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THEME

Improve Website's Visibility via SEO : Search and Application

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Thanks and Gratitude

I would first like to thank “Allah” who enabled me to finish this work

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I thank my parents and loved ones for The constant love and support they give me

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Dedication

To my parents

For their patience, love and trust in me

They did everything for my happiness and success. That they find it in this humble act is a testament to our deep affection and unyielding attachment.

There is no devotion that expresses what we owe them, may God protect them and give them health and long life.

To my dear brothers and sister, to my friends, to all my teachers and to anyone who helped me during my academic journey from primary school to university.

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I- General Introduction:

Internet marketing did not completely replace traditional marketing, but in modern marketing, web marketing has become an essential and very important element for every commercial activity, and this is what drives business owners to create websites for their business.

The field of developing websites has become easier for many things to each of the owners work and the clients, whether in providing products or services, where the customer can submit his requests and know more details about the service or product he wants. It also helps the business owner in the tasks that need to employ one or more people.

Also websites have contributed to the creation of many areas of work such as E-commerce, mini-services, etc.,

Through this study I will give most basic technologies for successful sites that many of the developers does not know, this technology is already applied to my website, who offers an excellent shopping experience in e-commerce

Many of the websites that were designed by students or new developers have not been very successful or were not used at all. The reason that led to this, was due to their sufficiency and their interest only in writing the website's code programming without paying attention to study and apply the website Optimization factors and techniques in Search Engine (SEO). These latter works on maximizing the number of visitors to the websites by ensuring a high appearance on the first results pages returned by a search engine.

The following proposed theme will be a good reference to solve the cited problem. It contains two essential parts:

The first one consists of studying the field of SEO in detail.

The second part is devoted to the development of a website based on the SEO technical factors studied. As an example of a website to develop, I suggest a ecommerce website

The goal of my research and this work is to present my note as a reference for every web developer, where I will present the most important technologies that help in the success of the site, which are divided into many techniques that the programmer performs before and during the construction of the sites and other techniques after the completion of the construction of the site.

This article is divided into four chapters:

In the first chapter, I talked about the history of the web and search engine optimization, its inception, the changes that have occurred over the years, and the latest developments it has reached today.

In the second chapter, I talked in detail about the techniques that must be applied during and after the completion of the site creation and that help in its appearance on the first pages of the search results, which I applied to my site mentioned in this article.

The Third chapter is devoted to the website framework, methodology, analysis and design, I also define and create various UML diagrams related to my website design, use cases and sequences.

In the last chapter, I talked in detail about the techniques that I used and that I use constantly to analyze my website data and develop it continuously until it tops the first results of Google search.

II - CHAPTER I

The History of SEO

II-1: Introduction:

Search engines have changed the way we find information, do research, shop for products and services, enjoy ourselves, and connect with others.

Behind nearly every destination on the Internet - Whatever it is a website, blog, social network, or app - there is a search engine.

Search engines have become the connecting force and guideline for everyday life.

But how did it all start?

In this chapter we have highlights from the history of search engines and SEO to understand the roots of this technology, which has become an important part of our world.

II-2: Before the advent of google:

Yahoo was created in 1994, webmasters had to manually submit their page to the Yahoo directory for indexing so that it would be there for Yahoo to find when someone did a search. Backrub was built and tested in 1996, a new search engine that ranks sites based on internal link relevance and popularity, and then Backrub became Google. HotBot, powered by Inktomi, was also launched.[1]

In 1997 after the success of the Search Engine Webmaster Guide, Danny Sullivan launched Search Engine Watch, a website dedicated to providing news about the search industry and information on how to rank websites better, Google.com is also registered.[1]

In 1998 Goto.com was launched with sponsored links and paid search. Advertisers bid on Goto.com to get a higher ranking for organic search results, which was powered by Inktomi, and Goto.com was acquired by Yahoo.[1]

II-3: After the advent of google:

Previously, Google was not a well-known search engine until the year 2000, when Yahoo made the worst decision in search history, partnering with Google and allowing Google to produce its own organic results instead of Inktomi, and every search result on Yahoo became backed by Google and ended up with To present its largest competitor to the world, and the name Google became a well-known name among Internet users.[1]

Organic Google results also got a hold of some companies in the form of AdWords ads starting in the year 2000, after which these paid search ads started appearing above, below, and to the right of the natural Google search results.[1]

II-4: YouTube, Google Analytics, and Webmaster Tools:

In October 2006, Google acquired the video-sharing network YouTube, which eventually became the second most used search site in the world. Today, so SEO for video has become critical to brands, companies, and individuals who want to find it, and in 2006 Google also launched Google Analytics and Google Webmaster Tools, now known as Search Console, for

webmasters to view crawl errors and find out Searches where your site appeared and request for reinclusion.[1]

II-5: Cleaning up the Cesspool :

Google CEO said in 2008: "Brands are how to empty the drain." Soon after, a Google update called Vince appeared. Suddenly the major brands seem to rank much better in their SERPs, and the reason is that Google wanted to give more weight to trust in the algorithm. Soon after this update, Google released another update to improve indexing speed, called Caffeine.[1]

II-6: Bing & The Search Alliance:

In 2009, Microsoft Live Search switched to Bing trying to challenge Google's nearly 70% dominance of the US search market, when Yahoo and Microsoft joined forces to engage in a 10-year search deal, ASearch Alliance saw Microsoft's strength in organic and paid search results. Yahoo!, however, they failed to break Google's formidable grip on search in the United States and globally.[1]

II-7: Panda & Penguin:

Google wanted to redevelop search results so it launched Panda in 2011 and Penguin in 2012, two major algorithms that had a huge impact on SEO that is still felt today.

In 2011, websites that produced large amounts of low-quality content were dominating search results, as Google's SERPs were also crowded with websites showing non-original automatically generated content that made them a lot of advertising revenue, after the launch of the Google Panda update In 2011, many websites serving random content saw their traffic vanish unexpectedly, in return Google provided some ideas about what could be considered a high-quality site. In order to eliminate low-quality content, Panda has been updated periodically over the years. Coming soon, and eventually became integrated into Google's core algorithm in 2016.[1]

Ultimateanchor Penguin's algorithm targeted websites with unusual link patterns, exact matches for keywords it wanted to rank for and keyword stuffing, despite all the updates Google released Penguin hasn't been updated as frequently as Panda for over a year, and like Panda, Penguin has become part of Google's algorithm meanwhile in 2016.[1]

II-8: Mobile-First:

In 2015, as mobile searches overtook desktop search for the first time on Google, this was also the year comScore reported that mobile internet users overtaken desktop users as well, Google released a mobile-compatible algorithm update that was Designed to give users the most relevant and timely results, whether information on mobile-friendly web pages, and in 2016 Google also introduced Accelerated Mobile Pages (AMP) whose idea was to load content instantly.[1]

In January 2017, Google announced that page speed would now be a ranking factor for searches on mobile devices. That same month, Google said it would start deprecating pages with intrusive popups. In July 2019, mobile indexing was enabled for all new websites. By March 2021, all sites have moved to mobile-first indexing.[1]

II-9: Machine Learning and Intelligent Search:

In terms of research, we're already starting to see the impact of machine learning using . Google RankBrain was announced in October 2015, which was initially used to attempt to interpret 15% of searches that Google had never seen on user-entered words or phrases, and there is more to come in the world of intelligent search as voice searches are taking on the increase.[1]

These advances in technology and machine learning developments mean that there are more exciting times in the future for those who practice SEO.

II-10: Core updates:

In March 2018, Google confirmed that a massive update to the underlying algorithm had been rolled out to take advantage of "low reward" pages. A little over a month later, Google released another massive update to its core algorithm targeting content relevance. Then another public update rolled out in August to target sites with lower quality content. In March 2019, as a follow-up to the August 2018 major update, Google confirmed the existence of a major update (also known as Florida 2) which was supposed to be a major update. . However, the SEO community felt it was more regressive than previous algorithms. The last and largest core update in June 2019 exposed EAT vulnerabilities on websites, focusing on the authority and reliability of incoming links. From time to time, Google will release a massive major update that will affect all search results around the world. There was a large scale update of the database in September 2019 with the aim of boosting sites with optimal performance in general. Another essential update in January 2020 targeted the YMYL (Your Money, Your Life) categories. This is the main difference between public updates and major updates. Recently, Google released a major update in May 2020 targeting landing pages with light content while boosting local search results. [1]

II-11/ Conclusion:

Since the nineties until today, search engines and search engine optimization have known a long series of changes and developments.

I have mentioned in this chapter the most important changes and developments in this period, which make us extract the most important factors on which the classification is based, the most important of which are (quality of site content, responsiveness to the phone, site loading speed, traffic on your website, keywords used on your site) .

In the next chapter I will present the most important techniques that help to achieve these factors in order to get a good ranking in the search results.

III - CHAPTER II

Techniques to increase the traffic of your website

III-1/ Introduction:

After we know the changes that have been experienced by search engine optimization and extract the most important factors of classification in the search results, we can summarize them in the factors of increasing traffic on the site

Achieving high traffic on your site depends on attracting the largest number of visitors to your site in addition to the speed of site loading

In this chapter, I focused on presenting the most important ways to increase the number of visitors to your site, in addition to some techniques that help you increase the speed of your site loading.

III-2/ Techniques to increase the number of visitors to your website:

III-2-1/ SEO:

One of the most popular techniques to increase web traffic is of course search engine optimization (SEO), to be visible through search engines Keywords are one of the major SEO techniques, you should target keywords that you consider important and relevant to your business. It should grab Google's attention and make you stand out from the competition. It's a long-term strategy but even if it takes time, you should persevere and not neglect this essential step.[2]

(Vincent Bouin Marketing Director at Coca-Cola France).

III-2-2/ Create a blog:

Creating a blog is one of the real sources of improving traffic on your website. Additionally, having a blog can help build loyalty and encourage users to visit your site. It can also show that you know your stuff. Besides, Google loves sites that are updated regularly and content creation is the perfect way to achieve this. Show him that you are dynamic. Next, be sure to diversify your content types with technical documents, articles, or newsletters. Post content regularly to increase your traffic faster, the more articles you have (well referenced), the more likely people are to find you and click. [2]

III-2-3/ Social networks:

Making yourself known on social networks, sharing your site and your content, can be a good way to encourage people to click. Among the social networks to adopt, we find the most

classic like Facebook, Twitter or LinkedIn, Instagram and Youtube. It is important to vary your social networks, to make yourself known on different platforms and therefore increase your traffic more easily. Also think about putting the option to share on social networks in your site and your articles. So that users can share your site. You should encourage them to do so. Via your articles, your site or via your networks. If you don't feel comfortable with social media, you can hire a community manager...or Optimum Circle who can help you improve your visibility on social networks.[2]

III-2-4/ Advertising:

Advertising on the internet, on search engines, is a very good way to make yourself known and to bring traffic on your website. You should not miss it. The SEA is the set of actions concerning the publicity diffused on the search engines like Google Ads. You will be on the first page of Google, for a certain time. Cost per click ads (CPC) are a kind of advertising for which you only pay for each click on your ad. [2]

III-2-5/ Emailing:

The purpose of emailing is to promote your content, special offers or events. You can thus incite your contacts to click on your website and thus generate more traffic. The content of your emailing campaigns can take different forms such as the newsletter. It is a powerful marketing tool and especially free. First of all, you need to gather enough email addresses, to have a real address book. This would be optimal to retain your customers.[2]

III-2-6/ Update old content:

When you create content, it can become obsolete with time or simply be forgotten by Internet users, not making clicks anymore. So think about updating your old content. They must not be forgotten. You have to revive them in some way, bring them up to date, if their subject has evolved. Moreover, this also shows Google that your website is updated regularly and is dynamic. This allows it to increase the traffic on a web page, and not to let it abandon. You should not neglect any page of your website.[2]

III-2-7/ Increase the loading speed of your site:

If a site is too heavy, the loading speed can quickly become quite slow. This can quickly dissuade the user from staying on your website, making him run away. Indeed, it is not really pleasant if it is not fluid. People want to find the information they are looking for as soon as possible. You need to make them want to stay, not go to the competition. Optimize the site to make it faster. And Google doesn't like sites that are too slow. Speed shouldn't penalize your traffic, so be careful.[2]

III-2-8/ Have a mobile site:

A site must be adapted to all types of formats, and especially for mobiles. Indeed, most internet searches are done from a smartphone. It is therefore necessary to have a pleasant and adapted reading on mobile. To remedy this, there is the AMP format (Accelerated Mobile Pages) which is designed to accelerate the loading of web pages viewed on mobile or tablet. So have in mind to have a responsive website.[2]

III-2-9/ Optimize the visitor experience:

Having a mobile site is not the only thing that is important. The visitor experience is too. It is perhaps the most important. Remember that the visitor's first impression of your site is paramount. If your site is unreadable, there is little chance that they will come back. The site must be pleasant to read, to see. It must be fluid. If you use WordPress, add widgets that are both useful and interactive. It must be beautiful to see, without losing quality. Your site is your first advertisement, your number one asset. You must make people want to stay, or even come back. Don't bombard it with text and widgets, but select what you think is most useful. A beautiful site will make people want to click.[2]

III-2-10/ Analyze your web traffic:

If you want to establish effective strategies to improve the traffic on your website, analyze it regularly. How else can you know if your site is working? Many people don't do this, yet it is fundamental. It is useful to improve the number of visitors to your site, optimize your site's ranking in search engines or to follow the evolution of your positioning and your visitors. You can follow the number of visitors over time, see which pages are making the most clicks or have the most effective keywords. Also check your visibility on Google. With Google Analytics, you can see the number of visitors to your site or even per page. There is also Google Search Console, which allows you to check your results on Google. And finally, you can use Google Data Studio, or even the last novelty, Google Analytics.[2]

III-2-11/ Paid Advertising:

You can drive traffic to your website quickly with paid advertising. With search engines, you can run pay-per-click or retargeting ads. With social media you can run display ads or sponsored posts. Your strategy will most likely include a combination of different types of advertising.[2]

III-3/ how to make your website faster:

III-3-1/ Minify your CSS files and remove unnecessary properties:

First you need to reduce the size of your CSS files and to do that there are two ways. The first is to remove all properties in your files that were not used at any time. To do this, you can use the Google Chrome developer tools by pressing the F12 key. Then go to Audits, select Select All, Reload Page and Audit On Load, and finally click Run.

In the audit result, go to Web Page Performance and scroll to the bottom of the Remove Unused CSS Rules menu: you get a list of loaded unused CSS properties. Then you just have to delete it from your files.

Once you remove the useless CSS properties, you have to minify your files i.e. remove all the useless characters (spaces, tabs, line breaks) that are taking up space. To do that, here is a tool that allows you to minify CSS files using the YUI compressor: CSS Minifier.[3]

III-3-2/ Minimize and optimize your Javascript files:

After reducing the size of your CSS files, you need to do the same thing but this time for your Javascript files. And for this, there is an extraordinary tool: the Closure compiler from Google. This tool not only removes unnecessary characters from your files, but also optimizes them because it analyzes how they work and then simplifies them, allowing a significant reduction in size that no other minifier can beat.[3]

III-3-3/ Reduce the dimensions of your images and compress them:

To finish reducing the size of your resources, simply reduce the size (weight) of your images in two ways. The first method is to save your images on your server with the correct dimensions so that you don't need to resize them in your pages using CSS. This will allow you to send your images to your site visitors in the required size, without the need, and therefore send them faster.[3]

The second method is to compress your photos. There are also web tools to do this. The one I recommend is called Image Optimizer and it's very easy to use. You just have to choose the image to optimize and take the "Minimum file size" in the optimization quality, then click on the "optimize now" and finally to download the optimized image, the second step to make your site faster is to lighten your server, to make it do as little work as possible to create a page.[3]

III-3-4/ Combine your CSS and Javascript files:

To relieve your server, start by combining your CSS and Javascript files. This will reduce the number of files per page, and therefore the number of requests and accesses to the server. However, when combining your files, be careful to respect their loading order: if a Javascript A file must be loaded before a Javascript B file, you will have to place the Javascript A file first in the combined file.[3]

III-3-5/ Combine your images with sprites:

Now combine your images with what are called sprites. The way it works is very simple: it's a matter of grouping your images in a larger image. Among the tools available on the internet that easily generate CSS sprites, I recommend Spritegen, To use it, send him a zip file with all the images to put in the sprite, then, at the bottom of the page, click on "Create sprite and CSS", without taking care of all the parameters. You will get a sprite and a piece of CSS code. All you have to do is replace the link to the old images on your site with the link to the sprite and add the corresponding CSS class in the img tags.[3]

III-3-6/ Compress your files with Gzip:

In the first part of the article, you have minified your files. Now it's time to compress them, with compression systems such as Gzip, which may remind you of Windows Zip files, but for Apache. Using Gzip will make your resources up to 70% smaller, which is by no means negligible, to authorize this compression, nothing could be simpler: you must create, if you don't already have one, an .htaccess file at the root of your website where you will add the following code:

```
SetOutputFilter DEFLATE [3]
```

III-3-7/ Cache your files:

Finally, to finish relieving your server, use caching. This will allow you to store your files directly on your visitor's computer and not have to download them again each time a page is loaded. The time needed to send your pages will then be considerably reduced because a part of the resources, the one that does not change (images, CSS, Javascript), will not have to be sent again.[3]

Enabling this caching is, again, very simple: you just need to add the following code to your .htaccess file.

```
<filesMatch ".(jpg|jpeg|png|gif|ico|txt|css|js)$">  
Header set Cache-Control "max-age=2592000, public"  
</filesMatch>
```

The numbers after max-age represent the caching duration in seconds (2592000 seconds = 30 days) and public represents the caching type.

III-3-8/ Postpone the analysis of your Javascript codes:

The first point consists in deferring the analysis of your Javascript codes which, contrary to what one might think, allows you to avoid blocking your pages, by default, your browser loads your pages synchronously, one after the other: it waits for the end of the loading of the first file to launch the loading of the second, then it waits for the end of the loading of the second file to launch the loading of the third, and so on until all the files are loaded.[3]

Loading a page asynchronously is therefore the opposite of loading all the files at the same time. Note that asynchronous loading is only good to use if the order of loading the files does not matter, because a file A can be loaded after a file B, even if file A comes before file B in your source code. In a universal browser problem, the code to use to load your JavaScript files asynchronously would be as follows:

```
<script type="text/javascript">
(function() {
var script = document.createElement('script'); script.type =
'text/javascript';
script.src = "script.js";
var s = document.getElementsByTagName('script')[0];
s.parentNode.insertBefore(script, s);
})();
</script>
```

However, all browsers (Chrome, Firefox, Opera, Safari), except Internet Explorer 9 and below, allow to load scripts asynchronously in a very simple way thanks to the async attribute to be used as follows:

```
<script type="text/javascript" src="script.js" async="async"></script>[3]
```

III-3-9/ Place your CSS files in the head tag:

It is also imperative to place your CSS in the head tag of your page and not in the body tag. To realize the huge difference in display that this change in location can imply, test it locally. Thus, the layout time will be instantaneous if your CSS files are placed in the head, and of a few seconds, generating an aesthetic nuisance during this time, if your files are placed in the body.[3]

III-3-10/ Load your Javascript files just before </body>:

Loading your Javascript files before the closing body tag is only useful if you do not already load your files asynchronously. In this case, loading them at the end allows you to block the page only once it has been correctly displayed: that is, once the HTML and CSS have been correctly loaded.[3]

III-3-11/ Specify the sizes of your images:

It is important, for each image, to specify, beforehand, the size of your images thanks to the height and width attributes like this:

```

```

Why? Quite simply, because specifying their dimensions allows your browser to know, in advance, the size of your images, and thus to arrange the elements in their proper place on the page accordingly.[3]

III-3-12/ Prefer pure Javascript to jQuery:[3]

It is important to use pure Javascript instead of jQuery when you don't have much Javascript code in your page. Of course, using a library like jQuery is interesting because it allows you to write less code to do the same thing. But you have to load the library each time, which can have consequences because it has a weight: 91.4 Kb uncompressed and 33.1 Kb compressed for jQuery 1.8.

Using jQuery is only interesting if, for the same result, the weight of your pure Javascript would be higher than that of jQuery + 33 Kb. Pure Javascript is then preferable to jQuery if you have little code.[3]

III-3-13/ Replace @import by link:

Loading a file can be done in two ways, with import or with link:

```
<link rel="stylesheet" href="style.css" />  
<style>@import url('style.css');</style>
```

And while the second way may have its advantages, it is better to use the first way. By the way, Steve Souders' article makes this statement very clear. So I won't elaborate further so as not to paraphrase it.[3]

III-4/ Conclusion:

Techniques to increase traffic to your site are many and change every time Google releases new versions

Now, after the end of this chapter, you have a lot of information and techniques that help you improve your site and make it appear on the first pages of search results.

I have applied these techniques to my website, which I will present in the next chapter of this article, and the results of which I will present in the last chapter

IV – CHAPTER 3

Website design

IV- 1/ Introduction:

Before presenting the results of the previous techniques that I applied to my site, in this chapter I have introduced the website's UML diagrams to better understand how the site works.

The UML diagrams on my site include three main roles: Visitor: It is the role played by an outside person, a process or something that interacts with a system. The customer is the role played by an internal person who owns an account within the site. All the operations he performs occur after logging in. The administrator is the one who manages all the operations that occur within the site and responds to them.

So, in this chapter I touched on the UML diagrams of my site on which I applied the previous techniques to get a good ranking in search engine results

Definition of the site: This site is an electronic store specialized in the field of e-commerce, specialized in selling phone accessories and mobile phone repair tools. It is my own project that I am constantly developing to achieve excellent results and provide the best online shopping experience in Algeria.

IV-2/ UML Case diagrams:

The roles of use case diagrams are to collect, analyze, and organize requirements, as well as to identify major features of a system. So this is the first UML step in designing a system.

IV-2-1/ The visitor :

this is an individual who is browsing the net, looking for a product to buy or to get an idea about models and prices. Up to this point he is an unknown user so he is not yet a customer

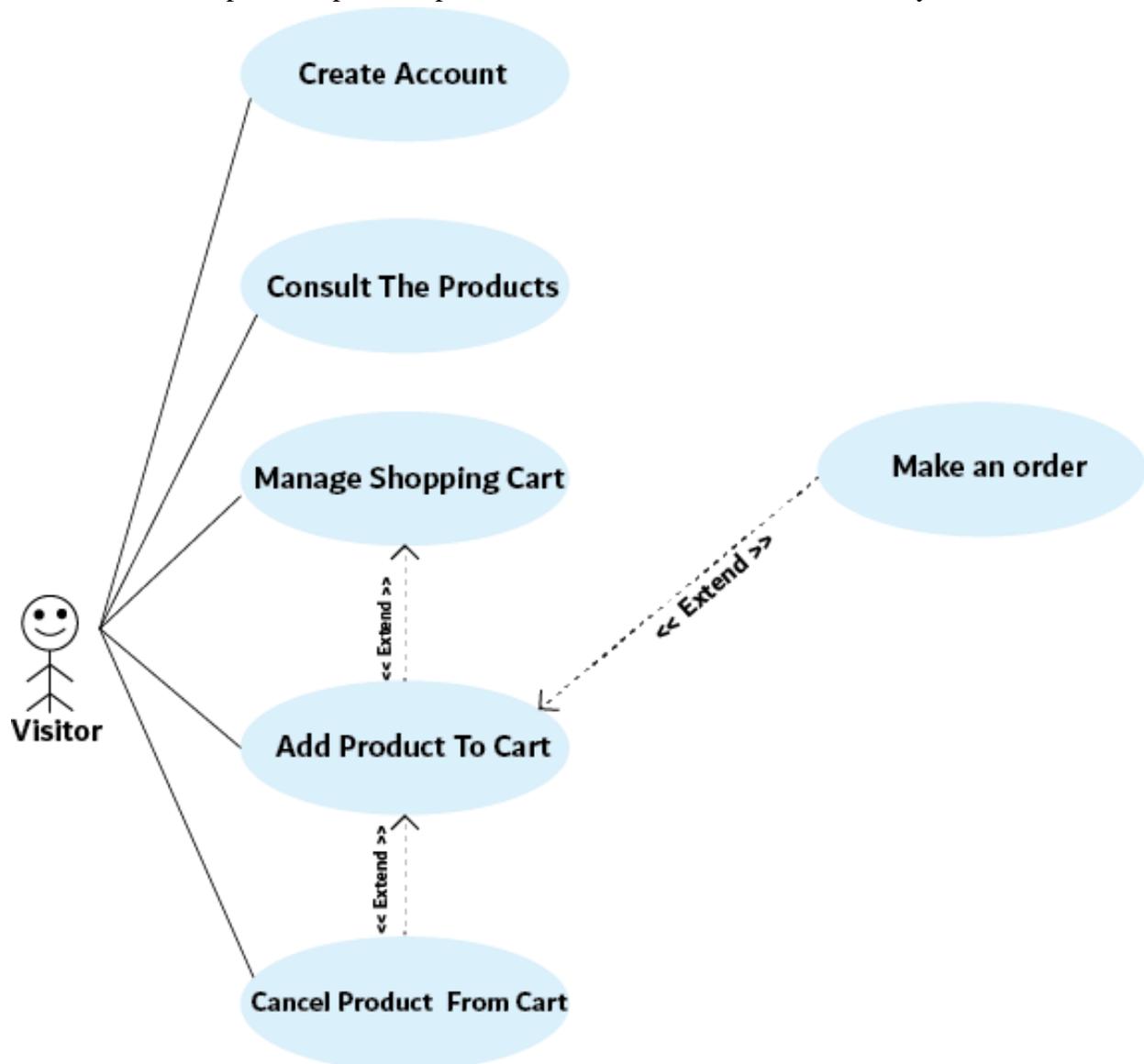


Figure 1: Visitor use case diagram

IV-2-2/ Client :

this person is a visitor who has already created an account on our site, so he can follow the product purchase process in complete safety knowing that my system must be solely responsible for the confidentiality of the personal data of its customers

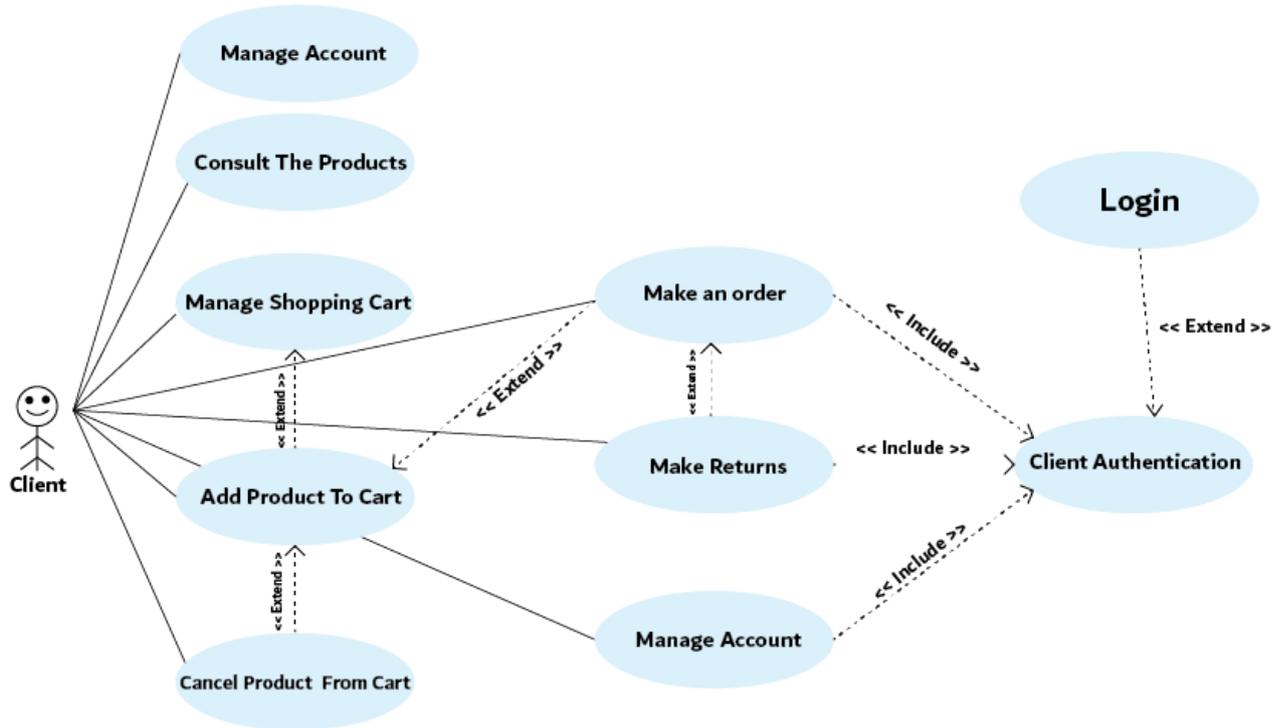


Figure 2: Client use case diagram

IV-2-3/ Administrator:

for websites It is the one who ensures the dynamism of the site and watches over the updates of products, their prices, their availability, the management of payments and the management of deliveries.

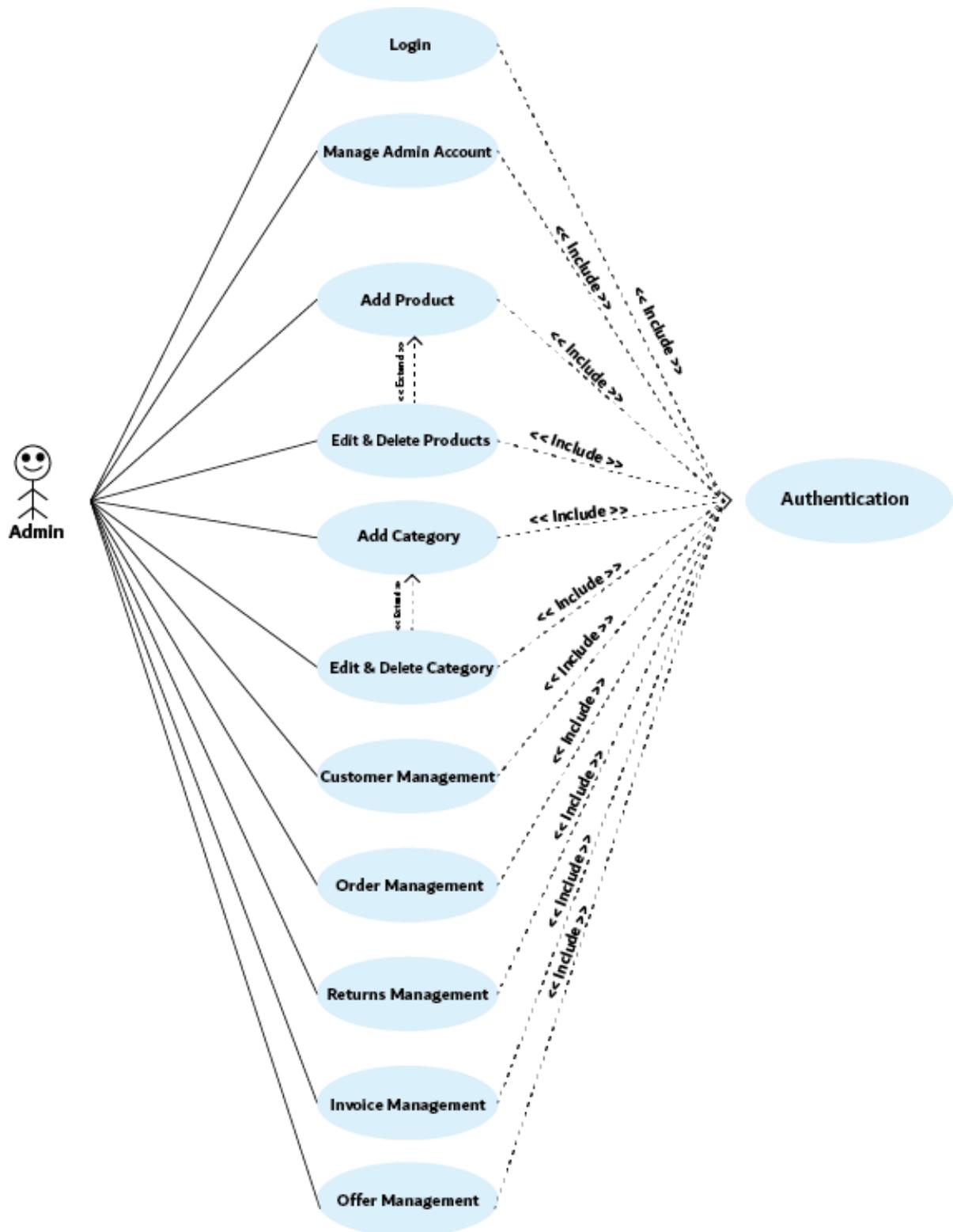


Figure 3: Admin use case diagram

IV-3/Authentication sequence diagram:

A sequence diagram is an interaction diagram that details how operations are performed: what messages are sent and when they are sent. In the following, I will present some sequence diagrams relating to the use cases presented.

IV-3-1/ Visitor:

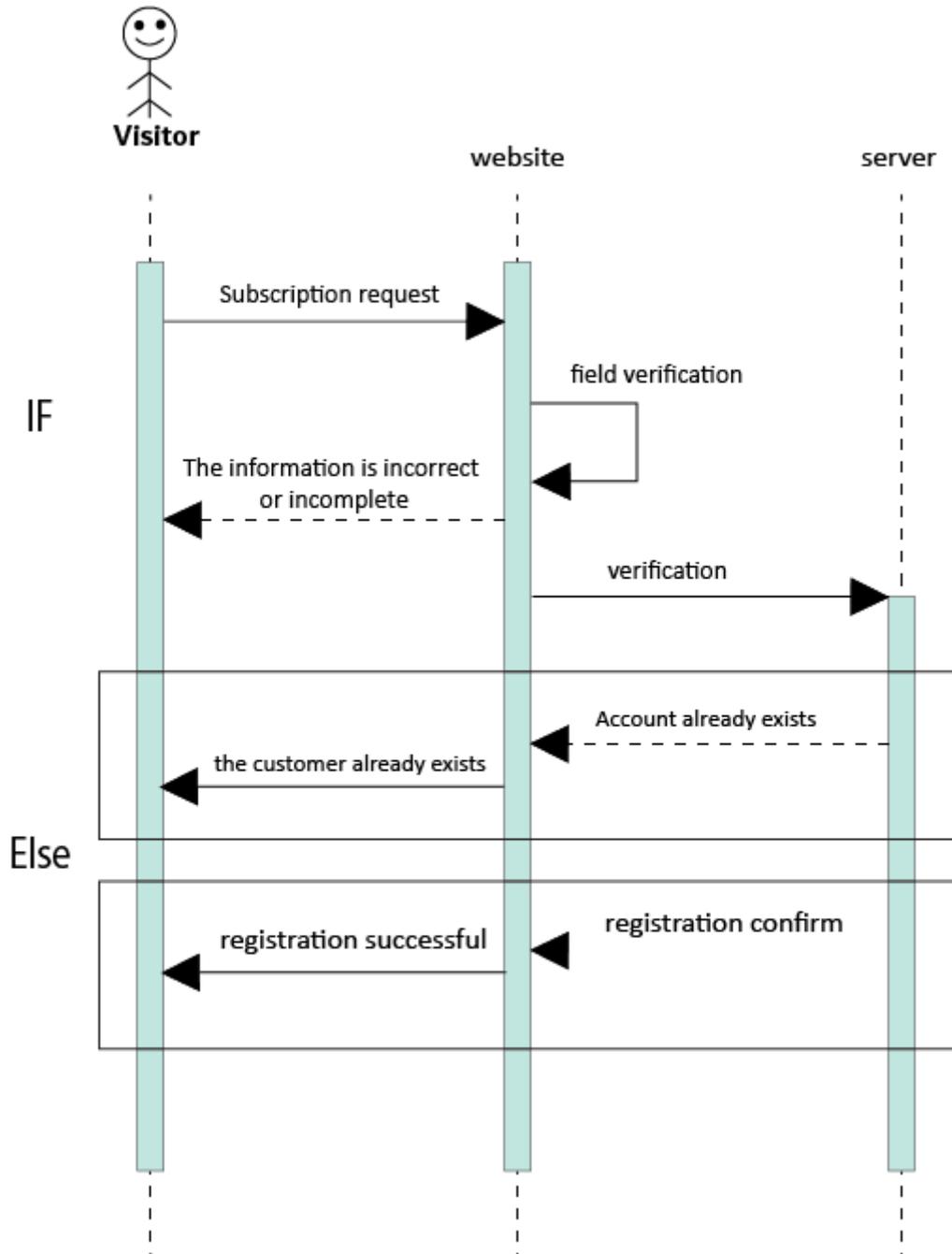


Figure 4: Visitor sign in sequence diagram

IV-3-2/ Client:

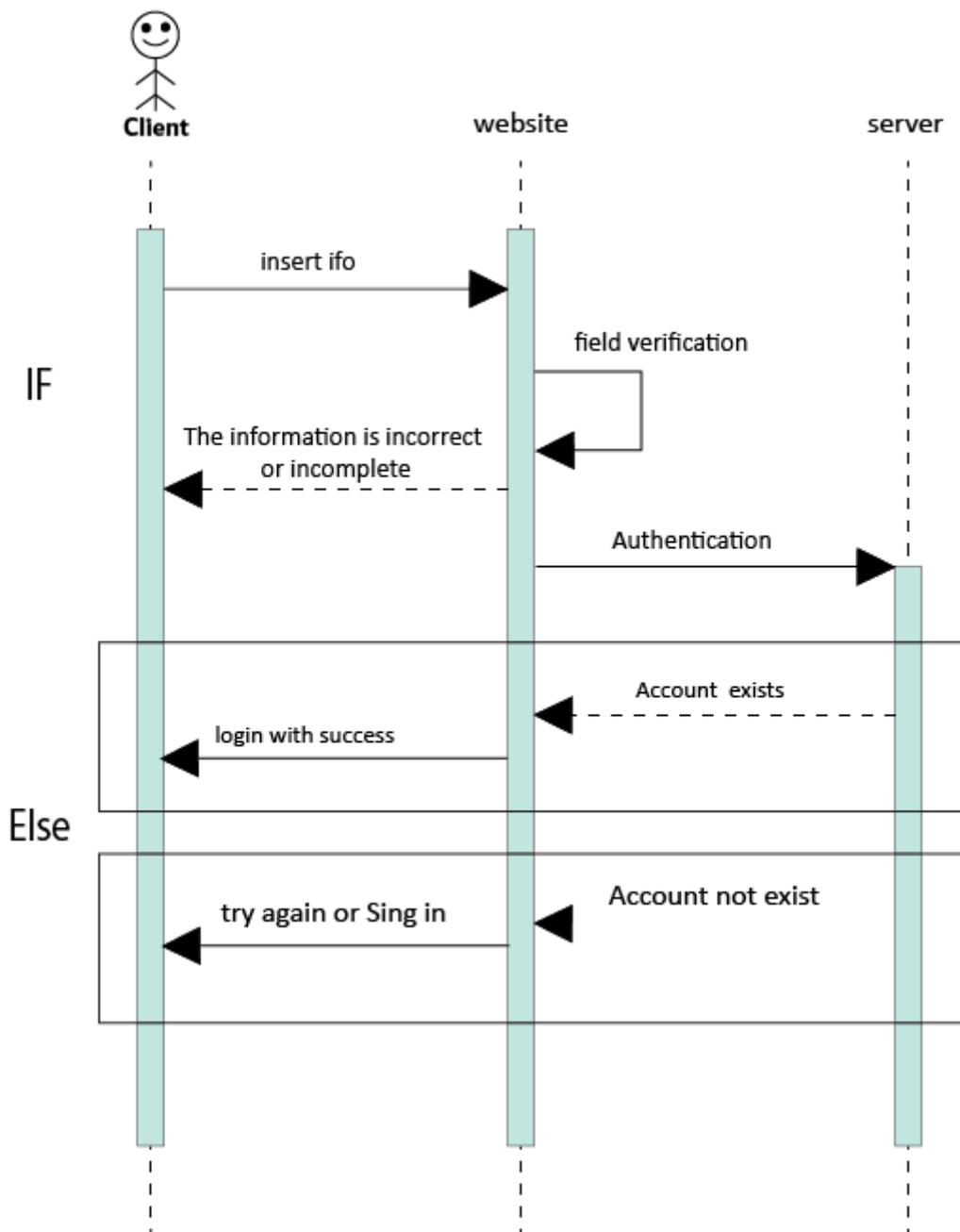


Figure 5: Client authentication sequence diagram

- The customer enters his login and password.
- A check is launched in the database.
- After a response time or the authentication is validated or an error message is displayed

IV-3-3/Admin:

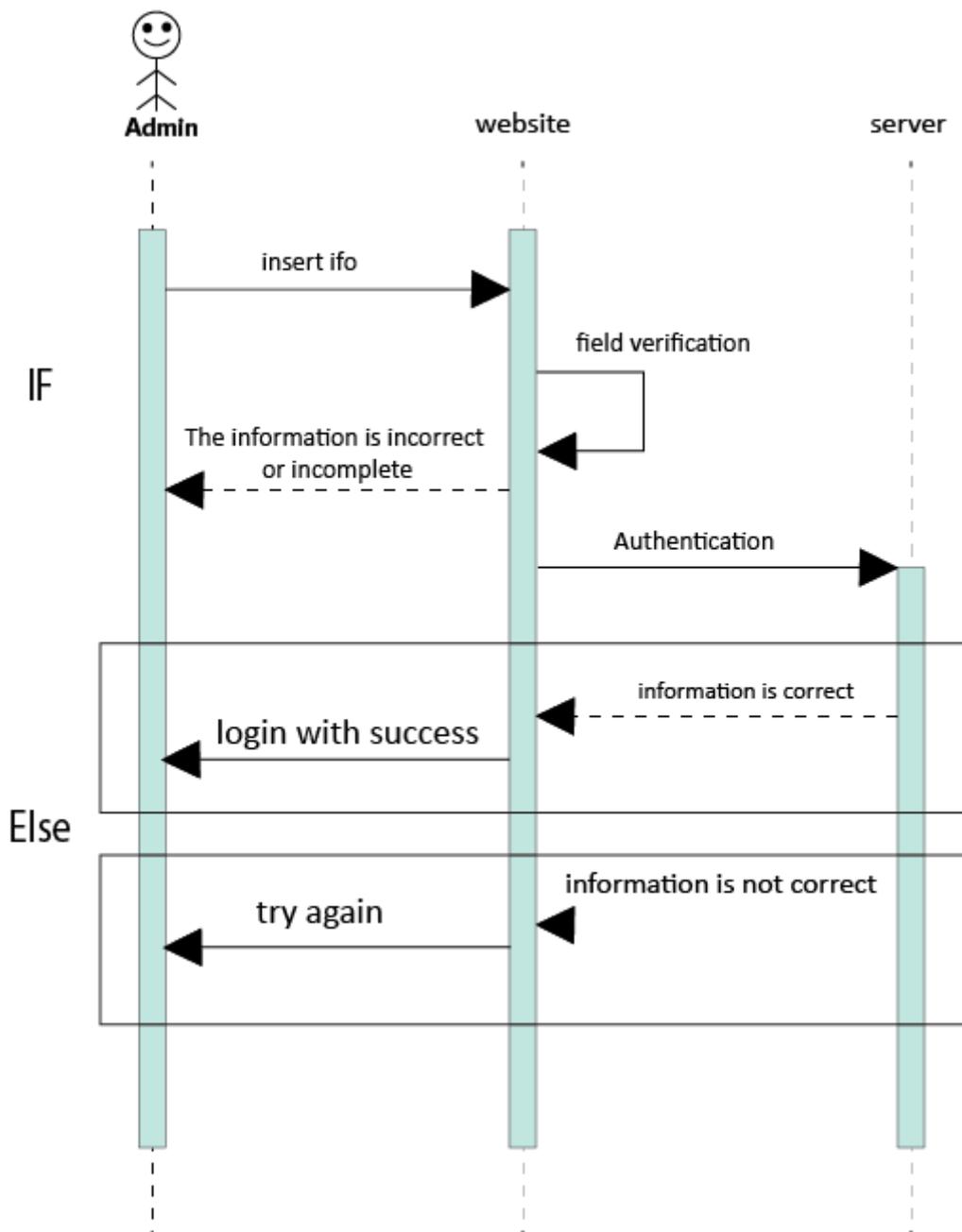


Figure 6: Admin authentication sequence diagram

- The administrator enters his login and password.
- A check is launched in the database.
- After a response time or the authentication is validated or an error message is displayed

IV-4/ UML Class Diagram:

A UML class diagram describes the object and information structures used on our website, both internally and in communication with its users. It describes the information without reference to a particular implementation. Its classes and relationships can be implemented in many ways.

IV-4-1/ My website's Class Diagram :

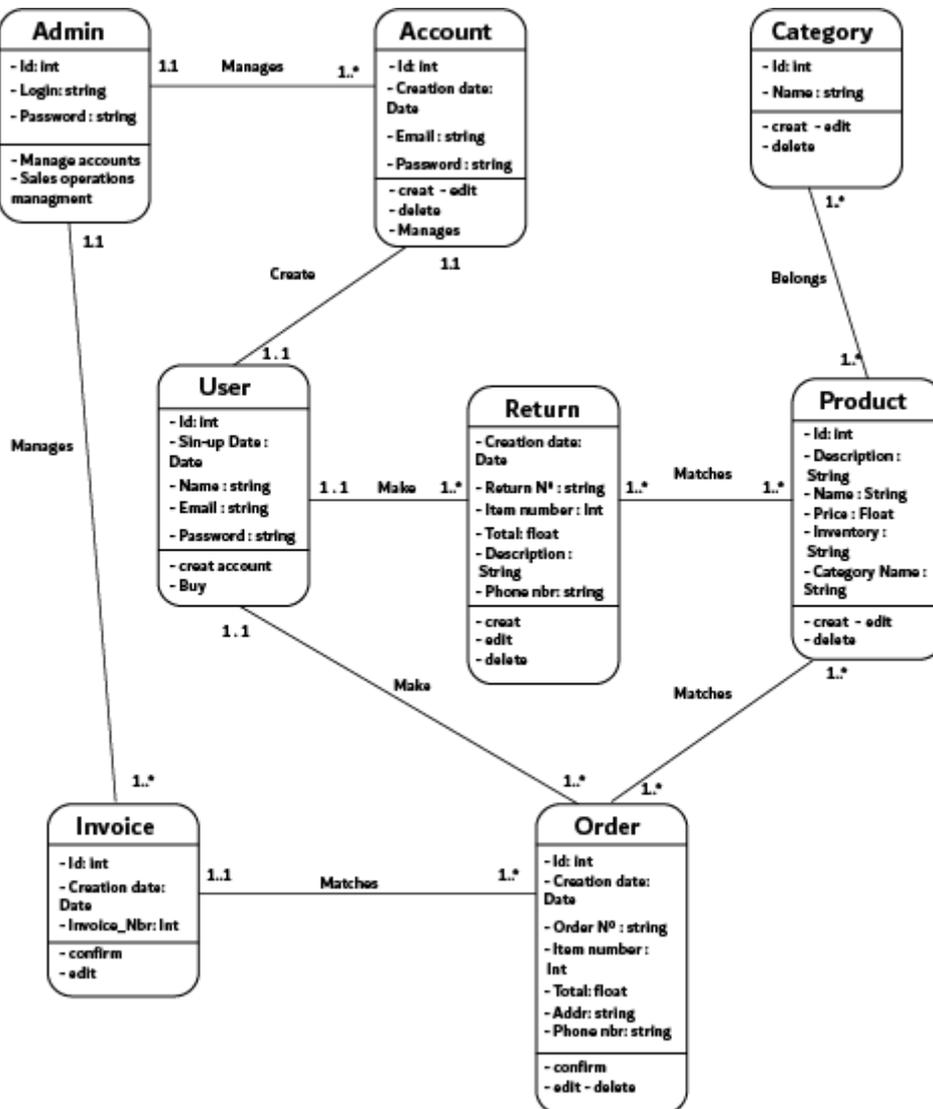


Figure 7: Class diagram

IV-4/ Conclusion:

UML diagrams is very basic to understand the working system of each system

In this chapter, I touched on the most important UML diagrams that my site works on. My site contains many operations that both the admin and the client perform, so I just mentioned the Authentication sequence diagram for the visitor, client and admin in the sequence diagram

These UML diagrams may seem sufficient to provide a good user experience but I will not stop here and I will update them every time and strive to provide the best user experience every time.

V- chapter 04 :
implementation

V-1/ Introduction:

No matter how many search engine optimization techniques there are, if they are not applied, there is no point in mentioning them

Search engine optimization is critical to the success of any online business. Every website owner should understand what SEO is, how it works and the potential traffic it can generate for all types of websites.

In this chapter, I will present the results of applying the previous techniques .

V-2/ implementation of the technique:

In this chapter, I will present to you the techniques that I applied and obtained their results, and tools that I used in every technique and that their results appear with after a while, the techniques that I could not apply and the reasons that prevented me.

The application of these technologies on my website was after the website was published on the Internet, which can be visited through the following link: <https://do4you.tk/>

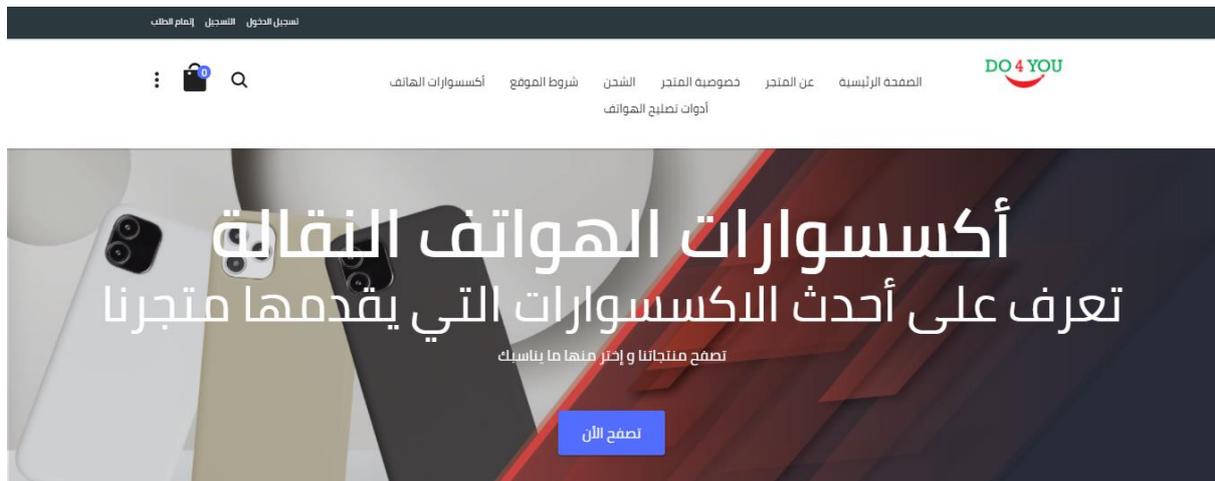


Figure 8: do4you website

V-2-1/ SEO:

This technique is considered the most common in search engine optimization and often depends on choosing the keywords written by the target customers on the search engines, and to get good results, it is recommended to choose one primary keyword for each page on the site where the same word is repeated more than once on the same page , This is what I applied on my site, for example in the following image, the keyword used is “التجارة الالكترونية”

من نحن

do4you، هو موقع للتجارة الإلكترونية في الجزائر ، ويضم العديد من المنتجات من مختلف الفئات التي تشمل مجال أكسسوارات الهواتف النقالة. يسعى do4you اليوم الى جذب العديد من الزوار شهرياً، وينمو بسرعة كبيرة بسبب إنتشار الوعي حول التجارة الالكترونية و ازدياد عدد المتسوقين عبر شبكة الإنترنت في الجزائر. **do4you** يعمل كموقع للبيع بالتجزئة ويقدم تجربة تسوق مريحة وأمنة مع إمكانية الدفع عبر الإنترنت، وإمكانية الدفع نقداً عند استلام السلع، وإمكانية إرجاعها مجاناً. تأسس **do4you** في **سبتمبر 2021**، وهو يسعى إلى أن يكون رائداً في مجال التجارة الالكترونية و التسوق عبر الإنترنت في الجزائر. أولوياتنا هي التركيز على تقديم منتجات ذات قيمة عالية و تسهل عليك القيام بمهامك اليومية انطلاقاً من التكنولوجيا الذكية و الدراسة الجيدة لمجال التجارة الالكترونية وإحتياجاته ، تم تصميم كل ما نقوم به لوضع كل شئ بين يديك مباشرة - مما يتيح لك حرية التسوق في أي وقت وفي أي مكان **do4you** يرسل لك المنتجات إلى عتبة دارك او الى مقر ولايتك حسب إختيارك و توفر لك خدمة الدفع عند الإستلام و يمكنك أيضا إستبدال المنتج أو إرجاعه في حال حدوث خلل ما، كما يمكنك تتبع مسار منتجك عن طريق الدخول الى رابط منتجك على موقع شركة التوصيل التي تتعامل معها. مع **do4you** ستحصل دائماً على تجربة تسوق رائعة مع خدمة استثنائية تجعلك تقوم بالخوض في تجربة تسوق جديدة معنا .

Figure 9: Keyword used in my website

Also, if you use images on this page, use the keyword in the names of the images on the page so that you can appear in google image search results, and this increases the visibility of your site on search results, but all this requires time and continuity in publishing the content on your site until Search engines recognize it, and since my site was launched only in the first of September, it needs a period of time to appear on the first pages of search results.

V-2-2/ The tools I use in SEO are:

Google trend: I use Google Trends to get topics with high search rates in my specialty and it helps me write good topics and achieve correct keyword targeting by forming an overview of Google search methods. It also helps me compare the statistics of the selected keywords and the most used concepts in the engine.

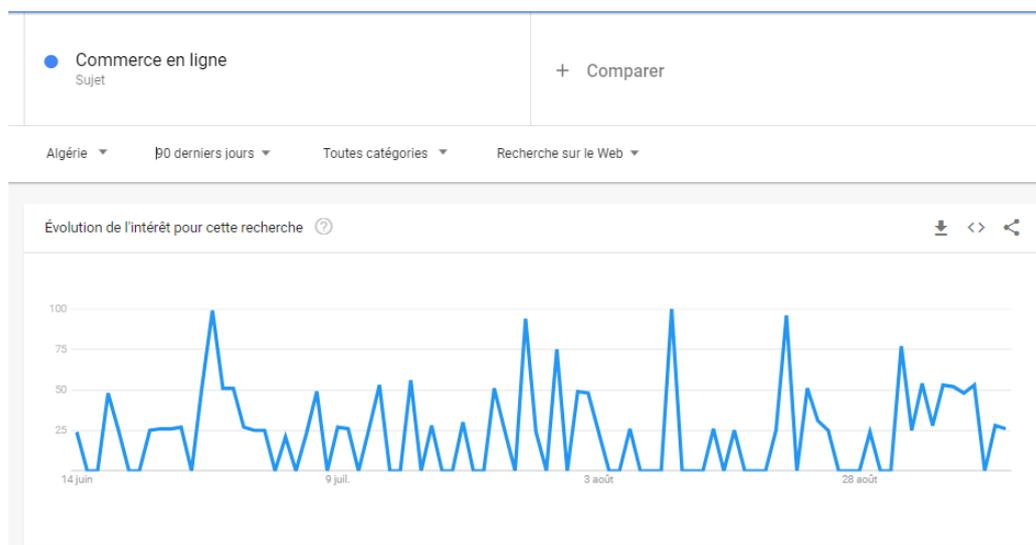


Figure 10: Keyword test

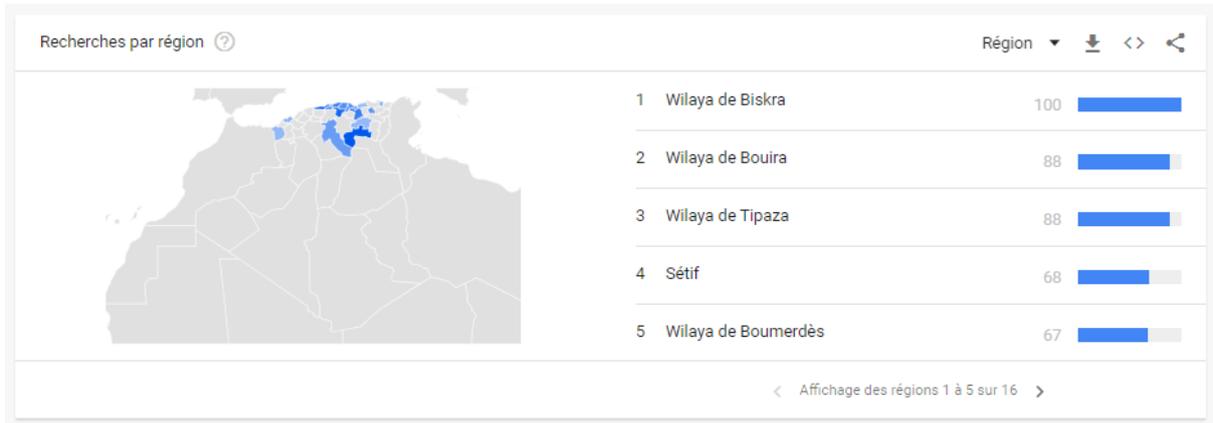


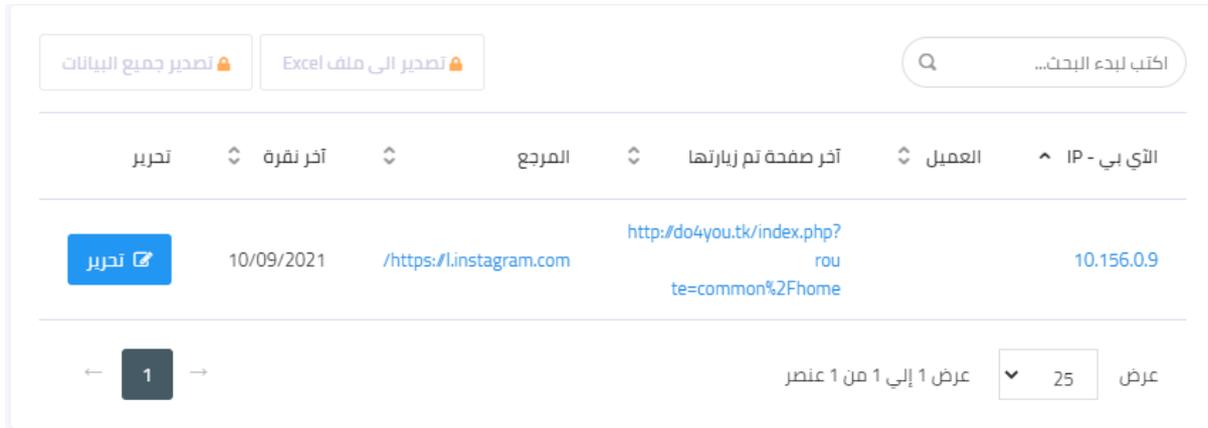
Figure 11: Where is the target audience located?



Figure 12 : Topics most searched by the target audience

V-2-3/ Social networks & Paid Advertising:

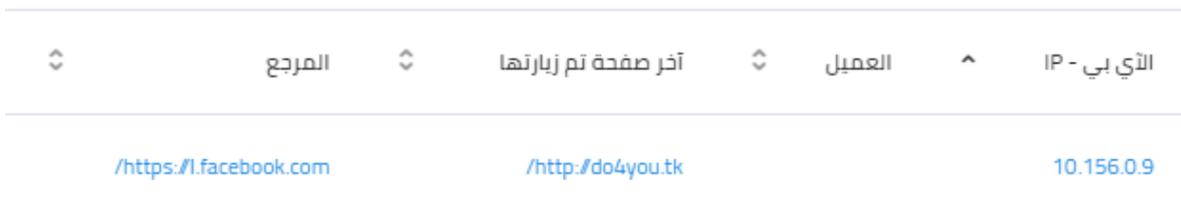
This part is very important to introduce your site and attract the largest number of users to it I use this technique as an essential element to introduce my site to the level of social media and to attract the largest number of users. Of course, I got results for this process, which is the presence of some users who visited the site from social media.



The screenshot shows a table with columns for 'التي بي - IP', 'العميل', 'آخر صفحة تم زيارتها', 'المرجع', 'آخر نقرة', and 'تحرير'. The first row shows a visit on 10/09/2021 from the source '/https://l.instagram.com' with the URL 'http://do4you.tk/index.php?rou te=common%2Fhome' and IP address '10.156.0.9'. Below the table, there is a pagination control showing 'عرض 1 إلى 1 من 1 عنصر' and a dropdown menu set to '25'.

| التي بي - IP | العميل | آخر صفحة تم زيارتها | المرجع | آخر نقرة | تحرير |
|--------------|--------|---|--------------------------|------------|-------|
| 10.156.0.9 | | http://do4you.tk/index.php?rou te=common%2Fhome | /https://l.instagram.com | 10/09/2021 | تحرير |

Figure 13 :A user visited the site through the link on Instagram



The screenshot shows a table with columns for 'التي بي - IP', 'العميل', 'آخر صفحة تم زيارتها', 'المرجع', and 'تحرير'. The first row shows a visit from the source '/http://do4you.tk' with the URL 'https://l.facebook.com' and IP address '10.156.0.9'.

| التي بي - IP | العميل | آخر صفحة تم زيارتها | المرجع | تحرير |
|--------------|--------|------------------------|-------------------|-------|
| 10.156.0.9 | | https://l.facebook.com | /http://do4you.tk | تحرير |

Figure 13 :A user visited the site through the link on Facebook

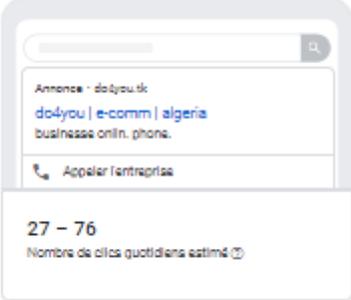
V-2-4/ Advertising:

Online advertising, on search engines, is a very good way to introduce yourself and bring traffic to your website. It is one of the best paid methods to appear on the first pages of search results

To apply this technique, I use Google Adwords. I prepared a good and effective advertising campaign to achieve good results and appear to the largest number of users on the first search pages.

I did not launch the campaign and show the results because of the budget.

Examinez votre campagne afin de vérifier qu'elle est correcte

| | |
|--|--|
| Nom de la campagne do4you |  |
| Principaux résultats Actions sur le site Web | |
| Page de destination do4you.tk | |
| Nom de l'entreprise do4you | |
| Texte d'annonce do4you e-comm algeria businessse onlin phone | |
| N° de téléphone 0699831977 | |
| Zones Algérie | |
| Thèmes de mots clés phone, concessionnaire caravanes, camping-cars et mobile homes, iphone 5c, samsung s 9, samsung galaxy s3 mini | |
| Budget budget quotidien moyen : 20,60 \$US | |
| Durée Fin le 4 oct. 2021 (encore 21 jours de diffusion) | |

RETOUR SUIVANT

Figure 15 :Online Advertising

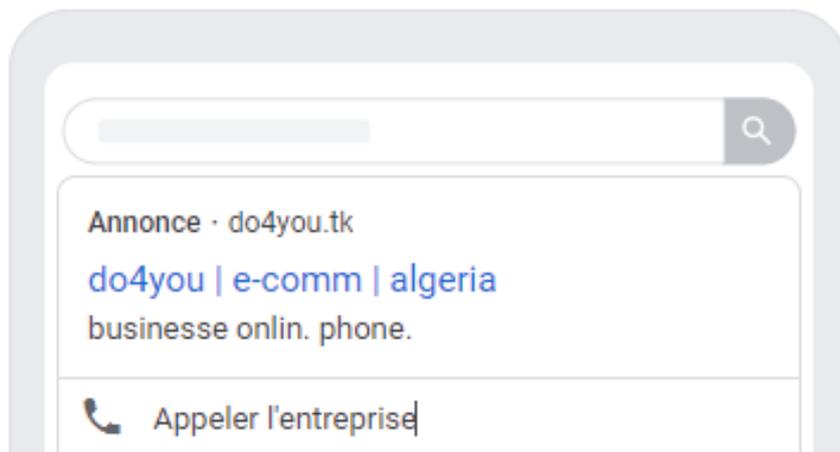


Figure 16 :The form of online advertising in search results

V-2-5/ Emailing:

As I said at the beginning, the purpose of e-mail is to promote the content, special offers or events of your site, and it is considered one of the most effective and free methods. After I announced the launch of using the site, I created a professional email message and sent it to many people from my target audience to get traffic to my site

DO 4 YOU

مرحباً

أنا صالح فراسي من موقع (do4you.tk) واحد من أحسن المواقع الخاصة بالتجارة الإلكترونية في الجزائر
ادعوك للتعرف على متجرنا ومنتجاتنا والتعرف على طريقة عملنا في مجال التجارة الإلكترونية

- نبذة عن المتجر -

do4you، هو موقع للتجارة الإلكترونية في الجزائر ، ويضم العديد من المنتجات من مختلف الفئات التي تشمل مجال اكسسوارات الهواتف الثقلة.

يسعى do4you اليوم الى جذب العديد من الزوار شهرياً، ويتمو بسرعة كبيرة بسبب ازدياد عدد المشوفين عبر شبكة الإنترنت في الجزائر.

do4you يعمل كموقع للبيع بالتجزئة ويقدم do4you تجربة تسوق مريحة وأمنة مع إمكانية الدفع عبر الإنترنت، وإمكانية الدفع نقداً عند استلام السلع، وإمكانية إرجاعها مجاناً

.....

[— اقرأ المزيد](#)

- تعرف على طريقة الشحن في متجرنا -

مهمتنا الأولى هي أن نقدم لك أفضل تجربة تسوق عبر الإنترنت، ولذلك قمنا بتسهيل عملية الشحن والتوصيل إليك لأن راحتك هي أولويتنا

تقوم do4you بتوصيل طلباتك عن طريق الإستفادة بشركات الشحن في الجزائر لتكدي خدمتك وتوصيل طلباتك في الوقت المناسب لكم عبر كامل التراب الوطني.

-منهج التوصيل لدى do4you هو التوصيل في مدة يوم او يومين او يصل الى 3 أيام إن تطلب الأمر ذلك على حسب المنطقة الجغرافية الخاصة بكم

يجب طلب السلعة قبل الساعة السادسة مساءً حتى تتمكن من تحضير طلبك و شحنه في اليوم التالي مباشرة ليتمكن فريق التوصيل من توصيل طلبك في أقل وقت ممكن.....

Figure 17 :Emailing

V-2-6/ Increase website loading speed:

At this point, I added some code to the source code to increase the site loading speed. The site loading speed has changed, but it is not good for search engines, so I will continue to search for new ways later and apply them to improve the speed of loading my site.

```
<script type="text/javascript">
(function() {
var script = document.createElement('script'); script.type = 'text
/javascript';
script.src = "script.js";
var s = document.getElementsByTagName('script')[0]; s.parentNode.insertBefore(script, s);
})();
</script>
```

Figure 18 :Defer parsing your JavaScript code

```
<ifModule mod_headers.c>
# One month for image and video files
<filesMatch (flv|gif|ico|jpg|jpeg|mp4|mpeg|png|svg|swf|webp)>
  Header unset Cache-Control
  Header set Cache-Control "max-age=2592000, public"
</filesMatch>

# One month for JavaScript and PDF files
<filesMatch (js)>
  Header unset Cache-Control
  Header set Cache-Control "max-age=2592000, public"
</filesMatch>

# One month for CSS files
<filesMatch (css)>
  Header unset Cache-Control
  Header set Cache-Control "max-age=2592000, public"
</filesMatch>
</ifModule>
```

Figure 19 :Caching files

- To measure site loading speed, I use the 'Test My Site' tool from Google Think Tools

Résultats de la vitesse sur mobile

La vitesse de la page correspond à la vitesse d'une page spécifique de votre site. La vitesse de chargement de la page do4you.tk est de :

6.4 secondes

Figure 20 :Before Adding code

Résultats de vitesse pour do4you.tk

Vitesse de votre page mobile : 6.1 secondes sur une connexion 4G .

Figure 21: After Adding code

V-2-7/ Web traffic analysis:

To analyze the traffic data within my site I use Google Analytics as it helps me keep track of the number of visitors over time, and see which pages get the most clicks or which have the most effective keywords.

But since the site is new and the traffic is low, there are no results to analyze on Google Analytics.

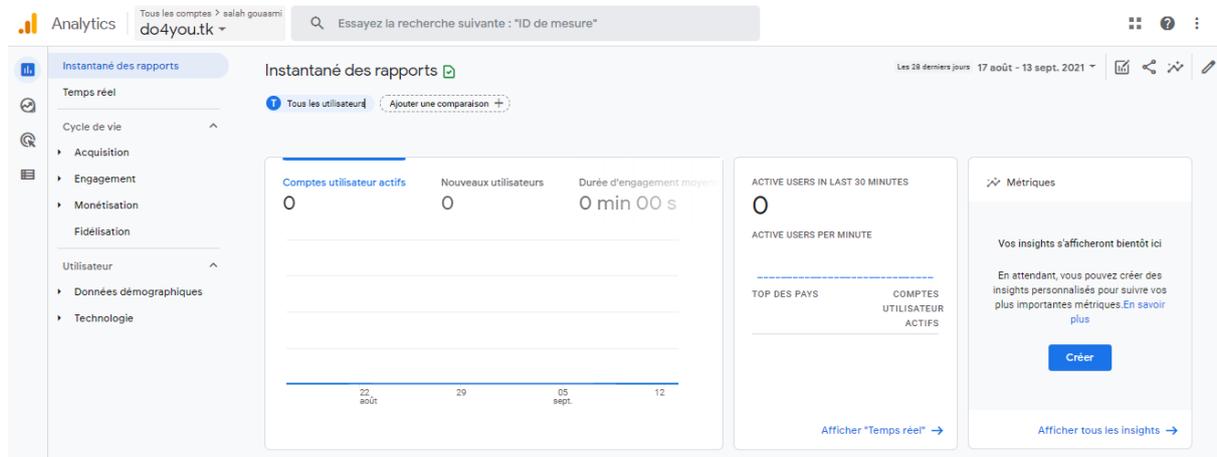


Figure 22: Google Analytics

V-2-8/ Google my business :

The last of the tools I used was Google My Business

If someone is searching for the name of my business, this means that they are already familiar with my business and maybe even a former customer, when they search, all my information will appear to them to the left of the search results and this improves the appearance of my site on the search results and it is a new opportunity to introduce the site and commercial activities.

The screenshot shows the Google My Business profile for 'do4you'. The profile name is 'do4you' and the category is 'Service d'e-commerce'. The business is currently closed, with a message: 'Aucun établissement physique (livraisons ou services à domicile uniquement)'. The service area is 'Zones desservies: Bordj Bou Arreridj, Algérie'. The business hours are listed as 'Ouvert 24h/24' for all days of the week. There is a search bar with the text 'Service d'e-commerce' and a search icon. Below the search bar, there is an announcement: 'do4you - Assistance Pour LE-Commerce'. At the bottom, there are two buttons: 'Marquer comme fermé définitivement' and 'Supprimer la fiche'.

do4you

Service d'e-commerce

Aucun établissement physique (livraisons ou services à domicile uniquement)

Zones desservies
Bordj Bou Arreridj, Algérie
Algérie

Lundi Ouvert 24h/24
Mardi Ouvert 24h/24
Mercredi Ouvert 24h/24
Jeudi Ouvert 24h/24
Vendredi Ouvert 24h/24
Samedi Ouvert 24h/24
Dimanche Ouvert 24h/24

Ajouter des horaires spéciaux

Attirez encore plus de clients

Service d'e-commerce

Announce · <https://do4you.tk/>
do4you - Assistance Pour LE-Commerce

Lancez-vous avec un avoir de 30 \$US
Diffusez votre annonce chaque fois que les clients vous recherchent depuis leur ordinateur ou appareil mobile. La configuration ne prend que quelques minutes, et vous ne payez qu'en cas de clic. [En savoir plus](#)

Commencer

Fermer cet établissement sur Google

Vous pouvez marquer cette fiche comme fermée définitivement ou la supprimer de votre compte

Marquer comme fermé définitivement

Supprimer la fiche

Figure 23: Google My business 1

-  *Ajouter des horaires spéciaux* 
-  0540 34 21 14 
-  <https://do4you.tk/> 
-  **Services**
Ajouter un service 
-  **Fournis par l'établissement**
Ajouter des attributs 
-  متجرنا هو من إحدى المتاجر الإلكترونية في الجزائر ،
مختص في بيع أكسسوارات الهواتف و أدوات تصليح
الهواتف النقالة يمكنك التسوق في متجرنا على مدار اليوم
متجرنا يوفر خدمة التوصيل و الدفع عند الاستلام تصفح
المواقع لمعرفة المزيد عن المتجر 
-  *Ajouter une date d'ouverture* 
-  *Ajouter des photos* 

Supprimer la fiche

Informations avancées

| | | |
|--|---|---|
| Code de magasin | Saisissez le code de magasin |  |
| Libellés | Saisissez des libellés |  |
| Numéro de téléphone pour les extensions de lieu Google Ads | Saisissez un numéro de téléphone Google Ads |  |

Figure 24: Google business 2

V-2-9/ Appear in the first search results:

After using all these techniques, it helped me to reach the desired result, which is the first search result.

This is the search result after using two keywords ' do4you Algeria ', these two words I repeated almost in all the pages of the site and this was the result: the site appeared in the first search results, the second search result is an Algerian page on Instagram, I made the paid advertisement with it and it ranked first Second in search results only because he used my keywords.

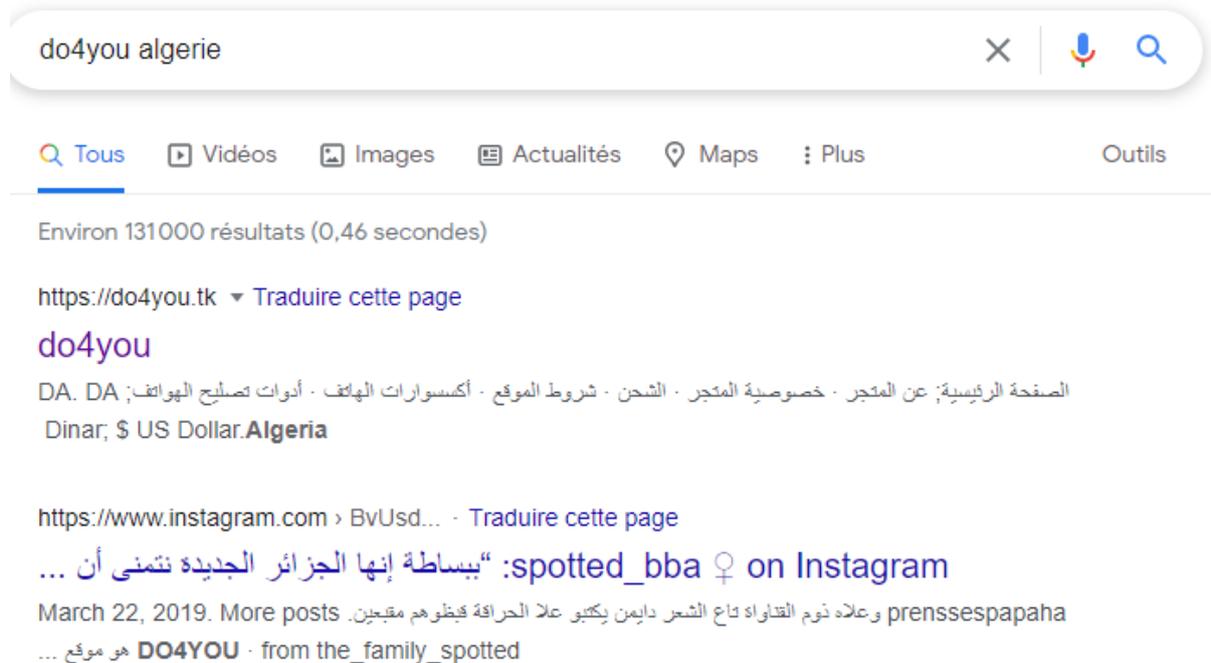


Figure 25: The final result

V-3/ Conclusion:

Multiple search engine optimization techniques have helped many developers develop and improve their projects.

After applying the SEO techniques to my site, the results observed before and after applying these techniques were good compared to the results of the site previously.

The result of these techniques was the appearance of my site on the first page of search results after searching with the keywords used.

VI/ General Conclusion:

After all commercial activities are located on the web, the competition has become very high between business owners and their goal is to attract the largest number of customers to their site, here comes the role of the programmer and site manager in achieving the desired goal to help them achieve the results desired by the site owners. Full research on this topic.

Through the first chapter, I came to know the history of the web, search engine optimization, and all the changes it went through from 1994 to 2021, and what are the most important modern factors that allow your site to appear on the first pages of search results.

Through the second chapter, I came up with the most important techniques that help you to attract high traffic to your site, which helped me a lot in achieving this and also help website developers and website managers in achieving their goals.

After submitting the UML diagrams of my site, which provides an excellent user experience, and after I applied the previously mentioned search engine optimization techniques on the site, some of them I have not achieved results so far, but through other techniques I have achieved good results compared to the results achieved by the site before. The application of these techniques as an improvement in the speed of loading the site and attracting a number of visitors to the site and the appearance of the site in the first search results

After all of the above, the site may look good compared to what it was before, but it needs more modifications, and this is what motivates me to strive and work on developing it later and learning new techniques for improving search engines to achieve excellent results in the future.

Reference:

[1] <https://www.searchenginejournal.com/seo-101/seo-history/#close>

[2] <https://optimumcircle.com/techniques-traffic-site-web/>

[3] <https://www.lucaswillems.com/fr/articles/18/astuces-site-rapide>

ملخص:

العديد من المواقع التي تم تصميمها من قبل الطلاب أو المطورين الجدد لم تكن ناجحة جدًا أو لم يتم استخدامها على الإطلاق. السبب الذي أدى إلى ذلك ، كان بسبب كفايتهم واهتمامهم فقط بكتابة برمجة كود موقع الويب دون الانتباه إلى دراسة عوامل وتقنيات تحسين موقع الويب وتطبيقها في محرك البحث (SEO). يعمل الأخير على زيادة عدد زوار المواقع إلى الحد الأقصى من خلال ضمان ظهور عالٍ على صفحات النتائج الأولى التي يعرضها محرك البحث. سيكون الموضوع المقترح التالي مرجعًا جيدًا لحل المشكلة المذكورة. يحتوي على جزأين أساسيين: الأول يتكون من دراسة مجال تحسين محركات البحث بالتفصيل. الجزء الثاني مخصص لتطوير موقع على شبكة الإنترنت بناءً على العوامل الفنية لتحسين محركات البحث التي تمت دراستها. الكلمات الرئيسية: SEO ، مواقع الويب ، محرك البحث.

Summary:

Many of the websites that were designed by students or new developers have not been very successful or were not used at all. The reason that led to this, was due to their sufficiency and their interest only in writing the website's code programming without paying attention to study and apply the website Optimization factors and techniques in Search Engine (SEO). The latter works on maximizing the number of visitors to the websites by ensuring a high appearance on the first results pages returned by a search engine. The following proposed theme will be a good reference to solve the cited problem. It contains two essential parts: The first one consists of studying the field of SEO in detail. The second part is devoted to the development of a website based on the SEO technical factors studied. Keywords : SEO, websites, search engine.

Sommaire:

De nombreux sites Web conçus par des étudiants ou de nouveaux développeurs n'ont pas eu beaucoup de succès ou n'ont pas été utilisés du tout. La raison qui a conduit à cela était due à leur suffisance et à leur intérêt uniquement à écrire la programmation du code du site Web sans prêter attention à l'étude et à l'application des facteurs et techniques d'optimisation du site Web dans les moteurs de recherche (SEO). Ce dernier travaille à maximiser le nombre de visiteurs sur les sites en assurant une forte apparition sur les premières pages de résultats renvoyées par un moteur de recherche. Le thème proposé suivant sera une bonne référence pour résoudre le problème cité. Il contient deux parties essentielles : La première consiste à étudier en détail le domaine du référencement. La deuxième partie est consacrée à l'élaboration d'un site Internet en fonction des facteurs techniques SEO étudiés. Mots-clés : SEO, sites web, moteur de recherche.