

MOBILE MARKETING  
**MASTERCLASS**



# APP STORE OPTIMIZATION

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A STEP-BY-STEP GUIDE TO BOOSTING  
YOUR APP'S ORGANIC DOWNLOADS

**O L I V E R   H O S S**

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## ***FREE SAMPLE CHAPTER***

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*App Store Optimization:*

*A Step-By-Step Guide to Boosting Your App's Organic Downloads*

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# INTRODUCTION

When Apple's *App Store* opened its digital doors in 2008, it offered only 500 different iOS apps to its customers.<sup>1</sup> A mere three months later, Google launched its store called *Android Market* with just 50 apps.<sup>2</sup>

One decade later, users can choose from more than 1.9 million iOS apps, and 1,000 new ones are added each day. On Google Play, 2.8 million apps are available, and this number grows by 4,500 per day.<sup>3</sup>

While this enormous variety is fantastic for users, it is a nightmare for app publishers, especially for those, who enter the market with their first app. It has never been harder to gain users.

Occasionally an app becomes a viral success without any marketing efforts. A famous example was *Flappy Bird*. The arcade game by a Vietnamese indie developer was downloaded more than 50 million times, and it generated daily ad revenues of up to \$50,000.<sup>4</sup>

Unfortunately, success stories like this are rare.

Many app publishers rely on buying traffic to grow their user base. But as more companies move towards mobile each year, this approach gets more and more expensive.<sup>5</sup> For this reason, independent developers in particular must focus on another source for new users: Organic traffic.

Organic users are free, and scaling their number is possible for everyone. All you need to get organic users is knowledge about App Store Optimization, or ASO.

This knowledge is multi-faceted. App Store Optimization is one of the most challenging fields of Mobile Marketing. It touches many topics, and thus it requires different skills to master ASO:

- It requires a basic technical understanding of the app stores' algorithms.
- It needs creativity to design visual creatives and catching texts that attract and amaze users.
- It requires analytical skills to evaluate the outcome of optimization efforts and draw the right conclusions from it.

- It takes empathy to understand users' behavior and to deal with their feedback.
- It requires the will to learn and to keep track of technical developments that impact the app stores.
- And last but not least, it requires the stamina to keep researching and testing, even when the results are not as good as expected.

Many myths exist around App Store Optimization, and there is much content on the Internet trying to demystify it. One thing is indisputable though: If you want to make your app a success, there is no way around App Store Optimization.

## **Why this book?**

You can find tons of information about App Store Optimization online. Hundreds of content creators write articles and blog posts, create videos or share their insights on social media on a daily basis.

So why is this book necessary?

Well, most of the available content pieces face at least one of the following problems:

First, they are scattered all over the place. Most companies in the mobile industry have their own blogs and newsletter cycles. Also, many individuals use their private social media accounts to publish information. Keeping track of all these sources would be a full-time job. And as a developer, you have better things to do.

The second reason arises from the first. As the content is scattered, it lacks a central thread connecting the single content pieces. Especially for newcomers, a missing underlying concept makes it difficult to understand the full meaning of ASO.

Third, most authors do not have a neutral view on topics. They are employees of ad networks, agencies or other companies with an agenda. And they want to be successful in their jobs and earn money. That means their opinions are biased. They will promote their business field as the single most important factor in mobile marketing, and of course, they will never tell you anything that could

harm their business. Although this behavior is understandable, it prevents a well-balanced view of ASO.

Fourth, authors need to keep themselves relevant and in readers' minds. Again, the number of content producers is huge, and many of them (and respectively their companies) are competitors. So to stand out, they face constant pressure to publish new content. But writing is just one of many aspects of their job. They can invest only limited time in producing content. In-depth research is in most cases not possible because it consumes too much time. As a result, most of the one-page articles, white papers, and case studies do not cover a topic in detail. They give general advice like "research your keywords" or "optimize your screenshots". But they fail to deliver detailed tutorials about how to do it.

The purpose of this book is to solve these issues. During my career, I have read hundreds of articles, blog posts, e-books, and white papers. I have seen tutorial videos, participated in webinars, and had personal conversations with people in the industry. This book summarizes the takeaways from these activities, and it presents them to you from the neutral point of view of someone who struggled with ASO just like you do.

I filtered the useful information, concepts, and best practices out of the tons of content, and I connected them with a central thread. And of course, I added my personal experience from doing ASO.

The result is the most comprehensive ASO book in the industry.

### **Is this book for you?**

This book is for independent developers who are about to release their first app on iTunes or Google Play.

It is for people who work for app studios that struggle to get their apps flying.

It is for marketing professionals who want to expand their knowledge to the app sector.

It is for employees of established businesses dipping their toe into the mobile world for the first time.

It is for students, aiming to become marketers, product managers or developers in the mobile industry.

And it is for everyone else who is curious about apps, the app stores, and mobile technology.

## **What will you learn?**

We will begin by defining the basic vocabulary and metrics you need to understand Mobile Marketing. Based on that knowledge, we will discuss how iTunes and the Google Play Store work. You will learn about your app's product page and the pieces of information it contains. You will understand which purpose each element has, and how you can optimize it to serve this purpose. I will introduce you to multiple techniques to make your product page a better experience for potential users, and I will show you a lot of tools that will help you with your daily ASO work.

This book will give you all the information you need to develop your own ASO strategy and make your app a success. It is perfect for you if you are entirely new to ASO, because it will take you through the process step by step. But it will also give you many new ideas if you already have a basic understanding of the industry.

By buying this book, you took the first step toward a successful app business. Let us continue on this journey, shall we?

# PART I

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## ASO THEORY

# CHAPTER 1

## THE BASICS

Whenever we enter a new field of business or research, we come across words that we do not understand or cannot classify into the new context. This issue is especially real for technical fields. App Store Optimization is no exception. To understand the techniques of ASO, you need a basic knowledge of its vocabulary. Thus let me define the basic terms and concepts, so we are on the same page.

### What is ASO?

First and foremost, here is the fundamental question: What is App Store Optimization?

ASO is the process of optimizing an app's product page in the app stores. The purpose of ASO is to maximize the app's visibility and improve the conversion rate, with the goal of increasing the number of organic downloads.<sup>6</sup>

This definition contains the final goal of ASO: Increasing the number of downloads. But it also includes two subgoals that contribute to the final goal:

- Creating Visibility
- Improving the Conversion Rate

These subgoals are the two big challenges of ASO. All your efforts contribute to one of them. We will talk in depth about how to create visibility in part II and about Conversion Rate Optimization in part III of this book.

### Definition: Apps

Let us talk about apps for a minute. An *app* (short for *application*) is a “computer program that is designed for a particular purpose.”<sup>7</sup> I am sure you know the term in the context of smartphones and tablets. But it is common in the context of desktop computers, smart TVs, wearables (smart watches), and other electronic

devices, too. However, only apps for smartphones and tablets are relevant for this book.

We will limit our research further by the devices' operating systems (OS). That is the "software that allows a user to run other applications on a computing device."<sup>8</sup>

iPhones and iPads run on *iOS*. Samsung, Huawei, and many other manufacturers use Google's OS called *Android* on their phones and tablets. A tiny number of devices operate on other systems like *Windows Phone OS*, *Blackberry* or *Symbian*. As these other systems make up less than 1% of all devices, we will ignore them for our research. All considerations in this book are about iOS and Android apps.

We can also categorize apps by their price model. There are three common models used across all app stores:

### **Premium Apps**

To download and use *Premium apps* (or *Paid apps*), users must pay a price upfront. Famous examples are *Threema*<sup>9</sup>, a messenger app focusing on users' privacy, or the mobile version of the multi-player game *Minecraft*<sup>10</sup>.

### **Free Apps**

In contrast, users do not have to pay for free apps. They can enjoy all functions without limitations. *Facebook Messenger*<sup>11</sup> is a typical free apps.

### **Freemium Apps**

Finally, many apps are free of charge at the time users download them, but they come with locked features or limited content. To unlock this content and enjoy the app to its full potential, users have to pay. These apps are *Freemium Apps*, with freemium being a combination of the words *free* and *premium*.

A piece of premium content is called in-app purchase (short: IAP). IAPs are 100% virtual. The entire buying process takes place online, including the order, the payment, and the distribution. A shirt or another physical product that you order via a shopping app is not an IAP.

IAPs can be for example:

- Consumable currency that allows users to speed up game mechanics, for example, *Gems in Clash of Clans*<sup>12</sup>.
- A pack of recipes for a cooking app that is permanently available after the purchase like in *Veggie Weekend*<sup>13</sup>.
- A subscription that hides ads like in the *USA today* app<sup>14</sup>.

## Definition: App Stores

Apps are distributed via app stores. The app store on your phone is a pre-installed shopping app that allows you to buy other apps. It is bound to one operating system: either iOS or Android.

If users look for iOS apps, there is only one official place to find them: Apple's *iTunes*.

For Android apps, the number of app stores is bigger. *Google Play Store* is the most popular. But several smaller stores like the *Samsung Store* or the *Amazon App Store* also provide Android apps. In some countries like China, the situation is even more confusing. While Chinese users cannot access Google Play, there are many alternative stores such as *Myapp*, *Baidu*, *Xiaomi* or *Oppo*. Besides those, there are hundreds of others focusing on users of distinct demographics or in certain regions, or on owners of specific devices.

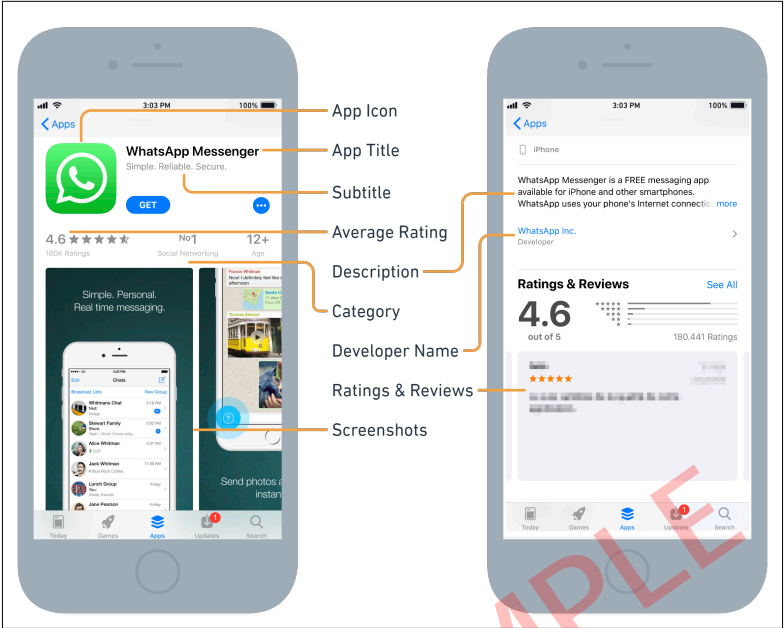
As iTunes and Google Play have the biggest global market share, we will focus on them and ignore alternative stores.

## Definitions: Product Page & Metadata

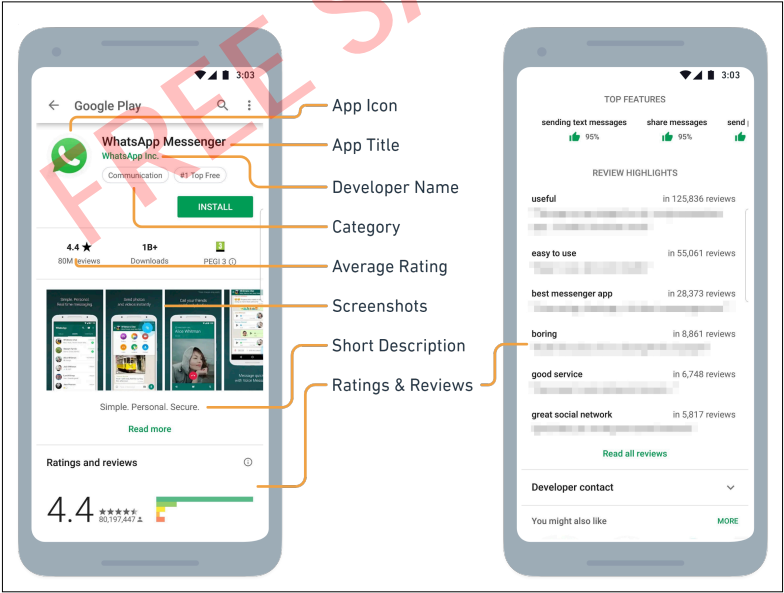
Every app in the stores has a *product page* (or *store listing*). The product page is a showcase to present what the app does and how it looks. It summarizes all the information about your app that users can get before downloading it, including texts and visual creatives such as screenshots and videos. These pieces of information are called *metadata*.

Check out the examples for product pages on iOS and Google Play on the next page.





**Fig. 1: Product Page on iPhone**  
(Source: adapted from Gordon 2018)<sup>15</sup>



**Fig. 2: Product Page on Google Play**  
(Source: adapted from Gordon 2018)<sup>16</sup>

# On-Page Metadata

As the app owner, you can manipulate some of the metadata elements. These elements are called *on-page metadata* or *on-metadata*. You can access and manipulate it via *iTunes Connect* or the *Google Play Console*.

Here is a list of the on-page metadata:

Metadata	Type	iOS	GooglePlay
App Title	Text	30 characters	50 characters
Subtitle	Text	30 characters	—
Short Description	Text	—	80 characters
(Long) Description	Text	4,000 characters	4,000 characters
Promotional Text	Text	170 characters	—
Keyword Field	Text	100 characters	—
In-App Purchases	Text Text Visual	Title: 30 characters Description: 45 char. Icon	Title: 55 characters Description: 80 char.
App Icon	Visual	1	1
Screenshots	Visual	up to 10	up to 8
Feature Graphic	Visual	—	1
Video	Visual	up to 3	1
Developer Name	Text	1	1
App Category	Text	up to 2	1

**Tab. 1:** On-Page Metadata Elements on iOS and Google Play  
(Source: adapted from Gordon 2018)<sup>17</sup>

# Off-page Metadata

In contrast to on-metadata, *off-page metadata* (or *off-metadata*) is not editable. It includes, for instance:

- reviews and ratings by users,
- the app’s data weight,

- information about available languages,
- the age rating that indicates whether your app is appropriate for children or not,
- and so forth.

Again, you cannot edit off-metadata. The store mechanics compose it. That does not mean that it is impossible to change it, though. By cleaning your app's code, you can reduce its data weight. And by adjusting in-app content, you can get a better age rating. But you cannot manipulate metadata to show a wrong data weight or an age rating of your choice.

For ASO, on-metadata is more important than off-metadata because you have full control over it.

## Definition: Conversion Opportunities

Just as brick-and-mortar bookstores use various techniques to promote their books, app stores use different methods, called *conversion opportunities*, to present apps. Every time people come across your metadata in the app store, you have the opportunity to convert them into users for your app. In general, we can differentiate between three types of conversion opportunities: browsing, active search, and the product page.<sup>18</sup>

Each opportunity is linked to specific user behavior. They differ in the amount of information (or metadata) that users see. You need to make sure that people have a great experience, no matter how they discover your app. Thus you must optimize your metadata for all conversion opportunities.

### Browsing

Browsing the app store is like strolling through the aisles of the bookstore without a concrete goal. People stop at a shelf, scan some book titles, and skim through cover texts until they find something interesting.

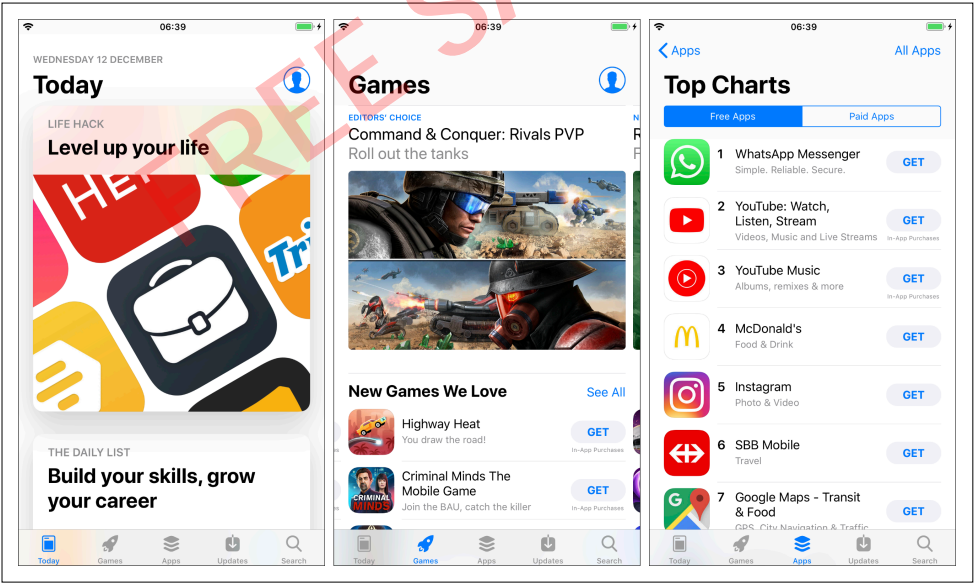
In the app stores, users check out features. Features are prominent placements on the store's homepage. They are comparable to stand-up displays next to the door of the bookstore that are visible to everyone coming in.

On iOS, only limited metadata shows up for these features. In most cases, users see the title, the subtitle, the app icon, and the price. The exception is the *Story*. It is an editorial piece that promotes information about one app. Every day, the store’s editorial team creates two Stories: The “App of the Day” and the “Game of the Day.” Both include a large promotional graphic, screenshots, the preview video, or a combination of these.

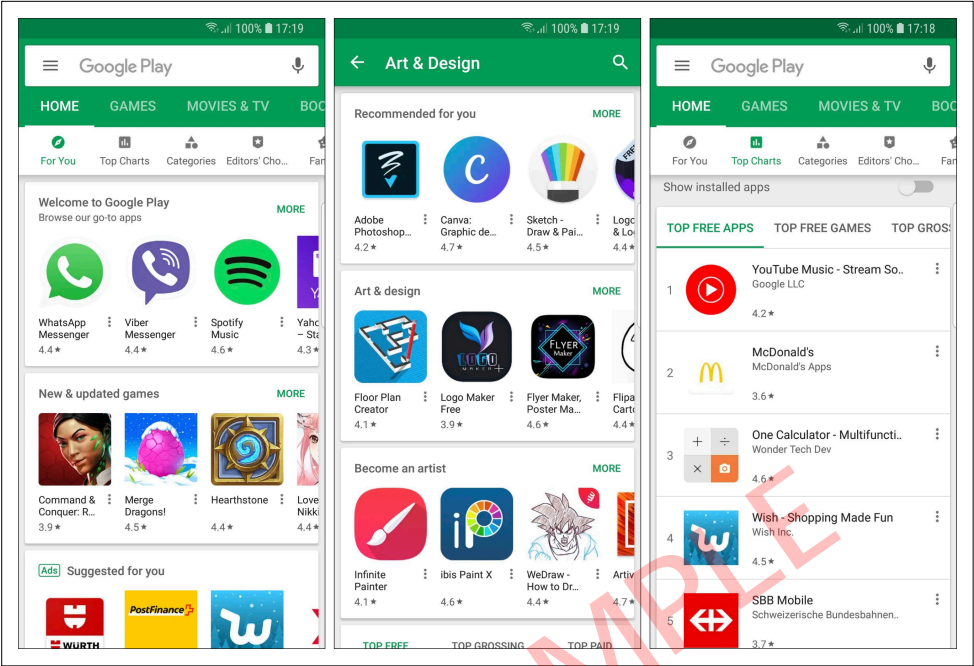
Another way to browse the app store is to check the top charts. The charts display the most popular and the most successful apps for the user’s country, just like a bestseller list pinned to the wall next to the bookstore’s counter. iOS charts display app titles, subtitles, icons, and prices.

The “Home”-page of Google Play shows different segments of apps. Some segments, such as “Recommended for you” are tailored for individual users. Others promote apps connected to popular topics like fitness or cryptocurrencies.

On Google Play, browsing people see even less information than on iTunes: Only icons, titles, and prices appear. In the charts, the average star ratings are shown additionally.



**Fig. 3:** Browsing on iOS (Home, Games, Top Charts)  
(Source: iTunes)



**Fig. 4:** Browsing on Google Play (Home, Category, Top Charts)  
(Source: Google Play)

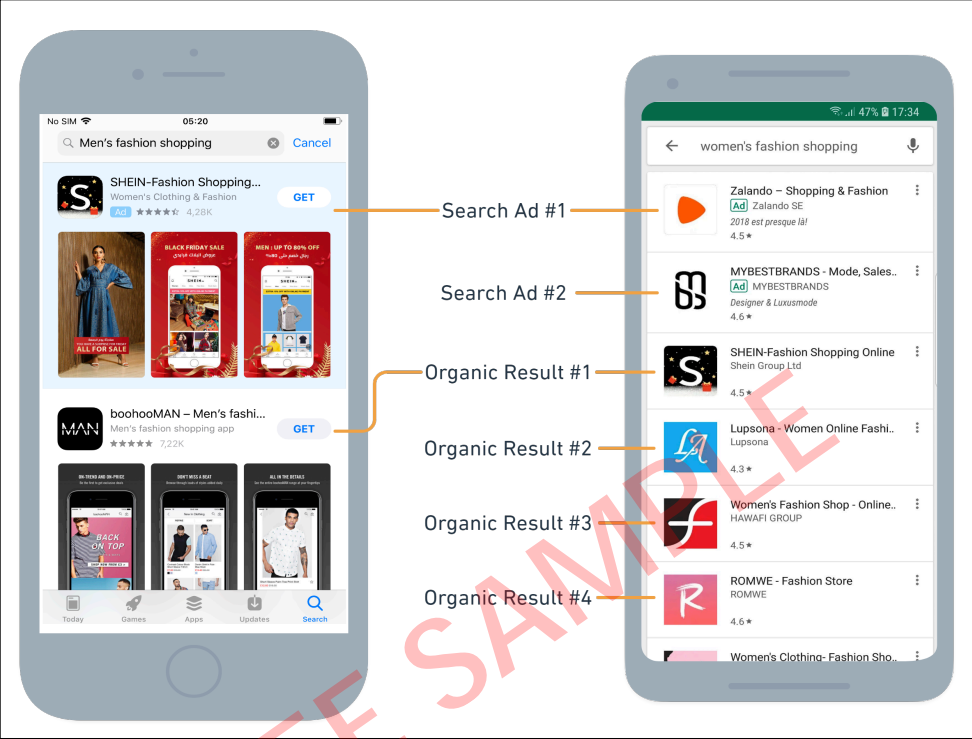
### Active Search

When users perform a search on the app stores, the second conversion opportunity occurs. If people know what they are looking for or at least have a broad idea, they use the search function to find apps that match their needs. The search function is like the clerk who knows all the books in the store, their cover texts, and which categories they belong to.

In search results, iOS users see more metadata than while browsing: app titles, subtitles, app icons, prices, and average ratings. In addition, iPhone users will get the first three preview videos or screenshots of every app, given they are in portrait mode. In case the screenshots are in landscape orientation they will only see one. iPad owners get two portrait creatives or one in landscape orientation.

In search results on Google Play, almost the same elements show up as in browsing: titles, icons, prices, average ratings, and additionally publisher names. In landscape mode, publisher names and rating scores are not visible. There is

only one exception: If the search term perfectly matches an app’s title, the search result will include the screenshot gallery.



**Fig. 5:** SERPs on iTunes and Google Play  
(Source: Author’s own illustration)

**Full Product Page**

Users who arrive on the product page have either clicked a search result or seen the app in features or charts. They also might have followed an external link, for example by clicking a banner ad.

On the product page, users get the complete experience, including all texts, screenshots, and videos.

**The Interplay of Conversion Opportunities**

Conversion opportunities are linked to each other. For example, there is a strong link between great rankings in search results and making it into the top charts. On average, an iOS app needs to rank for more than 25 keywords to make it into

the top 150 of its category. To make it into the top 100, it has to rank for at least 65 keywords.

But it is not only about the number of keywords an app ranks for. It is also about the position they gain on the SERP. The apps on top of the category rank #1 for at least six to seven keywords, and #2 or #3 for nice or ten more terms.<sup>19</sup>

We can take away from this data that success in search will not only generate more visibility, it will also increase the chance of getting an app into the top charts.

To sum up conversion opportunities, have a look at the following table. It shows which metadata elements affect the different conversion opportunities.

	Browsing		Search		Product Page	
	iOS	GP	iOS	GP	iOS	GP
App Title	yes	yes	yes	yes	yes	yes
Subtitle	yes	—	yes	—	yes	—
Short Description	—	no	—	no	—	yes
(Long) Description	no	no	no	no	yes	yes
Keyword Field	no	—	no	—	no	—
In-App Purchases	yes	no	yes	no	yes	yes
App Icon	yes	yes	yes	yes	yes	yes
Screenshots	no	no	yes	(yes)	yes	yes
Feature Graphic	—	no	—	(yes)	—	yes
Video	(yes)	no	yes	no	yes	yes
Average Rating	no	yes	yes	yes	yes	yes

**Tab. 2:** Metadata Elements in different Conversion Opportunities  
(Source: Author’s own illustration)

**Definition: Users**

So far, I have used the term *users* several times. By users, I mean persons who own a smartphone or a tablet. They might browse the app store or use its search mechanism. They read through app descriptions, check out screenshots, watch

preview videos, and download and use your app. Depending on their activity, I will also call them *viewers*, *readers*, *potential users* or simply *people*.

In any case, I mean the same: people who could be your customers if you manage to convince them to download your app.

Nevertheless, it makes sense to distinguish two groups of app store users, because they behave differently. Based on this behavior, you can approach them at different conversion opportunities.<sup>20</sup>

### **Explorers**

Once an app has raised their interest, explorers check out all the information available. They read through the whole description and check every screenshot. They watch the preview video and read other users' reviews. Explorers care about details and take their time to make a reasonable download decision.

Based on this behavior, the product page is the conversion opportunity to win over explorers.

### **Deciders**

In contrast, decisive users want a fast solution. They judge an app very quickly based upon their first impression and on little information. It takes them only a few seconds to decide whether they want to download or not.

Deciders do not visit the product page. They download apps directly from features, charts or SERPs. Thus, search results are crucial to win over deciders. The metadata on which these users base their download decision are:

- the app title and subtitle
- the icon
- the preview video (or the poster frame if the video does not autoplay)
- the gallery screenshots



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