

Design and implementation of app store optimization tool for an app market

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Abstract— The process of optimizing mobile apps at a high level in search results of the ASO App Store is that your app is more in search results of the app store, which is more visible to potential customers, translating into more traffic to your app's page in the increasingly visible App Store. ASO's aim is to drive more traffic to your app's page in the app store, so that the locator can perform certain actions: downloading your app. Also, an important aspect of your target customer needs to do in the ASO process. Search apps as well as your potential customers. When you learn more about which keyword is being used, you know the language of your potential customers - an important part of any marketing plan - and you can take your keyword choices. Google Play Store is an Android Market site specifically for the Google App Store. It is automatically pulled from the Google Play website and displays the top chart and new releases of the game. It provides detailed information and reviews of applications with related apps. App store optimization (ASO) app store is a process of improving the visibility of the mobile app (such as iPhone, iPad, Android, Blackberry or Windows Phone Application).

Keywords—ASO, SEO, iOS, Google play, etc

I. INTRODUCTION

According to Forrester, 63% of apps are searched for app store searches, the most used method in the app store, recently Google reported on Google I / O to find new apps and download, "For the average app, most installs are invented." Just say, this means: if you do not use ASO to increase your app's search ranking, you've lost the most search channels available on your app.

While competing to categorize hundreds of apps store in every app store, everyone has an amazing fact that most of the publishers do not invest in app store optimization. So here's your chance: ASO is your secret weapon. Spend time each week to improve your ASO and you'll get meaningful results on your app's ranking and overall success.[2]

Paper organised as follows

- Section I contain the introduction of the system.
- Section II contains architecture of app market for android.
- Section III contain the which technology used for implementation of paper.
- Section IV contains which methodology has been used.
- Section V contains the result analysis of the paper.

1.1 What are the techniques of ASO?

Let's start by violating various aspects affecting your ASO:

A. Main component:

Title - Keywords placed in the title are the most searched traffic. Find out the time for which words, because it may be harmful to include different keywords to change your title. By changing the top ranking of your app and getting more reviews at the top level, the news of your apps will start circulating by mouth words, spreading words between your apps will be difficult to spread.[4]

Keywords - You must be aware that to improve your search ranking, which keywords are related to and that your target audience has been used most by the audience.[4] It is advisable to control the competitors in how it can be compared to one week in a week. In addition to being the most important element for ASO, titles and keywords can be easily improved, which means you can optimize them regularly.

B. Secondary components:

Total # downloads - The number of downloads for the ASO is very important, but you do not have complete control over them.

1.2 Why a ASO Necessary.

Apps Store Optimization Required For Your App None Everyone is using blindness so everyone uses it. As a developer / publisher, you can find out which marketing method is best, you can sometimes find it using all possible options. Of course, there are many reasons to choose your policy, of course, you give a brief explanation of how these factors work for your budget, the deadline, the time you plan to spend.[6] If you are for an upcoming periodic term, and you are ready to spend extra money, the best way to boost your app's ranking is to obtain a paycheck. Your results will most likely be completed by the deadline and you can take it as effective but the trade-off is sitting here: your credit card is directly affected. If you have money and you can inspire a person who is famous in social media, with millions of followers like celebrities, effective marketing, increase the visibility of your apps, remember this is not very easy because most people try to do that and you should get out of that crowd and grab their attention. Need to take it. Online presence is important if you can create a unique website or landing page for your product. Get your apps page online on Facebook.[7] If you have enough time to spend on trial-errors for long periods and app manager optimization is right for you, if it's ready to match the long marathon. I would love to spend on the paragraph. One of the things you need to do is ask ASO why you need it, and optimize your app store page, because nearly 65% of apps are downloaded via search. That number came from Apple, but Google has the same number. If you have not optimized your app for the Google Play Store or the Apple App Store, then you've lost most of the free organic downloads. If you do not spend money on advertising, advertise advertising on social media actively or download it if you get a PR.[8]

1.3 Specifications of ASO reinforced

ASO can be used in conjunction with other mobile app marketing strategies. But ASO is that where many app publishers started because they are less expensive and they are easy to learn. The small line ASO will help you find an app store to promote your app and to get more free downloads. There are four basic elements of ASO that you need to understand. If you want to get more details on how to optimize each component, follow the links below.[5]

- App Store Keywords Selection and Placement
- Graphic part
- Ratings and reviews
- Inoculation

Where app store optimization starts, choosing the right keywords will allow your app to show up in search. But what makes a good keyword?

These resources will help you choose the right keywords:

- Why do you need a long-term keyword?
- How to choose the best apps store keyword for ASO
- Mobile Action Academy

The application loads a lot of keywords in keywords (Google Play) or in the keyword field (App Store) in the description of the keyword. Therefore, when possible, keep your most important keywords in your application.

- *Graphic components (icons, screenshots, videos)*

As people search for your app in search results, the graphic elements of your page are the primary element that people understand about downloading your app. That's why it's important to help make them attractive and tell the benefits of your apps.

- *Ratings and reviews*

App Store Think about what your app's people think of and what ranks they are taking in getting your app's place. Positive reviews start with high quality apps Responding to app reviews can also trigger negative ratings in a positive rating. Be sure to do this when possible

- *Inoculation*

When you customize your applications for other countries, it is called locale, make your description locally and reach there more market. That's why, if you are waiting for a complete night review and you are waiting for the test, ASO is the best option. If you get help from ASO, get it you get.

The following checklist will help you get more organic downloads:

A. Understand the audience you are targeting. Make serious inquiries about your competitors, who work efficiently for them and work for them so that you can get some quick ideas

B. It is very important that the ASO is important for finding less competition and good traffic. Do not make 1000 bids on a popular keyword, but keywords like crowd cannot be the top 10. Which keywords are known to name and describe the application

- Have a better app name
 - A compelling application is described
 - Attractive screenshots and icons
 - Get good reviews from users, talk good about reviewing your app
 - Get a Facebook fan package to communicate with users.
- There is a high quality app

1.4 How effective ASO

Objectives of ASO

As a result of ASO, your apps can easily get your customers interested in your apps and they will assure you that they do not need to install 5 apps according to the target of apps:[3]

Find targeted users

- 1) Improve the value of your app
- 2) Increase keyword expansion rate
- 3) Increase search order search sort order
- 4) Enhance application ranking by installing more

• Impact component of ASO:

When app owners promote the app, there are several factors that affect results. We must be clear on these factors and it is necessary to find the right way to optimize your app.

(1) *App name*: If you add an attractive subtitle to your app, the first thing you need to know about exciting app names is that, the value of your app will be increased accordingly

(2) *App icon*: The app icon must be combined with the features of the app features. You can simulate competitor images and design special icons for your app

(3) *Application Description*: The description of the keyword is likely to be shown on the search engine results. Therefore, you must include the main target keyword in the description first few lines are very important to attract viewers to read more of your apps.

(4) *Keywords*: It is clear that creating proper keywords is important for the promotion of this app. If you improve the ranking of keywords, your apps will also be set.

(5) *Screenshot of the app*: Even though almost no one will describe the app, but someone can see the screenshot of your app. The first two screenshots are the main goals of the audience. If the screenshot is not attractive, many potential users are more likely to lose.

(6) *Reviews and ratings*: Users' responses include useful information in your app, which can reveal the shortcomings of your apps so that you can optimize your app according to this feedback. You can get positive reviews by leaving your friends and buying app reviews from trusted apps reviews.

(7) *Keyword search installed*: The keyword has a search and a specific relationship with ASO, but this means that more installing is acceptable, you must authenticate it.[3]

What you should do for ASO

(1) *Learn about your app*: You need to know clearly about your app, learn about the keywords of your apps, and learn the effect and order of this keyword (you can use some search keyword tools to help you). Plus, you can clearly understand your app's work and find targeted audiences.

(2) *Analyze your competitors*: Contesting work is important for optimizing your application, because you can learn about some useful information that you can find in your app.

(3) *Create the right goal*: Finding the right development direction and targeting targeted users is an important process before performing ASO.

(4) *Collaborate with a trusted ASO company*: If you have a limited time or effort for your application, you can cooperate with the Professional Apps Store Optimization Company, to help you, stay in touch with ASO agents and have complete faith in you. Enough budget, which can increase your app's ranking and make your app's installation faster and effectively.[4]

II. ARCHITECTURE OF ANDROID APP MARKET

2.1 Google Play Store

This is an application store called Google Play Store Users can browse and download mobile apps Their own choice has been developed with Android devices Android's iOS SDK This app depends on whether it is free or paid Upon the application publisher available on the App Store Most apps have an in-app purchase means that the user Some payments have to be given to get certain access These apps can be downloaded directly to these apps On an Android device or Google TV device Google Play Store app, as well as it can be Deployed by the Google Play Store website on Android Device.[2]

2.1 Play Store Content Management Station

Google Play Store Content Management Station is an Android Market site specifically for the Google Play Store. You can add applications / games / themes to this Content Management Station according to your requirement. You can get titles of specific applications / games, images, screenshots, etc. through our administration page.[5]

2.2.1 Characteristics of Content Management Station for App Market

- Allow your own application / games / theme to be added and applications to be automated to receive details if they are published in the Google Play store.
- Allow developers / users to send applications
- Greetings Applications / Games
- Add or upload an APK file
- Add featured applications
- Response design
- Google Analytics Ready

- Report spam content
- Contact us
- Add unlimited pages
- Ready for ads

2.2.1 Architecture of Content Management Station

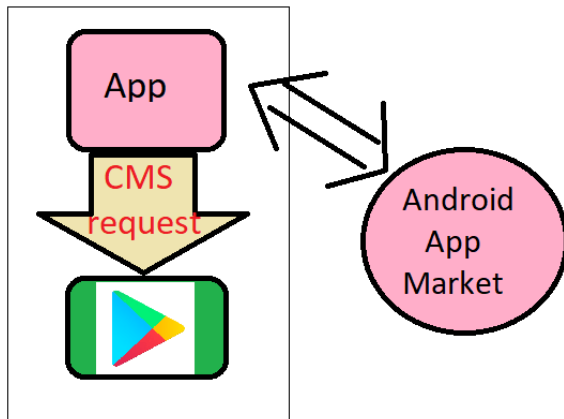


Fig 1.1 Architecture of CMS

The Content Management System (CMS) is a set of digital applications or a related program for creating and handling digital content. CMSes are generally used for Enterprise Content Management (ECM) and Web Content Management (WCM). ECM Documentary Management, Digital Asset Management, and Recording Retention Functionality provides users with role-based access to workplace support and organization's digital assets. Enable collaborative authoring for the WCM website. ECM software includes the WCM release functionality, but the ECM webpage generally resides in the organization's firewall. Both enterprise content management and web content management systems are divided into two categories: Content Management Application (CMA) and Content Delivery Application (CDA). CMA is a graphical user interface (GUI) that lets users create, change, and remove websites without taking any information about HTML. The CDA component provides a back-end service that supports the management and distribution of content after creating it in CMA.[6]

2.2.3 CMS Framework

Generally, a framework for supporting or constructing a building that raises the use of a structure to suit the utility is a real or conceptual structure.

In the computer system, a framework usually displays one-of-a-level configuration, which show how to create programs and how and how and how they will separate each other. Many computer system structure frameworks include actual programs, specify programming or front end interfaces or provide all types programming tools for using a window or operating system. How can one framework relate to the functions in a system and how they interact with each other;

Operating system level; Application subsystem level; How to communicate at some level of the network. And beyond the structure, the framework is generally more comprehensive and more obedient than the configuration.[6]

2.3 CMS Algorithm Module

(1)Step1: Create method

```
<?php
require_once('library/SetaPDF/Autoload.php');
```

(2)Step2: create a writer

```
$writer = new SetaPDFHttp('simple.pdf', true);
```

(3)Step3: create a new document quickly

```
$document=SetaPDF_Core_Document
'files/Laboratory-Report.pdf', $writer
```

(4)Step4: create a signer for document in instance

```
$signer = new SetaPDF_Signer
```

(5)Step5: set signature properties for CMS Module

```
$signer->setReason
$signer->setLocation();
```

(6)Step6: create a signature module for new data

```
$module = new SetaPDF_
Signature_Module_Cms();
```

(7)Step7: load the final certificate for module Auth.

```
$certificate = 'file://files/setapdf-no-pw.pem';
$module->setCertificate$module->
setPrivateKey
```

(8)Step8: sign doc file and send the final doc to the initial writer

```
$signer->sign($module);
```

2.4 CMS API Component Design

As the back-back developers hail your feet as we are going to create an ordinary PHP class for CMS module design and implementation:

- Database designing
- Database connection using driver
- Display the form with two fields
- Save form data to database
- Display the data saved in the database

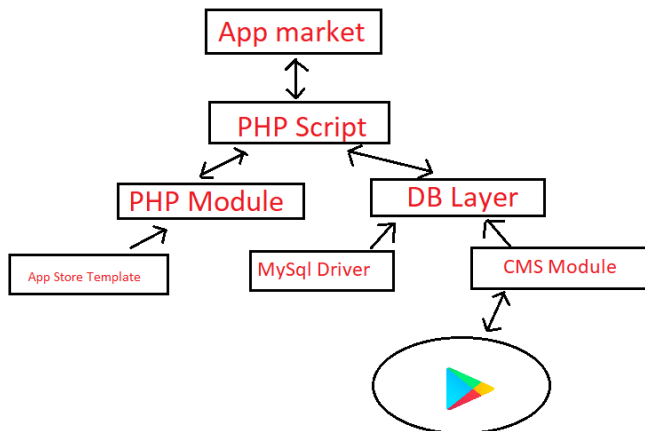


Fig 1.2 CMS component design

III. TECHNOLOGY USED

3.1 Laravel 5.2 Framework

Laravel5.2 is a free PHP open source web framework, designed for the development of web applications designed by Taylor O'Neillley and is based on a sample Visual-Controller (MVC). Some of Laravel's features are a modular packaging system with a dedicated dependency manager, a variety of ways for relational databases, utilities and utilities, and a useful syntax for implementing and using. The liral source code is hosted on GitHub and has been licensed according to the terms of the MIT license.[7]

3.2 Coffeescript

Coffeescript small language of coffee that has been compiled in JavaScript, JavaScript was always a beautiful heart. A coffee script is simply trying to open a good part of JavaScript.[2]

The golden rule of the coffee script is this: "It's just javascript" code gets compiled in its equivalent JS and does not mean it in runtime. You can use the existing JavaScript library if you do not have any issues with a coffee script (and vice versa). The compiled output is printable, honestly printed and it runs faster or faster than equivalent handwritten JavaScript.

3.3 AngularJS

AngularJS (commonly referred to as "somebody", "Angular.js" or "AngularJS") is a JavaScript-based open source web application framework, which is largely operated by individuals and corporations, so that Google has faced many challenges in development and development applications . . One Page JavaScript component Apache Cordova, which is a framework used to develop cross-platform mobile applications. Its goal is to provide development and testing of such applications by providing a plan with Model-View-Controller (MVC) and Model-View-View-Mole (MVMM) architectures client models and view-

common-level components. . In the sophisticated Internet 2014, the original Angarius team started working on co-platform applications platforms.

3.4 Gulp

Gulp is an open source JavaScript toolkit by Fractal Innovation and Open Source Community of GitHub, which is used as a sterling build system in front-end web development.

This is a work built on Node.js and npm, which is used for automation from time to time, and repeat tasks such as minising, cocktanation, cache busting, unit testing, lining, optimization, etc. that are involved in web definition. A code-over-configuration method is used to fix its function due to the throat, and it depends on its small, single-retranslated plugin to rely on it. More than 300 plugins in the Focal Ecosystem.[3]

3.5 Bootstrap 4

Bootstrap is a front-end framework for fast and easy web development. Bootstrap includes HTML and CSS based design templates for typography, forms, buttons, tables, communication, modal, image carols and many others as well as optional JavaScript plugins. Bootstrap offers the ability to easily create responsive designs[2]

IV. METHODOLOGY USED

4.1 PHP >= 5.5.9

PHP: Hypertext Preprocessor (or simply PHP) is a server-side scripting language designed for web-development, but it is also used as a general-purpose programming language. Originally created in PHP by Rasmus Lardf in PHP PHP implementation is implemented by PHP group. PHP is basically a personal home page, but now it's for recursive PRAP: Hypertext Preprocessor.

4.2 PHP >= Extension

See the following PHP extension has been used for creating CMS module for App store market

- OpenSSL >=Extension
- PDO >= Extension
- Mbstring >= Extension
- Tokenizer >= Extension

V. RESULT ANALYSIS

Result analysis Plans and Current Updates

- Mobile App and browser search
- Payment Options for paid apps
- Theme Options for better design
- Developer Page for new developer

Features Analysis

- Show main graphics and new versions
- Search applications
- Search applications by category
- Detailed pages of the application

- Applications Classification by stars
- Application review comments
- Receptive design using Bootstrap 4
- Using the latest PHP 5.2 framework from Laravel
- Google Analytics Ready
- Ready ads
- Comments hide

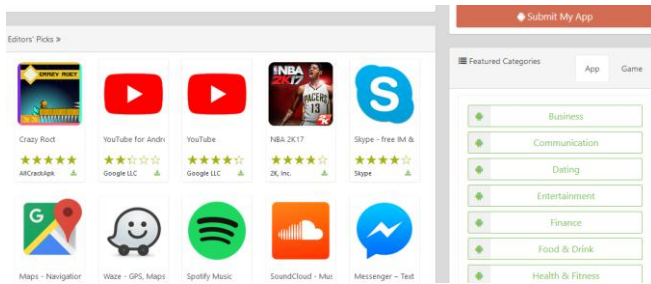


Fig 1.3 Front end Design module

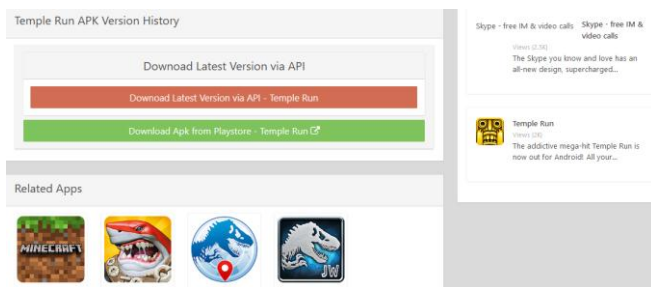


Fig 1.4 Download features

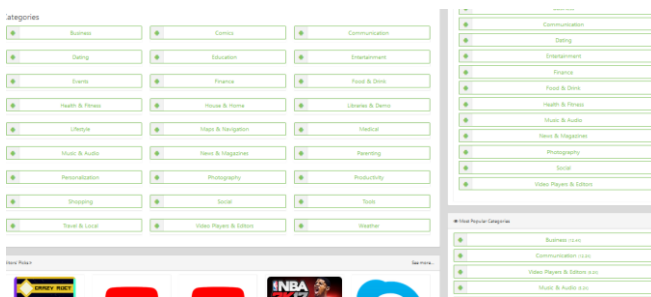


Fig 1.3 Categories analysis

VI. CONCLUSION

App store optimization is important and may encourage your app to be very popular. There is no need for app store optimization for your app. You should not use blindness only for everyone's use. As a developer / publisher, you can find out which marketing plan works best for you, you can sometimes find that using all of the possible options. ASO tools is very important for today's all mobile market. We also design the ASO tool for our Android app market. App is very useful for third party developer for

publish free mobile application in app store with optimization tools.

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