Web Search:



Screenshot depicting the keyword sources in acquisition reports



**Pro tip:** Match keywords from Google Search Console and Google Play Console... Magic! Now you have impressions > clicks > Installs (> buyers) keywords data from SEO / App Packs!

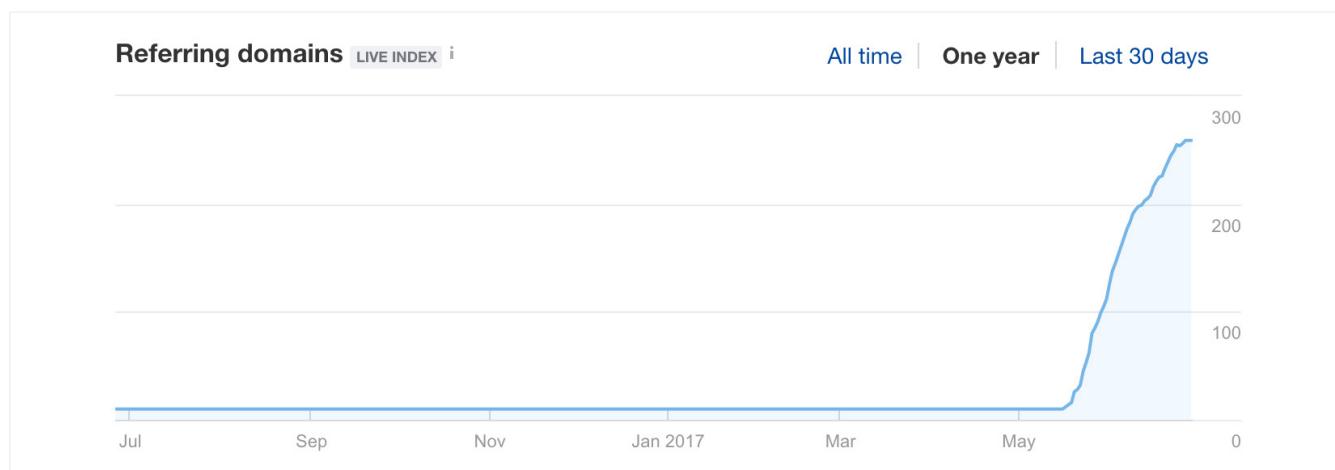
## On Backlinks and ASO

In our experience, backlinks **don't have a direct impact** on ASO. Maybe some of them, the ones that generate Installs, have a little impact, but there's no direct relation with ASO Search or Top Charts. ASO is not SEO and vice versa and backlinks are the main SEO factor.

But, because mobile web search is growing in popularity, the role of the backlinks in SEO for apps is growing stronger, too. Google does take into account backlinks (and anchor texts) to **rank apps in mobile web search**.

While unlikely in ASO, in Google SEO for mobile apps, backlinks do play an important role. If more powerful domains point to your app, then the more visibility your app result will get in web search, the more clicks and the more downloads, as you can see in the following example.

**App:** Fidget Spinner from Ketchapp (<https://play.google.com/store/apps/details?id=com.ketchapp.fingerspinner>)



*Screenshot showing the evolution of referring domains*



*Screenshot showing the number of organic keywords bringing traffic to Fidget Spinner*

The effect of high quality backlinks has been proved, in our opinion, for Google Web Search that now includes the App

Packs and crawls app content (in case of App Indexing) and backlinks to put more weight on the apps/games that have stronger URL ratings.

There are some tools that allow to monitor SEO backlinks, such as [Open Site Explorer by Moz \[https://moz.com/researchtools/ose/\]](https://moz.com/researchtools/ose/) and [ahrefs](#).

## USING AHREFS FOR APP SEO

ahrefs provides comprehensive statistics about domain rating (apple.com and google.com) and URL rating, backlinks, referring domains, organic keywords per country, estimates organic traffic, and paid keywords, and shows top referring content and anchor texts:

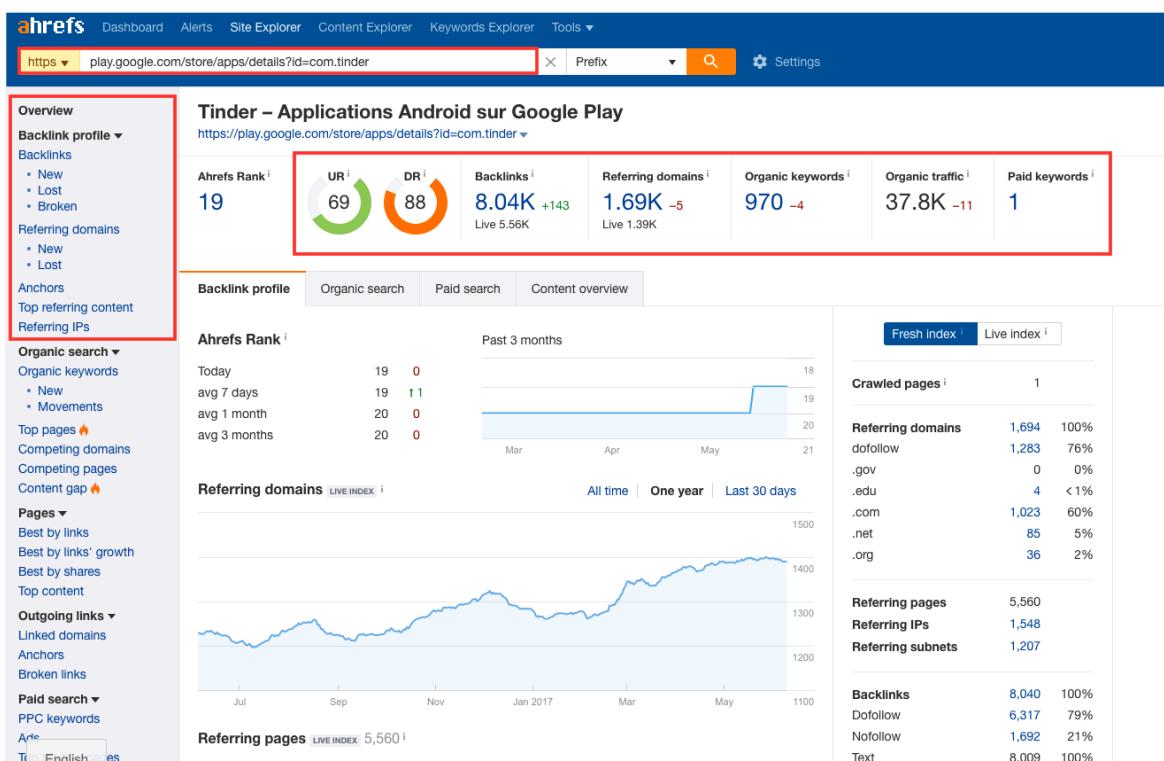


Image source: ahrefs

**Overview**

**Backlink profile ▾**

- Backlinks
  - New
  - Lost
  - Broken
- Referring domains
  - New
  - Lost
- Anchors
- Top referring content
- Referring IPs
- Organic search ▾

  - Organic keywords
    - New
    - Movements
  - Top pages 🔥
  - Competing domains
  - Competing pages
  - Content gap 🔥

- Pages ▾

  - Best by links
  - Best by links' growth
  - Best by shares
  - Top content

- Outgoing links ▾

**Backlinks**

Group similar links | One link per domain | All links | Link type | Platforms | Languages | Search in results | Q

Fresh index | Live index | 8,074 backlinks

| Referring page  | DR | UR | Ext.  | Social                    | Anchor and backlink  |
|---|----|----|-------|---------------------------|--|
| علوم و تقنيات   شروحات مكتوبة ومصورة بالفيديو<br>www.arabes1.com/ ▾<br>AR   | 50 | 35 | 102   | fb 282<br>G+ 2.5K<br>in 0 | Tinder من 100 مليون مستخدم ، يمكن تحميله من هنا<br>play.google.com/store/apps/details?id=com.tinder ▾<br>Lost: link removed          |
| Planet Android<br>www.planetandroid.com/ ▾<br>EN  | 43 | 35 | 1,343 | fb 17<br>G+ 14<br>in 1    | Tinder play.google.com/store/apps/details?id=com.tinder ▾<br>Lost: link removed  |
| Which Online Dating Service is Right For Me?<br>lifehacker.com/which-online-dating-service-is-right-for-me-1506628817 ▾<br>EN | 73 | 34 | 65    | fb 133<br>G+ 41<br>in 2   | Tinder (Android/ iOS) If How About We has too much fluff<br>play.google.com/store/apps/details?id=com.tinder ▾<br>Lost: link removed |
| mob-mobile.ru – все о мобильной технике<br>mob-mobile.ru/ ▾   | 50 | 30 | 19    | fb 35<br>G+ 4<br>in 0     | Google Play<br>play.google.com/store/apps/details?id=com.tinder ▾<br>Lost: link removed  |
| The Best Android Apps   Android Central<br>www.androidcentral.com/best-android-apps ▾<br>Lost: 301 redirected EH CMS          | 67 | 30 | 209   | fb 469<br>G+ 90<br>in 55  | Download Tinder (Free)<br>play.google.com/store/apps/details?id=com.tinder ▾   |

Image source: ahrefs

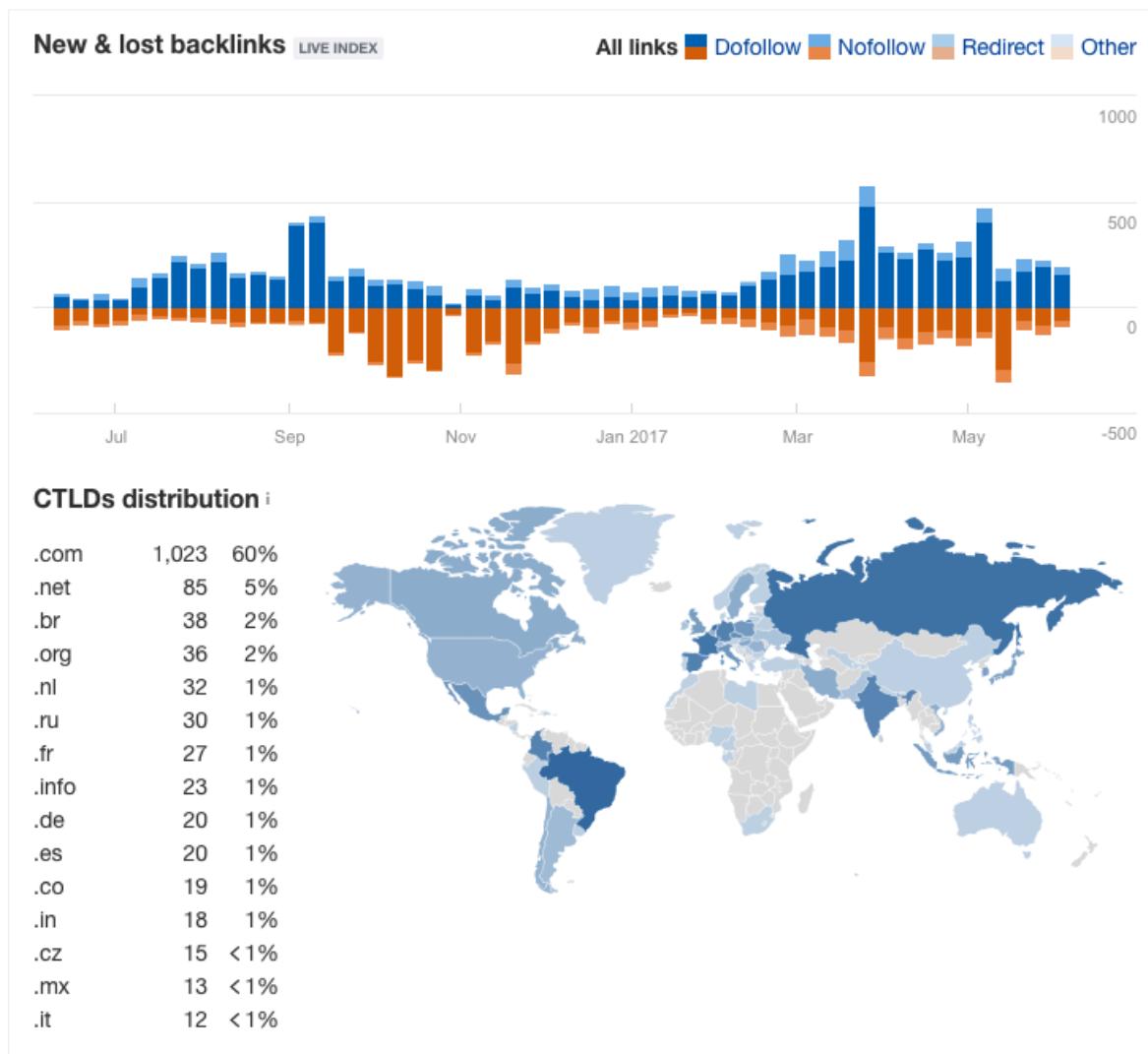


Image source: ahrefs

To track and improve the rankings of a mobile app in Google Mobile Web Search, there are certain best practices that developers and marketers can use:

- Track your app's **visibility** on Google web search with Google Search Console tool (only for Google Play apps).
- Track your app's **backlinks** profile with Backlinks SEO tools like ahrefs or Open Site Explorer by MOZ.
- Optimize your app's **on-metadata for ASO + SEO**: title/app name, short description (Google Play), long description, developer name, etc.
- Contact **media** to get some mentions and direct links to your app.
- Get more positive **ratings/reviews** from users.

Users can organically find your app in App Stores, but they also can do it in Google mobile web search. This is why it's important to track your app's visibility in every channel.

Subchapter authored by Daniel Peris.

# 13

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FINAL WORDS

# 13

## FINAL WORDS

And there you have it! The unabridged guide to advanced App Store Optimization.

We hope that you have gained a more in-depth understanding of how ASO works, from increasing your visibility, to raising your conversion rate, to learning about the tools available to help you in your work, to understanding how forces outside of the store influence your app's ASO success potential, and everything in-between.

If you enjoyed this book, please tell your friends and spread the word! And if you have feedback, we would love to hear from you! Send a note to [info@phiture.com](mailto:info@phiture.com) and [hello@incipia.co](mailto:hello@incipia.co).

Visit the [ASOStack Blog by phiture.com](#) and the blog at [incipia.co](#) to learn more about our companies and stay up-to-date on the latest and greatest content on ASO.

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*Regina Leuwer (Editor) and Javier Prieto (Designer)*

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-Moritz and Gabe

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