

# Case Study on Search Engine Optimization

## Google's Algorithm to Demote Fake Websites

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**Abstract-** Search Engine is software that works on web and use to find information in data base that is somewhat similar to keyword which is entered by the user. Search Engine optimization (SEO) is a technique to boost up the Web Pages on search engine, Search engine optimization helps to increase the quality of traffic on websites. Sometimes unnatural-links are used which miss interrupt the search engine and increase the page rank. A broad study on Google's optimization algorithm and will be done to find the major effects taken by Google's algorithm to demote unnatural-links websites. This paper will show the working of the existing SEO techniques and identifies the drawback with the alternative solution to make it further efficient.

**Keywords-** SEO, Fake websites, Natural link, optimization

## I. INTRODUCTION

Search engine is a web software program works on web. It helps to find the data over internet from database, returns the list of results containing those keywords which the user searches data in the text field of search engine. There are variety of search engines viz., Google, Bing, Ask, etc. Search Engine Optimization (SEO) [3] is a collection of techniques and practices by which any website can increase its ranking in search engine, basically it is designed for searching the relevant content. Sometimes unnatural-links are used which miss interrupt the search engine and increase the page rank. A broad study on Google's optimization algorithm will be done to find the major effects taken by Google's algorithm to demote unnatural-links websites. The purpose of the paper is to supply the information regarding the basic knowledge of the algorithm. It will cover what are the algorithms and how the algorithms affect SEO [3]. In this the main focus is on Google's algorithm based on ranking system and their effect in SEO. How SEO is affected by the algorithm through its rule [4,5]. This paper will explain the Google's mission to make the search experience as nice as possible for the user. Although we cannot reverse Google's Algorithm but we can show potential cause of any change in algorithm.

## II. SEARCH ENGINE OPTIMIZATION

Search Engine Optimization is way to help the search engine for searching and page ranking on the web, basically Search Engine Optimization is an algorithm which helps to improve the ranking of the websites so this will help to increase the number of visitors or traffic towards website. Generally some of the online marketers pay for their websites to boost up their website ranking on the Search Engine, but Search Engine optimization is a technique or an algorithm used by Search Engines for giving fair results to their users.

### Problems faced

Sometimes unnatural-links are used to increase the page rank in search engine. By increasing page rank forcefully the user will get irrelevant data or information. So Google was facing some problems like:-

**Link Exchange:** - If two websites exchange their links and shares data, to increase numbers of visitors, that are un-natural links.

For e.g.: Two different website owners having a conversation: link my internet site to your website and I'll link your internet site to my site.

**Utilizing False Content:-** By making use of false key phrase to attract users, the search engine will retrieve only the low quality content. Using duplicate material and copying contents from different webs this may happen.

Lengthy key phrase:-Some web sites make use of lengthy articles and large quantity of keywords to expand their ranking in search engine.

**Fake Distributed Links:-** Showing various fake links and information in Footers or Templates.

For Example: - A visitor to this page is 2000, but actually there are only 500 visitors (So this information is not relevant).



Figure 1: keyword

**Keyword**

It is a word via which the user types in the search engine to retrieve the content from the internet as depicted in the fig 1.



Figure 2: Natural link

**Natural link**

A natural link is link which is visible to user on their search on top of the search engine results.



Figure 3: Unnatural link

**Unnatural Links**

Link building is a technique to forcefully use some paid links for promoting their websites. Some of Search Engines like Google, Bing is totally based on links, so they don't understand which website is fake or original, they just count which link has more viewers or visitors. So some of the unnatural links will get top positions but actually they don't deserve in the Search Engine.

**III. SEO ALGORITHMS**

Google has developed some algorithm to overcome these problems viz.:-

**Google Hummingbird**

It was launched on 30th September 2013 developed by the Google. Hummingbird is major update in Google's algorithm with a major change in search query. Its main aim to increase search Engine quality and helping good quality content to the user. It is totally based on query or full questions entered by the user instead of individual keywords. Long tail keyword is beneficial rather than individual keyword because it has high conversion rate and have high targeted users. Some website owners generally use long tail keywords to their websites content to increase number of visitors to their websites. By the help of this algorithm every single page is searched or found by the search engine related to query of user. This algorithm is developed for voice search so instead of searching one or two keywords generally user search whole sentence, questions in the voice search. This algorithm work on more natural language so it is easy to search most efficient and reliable quality pages that actually user wants, it was developed to maintain search quality and not to demote bad or fake websites. So it does not affect the results like panda and penguin did.

**Google Penguin**

Google Penguin 1.1 is an algorithm which was updated on April 24th 2012 also known as over optimization penalty [1, 2]. Last update of penguin: Ever Flux was launched in December 10 2014. It is a Search Engine Optimization algorithm which is developed by the Google, to demote Unnatural links websites and bad links' or paid links' websites. Before launch of Penguin 1.1 online marketers was using so many types of illegal ways to confuse Google's previous algorithm like Panda, Hummingbird, and Pigeon for promoting their websites so Google launched Penguin to demote their websites to stop this type of spam. After launch of Penguin only, in one day the algorithm demoted fake or irrelevant websites. Penguin is not only a disadvantage but also an advantage for good quality websites even penguin

promoted good quality websites which contains good quality content. After launch of penguin 1.1 many blogs, online store lost their top position in search engine within a day. Most of the online marketer got a very negative effect after penguin 1.1. Penguin generally affects only that part of websites which is irrelevant not the whole websites. Possibility of recovery after the manual request is almost impossible.

### Google Panda

Another algorithm named as Panda and also known as "Farmer" was launched by Google on 23rd February 2011. It was created by Navneet Panda. The main purpose of Panda was mostly same as Penguin algorithm to show high quality websites higher in search results and demote the low quality sites. There was a major problem after launching of Panda is that when a websites was hit by panda the chances was very low to recover, but in some cases panda just affect that part of websites which has low content.

When Some Webmasters asked about what need to be done to recover from panda, Google suggested some check List:

1. Trusted Information is used in website or not.
2. Websites is trustable or not.
3. Websites not displaying too much ads to distract users.
4. Providing good content.
5. For Health related Query Site is trusted or not.
6. Website has good number of Visitors or not.
7. Not displaying too much Duplicate Content

When websites were beaten by Panda and if websites proprietors wish to recover so that they had to try to do hard work on social networks they need to take care of brand awareness. The web pages that have been influenced required to be disengaged from those that were not weakness.

### Google Pigeon

It was launched in July 2014. Google release a major update named as pigeon. It was improved version of Google's panda. It's aimed to improve the quality of local searches on Google. Google is publishing it on the factors such as location and distance and in different language search to provide better search result to user. This update will alter the local listing in the search result. Along with this the local directory sites were given preferences.

This update of Google provide a more functional, applicable and precise local search results that are tied more

closely to traditional web search engine ranking signals. It improves their distance and location ranking parameters.

Looking Google and seeking Google maps has regularly given an altogether different arrangement of results. This changed after the rollout of pigeon. The calculation join web inquiry and guide seek in a more durable manner. Pigeon is an extremely SEO-accommodating overhaul. Since the upgrade plans to adjust neighborhood hunt to conventional web look, numerous best practice SEO systems still apply. On-page improvements, third party referencing, and a strong substance methodology are solid positioning signs for all quests; these ought to be a key segment of your nearby inquiry system. Likewise, with specific questions encountering a negative effect from pigeon, these strategies may be significantly more impactful when attempting to recuperate from a drop in rankings.

- The best thing you can do to prevent getting in circumstance that could result in sudden loss of organic traffic is this: adhere to the rules.
- Avoid to doing things that you realize this could be possibilities dangerous similar building unnatural links, paying for links and so-called black hat strategy.
- A few will do them anyhow to try and achieve short term results, but thinking long-term is the best way to go.
- If you use location specification keyword terminology, you have verified accounts with local directories and you used rich snippets, then no doubt by the coming refresh.

## IV. CONCLUSION

It is concluded that websites owners and online marketers do not use Link exchange, duplicate content, and fake links if they really want original ranking in search engine. If they get original ranking in search engine then the websites is trustable by the Google and user also, which is very beneficial for futuristic.

Penguin 2.0 and Pigeon is sufficient update for Google Search engine because it gives natural page ranking as well as to reduce the impact of spam on the SERPs (Search Engine Result Pages), because humming bird is developed for voice search and for full Quires [1,2].

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