

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of languages



Bachelor Thesis

**Improving SEO ranking through analysis of current
SEO practise**

Iheb BACCOUCHE

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

BACHELOR THESIS TOPIC

Author of thesis: IHEB BACCOUCHE
Study programme: Informatics
Thesis supervisor: John McKeown
Supervising department: Department of Languages
Language of a thesis: English

Thesis title: **Improving SEO ranking through analysis of current SEO practise.**

Objectives of thesis:

This bachelor thesis is focused on how a company can improve its SEO ranking through a comprehensive understanding of search engine optimization (SEO), its fundamental principles, and the current key tools and tactics employed. By thoroughly examining these aspects, the aim is to identify the most relevant practices for application in the practical part and implementation in the business website.

A partial goal is the building of a WordPress website, from conceptualization to implementation of SEO practices, maximizing the website's ranking in search engine results' pages.

Methodology:

The methodology will be based on the review of the literature and the practical part analysis.

Initially, an assessment of the most notable Google algorithm changes over the past two decades will be made, followed by a review that includes research and analysis on the current SEO techniques & strategies used and how they can improve a company's SEO ranking. Additionally, the review will explore the rationale behind companies' adoption of SEO practices and their implementation on their websites.

The second part will focus on the analysis of the practical part.

Based on the outcomes of the literature review and practical work, final conclusion will be made.

The proposed extent of the thesis: 30-40 pages

Keywords: Search Engine Optimization, SEO, SEO Techniques, SEO strategies, SEO methods, WordPress, On-page SEO, Off-Page SEO, Technical SEO, Business, Google, Search Engine, Indexing, Content, Links, SEO Crawling, Metadata, tags, SEO ranking

Recommended information sources:

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Expected date of thesis defence: 2023/24 SS - PEF

Electronically approved: 5. 3. 2024
PhDr. Mgr. Lenka Kučirková, Ph.D.
Head of department

Electronically approved: 5. 3. 2024
doc. Ing. Tomáš Šubrt, Ph.D.
Dean

Declaration

I declare that I have worked on my bachelor thesis titled "Improving SEO ranking through analysis of current SEO practise" by myself, and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on 15th of March, 2024

IHEB BACCOUCHE

Acknowledgement

I would like to thank Mr. John McKeown for his kindness, guidance, and patience when providing advice. I would also like to express my heartfelt gratitude to my family for their unwavering support and encouragement throughout my entire university journey.

Improving SEO ranking through analysis of current SEO practise

Abstract:

This bachelor's thesis delves into search engine optimisation (SEO), examining its historical development, evolution, and current practices. The study begins with an exploration of SEO's historical trajectory and evolution beyond Google's domain. It provides an in-depth analysis of major Google algorithm updates, shedding light on pivotal milestones such as the 'Panda', 'Penguin', and 'BERT' updates. Additionally, the thesis reviews various SEO practices, differentiating between white-hat and black-hat techniques. Furthermore, the study elucidates the importance of SEO for company websites, underscoring its impact on website traffic and online visibility. In the practical part, the thesis offers a comprehensive analysis of implementing an SEO campaign for a WordPress website created specifically for this thesis. It covers pre-planning considerations, WordPress website setup, and the execution of SEO tactics, including keyword research, on-page & off-page SEO, and technical SEO elements such as website speed optimisation.

Keywords: Search Engine Optimisation, SEO, SEO Techniques, WordPress, On-page SEO, Off-Page SEO, Technical SEO, Business, Google, Search Engine, Indexing, Content, Metadata, tags, Ranking

Zlepšení hodnocení SEO pomocí analýzy současné praxe SEO

Abstrakt:

Tato bakalářská práce se zabývá optimalizací pro vyhledávače (SEO), zkoumá její historický vývoj, vývoj a současné postupy. Studie začíná průzkumem historické trajektorie SEO a vývoje mimo doménu Google. Poskytuje hloubkovou analýzu hlavních aktualizací algoritmů Google a osvětluje klíčové milníky, jako jsou aktualizace 'Panda', 'Penguin' a 'BERT'. Dále se práce zabývá různými SEO praktikami, které rozlišují mezi technikami white-hat a black-hat. Studie dále objasňuje význam SEO pro firemní weby a zdůrazňuje jeho dopad na návštěvnost webu a online viditelnost. V praktické části práce nabízí komplexní analýzu implementace SEO kampaně pro web WordPress vytvořený přímo pro tuto diplomovou práci. Zahrnuje předběžné plánování, nastavení webu WordPress a provádění taktiky SEO, včetně výzkumu klíčových slov, SEO na stránce a mimo stránku a technických prvků SEO, jako je optimalizace rychlosti webu.

Klíčová slova: Optimalizace pro vyhledávače, SEO, SEO techniky, WordPress, On-page SEO, Off-Page SEO, Technické SEO, Business, Google, Vyhledávač, Indexování, Obsah, Metadata, značky, Hodnocení

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List Of Abbreviations:

- SEO**.....Search Engine Optimisation
- BERT**.....Bidirectional Encoder Representations from Transformers
- HTML**.....Hypertext Markup Language
- CSS**.....Cascading Style Sheets
- SERPs**.....Search Engine Results Pages
- SERP**.....Search Engine Results Page
- SEM**.....Search Engine Marketing
- SERP**.....Search Engine Results Page
- SEMM**.....Search Engine Marketing Management
- AI**.....Artificial Intelligence
- NLP**.....Natural Language Processing
- LCP**.....Largest Contentful Paint
- FID**.....First Input Delay
- CLS**.....Cumulative Layout Shift
- URL**.....Uniform Resource Locator
- HTML5**.....Hypertext Markup Language, version 5
- XML**.....Extensible Markup Language

IP.....Internet Protocol
CrUX.....Chrome User Experience
CTR.....Click-Through Rate
SSL.....Secure Sockets Layer
UX.....User Experience
INP.....Interactive to Next Paint
WP.....WordPress
FAQ.....Frequently Asked Questions
TXT.....Text
DNS.....Domain Name System
OG.....Open Graph
API.....Application Programming Interface

1 Introduction

The distinction between the physical and virtual realms is undergoing a process of rapid convergence. The Coronavirus pandemic undeniably accelerated this trend as companies invested heavily in virtual technologies. This shift has led to a dramatic increase in online activities, such as remote work and virtual education.

Digital marketing was also one of the sectors that was heavily positively affected by this transition; generally speaking, digital marketing is mainly done online advertising, which is sending messages to a targeted audience using the internet. It is crucial for enhancing website traffic and promoting a business's brand. This encompasses leveraging modern social media, optimising search engine page results, maintaining websites, and executing email campaigns. Companies nowadays do their best using all e-advertising (online advertising) tools, strategies, and tactics to influence their targeted clients or customers to take a particular move or action, like buying a product or service.

Online advertising is divided into several methods (1):

The first method is social media advertising, with its already-provided tools that help promoters increase their reach and advertise their services or products straight from the platform, using several analytical tools, user-generated content advertisements, or even a set of campaigns spread over multiple social media channels (1).

The second method is email marketing, which is the traditional digital marketing method, but its effectiveness has remained strong. Email marketing lets marketers reach a targeted audience directly by emailing their inboxes, enabling businesses to send newsletters, information about new services or products, and special offers or deals to potential or existing customers. Email marketing remained an excellent, budget-friendly marketing channel (1).

Another method is digital display advertising. This method displays promotions on external websites, commonly known as third-party websites. Users can engage with the advertisements on those websites by clicking or tapping them, redirecting them to the designated website. Reforwarding, retargeting, or remarketing represents a widely embraced and impactful advertisement display method. Rather than simply placing ad banners in front of random website visitors, this approach focuses on showcasing promotions solely to users with a history of visiting the website or being part of the database. This targeted strategy proves to be an outstanding way to enhance user engagement (1).

The fourth is search engine marketing (SEM), which is a technique to increase the visibility of a website on search engine results pages (SERPs) that can be done by purchasing a placement on search engines, usually at the top of the first page of search engine page results (1).

The last one is content marketing, whose main objective is to increase organic traffic by improving a website's search engine optimisation (SEO) and making it appear as high as possible in search engines (1).

To recapitulate, digital marketing is a component of marketing that uses online virtual techniques to promote a product or a service, and this thesis will get deeper into one of its most relevant methods, search engine optimisation (SEO), which was recently highlighted.

2 Objectives and Methodology

2.1 Objectives

- This bachelor thesis is focused on how a company can improve its SEO ranking through a comprehensive understanding of search engine optimisation (SEO), its fundamental principles, and the current key tools and tactics employed. By thoroughly examining these aspects, the aim is to identify the most relevant practices for application in the practical part and implementation in the business website.
- A partial goal is the building of a WordPress website, from conceptualisation to implementation of SEO practices, maximising the website's ranking in search engine results pages.

2.2 Methodology

- An assessment of the most notable Google algorithm changes over the past two decades is conducted. This is followed by a comprehensive review that analyses research and insights from scholarly sources (e.g., academic journals and books) as well as study results and high-quality online resources. The review explores current SEO techniques & strategies and how they can improve a company's SEO ranking. To further solidify these concepts, the review incorporates relevant examples that illustrate the practical application of these techniques. Additionally, the rationale behind companies' adoption of SEO practices and their implementation on their websites is explored.
- The second part of the methodology delves into the analysis of the practical component, which involves the creation of a WordPress website from conceptualisation to implementation. This encompasses a detailed examination of how various SEO techniques are technically integrated into the website structure.
- Based on the outcomes of the literature review and practical work, final conclusion is made.

3 Literature Review

3.1 Historical Development of SEO & Its Evolution

During the mid-to-late 90s, the number of websites started significantly increasing, which led to the appearance of search engines that enabled any internet user to find information easily and quickly. With pay-per-click programs, many search engines like ‘Open Text’ or ‘Goto.com’ which later became ‘Yahoo!’, developed a unique business model to support their services financially. Hence, they offer paid search possibilities for those who want to advertise their website through ‘Yahoo!’ Search. In 2000, Google started to provide ads on search results pages with a program called ‘Google Ad Words.’ By 2007, search engines with paid programs discovered their revenues were increasing, prompting ‘Yahoo!’ and Microsoft to ally in 2009 and launch a new search engine called ‘BING’ to challenge Google's market dominance (2).

In 2020, as shown in Figure 1 below, Google led the search engine market and strongly dominated it. Google is located at the top spot with more than 90%, then Bing with a market share of almost 2.5% and Yahoo! with 1.64%, resulting in claims that ‘Alphabet’, the company owning Google, is maintaining a monopoly on search (3).

THE TOP 10 SEARCH ENGINES	
SEARCH ENGINE	MARKET SHARE
1. GOOGLE	91.54%
2. BING	2.44%
3. YAHOO!	1.64%
4. BAIDU	1.08%
5. YANDEX	0.54%
6. DUCKDUCKGO	0.45%
7. SOGOU	0.44%
8. ECOSIA	0.14%
9. SHENMA	0.08%
10. NAVER	0.07%

Figure 1 Top 10 Search Engines in 2020 (29)

Businesses became increasingly interested in advertising their websites on these search engines, whether organically or with paid programs. This led to the expansion of offerings

by SEO experts to help companies learn how to exploit those modern advertising opportunities (2).

3.2 SEO Is Not Only for Google

Most SEOs nowadays invest most of their energy and time into only one single search engine, mainly Google, because it dominates the market share, as mentioned before, and that makes sense. That's why this thesis will also focus on all SEO techniques, tools, and strategies that could be applied to Google, but that should not mean that SEOs shouldn't investigate other search engines and methods to generate traffic that doesn't purely rely on Google (4).

3.3 Analysis of Major Google Algorithm Updates

3.3.1 Introduction

The Google search engine uses a complex set of algorithms and ranking factors to determine the relevance of web pages for specific search queries.

While Google made infrequent algorithm updates in its early years, the pace has significantly increased in recent times. Google now implements thousands of changes each year, especially within the last five.

Most of those numerous updates are incredibly slight and can barely be noticed. However, occasionally, a major algorithmic update is rolled out by the search engine that considerably affects the SERPs (Search Engine Results Pages) in particular: *'Florida'*, *'Big Daddy'*, *'Panda'*, *'Penguin'*, *'Hummingbird'*, *'Pigeon'*, *'Mobilegeddon'*, *'RankBrain'*, *'Fred'*, *'BERT'* and *'Page Experience'*.

In this section of analysis of major Google algorithm updates, there will be a comprehensive review of all those listed updates:

3.3.2 Florida Update (2003)

Google's *'Florida'* update signifies a noteworthy milestone in the progression of Google's algorithm updates. Google launched this update in November 2003 with the strategic aim of enhancing the ranking of websites within its search results. The company's core mission was to enhance the overall quality of search results and improve the algorithm to offer users more

relevant and valuable content. This fundamental shift towards content quality holds several distinct advantages. Google aimed to purge search results of spammy, low-quality content that had long been an issue. In turn, this allowed for the prioritisation of high-quality, authoritative content that genuinely benefits users. The emphasis on content quality represented a significant advancement in the provision of a search experience that is both user-friendly and informative (5).

However, the '*Florida*' update presented significant disadvantages alongside its merits. The unpredictability introduced into the digital landscape was one of the most significant drawbacks. Substantial fluctuations in website rankings have caused uncertainty and disruptions for website owners and SEO professionals. The dramatic declines in traffic and visibility experienced by certain websites due to the volatility in rankings posed challenges in maintaining a stable online presence. Moreover, web admins faced additional challenges due to Google's limited transparency regarding the specifics of its algorithm updates (5).

3.3.3 Big Daddy Update (2005)

First, it should be clarified that '*Big Daddy*' usually refers to a person or entity with a position of authority or power. Google launched the '*Big Daddy*' update in 2005 to refine its infrastructure, focusing on enhancing the backend of its operations rather than changing how rankings were determined, making it distinct from conventional algorithm updates. The substantial implications of this were felt by website owners, SEO professionals, and the overall digital ecosystem. This update significantly improved Google's ability to crawl efficiently and index websites, thus constituting one of its primary advantages. This resulted in a faster discovery and inclusion of web pages in search results, thereby providing users with a fresher and more up-to-date search experience. Furthermore, the update sought to reduce the effects of duplicate content and canonicalisation (web indexing issues), which posed prevalent challenges in SEO. Website owners striving for better visibility in Google's search results welcomed streamlining the indexing process (6).

Nevertheless, certain disadvantages accompanied these advantages as the transition to the '*Big Daddy*' infrastructure caused turbulence in the digital realm, where websites that engaged in unethical SEO tactics, such as link spamming (overloading with irrelevant links) or manipulative techniques, experienced a significant decline in their rankings. This disruption highlighted the importance of adhering to Google's evolving guidelines for ethical SEO practices (6).

3.3.4 Panda Update (2011)

Google introduced the '*Panda*' update in February 2011 as part of its determined effort to improve the quality of search results. This update explicitly targets the problem of low-quality and thin content. As a solution, rewards were provided to websites that offered users valuable, relevant, and unique content while imposing penalties on websites that practised content farming or created pages with shallow content and excessive use of keywords. The '*Panda*' update significantly improved the quality of search results, which was its primary advantage. Google aimed to provide users with more informative and trustworthy search results by penalising content farms and rewarding quality, authoritative sources. As a result, users can discover a tremendous amount of valuable information, enhancing their satisfaction (7).

Nonetheless, several disadvantages were brought forth by this update. Its initial impact on legitimate websites was a significant drawback. Disruptions and revenue losses were experienced due to drops in the rankings of several high-quality content websites. Moreover, the algorithm's content quality assessment could have been more precise, posing a challenge for web admins in identifying the exact factors behind ranking changes. As a result, website owners have faced difficulties due to the infrequent nature of updates and the degree of unpredictability and frustration they have experienced (7).

3.3.5 Penguin Update (2012)

Google's '*Penguin*' update was an essential algorithm upgrade introduced in 2012. Its primary objective was to punish websites that used manipulative link-building techniques, such as purchasing links or engaging in link networks (groups of websites created to manipulate search engine rankings). The '*Penguin*' update significantly reduced the amount of web spam on the internet, mainly due to the penalisation of sites that participated in manipulative link-building methods that diminished their capacity to influence search engine rankings. The '*Penguin*' update urged website owners and digital marketers to concentrate more on the quality of their content instead of attempting to influence search results via links. This resulted in an overall enhancement in the internet's content quality. Moreover, The Penguin update increased the fairness of search results by increasing the likelihood that sites with high-quality content would rank highly, independently of their capacity to participate in manipulative link-building techniques (8).

The '*Penguin*' update also had unforeseen implications, including punishing sites with natural backlink profiles that were thought to engage in manipulative link-building. This resulted in some websites being unjustly punished, causing website owners and digital marketers to feel frustrated and face challenges in recovering from those penalties; this was because Google needed to give more precise instructions on recovering from penalties later, making it difficult for website owners to know what to do when this update was released (8).

3.3.6 Hummingbird Update (2013)

According to Google, the '*Hummingbird*' update is considered the most significant alteration to the algorithm since 2001 (9).

In contrast to prior iterations that targeted certain search facets, '*Hummingbird*' represents a fundamental algorithmic transformation to improve Google's comprehension of search queries and content. This update's key strength lies in its ability to deliver more accurate and relevant search results. Instead of only relying on keyword matching, the system employs an interpretive approach to comprehend the whole of the query, enabling it to provide more precise outcomes that align with the customers' requirements (9).

For instance, when a user searches for '*best Italian restaurants in the vicinity*,' Hummingbird not only relies on keyword matching but also comprehends the user's intention of locating nearby Italian restaurants.

Another noteworthy benefit of the '*Hummingbird*' upgrade is its emphasis on natural language processing and conversational search. This feature proves advantageous in the current era of voice search and mobile devices, as it allows Google to understand better and provide accurate responses to specific customised requests. As a result, consumers can enjoy a search experience that is both smooth and straightforward (9).

Despite that, '*Hummingbird*' also poses some obstacles. One of the drawbacks is that it puts more significant attention on materials of superior quality that match conversational search queries. While this development benefits individuals searching for relevant information, it poses challenges for website owners and content developers since it requires the creation of informative and engaging material that thoroughly addresses users' inquiries. Moreover, the heightened dependence on context and semantics (what words mean and how they connect) in search queries implies that some websites can see rank volatility as Google improves content comprehension and user intention (9).

3.3.7 Pigeon Update (2014)

Introduced in July 2014, the '*Pigeon*' update was initially rolled out in the United States of America before expanding to other countries. This update marked a shift in how Google manages local search results, focusing on enhancing their accuracy and relevance for users (10).

One of the primary benefits of the Pigeon update was its ability to provide more relevant local search results. This improvement greatly benefited local businesses by increasing their online visibility, making it easier for users to find them when searching for companies or services in their area. Additionally, integration with '*Google Maps*' enriched the user experience by allowing users to access maps and directions directly from the search results (10).

For example, when a user searches for "hardware store near me," the update provides a list of hardware stores and maps for convenient navigation.

However, one of the most significant drawbacks of the '*Pigeon*' update is the increasing competition among local businesses, which posed challenges for some in standing out as it depended on how they were positioned in the SERPs before the update was released (10). This means that if a famous local coffee shop did well online and offline before '*Pigeon*', after '*Pigeon*', it did even better due to its good location and positive reviews. On the other hand, a nearby competitor located in the suburbs will see a drop in customers because '*Pigeon*' favoured businesses closer to users.

3.3.8 Mobilegeddon Update (2015)

The algorithmic update, referred to as '*Mobilegeddon*' and officially recognised as Google's '*Mobile-Friendly Update*', was implemented by Google in April 2015. Google acknowledged the need to adapt to changing user preferences, which is why this update was explicitly designed in response to the increasing prevalence of mobile internet use and the growing usage of smartphones and tablets. As a result, Mobile-friendly websites were given priority in mobile search results, resulting in Google favouring websites that had adjusted their design for smaller displays and touch-based navigation. A few weeks after implementing these changes, it led to reduced loading times, enhanced readability, and increased accessibility in terms of navigation, eventually, an augmentation in the overall user experience of mobile users. Updating websites previously not compatible with mobile

devices has prompted the development of responsive or mobile-optimised designs. As a result, the internet became much more accessible on mobile devices, guaranteeing consumers a pleasurable surfing experience, irrespective of the device used (11).

Conversely, '*Mobilegeddon*' also brought up a series of drawbacks. Websites not optimised for mobile devices saw a decrease in their positions in mobile search results, directly affecting their online visibility and traffic. In addition, small businesses may find it challenging to allocate additional time and diverse resources to optimise their websites for mobile devices (11).

3.3.9 RankBrain (2015)

'*RankBrain*' is a critical component of Google's search algorithm, which was implemented in 2015, like the '*Mobilegeddon*' update. Its primary mission was to improve the precision of search outcomes via machine learning and artificial intelligence techniques, making the search engine operate autonomously and adjusting its search algorithm based on user queries (12).

One notable benefit of '*RankBrain*' is its capacity to understand the underlying purpose behind user inquiries. This feature enables the system to properly process search requests that are specific and unclear, guaranteeing that users obtain search results that are more accurate and relevant. Furthermore, the machine learning capabilities of '*RankBrain*' allow it to adjust to evolving trends and user preferences effectively, guaranteeing that search results are consistently current and according to user anticipations. In addition, the excellent data processing capabilities of '*RankBrain*' allow Google to handle extensive quantities of data rapidly, enhancing the search engine's performance (12).

For example, when a user submits an unclear inquiry, such as '*top budget smartphones*,' RankBrain can assess the user's actions and context to provide more relevant outcomes. It may consider many criteria in this scenario, like the user's geographical location, recent search history, and website content. These considerations help determine the budget smartphone alternatives most likely to align with the user's preferences and needs.

On the other hand, the complex structure of machine learning algorithms may present challenges for developers with the requisite skills and computing resources to engage with them successfully. Moreover, the decision-making process of '*RankBrain*' exhibits a certain level of opacity, rendering it challenging to comprehend the rationale behind the presentation of specific search results (12).

3.3.10 Fred Update (2017)

The '*Fred*' Google update, although lacking an official designation by Google, is a term used within the SEO industry to refer to a sequence of substantial algorithmic modifications that transpired in 2017. These changes mainly focused on websites with substandard content and aggressive advertising strategies. The '*Fred*' update's primary objective was to improve the overall quality of search results and optimise the user experience (13).

One of the benefits associated with the '*Fred*' upgrade was its emphasis on material quality. For that, websites that used black-hat SEO techniques, such as keyword stuffing, including thin, irrelevant material, were subject to penalties. This phenomenon prompted website owners and content writers to place a greater emphasis on producing information that is of superior quality, has informative attributes, and offers substantial value. Consequently, consumers experienced advantages in the form of search results that were more relevant and reliable (13). A further benefit is that the '*Fred*' update included measures prohibiting aggressive and invasive advertising tactics, such as pop-up and excessive banner ads, which often adversely affect user experience. This has resulted in a notable enhancement in the overall browsing experience for users (13).

Nevertheless, the '*Fred*' upgrade also had several drawbacks. A significant limitation was the presence of somewhat ambiguous criteria, which resulted in a lack of clarity among publishers on the definition of '*low-quality*' material and '*aggressive*' advertising. The absence of clear guidelines posed difficulties for some website owners implementing the necessary changes to align with the updated algorithm (13).

Furthermore, assertions were made about the update's disproportionate impact on small and medium-sized websites that largely depend on advertising income. Many websites often need help achieving a harmonious equilibrium between monetisation efforts and maintaining content quality, resulting in financial setbacks for many site proprietors (13).

3.3.11 Google BERT Update (2018)

The BERT (Bidirectional Encoder Representations from Transformers) Google update signifies a significant advancement in search engine technology implemented by Google towards the end of 2019. BERT is an artificial intelligence (AI) model for natural language processing (NLP) specifically developed to enhance its comprehension of word context inside search queries and web-based material. In contrast to earlier algorithms that only

emphasised keyword matching, '*BERT*' exhibits a higher level of linguistic understanding by analysing the complex relationships between words within a given phrase. This advanced comprehension ability helps to refine the accuracy of search results. The benefits of this technology include heightened search accuracy, greater user satisfaction, and the ability to support several languages (14).

However, '*BERT*' also gives rise to some difficulties, like elevated levels of competitiveness, intricate algorithms, the need for substantial content revisions, and changes in rankings. Website administrators and SEO specialists were advised to embrace '*BERT*' by consistently delivering useful and contextually relevant content and keeping up with semantic search's newest innovations. By doing so, they may effectively use the advantages offered by this update while minimising any potential drawbacks (14).

3.3.12 Google Page Experience Update (2021)

The '*Page Experience*' update released in 2021 significantly transformed how Google assesses and prioritises webpages. Google has always placed a high emphasis on delivering optimal online experiences to its consumers. This recent update further solidifies this dedication by offering a fresh set of ranking signals that focus on user experience. These signals comprise several essential elements that together establish the '*page experience*' of a website. A vital aspect of this upgrade is '*Core Web Vitals*', which encompasses a collection of measures designed to evaluate a web page's loading efficiency, interactivity, and aesthetic consistency. The metrics included in this set are Largest Contentful Paint (LCP), which assesses the speed of loading; First Input Delay (FID), which measures the level of interactivity; and Cumulative Layout Shift (CLS), which evaluates the stability of the visual elements. The Google Page Experience Update offers many benefits, such as enhancing user experience, encouraging website owners to prioritise user experience, improving mobile-friendliness, and increasing exposure to user-centric sites (15).

Still, using this technology also brings up computational complexity, resource constraints, swings in ranking, and increased user expectations. Website owners and developers must accommodate these alterations to provide the best possible user experience (15).

3.3.13 Conclusion

SEO has been profoundly affected by the many algorithm modifications Google has sent out over the years. These adjustments have substantially changed the ranking of websites in

search engine results, making it more difficult for certain websites to obtain high ranks while rewarding others that emphasise high-quality content and user experience.

The '*Panda*' update discouraged the creation of low-quality content and incentivised the creation of high-quality content; the '*Penguin*' update punished websites with spammy backlinks and incentivised the creation of high-quality links, while the '*Hummingbird*' update introduced natural language processing and prioritised contextual search results; all of these updates had significant effects on SEO.

There have been other significant changes, such as '*Mobilegeddon*', which prioritised mobile-friendly sites; '*Pigeon*', which enhanced local search results; and '*RankBrain*', which used machine learning and artificial intelligence to comprehend search queries better and offer more relevant results.

Recent updates, such as '*BERT*', have included natural language processing to comprehend search queries and context better and emphasise authoritative and trustworthy material. In addition, the '*Page Experience*' update significantly impacted SEO by introducing Core Web Vitals as essential ranking factors.

These changes have made SEO more complicated. Still, they have also prompted website owners to emphasise producing high-quality content, improving the user experience, and following best practices. It is essential for companies and website owners to stay updated on these changes in order to maintain a high search engine ranking and attract visitors.

3.4 Review of SEO Practices

3.4.1 Introduction

SEO techniques are generally classified into four main terms. The first term is called "On-page SEO". On-page SEO techniques include, but are not limited to, tweaks to individual website elements such as page titles, meta descriptions, header tags, URL (Uniform Resource Locator), internal linking, and content. The second, which holds the term "off-page SEO," refers to the methods used to increase the website's authority and relevance by influencing other sites to link back to it, and strategies such as link building, social media promotion, and guest blogging are all examples of off-site SEO. The third one is "white hat SEO" techniques, which use ethical and above-board practices, like using correct meta tags, doing keyword research, and producing original, high-quality content. The last one is "Black-Hat SEO" techniques, which refers to strategies like overusing keywords, hiding text, and other practices that go outside the terms of service of search engines and are thus disapproved of by the industry (16).

For a better understanding, the terms introduced earlier in this introduction will be grouped together, and for that, in the upcoming sections, "White hat SEO techniques" will be further categorised into on-page and off-page approaches. Black-hat SEO techniques, however, defy such categorisation due to their violation of search engine guidelines, which makes accurate classification a complex task.

3.4.2 White Hat SEO Techniques

White Hat SEO refers to internet marketing practices approved by search engines to improve a website's visibility in search engine results (16).

White hat SEO comprises both on-page and off-page techniques. These include optimising webpages with keywords, producing valuable and high-quality content, improving website speed, using descriptive meta tags, enhancing site navigation, ensuring mobile-friendly usability, implementing an internal linking strategy, fostering backlinks through networking, and engaging with the audience on social media platforms, among various other techniques (16).

Below is more in-depth information about the most famous white hat SEO techniques, covering how SEO professionals use the most popular on-page and off-page white hat SEO methods.

1. On-Page White Hat SEO Techniques

a) Page Title

A web page's '`<title>`' element is vital in determining the website rankings in search engine indexes. These titles are typically found in the HTML (Hypertext Markup Language) document's `<head>` section, significantly impacting a page's relevance and ranking.

The HTML Title tag is structured as follows: '`<head><title> Website Title </title></head>`' (17).

Title tag content is recommended to be unique and descriptive on each page, and it is also essential to ensure that it has a length of less than 70 characters (18 p. 168).

Figure 2 exemplifies how users can view the content written in the title tag in the SERPs (Search Engine Results Pages).



Figure 2 Website Page Title element in Google search engine results page (17).

b) Meta Description Tag

The meta description element of a web page summarises the page's content in a few keywords, as it is shown immediately behind the Search Engine Results Page (SERP) title. It is essential because it may convey the marketing message and convince search engine visitors to click on the posting rather than competitors' posts. The meta description tag appears within the '`<head>`' section of a webpage, directly after the title tag. It has the following basic structure: '`<meta name="description" content=" website description">`' (17).

Having a distinct meta description for each page is crucial; if this is not feasible, it is advisable to skip it altogether. While meta descriptions do not directly impact rankings, they

are considered in duplicate content assessments and are often utilised by search engines as page descriptions. This could influence the rate at which users click on the page (18 p. 302). Figure 3 below exemplifies how users can view the content written in the meta tag in the SERPs:



Figure 3 Website Description Meta Tag (17).

c) Heading Tags

The standard range for heading levels in HTML is from ‘*H1*’ to ‘*H6*’, and ‘*H1*’ is the most important heading tag, whereas ‘*H6*’ is the least important and uses a separate system. Heading labels should be brief and straightforward, as web crawlers used by search engines assign a greater weight to headings than to the material in the body of a website. For that, including target keywords in the titles of headings and subheadings is essential. It's best practice to limit code to heading levels ‘*H1*’ to ‘*H3*’. This is how a heading tag can be structured; ‘`<H1>Heading Title</H1>`’ (17).

d) HTML Text Uniqueness

The prioritisation of robust, unique, and value-added content by search engines such as Google is necessary, while the designation to avoid is thin content. The term ‘*thin content*’ describes webpages lacking sufficient unique content, making them not worthy of being included in search engine results. To be excluded from the ‘*thin*’ content category, several criteria must be met. Firstly, the content should consist of at least 30 to 50 words. Additionally, it should contain unique HTML text content, titles, meta description elements, as well as video, audio, or image content that is also unique. Although there is no official list of criteria, several factors are commonly considered when determining the uniqueness of various web content elements; if web pages have nearly identical meta tags, algorithms can

remove them from the index and that can put someone's website at risk, especially that everyday search engines are increasingly improving their ability to identify and index pages for vertical search (queries related to a specific topic), even if these pages do not typically meet the criteria for uniqueness (18 p. 318).

e) Content Importance

Search engines don't care how often a word or phrase is used in a document or how delighted a searcher is with that page. A page with repeating keywords to appease the engines generally provides a bad user experience and poorer ranks. That's why semantically rich (contextually relevant) material that fills the page's '<title>' element is more practical. This implies organically incorporating synonyms and covering similar topics to satisfy a significant proportion of page visitors. Therefore, providing high-quality content is more important than repeating the page's keyword (18 p. 305).

f) Page Division

Historically, Google could not comprehend a website's layout since it could not read CSS (Cascading Style Sheets) files and interpret them as a browser does. Consequently, Google is likely to understand the structure of pages. That's why keyword placement on the page is equally important. For instance, using key terms in the left or right sidebars or footer is likely less important than the content of the principal body, and that's why when HTML5 (Hypertext Markup Language, version 5) was released, it introduced a new syntax that enables web developers to specify the area of their page that contains the primary content. This markup (structured data or code, such as HTML tags) may make Google's work more straightforward and accessible to ensure that other search engines can quickly discover the main content (18 p. 306).

g) Words and Phrases Duplications

The best way to explain this subsection is with the following example: If a page is focused on '*left-handed golf clubs*,' it's advisable not to use the exact product or subject name consistently. Such a writing style may appear unnatural and potentially harm the page's ranking. Content providers should write organically, using diverse terms like '*the sticks*,' '*set of clubs*' and '*lefty clubs*'. This approach, incorporating synonyms, is a vital move away from unethical SEO practices, ensuring pages are crafted to rank for specific search sentences (18 p. 306).

h) Images

The user experience of a website may be significantly improved by using high-quality, relevant images. Yet, search engines are blind to visual content, and for that reason, they must be instructed to make better sense of photos by adjusting the following factors (18 pp. 308-309) :

- **Filenames**

Search engines examine the name of an image's file to see whether it offers hints about the image's subject matter, and refrain from giving the picture a name like '*abc.com/imge41a-d1.jpg*' gives the search engine no information about the image and prevents including rich content in relevant keywords. If the image is of '*Leonardo DiCaprio*', the file should be saved with '*Leo-DiCaprio.jpg*' and have his name in the source URL string as '*abc.com/Leo-DiCaprio/portrait-1.jpg*' (18 pp. 308-309).

- **Alt text**

To illustrate this concept, the example of '*Leo DiCaprio*' can be examined:

```
''
```

In the example above, the HTML image tag '*<img*' allows us to specify the '*alt*' attribute, which provides further information about the image and includes specific keywords (18 pp. 308-309).

To recapitulate this, using the image filename and '*alt*' property helps highlight the main keyword topics on a webpage, particularly when trying to improve rankings in Google images. First, it is essential to ensure that filename and '*alt*' text accurately represent an image's content and, second, to avoid using irrelevant keywords that manipulate search engine rankings, even if those keywords are relevant to the webpage. Although the '*alt*' property and image filename can have many benefits, it is not recommended for an SEO specialist to replace text links with descriptive anchor text with image links, as hyperlinks hold more significance in terms of SEO (18 pp. 308-309). This means that if a website, for example, contains various pages, to navigate between them, there's an option of using textual indications such as '*Next Page*' or visual elements like pictures; in this case, it is not advisable to substitute words with pictures as clickable words improve search engine optimisation even though images might be visually appealing and labelled with descriptive

names. Using text links rather than images is more effective for better search engine optimisation.

i) Cannibalisation Of Keywords

A common issue while designing a website's information architecture (the way its content is organised and structured) is keyword cannibalisation, which occurs when numerous pages on a website target the same popular keyword search terms and force search engines to choose which one is more relevant. Cannibalisation happens when a website actively competes with itself for search engine results, which weakens the effectiveness of the site's internal links, backlinks (external links from other websites), and keyword relevance. A careful approach to site design is essential for preventing cannibalisation, as it is recommended to map out the most key phrases and pay close attention to the search terms targeted by each page. It's also important to remember that the cannibalisation problem may be avoided by linking back to the original page within the content using the proper anchor text when pages have two-, three-, or four-word phrases that contain the target search term of another page. For a better explanation, if one wanted to create two pages, one focusing on "loans" and the other on "reduced-interest housing loans," one would use the anchor text "loans" to link back to the first page (18 p. 309).

The New York Times newspaper employs the latter method on its website, in which relevant terms in the article's body content are clickable and lead to a supplementary online resource (18 p. 309).

j) Content Structure

It should not be surprising that content formatting, the presentation, styling, and layout decisions SEO professionals make for their material are crucial components of the SEO process, given that SEO has become an integral aspect of website creation and enhancement. A font such as 'Helvetica' or 'Arial' is a good option for the web. 'Verdana', in particular, has gotten a lot of acclaim from usability and readability specialists. Let it be clarified that 'Verdana' is among the most common typefaces created for viewing on a computer screen. The design is simple, and the letters are not readily confused. In contrast to 'Arial', where

the uppercase I and lowercase L are readily mistaken, the uppercase I and lowercase L in this font have distinct forms (18 p. 313), as shown in Figure 4.

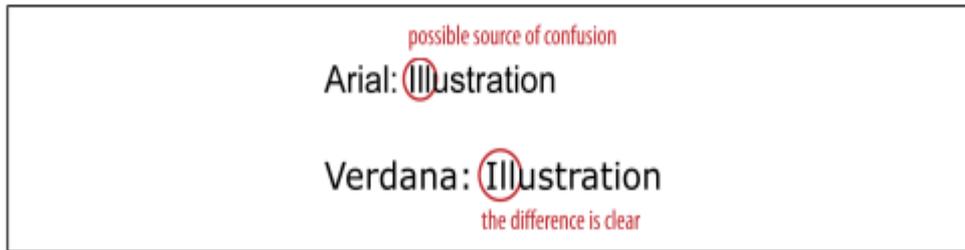


Figure 4 Arial vs Verdana (18)

The gap between each letter is another feature of ‘Verdana’. It is a reasonably large typeface, an essential factor to consider while deciding which font is best for a website. In addition to that, as shown in Figure 5, ‘Verdana’ words use more space than “Arial” words even though they both have the same point size (18 p. 313).

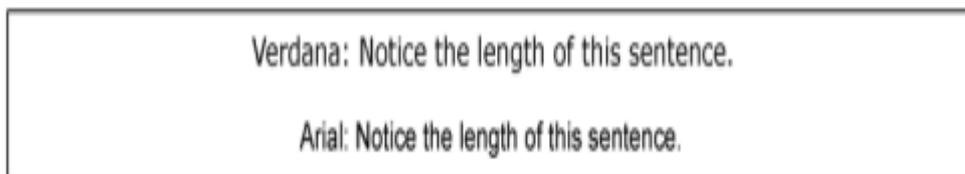


Figure 5 How Fonts affect how much space is needed (18).

The selection of fonts, sizes, and contrasts plays a big role in text design. Reading smaller fonts can be challenging. Therefore, it is recommended to use relative font sizes for more effortless adjustment. The contrast between the colour of the background and the text is also essential; specifically, when there's a white background, the readability of the text is often compromised if it's not in black (18 p. 313).

k) Text length

The length of content plays a significant role in optimising SEO, which is often disregarded when focusing only on factors like keyword density or uniqueness of content. It significantly impacts which content can be consumed and shared and which are not. The optimal length of content depends upon the subject matter's specific characteristics. Concise and easily digestible content is effective, whereas longer and more comprehensive content yields better

results. Google's in-depth articles section can also include longer articles found in Google's engine results pages, and that can boost a website's ranking and traffic (18 p. 314).

2. Off-Page White Hat SEO Techniques

a) Link Popularity

Link popularity is like a digital currency that validates a website's significance and impact. It refers to the level of recognition a website receives from other websites, determined by the quantity and quality of links that direct to that specific website. With an increase in the number of these links, a website gains influence and reliability in the eyes of search engines (19).

Some effective strategies for improving the online presence include networking and collaborating with others, amplifying the message through social media, and listing the website in industry directories relevant to the designated field. These strategies are interrelated and collectively contribute to the overall digital impact of the website (19).

b) Link Building

Building links is an essential part of the process of improving site design, and it is also an important part of off-page progress. Initiating an effort aimed at link building will increase the link popularity of a web page, increase site traffic, and improve internet search engine placement. Links are not created equal; Every website on the internet holds its own value and significance based on the parts of its query placement. Websites connected to other high-authority websites move up the master chain and become higher-authority destinations (17). The following is an exploration of the many approaches that may be used when building links:

a- Mutual Linking

Mutual links are reciprocal links in which one website receives a link from another and vice versa. For instance, the website www.a.com may have a backlink to www.b.com in exchange for www.b.com providing another link towards www.a.com. While the value of proportional links is the lowest in search engine rankings, they are fantastic for increasing visibility and traffic (17).

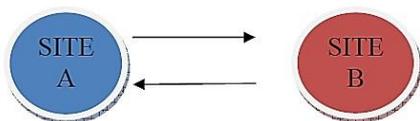


Figure 6. Mutual linking (17).

b- One-Way Linking

One-way linking is the preferred method and is highly regarded; it occurs when an external website links to a target website without the target website reciprocating the link. It is commonly associated with purchasing links, which can be expensive, mainly when sourced from websites with a high page rank (17).

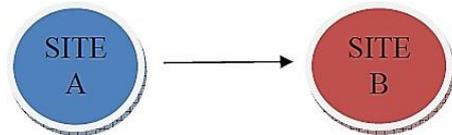


Figure 7. Single-directional connection (17).

c- Three-way Linking

The best way to explain three-way linking is by using the following example: Consider a scenario where three colleagues are named websites A, B, and C. They want to boost their online popularity mutually, employing the following method: Firstly, website A seeks assistance from website B to improve its online visibility. Website B accepts and agrees to help website A, but to ensure fairness, website A includes a hyperlink to website B on its webpage. Another connection, website C, also expresses a desire to assist, establishing a reciprocal hyperlink to website A, forming a loop.

The outcome is that mutual assistance is provided by all individuals, resulting in website A receiving a backlink from website B and another from website C. In contrast, website B gets a backlink from website C.

It is like a social network where individuals assist one another by exchanging connections. The method of connecting is called 'Triangular Linking' or 'Three-Way' Linking. It is a mutually beneficial method for websites to promote one another and increase their internet visibility (17).

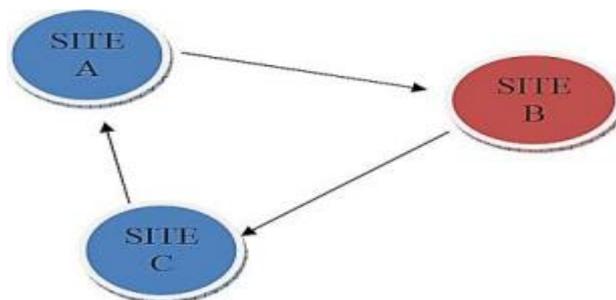


Figure 8. Three-way Linking (17).

Ethical practices are recommended while using the above-mentioned link-building methods because they guarantee the enduring sustainability of a website's reputation and impact. These practices include prioritising quality over quantity, refraining from engaging in link schemes, respecting intellectual property rights, and promoting organic linking (19).

c) Improve Click Property

Site rank in web indexes is heavily influenced by click popularity. The popularity of a website will be consistently high due to its frequent clicks; thus, whenever a user clicks on a website from search results, the search engine assigns a specific value to it.

It is essential to avoid attempting to simulate clicks on a website by yourself, as the clicks from a single IP (Internet Protocol) address will only be counted once (17).

d) Google SEO Tools

The Google web search tool dominates the global market with a staggering 95% share (17). Its suite of web crawler tools is essential for professionals working in internet search. When optimising a website for search engines, tools like '*Google Webmaster*' (now '*Search Console*'), '*Google Analytics*', and '*Google Keyword Planner*' become indispensable (17). The following is a brief about Google SEO Tools:

- **Google Search Console Tools**

Google's Search Console Tools provide webmasters more say over how their websites are crawled and indexed; it allows access to such valuable data collected by Google. Improving site performance in search engine results can be achieved by addressing the identified issues using Webmaster Tools. SEOs should use that service to help them find out where '*Googlebot*' got stuck when indexing their site. It will also allow them to add an XML (Extensible Markup Language) Sitemap file that lists a website's essential pages. In addition, it will enable them to create and analyse robots.txt files, which instruct search engine crawlers on which site pages should be crawled. Moreover, it will eliminate links that Googlebot has previously explored, indicate which domain you'd want to use, and find mistakes in the Meta tags' title and description (20).

- **Google Analytics Tool**

Now that the Google Search Central tools have been utilised to improve site crawling and indexing, attention can be directed towards monitoring the received traffic.

One helpful tool for this is '*Google Analytics*'. Utilising this tool will offer comprehensive insights into how visitors discover and engage with a website. The benefits include identifying the website's most popular articles and determining the success of the optimisation efforts. Insights from an analytics package and server log files may offer a more comprehensive understanding of how individuals interact with pages, particularly for experienced users (20).

- **Google Ad Words**

'*Google AdWords*' allows the purchase of ads on Google's SERPs. So, the purchased advertisement will be shown in one of the coloured boxes aligned along the page's right border in the sponsored links section. One significant benefit of Google's AdWords campaign is that adjustments can be made to advertising and keyword choices as the campaign progresses, maximising revenues. '*Google AdWords*' offers an experimental keyword tool called '*Google Keyword Planner*' that takes either a website URL or a set of keywords as input and will return a collection of possible ad campaign-related keywords with the primary purpose of aiding in the identification of suitable words for the campaign. For instance, regarding the hospitality industry, the keyword tool will recommend similar keywords such as "hotel discounts" or "motels." Expanding the reach and attracting new clients can be achieved by incorporating these synonyms into the keyword lists for ad groups (20).

- **Google Trends**

Google Trends emerges as a prime choice when seeking data on the frequency of searches for a particular topic thanks to its accessible information that extends back to 2004. The functionality of '*Google Trends*' permits users to analyse search volumes for multiple keywords simultaneously and categorise data by language and geography. This tool can also oversee and implement strategies to manage online traffic effectively within a specified time frame (20).

3.4.3 Black-Hat SEO Techniques

a) Introduction

Using unethical methods to increase a website's rating in search results that violate search engines' terms of service is called '*Black-Hat SEO*'. If black-hat strategies are used, a

website's organic search rankings could temporarily increase, but that doesn't mean that search engines won't punish the designated website later by demoting it lower down the ranks or even removing it altogether from their index websites, as getting a penalty will undoubtedly have devastating effects on a website's standing and traffic (21).

Understanding these methods empowers web admins and digital marketers to maintain ethical SEO practices and ensure long-term online visibility success. For that, the following sub-sections of '*Black-hat SEO techniques*' will provide insights into the methods and tactics used by some SEOs.

b) Keyword Overuse

This approach entails the deliberate and exaggerated recurrence of particular keywords or phrases in web content, meta tags, and URLs. Its purpose is not to strengthen user experience but to create a perception of relevance to search engine algorithms. Its ultimate goal is to improve the web page's position in search results, thereby increasing the traffic directed towards it (21). However, first, it seems like a brilliant strategy to manipulate algorithms. Still, there are actually many drawbacks associated with such techniques as keyword stuffing not only diminishes the overall quality of content, resulting in less informativeness and increased difficulty for readers to comprehend, but it also poses a threat to the credibility of the website, and this is because visitors promptly recognise the absence of authentic value in its pages (22). Furthermore, contemporary search engines, which are equipped with advanced algorithms, possess the potential to identify and impose penalties on websites that adopt these strategies. This will result in a reduction of exposure or even the removal from search results, highlighting the dangers and lack of foresight associated with such activities (22).

c) Doorway Pages

As seen in Figure 9, which lists one of the famous black-hat SEO techniques, the '*Doorway Pages*' approach involves using software to build many pages that include keywords automatically, then using software to transform these sites into the home page without explicit consent. The point is to enable these gateway sites to get high search engine rankings with various keywords, which happens with several keywords. The gateway pages' primary purpose is to make each keyword or phrase have a unique page that the optimiser will generate. Some optimisers use hundreds of these pages, and as demonstrated, doorway sites often use a speedy meta refresh to route visitors to the main pages successfully. A '*Meta*

Refresh is a command in HTML that, after a certain amount of time has elapsed, takes the visitors to a different page automatically. The phrase *'You will be directed to a new page in 5 seconds'* is an example of a web page that likely uses the meta-refresh technique (21).

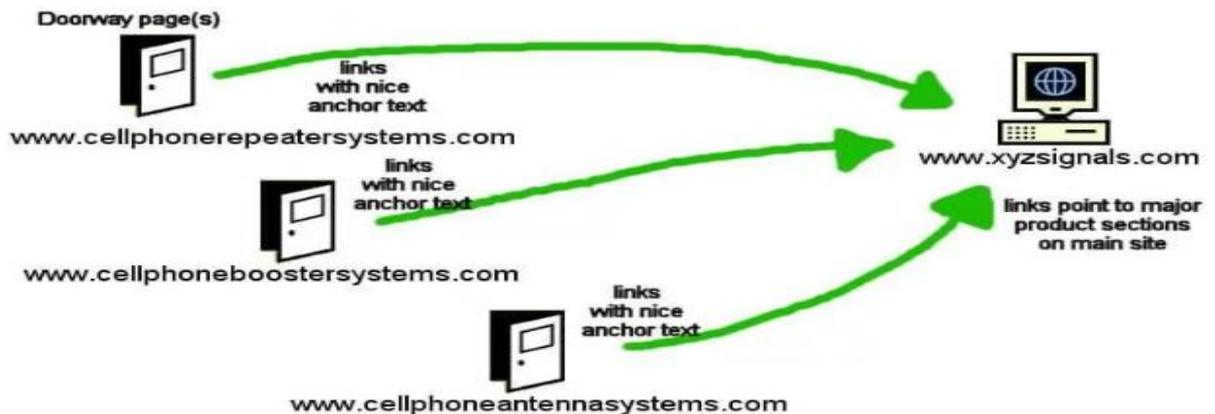


Figure 9 How doorway pages manipulate search results - a visual representation of the mechanism (23)

d) Automatic Content Generation

Content Generation is a software tool used to scour the internet for the keywords and terms the optimiser has provided. Then, the software duplicates the material found on other websites and incorporates it into a new one. Content generators can challenge legitimate website owners because their original content may be widely copied; thus, search engines may mistakenly penalise legitimate websites (21).

e) Page Cloaking

Page cloaking employs algorithms or scripts to determine if the visitor is a search engine or an ordinary visitor. For search engines, the webpage displays optimised information to get high ranks and if it's a typical individual, a modified version of the website is shown. The cloaking aims to get high positions on diverse search engines that use different ranking algorithms. As the cloaked page remains invisible to viewers, it consists of optimised text that is free of design features. To do this, an individual using black-hat strategies may construct a conventional website and build distinct text-only pages for each search engine. The last stage is verifying the IP addresses initiating the queries. Since the IP addresses of prominent search engine crawlers are identifiable, the optimiser can display the appropriate page to the corresponding crawler (21).

f) HTML Injection

HTML injection is a manipulative technique used by a malicious website visitor to take advantage of a security flaw in the search engine used on a website (21).

For example, there's a program called WebGlimpse, a widely employed web search program within academia and government websites; it serves as a tool for searching and retrieving information from web pages, allowing users to navigate and explore content efficiently (24).

On the other hand, a famous '*Stanford Encyclopaedia of Philosophy*' Website (plato.stanford.edu) uses it, too. This website has a Google page rank of 8. Therefore, an attacker seeking a backlink from this reputable site would manipulate the search engine by executing a search query on the '*Stanford Encyclopaedia of Philosophy*' website and extracting the link. Here's an example of such a link: '*http://plato.stanford.edu/cgi-bin/webglimpse.cgi?nonascii=on&query=%22%3E%3Ca+href%3Dhttp%3A%2F%2F##site#%3E##word##%3C%2Fa%3E&rankby=DEFAULT&errors=0&maxfiles=50&maxlines=30&maxchars=10000&ID=1*'

The attacker then substitutes '*##word##*' with the anchor text and '*##site##*' with the URL for which it is trying to rank. This means that the attacker begins by retrieving the URL code from the web server, which contains code susceptible to HTML injection and then modifies the address by adding his site address and the target keyword; JavaScript is executed with the target user's privileges whenever the user clicks on that malicious URL or refreshes the page (21).

g) Link Farms

Link farms are one of the many black-hat SEO techniques in which numerous websites link to a particular site to enhance their ranking rapidly, and their goal is to create backlinks that will significantly improve the page rank. Link farms can be built manually or using automated methods to trick ranking algorithms. Usually, these websites are filled with too many keywords and have many internal links that direct to a client's website. This technique, referred to as link farming, which is a type of web spam that undermines the quality of search results by artificially boosting page rankings. Websites that participate in spamdexing use various tactics to gain more visibility than they deserve and increase their chances of appearing in the SERPs (25).

3.4.4 Technical SEO

a) Introduction

Technical SEO is critical to a successful SEO strategy. It entails optimising and constructing a website to facilitate search engines in crawling, rendering, indexing, and displaying its content. These enhancements assist search engines in efficiently performing the following functions (26 p. 8):

- Crawling: the identification of relevant websites and the navigation towards them.
- Rendering: the analysis of web pages to understand their content and purpose.
- Indexing: the store of web pages for future retrieval.
- Providing search results: the display of web pages to users.

Recognising that technical SEO and On-Page SEO are separate concepts is essential. On-page SEO optimises the user-facing features of a website, whereas technical SEO addresses backend factors (26 p. 9).

b) Web Hosting

For a website to be accessible on the internet and thus visible to search engines, it needs to be hosted on a server. While some webmasters choose to host their own website, this task is typically outsourced to web hosting services, which maintain a network of servers available for rent. However, opting for shared hosting can result in sluggish website performance and delayed usability due to various factors such as server space competition, server size, processing speed, data transfer capacity, and website traffic volume. Upgrade to a better package or opt for a dedicated server is often the most effective approach to address hosting issues, albeit at a higher cost (26 p. 12).

Understanding the importance of web hosting enables businesses to prioritise actions for better SEO results strategically. This awareness ensures a focus on actions directly affecting performance rather than wasting resources on factors beyond immediate control (26 p. 12).

c) Robots.txt File

The Robots.txt file, usually found at the URL *'/robots.txt'* on a website, communicates with search engine web crawlers about which directories or web folders they may visit. Furthermore, it permits the designation of directories that crawlers are prohibited from visiting. It is important to note that the code written in the *robots.txt* file is a request, and there is no assurance that the search crawler will comply with it (26 p. 20).

The following Figure 10 illustrates a sample format of a Robots.txt file (26 p. 21).

```
User-agent: *
Disallow: /author/
Allow: /author/archives/

Sitemap: https://bouncerrank.com/sitemap_index.xml
```

Figure 10 robots.txt code demonstrating directives for search engine crawlers (26 p. 21).

This file consists of three main components. Firstly, the ‘User-Agent’ directive specifies which search crawlers are allowed to access the website, with a "*" granting access to all search crawlers. To implement access limitations for a particular search crawler, the webmaster may identify them by their unique codes, such as ‘Googlebot’ for Google and ‘Bingbot’ for Bing (26 p. 21).

The ‘Disallow/Allow’ rule is the second element of the ‘robots.txt’ file, consisting of two components. The first is the ‘Disallow’ rule, which guides web crawlers on which web folders or subdirectories to avoid visiting or from which they are "blocked." This directive may also specify which crawlers should avoid accessing the website altogether. The second one is the ‘Allow’ rule, which operates in contrast to the ‘Disallow’ Rule. It dictates the subdirectories that search crawlers are allowed to explore inside another subfolder, even if the top-level directory is restricted by the ‘Disallow’ Rule, such as the following example (26 p. 24):

```
Disallow: /admin/
Disallow: /about/
Allow: /admin/plugins/
Allow: /about/bio-pages/
```

The Sitemap Reference is the last component of the ‘robots.txt’ file, and it directs crawlers to the URL of the sitemap, helping them find websites (26 p. 25).

While not obligatory, including the ‘robots.txt’ file on a website server is advisable since it enables web admins to regulate which content gets crawled and indexed. Search crawlers prioritise relevant material, improving user experience and saving crawl resources (26 p. 26).

d) Canonical Tag

The ‘rel="canonical"’ HTML code is used in webpages to indicate to search engines the original or preferred version of a page for indexing. Generally, the tag is utilised to address crawling issues that can occur when numerous pages on a website have identical or similar content, commonly known as duplicate content (26 p. 33).

One common method to specify a canonical is through the HTML ‘<head>’ element of the duplicate webpage. Within the head section, the following HTML code snippet is included (26 p. 33):

```
<link rel="canonical" href="https://example.com/sample-page"/>
```

Here's an explanation of how it is structured (26 p. 33):

- The ‘<link>’ element denotes a link to another page,
- The ‘rel="canonical"’ attribute identifies which page is a duplicate of another page
- The ‘href=https://example.sample-page/page/’ attribute specifies the URL of the source of content.

The canonical tag is the recommended way to inform search engines about the original content source, especially when there are duplicate entries in the index. It serves as a suggestion rather than a directive to search engines regarding the most relevant page version of a webpage. Therefore, this tag does not guarantee that search engines will follow it (26 p. 35).

e) Core Web Vitals

The ‘Core Web Vitals’ is a report from Google that displays the performance of individual web pages or URLs on a website. The tool evaluates a website's user experience (UX), speed, and performance using the Chrome User Experience (CrUX) Report based on real user data. The evaluation classifies website performance based on three metrics: poor, needs improvement or good (26 p. 40).

The first metric for this evaluation is Cumulative Layout Shift (CLS), the total of all individual layout shift scores for each unexpected site movement that happens throughout its usage. It is assessed on a scale from 0 to 1, with a target CLS of 0.1 and a CLS of over 0.25, signalling a need for improvement (26 p. 44).

The second metric, Interactive to Next Paint (INP), measures the duration for the website to react to all user activities, such as clicks, taps, and keyboard inputs. An Interactive to Next Paint (INP) metric of 200 milliseconds indicates appropriate responsiveness, whereas anything beyond 500 milliseconds is deemed inadequate (26 p. 43).

The last metric is the largest Contentful Paint (LCP), which measures the time it takes for the biggest content element in a webpage, such as a picture or video, to render and appear on a user's device screen when they first visit the homepage. An LCP of 2.5 seconds or less is considered optimum for performance, whereas anything above 4 seconds may indicate a problem. The Largest Contentful Paint (LCP) can significantly influence Google's

assessment of a website's speed performance. Therefore, enhancing it may benefit a strong SEO strategy (26 p. 42).

'Core Web Vitals' are considered significant in Google's ranking algorithm. However, they are simply one of more than 200 ranking criteria and enhancing them may not result in a substantial increase in ranking, but for sure, by optimising metrics like LCP, INP, and CLS, a website's speed and performance will increase, leading to a better user experience (26 p. 45).

f) XML Sitemap

With the increasing complexity of websites, search engines found it challenging to keep up with frequent changes, and as a result, XML sitemaps were created (26 p. 28). An XML sitemap serves as a detailed roadmap for search engine crawlers, aiding in their effective navigation and indexing of a website's content. It's saved on the website server at '/sitemap.xml'. It operates as a map, unveiling the organisation and hierarchy of a website's pages, improving URL tracking and enhancing search discoverability by consolidating all the information into a single file (26 p. 27).

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <urlset xmlns="http://www.sitemaps.org/schemas/sitemap/0.9">
3 <url>
4   <loc>https://bouncerrank.com/author/rajseo333/</loc>
5 </url>
6 <url>
7   <loc>https://bouncerrank.com/what-is-seo/</loc>
8 </url>
9 <url>
10  <loc>https://bouncerrank.com/how-to-write-seo-specialist-cover-letter/</loc>
11 </url>
12 </urlset>
```

Figure 11 Example of XML sitemap code structure for search engines (26 p. 28).

For a better understanding of the XML sitemap shown in Figure 11, the following structure exploration has been made (26 p. 29):

- XML Version Declaration: This line informs search engines about the file type.
'<?xml version="1.0" encoding="UTF-8"?>'
- Defining the Protocol: The tag indicates the beginning of the sitemap and defines the protocol used.
'<urlset xmlns="http://www.sitemaps.org/schemas/sitemap/0.9">'
- List of URLs: Every webpage is denoted by a '<url>' tag with a nested '<loc>' tag. The loc tag indicates the webpage's absolute URL (location) on the website.
'<url><loc>https://bouncerrank.com/author/rajseo333/</loc></url>'

Like the ‘robots.txt’ file, XML sitemaps are not required and do not promise to speed up crawling or indexing, but they are a beneficial SEO technique. They streamline the process for search engines to find your website and its content, which could enhance your search visibility. Moreover, adding a sitemap reference to your Robots.txt file can boost discoverability (26 p. 30).

g) Schema Markup

Search engines like Google, Yahoo!, and Bing have recently joined forces to support the markup standard ‘Schema.org’. This collaboration represents a heightened dedication from these search engines towards marking up content. The process entails categorising content into different groups using XML tags, such as those used for recipes or product reviews, improving how online information is marked up and presented in search results (18 pp. 315-316). The following example illustrated in Figure 12 can better explain the latter information:

```
<!DOCTYPE html>
<html Lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Recipe Markup Example</title>
</head>
<body>

  <h1 itemprop="name">Delicious Chocolate Cake</h1>

  <div itemscope itemtype="http://schema.org/Recipe">
    
    <p itemprop="description">A mouthwatering chocolate cake recipe that will satisfy your sweet cravings.</p>

    <h2>Ingredients</h2>
    <ul>
      <li itemprop="recipeIngredient">2 cups all-purpose flour</li>
      <li itemprop="recipeIngredient">1 cup cocoa powder</li>
      <li itemprop="recipeIngredient">1 cup sugar</li>
    </ul>

    <h2>Instructions</h2>
    <ol>
      <li itemprop="recipeInstructions">Preheat the oven to 350°F (175°C).</li>
      <li itemprop="recipeInstructions">In a bowl, mix the flour, cocoa powder, and sugar.</li>
      <li itemprop="recipeInstructions">Pour the batter into a greased cake pan.</li>
    </ol>
  </div>

</body>
</html>
```

Figure 12 Recipe Schema.org markup (own source)

In the above example, the ‘Schema.org’ markup is utilised to mark up a chocolate cake recipe. The ‘itemprop’ and ‘itemtype’ attributes are employed to classify and organise

various recipe components, including the name, image, description, ingredients, and instructions, which elevate the understanding of content by search engines, leading to optimised presentation in search results.

h) Rich Snippet

A rich snippet is a structured data markup that may be added to a web page's HTML code to give search engines more information about the page's content, as it is intended to improve the aesthetic of SERPs by providing more extensive and valuable material as snippets or concise summaries of the page's content. Rich snippets generally include more information on the page's content, such as ratings, reviews, pricing, and other features. By having rich snippets in the HTML code, website owners may raise the visibility and appeal of their material on search engine results pages, which can result in more excellent click-through rates (the percentage of users who click on a link compared to the total number of users who view a page) and higher search engine ranks (18 pp. 316-318).

A recipe for an Italian meal named ‘Tagliatelle’ is provided below in Figure 13 as an example of a rich snippet in the search results.

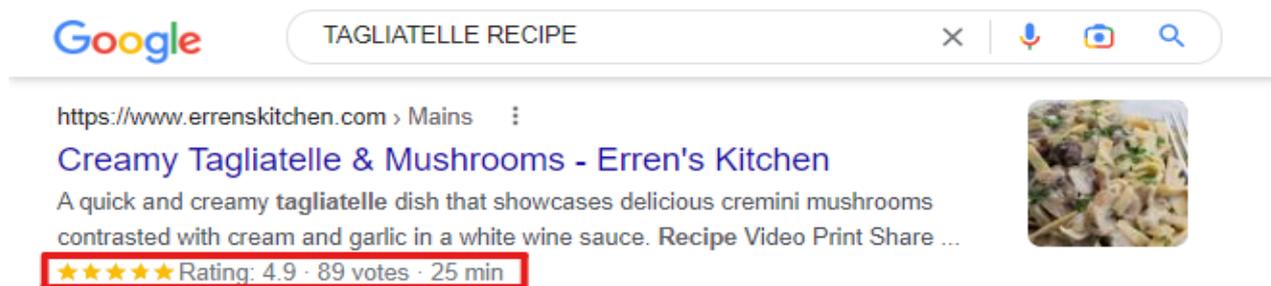


Figure 13 Google Rich Snippet with Recipe (own source)

Due to the markup that Google discovered in the HTML document, search results have been improved by displaying the recipe ratings (in the form of a star rating), the amount of time needed to prepare the meal, and the number of reviews. Microformats are the markup used for the following example (18 pp. 316-318).

```

<!DOCTYPE html>
<html Lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Tagliatelle Recipe</title>
</head>
<body>

<div class="recipe hrecipe">
  <h2 class="fn">Tagliatelle with Tomato and Basil Sauce</h2>
  <p class="ingredient">200g tagliatelle</p>
  <p class="ingredient">1 cup tomato sauce</p>
  <p class="ingredient">1/4 cup fresh basil, chopped</p>
  <p class="ingredient">2 tablespoons olive oil</p>
  <p class="instructions">Cook tagliatelle according to package instructions. Mix with tomato sauce, fresh basil, and olive oil. Serve and enjoy!</p>
</div>

</body>
</html>

```

Figure 14 Microformats Code for Recipe (own source)

This HTML example in Figure 14 showcases a tagliatelle recipe marked up with microformats. The recipe details are contained within a ‘<div>’ element with the ‘*recipe*’ and ‘*hrecipe*’ classes, indicating the utilisation of the ‘*hrecipe*’ microformat for recipes, improving comprehension for humans and machines.

This enhances the indexing of search engines and facilitates the utilisation of structured recipe data for various applications.

i) CSS

CSS (Cascading Style Sheets) is a tool that enables publishers to manage a website's visual appearance and arrangement using a separate stylesheet rather than including specific details within the website's HTML code. This separation offers several indirect advantages for SEO, making CSS a highly recommended practice in web development. Google recommends maintaining web pages of less than 101 kilobytes, as larger code sizes can negatively impact the ranking algorithm. Decreasing the size of files leads to quicker loading times, fewer visitors leaving the page, and increased backlinks, particularly in mobile environments (18 pp. 315-316).

In the past, search engines could not comprehend CSS code, and consequently, they could not render websites in a manner consistent with web browsers. Nevertheless, on October 14, 2014, Google explicitly stated their ability to do so, and the quality of a webpage can be evaluated by considering the use of CSS by SEOs to create a well-designed and clean page

layout. It is advisable to utilise CSS instead of the traditional HTML method for webpage layout and design using the style attribute and to store CSS files externally (18 pp. 315-316); for a better understanding, the following examples are presented (figure 15, figure 16, Figure 17):

HTML file without styling:

```

<!DOCTYPE html>
<html Lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <link rel="stylesheet" href="styles.css">
  <title>External Styling Example</title>
</head>
<body>

  <h1>Hello, World!</h1>
  <p>This is a simple example of external styling using a CSS file.</p>

</body>
</html>

```

Figure 15 Basic HTML Structure (own source)

Styling implementation using Inline Styling:

```

<!DOCTYPE html>
<html Lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Inline Styling Example</title>
</head>
<body>

  <h1 style="color: blue; font-family: 'Arial', sans-serif;">Hello, World!</h1>
  <p style="font-size: 18px; line-height: 1.5;">This is a simple example of inline styling in HTML.</p>

</body>
</html>

```

Figure 16 HTML file with in-page styling (own source)

`<p style="font-size: 18px; line-height: 1.5;">This is a simple example of inline styling in HTML. </p>`

In the given code snippet extracted from Figure 16, the font size is customised to 18 pixels, and the line height is adjusted to be 1.5 times the font size. These style modifications are directly applied to an individual HTML element using the "style" attribute within the paragraph tag `<p>`.

Styling implementation using external CSS File:



Figure 17 CSS file (styles.css) (own source)

This CSS code in Figure 17 is in a separate CSS file, styles heading level 1 `'h1'` elements with green text and a font preference for 'Times New Roman'. For paragraph `'p'`, it sets the font size to 16 pixels and establishes a line height of 1.8 times the font size for improved text spacing.

By utilising such CSS code, the necessity of complex HTML formatting methods is eliminated.

3.5 SEO and Company Websites

3.5.1 The Importance Of SEO For Company Websites

The crucial significance of SEO in the contemporary digital era for small businesses lies in its capacity to augment online prominence, generate focused traffic and high-quality leads, and provide a cost-efficient marketing approach. Attaining superior positions in SERPs boosts a website's exposure to prospective buyers, increasing brand recognition and creating organic traffic as SEO enables the precise selection of keywords and phrases relevant to the company's context, attracting visitors who are actively looking for products or services and establishing credibility and trust (27).

In the current highly competitive industry, SEO is not only an optional choice but rather an essential need, and a failure to address it may lead to lagging and overlooking possible business prospects; meanwhile, adopting efficient SEO strategies is necessary for maintaining a competitive edge and improving the customer experience. Small companies may gain significant advantages by strategically investing in SEO, especially if they engage in partnerships with seasoned experts or specialised digital marketing organisations in SEO. This will guarantee customised solutions that align with unique company requirements and goals (27).

In summary, SEO is important for companies to enhance their online visibility, gain a more extensive consumer base, and develop a solid online brand (27).

3.5.2 The Impact of SEO On Website Traffic

Backlinko, a leading marketing blog, conducted a comprehensive study of over 4 million Google search results. Their findings offer valuable insights into the relationship between organic click-through rate (CTR) and SEO strategies (28).

Before analysing the following research, it is vital to emphasise that CTR refers to the ratio of the number of clicks a search query gets daily to the number of times it appears on the SERPs, also called impressions (28).

The study uncovered that the top-ranked result in Google's organic search outcomes exhibits a remarkable average CTR of 27.6%, rendering it twice as probable to get a click compared to a website occupying the tenth position. Furthermore, on average, ascending one position in the search results leads to a 2.8% rise in CTR. Significantly, the effect varies depending on the particular transition since shifting from the third to the second position often leads to a substantial increase in CTR. Nevertheless, the research revealed that transitioning from the 10th to the 9th position did not result in a statistically significant difference. Furthermore, the data indicates that the first outcome in Google receives 27.6% of all hits, while the top 3 results together capture 54.4% of all clicks. This undermines the traditional belief that "ranking on the first page" is an adequate SEO objective, highlighting the significance of achieving the highest position or at least a placement within the top 3 (28).

This research presents concrete proof of the measurable influence of SEO on website traffic, demonstrating how SEO efforts may significantly increase the number of website visitors.

4 Practical Part

The subsequent section involves the practical application, entailing the creation of a comprehensive WordPress (WP) company website starting from its conceptualisation. This process prioritises the strategic incorporation of optimal white-hat SEO techniques with a focus on their technical implementation. White-hat SEO strategies are selected for their compliance with search engine rules and emphasis on developing a valuable and user-friendly website. This approach, aligning with the principles and methods expounded upon in the literature review, ensures long-term organic growth, avoids potential penalties from search engines, and maximises the company website's ranking in Google search engine results.

4.1 Analysis

The analysis section of this practical part provides a comprehensive evaluation of the technical and functional requirements linked to developing a WordPress company website. The analytical methodology is based on thoroughly examining relevant literature and technical specifications. This analysis will commence by discussing the technical requirements for the WordPress company website, including the software tools and technologies used.

The WordPress company website is designed to improve visibility and attract targeted traffic. It is optimised for SEO and utilises technologies like WordPress, CSS, and JavaScript. WordPress is a reliable and easy-to-use platform with a robust content management foundation. By implementing effective SEO techniques, the website can achieve higher rankings in search engine results, allowing it to reach a larger audience and increase user engagement.

WordPress, known for its wide range of plugins, allows for easy integration of SEO tools, which can significantly improve a website's performance on different search engines. CSS and JavaScript enhance a website's visual appeal and interactivity, creating a more engaging and memorable user experience.

The main goal of the WordPress website is to maximise the company website's ranking in Google search engine results. By implementing effective SEO strategies and using advanced web development technologies, the website will be ready to excel in today's highly competitive online environment.

Project Requirements:

- Develop a WordPress company website, conceptualising its structure, design, and features.
- Strategically incorporate optimal SEO techniques and strategies to enhance the company website's visibility in search engine results.
- Ensure that most SEO techniques align with the principles and methods outlined in the literature review, maintaining consistency and relevance.
- Develop a responsive website that adjusts to various devices and screen sizes to provide the best possible experience.
- Create an intuitive and user-friendly navigation structure to enhance user experience and encourage website content exploration.
- Conduct thorough keyword research relevant to the company's products, services, and target audience, and integrate these keywords naturally into the website's content.
- Optimize on-page elements, including meta titles, meta descriptions, headers, and image alt tags, to enhance the website's search engine visibility.
- Improve off-page elements by integrating essential features to facilitate the acquisition of quality backlinks and enhance website monitoring capabilities.
- Develop relevant content for the website, focusing on engaging and informative text, images, and multimedia elements.
- Optimise website performance by minimising page load times, ensuring a smooth and efficient user experience.
- Enforce security protocols to safeguard the website from potential risks.

4.2 Pre-Planning

4.2.1 Niche/Topic Selection

The chosen website focuses on an educational platform tailored for Asalato learning. Asalato, also known as Kashaka, is a percussion instrument from West Africa, consisting of two small gourds filled with beans. This website aims to offer asalato learning courses

primarily targeted towards English-speaking individuals in Prague or the Czech Republic. Additionally, it features a blog section containing information about Asalato's history, traditions, and tutorials on how to play it.

This topic was selected due to the limited competition in Google search results. With few websites offering similar courses, coupled with the implementation of SEO techniques, there is a higher likelihood of achieving better rankings in such a niche market.

4.3 WordPress Website Setup

4.3.1 Domain & Hosting

The chosen domain name for the selected topic is '*AsalatoCourses.com*', purchased from the renowned website Namecheap. This decision was primarily influenced by Namecheap's reputation for offering competitive prices, excellent customer service, and user-friendly domain management. The domain was registered in February 2024 for an initial term of one year, as shown in Figure 18. It was acquired for approximately 140 Czech Crowns, representing a competitive price for a medium-short .com domain.

When creating the website, the challenge lay in choosing a domain name that would resonate with potential learners while optimising search engine visibility. Recognising that individuals seeking courses on a specific topic often include relevant keywords in their search queries, a straightforward approach was adopted. Considering two potential domain options:

- *www.AsalatoMastery.com*
- *www.AsalatoCourses.com*

Upon deliberation, the latter domain emerged as the more suitable choice. While both options convey the essence of the platform, '*AsalatoCourses.com*' aligns more closely with the keywords users are likely to include in their search queries. This alignment enhances the website's search engine optimisation (SEO) potential and ensures it stands out to individuals seeking Asalato learning resources.

Domain Information	
Domain:	asalatocourses.com
Registrar:	NameCheap, Inc.
Registered On:	2024-02-01
Expires On:	2025-02-01
Updated On:	2024-02-02
Status:	clientTransferProhibited
Name Servers:	dns1.namecheaposting.com dns2.namecheaposting.com

Figure 18 'Asalatocourses.com' domain information (own source)

In terms of hosting, Namecheap's shared web hosting service, specifically the 'Stellar Business Hosting' plan priced at around 220 Czech crowns, was selected (figure 19). This plan provides a range of relevant features, including fewer users per server, unmetered data transfer between the website and internet users, 100% server accessibility to the internet, automatic backups, free Secure Sockets Layer (SSL) certificate, and 24-hour customer support. Collectively, these features offer the necessary resources and environment for smoothly installing and running applications such as WordPress.

The screenshot displays the Namecheap Shared Hosting page. At the top, there is a navigation menu with links for Domains, Hosting, WordPress, Email, Marketing Tools, Security, Transfer to Us, Help Center, and Account. Below the navigation, the page is titled 'Shared Hosting' with the tagline 'Fast, secure, and affordable hosting plans for any budget'. There are filters for 'Datacenter location' (EU) and 'Billing cycle' (Monthly). Three hosting plans are presented in cards:

- Stellar:** \$4.48/mo. Features: 3 Websites, 20 GB SSD, 50 Mailboxes, Cloud Storage. Renewal at \$4.48/month.
- Stellar Plus (POPULAR):** \$6.48/mo. Features: Unlimited websites, Unmetered SSD, Unlimited mailboxes, AutoBackup & Cloud Storage. Renewal at \$6.48/month.
- Stellar Business:** \$9.48/mo. Features: Unlimited websites, 50 GB SSD, Unlimited mailboxes, AutoBackup & Cloud Storage. Renewal at \$9.48/month.

A red arrow points to the Stellar Business plan, and the text 'MAKE MORE ONLINE FOR LES' is overlaid on the right side of the page.

Figure 19 Namecheap Shared Hosting Plans (own source)

4.3.2 WordPress Installation

To install WordPress on a website, the WordPress zip file first must be downloaded from the official website ‘*wordpress.org*’. Subsequently, using cPanel, that downloaded file needs to be extracted into the “public_html” folder, which is situated within the installation directory of the hosting web server (figure 20).

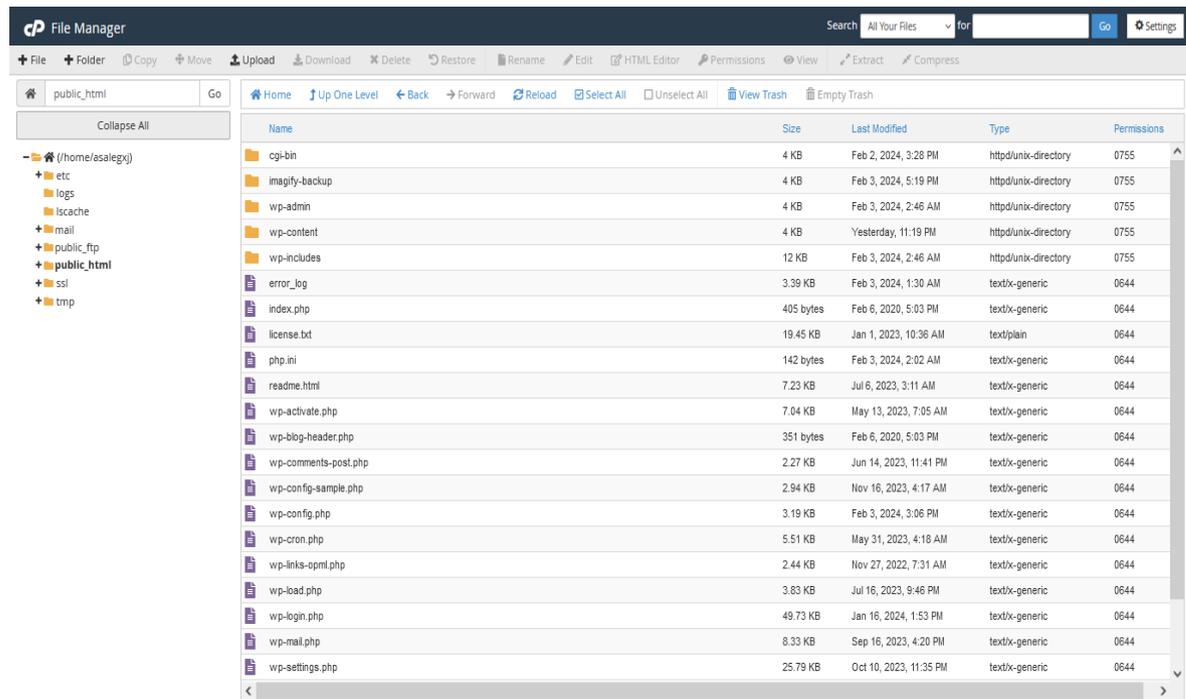


Figure 20 Extracting WordPress Zip into Server's Directory (own source)

Following these steps, ‘*AsalatoCourses.com/phpMyAdmin/*’ was visited, and access to the ‘*user accounts*’ tab was made. Then, a user account was added, specifying the desired username, server, and password. Afterwards, the ‘*databases*’ tab was accessed, and a database was created with the chosen name.

Once these database configurations were set, ‘*AsalatoCourses.com*’ was visited, and each section of the WordPress setup was completed, as shown in Figure 21.



Below you should enter your database connection details. If you are not sure about these, contact your host.

Database Name
The name of the database you want to use with WordPress.

Username
Your database username.

Password
Your database password.

Database Host
You should be able to get this info from your web host, if localhost does not work.

Table Prefix
If you want to run multiple WordPress installations in a single database, change this.

Figure 21 WordPress installation dashboard (own source)

It is necessary to enter the information corresponding to the details supplied in the ‘user account’ and previously configured database settings, which can be readily extracted from the ‘config.php’ file as depicted in Figure 22 below:

[Keyboard shortcuts](#)

```

12  * * Database settings
13  * * Secret keys
14  * * Database table prefix
15  * * ABSPATH
16  *
17  * @link https://wordpress.org/documentation/article/editing-wp-config-php/
18  *
19  * @package WordPress
20  */
21
22  // ** Database settings - You can get this info from your web host ** //
23  /** The name of the database for WordPress */
24  define( 'DB_NAME', 'wp' );
25
26  /** Database username */
27  define( 'DB_USER', 'iheb2121' );
28
29  /** Database password */
30  define( 'DB_PASSWORD', '59625526@th;ù' );
31
32  /** Database hostname */
33  define( 'DB_HOST', 'localhost' );
34
35  /** Database charset to use in creating database tables. */
36  define( 'DB_CHARSET', 'utf8mb4' );
37
38  /** The database collate type. Don't change this if in doubt. */
39  define( 'DB_COLLATE', '' );
40
41  /**#@+
42   * Authentication unique keys and salts.
43   *
44   * Change these to different unique phrases! You can generate these using
45   * the {@link https://api.wordpress.org/secret-key/1.1/salt/ WordPress.org
46   * secret-key service}.
47   *
48   * You can change these at any point in time to invalidate all existing cookies.
49   * This will force all users to have to log in again.

```

Figure 22 ‘config.php’ Code Snippet (own source)

Another page shows up, and additional information about the WordPress website needs to be submitted, such as site title, username, password, etc.... then the ‘Install *WordPress*’ button should be clicked.

Now that the WordPress setup is complete, accessing its configuration page requires navigating to ‘*AsalatoCourses.com/wp-login*’ and entering the appropriate credentials. After logging in, users are sent to the WordPress dashboard, where they may construct their website (figure 23).

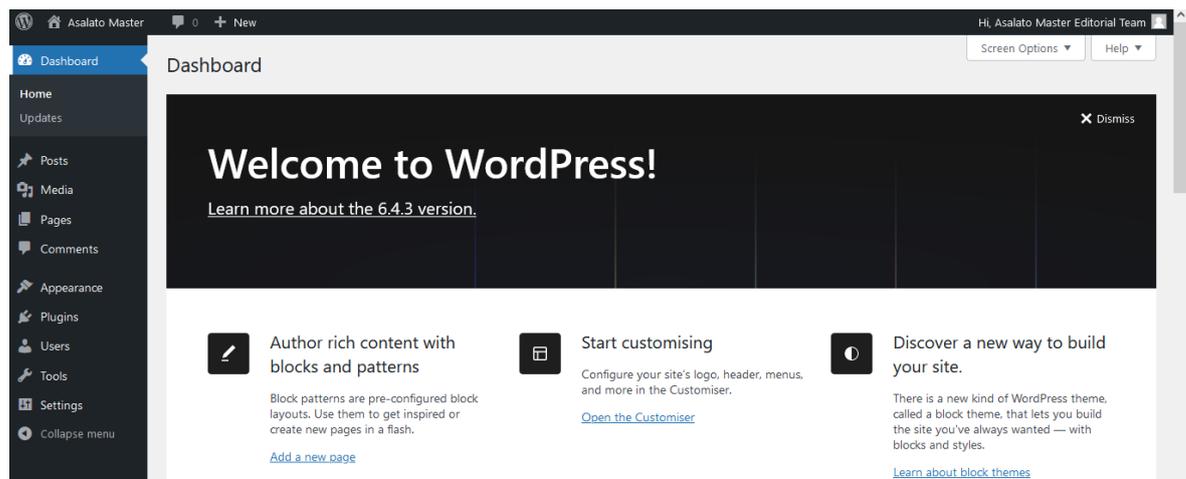


Figure 23 WordPress Dashboard (Post-Setup) (own source)

4.3.3 Theme Selection

Picking the right theme for a website appears to be a thoughtful decision since it's like choosing "the soul" of the website. On top of that, a well-chosen theme should showcase the website's distinctiveness from competitors while still fitting in with the site's characteristics. For that reason, the chosen theme for deployment is the ‘*The7*’ built-in theme, renowned for being highly customisable. This theme offers over 60 demos for various purposes, including blog & news, company, medical clinic, restaurant, and hotel. Users can select the appropriate demo for their project and tailor it using ‘*Elementor*’. They can also add, edit, or delete any code as necessary.

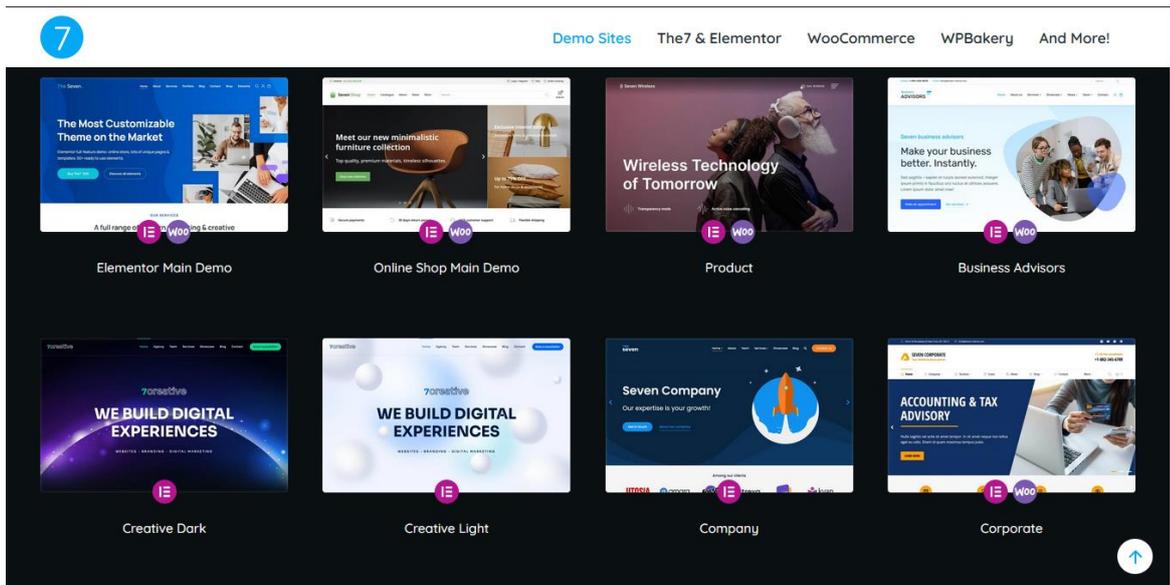


Figure 24 ‘The7’ Theme demos (own source)

‘The7’ theme prioritises SEO and mobile-friendliness, ensuring compatibility with popular SEO plugins and Google's mobile-friendly standards. Its responsive feature enables seamless usability across desktop and mobile devices.

‘The7’ theme also comes with Elementor, a plugin in WordPress that is both easy to use and very productive. Users may easily rearrange items by breaking a page into pieces to suit their needs. Then, they may copy, paste, resize, or change the order of the pieces with ease. Compared to more conventional ways of coding, this simplified procedure drastically reduces processing time, and it comes with its own settings panel; thus, users can be as creative as they want when designing their websites.

4.3.4 Plugins Set-up

The extensive plugin system is one of the main draws of WordPress for web developers. Thanks to the WordPress community and the hundreds of plugins created by various developers, WordPress users can always find the functionality they need for their websites. Throughout the lifecycle of this website, from creation to upkeep, various plugins have been included to improve the user experience, overall performance, and SEO implementation. Those plugins are ‘Advanced Database Cleaner PRO’, ‘Elementor’, ‘Schema Pro’, ‘SEOPress’, ‘WooCommerce’, and ‘WP Rocket’.

In the subsequent sections, a comprehensive analysis will be provided to elucidate the functionalities of each plugin and their respective contributions to the website's operations.

4.3.5 Content Presentation Elements

The website is divided into three main sections: pages, courses, and blog articles, each with specific roles for engaging users.

Foundational pages like the *'Privacy Policy'*, *'Terms & Conditions'*, and *'Cookies Policy'* are made to maintain legal compliance and transparency. They are placed in the footer; these pages provide essential details about user privacy, terms of service, and cookie usage.

On the other hand, the website has a simple landing homepage that acts as the main introduction for visitors. The landing homepage is created to grab attention and give an overview of the site's offerings. It includes featured courses and educational resources about Asalato. Moreover, the website features a user-friendly navigation menu in the header, allowing users to easily move to different homepage sections without exiting the page. This functionality improves the user experience by providing easy access to pertinent information and promoting further exploration of the website's content and offerings. Website viewers can explore the website's content further by checking out sections that focus on the company's background, including information about its founder, frequently asked questions (FAQ), and testimonials from satisfied customers. These sections offer valuable insights into the company's history, values, and customer satisfaction, building trust and credibility with visitors.

Moreover, pages dedicated to *'Cart'*, *'Checkout'*, and *'Checkout-Result'* are crucial for enhancing user interactions, especially during course purchases. These pages are designed to provide a smooth user experience. In addition, a *'Contact'* page can be accessed through a dedicated button on the homepage, providing users with a direct means of communication and reinforcing user engagement and accessibility.

The courses section features the *'Asalato On-Camera Performance Mastery Course'* and the *'Asalato Personal Mastery Course'*. These two courses, referred to as *'Products'* within the WordPress Dashboard, are fundamental to the website's content, providing users with educational opportunities to master the techniques and principles related to Asalato. Whenever an order is placed, it is conveniently displayed within the *'WooCommerce'* plugin *'orders'* section. Lastly, the blog articles section complements the educational content provided by the courses, offering informative and engaging insights into various aspects of Asalato. Users can explore articles such as *"Unveiling the Mysteries of Asalato: A Historical Journey," "Discovering the Joy of Asalato: A Beginner's Guide," "Exploring the Cultural*

Significance of Asalato: Unravelling its Power," and *"Asalato's Modern Pulse: Bridging Tradition with Contemporary Expression."* These articles delve deeper into the rich history, cultural significance, and modern applications of Asalato, enriching users' understanding and appreciation of this instrument.

4.4 SEO Campaign Implementation

4.4.1 Introduction

Commencing an SEO campaign involves a systematic progression through specified stages. The primary phase is keyword research, which entails identifying and selecting keywords for website optimisation. Following keyword research, the subsequent stage is content generation. In this phase, the focus is on generating content ideas suitable for blogging on the website. The deliberate order of keyword research preceding content generation ensures a coherent and purposeful content strategy. The third phase in the SEO campaign workflow is on-page SEO. This phase involves optimising the website to establish a robust foundation for SEO. Meticulous execution of on-page SEO practices enhances the website's visibility on search engines. Upon completing on-page SEO optimisation, the subsequent phase is off-page SEO. This phase involves integrating essential features that facilitate the acquisition of backlinks, enhancing the website's authority and credibility. To enhance crawlability and indexation, technical SEO addresses the website's underlying structure and code. The concluding phase in the SEO campaign workflow is progress measurement. This stage involves evaluating the results achieved in Google rankings for the targeted keywords.

4.4.2 Keyword Research

The keyword research analysis for *'AsalatoCourses.com'* aimed to identify featured keywords to optimise content and drive traffic and enrolments for Asalato courses. Conducted using the *'Google Keyword Planner tool'* with the website URL, this approach generated keyword ideas aligned with the site's offerings, as shown in Figure 25. Findings revealed keywords such as *"Asalato instrument"*, *"Asalato percussion"*, *"Learn Asalato"*, *"Asalato courses"*, *"Asalato lessons"*, *"Online Asalato courses"*, *"Percussion music"*, *"Rhythmic percussion"* and *"Percussion instrumental"*.

Despite Prague or the Czech Republic not being shown in the ‘*Google Keyword Planner tool*’, it was decided to include them as keywords for the website, given that the primary target audience comprises people from the Czech Republic.

<input type="checkbox"/> Keyword	Avg. monthly searches	Three month change	YoY change	Competition	Ad impression share
Keyword ideas					
<input type="checkbox"/> asalato instrument	10 - 100	0%	++	High	—
<input type="checkbox"/> asalato percussion	10 - 100	0%	0%	—	—
<input type="checkbox"/> learn asalato	100 - 1K	0%	0%	High	—
<input type="checkbox"/> asalato courses	10 - 100	0%	0%	Low	—
<input type="checkbox"/> asalato lessons	100 - 1K	0%	0%	High	—
<input type="checkbox"/> online asalato courses	10 - 100	++	++	High	—
<input type="checkbox"/> percussion music	10 - 100	0%	0%	Low	—
<input type="checkbox"/> rhythmic percussion	10 - 100	0%	++	Low	—
<input type="checkbox"/> percussion instrumental	10 - 100	++	0%	Low	—

Figure 25 Google Keyword Planner: Generating Keyword Ideas (own source)

4.4.3 Content Generation

In the content generation phase, careful attention is paid to crafting unique and engaging content tailored to the website's specific objectives and target audience. Each piece of content undergoes thorough research and ideation to ensure it provides valuable insights or information to the audience. The content is then thoughtfully written, edited, and refined to maintain a consistent tone, style, and messaging across all pages and posts. The ‘*Verdana*’ font is consistently employed throughout the website for its readability and modern aesthetic. Various font sizes are strategically used to elevate readability and visual appeal, with larger headings and smaller body text sizes. Furthermore, the image-generating software ‘*Foocus*’ powered by AI (Artificial Intelligence) technology, was used to generate some of the images to complement the written content and engage the audience effectively, as this approach not only saves time but also enhances the sophistication of the website's multimedia content, distinguishing it from competitors and attracting visitors' attention.

4.4.4 On-page SEO

a) Metadata Optimisation

'SEOPress', a leading WordPress SEO plugin, was a pivotal tool for embedding keywords effectively across the 'AsalatoCourses.com' website, focusing on the homepage, course pages, and articles.

Configuration was undertaken to align with the site's metadata and descriptions upon installing and activating the plugin. Beginning with the homepage, dedicated fields within SEOPress, namely 'Meta Title' and 'Meta Description', allowed for the precise crafting of metadata. SEOPress's features include advanced functionality that ensures optimal character lengths for meta titles and descriptions, as showcased in Figure 26. The tool monitors the character count, ensuring the meta title does not exceed 60 characters or 568 pixels and the meta description remains within 160 characters or 940 pixels. Keywords like "learn Asalato", "Asalato course", and "Prague" were strategically infused in the metadata.

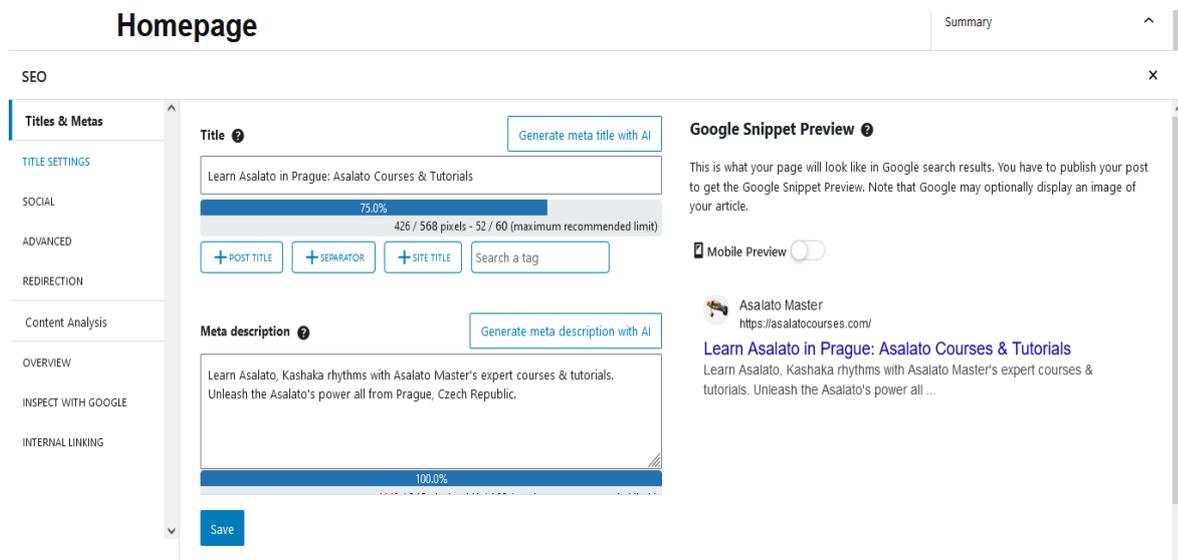


Figure 26 Crafting Metadata for 'AsalatoCourses.com' Homepage using SEOPress plugin (own source)

Similarly, for individual course pages and articles, 'SEOPress' provided customisation options, empowering the integration of course-specific keywords to enhance visibility and attract potential learners.

b) Headings

To ensure proper heading hierarchy across all web pages, the ‘*Elementor*’ plugin was employed, as shown in Figure 27. This facilitated the selection of the appropriate heading numbers, fostering optimal structural coherence and alignment with SEO guidelines.

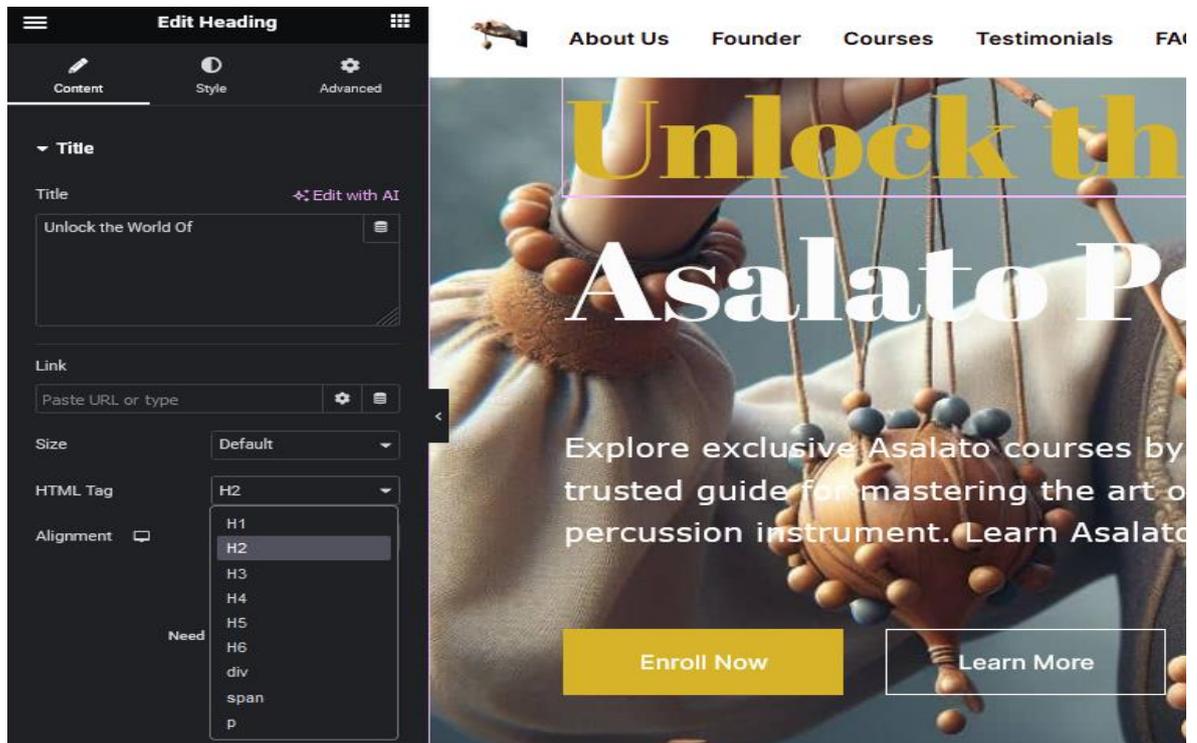


Figure 27 Employing the ‘*Elementor*’ Plugin for Consistent Heading Hierarchy on the Homepage (own source)

Moreover, within the ‘*SEOPress*’ plugin's content analysis overview, a feature scrutinises the heading structure of the content created using ‘*Elementor*’. This functionality identifies any issues with heading tags, such as the repetition of Heading 1 ‘*H1*’ tags, which are crucial for SEO and accessibility. For example, whenever multiple ‘*H1*’ tags are detected, ‘*SEOPress*’ issues a warning message detailing the number of occurrences and advising against using more than one ‘*H1*’ heading per webpage, as depicted in Figure 28. This guidance is instrumental in maintaining structural coherence and ensuring compliance with SEO and accessibility standards.

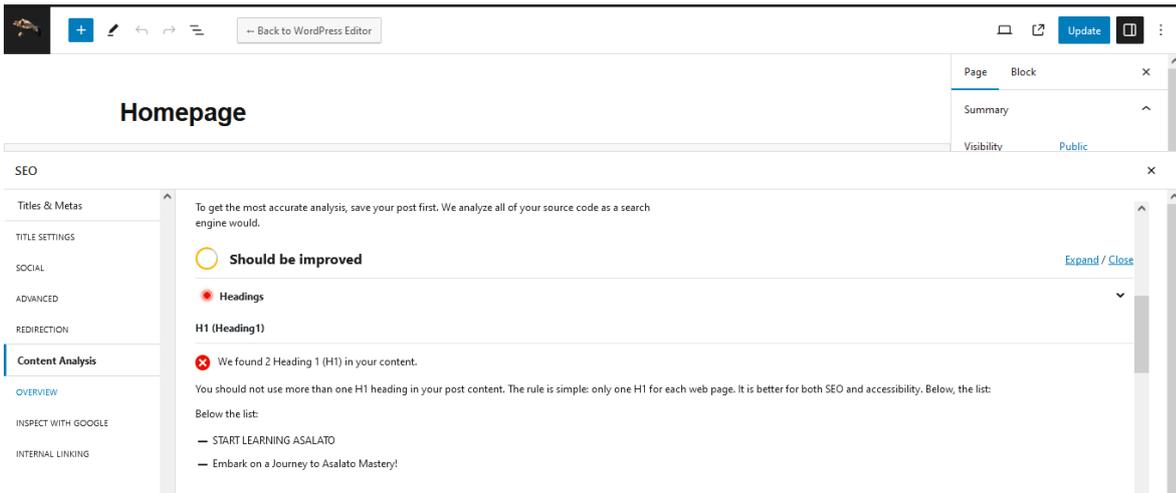


Figure 28 'SEOPress' Warning: Multiple H1 Headings Detected (own source)

c) Image SEO Optimisation

The image optimisation process involved utilising WordPress's built-in 'Media Library' feature. Upon uploading an image, the 'Media Library' was accessed, and the image was clicked to access the edit Image screen. From there, the 'alt' text and filename were modified to align with relevant keywords. This careful approach ensured that each image was accurately described and optimised for search engines.

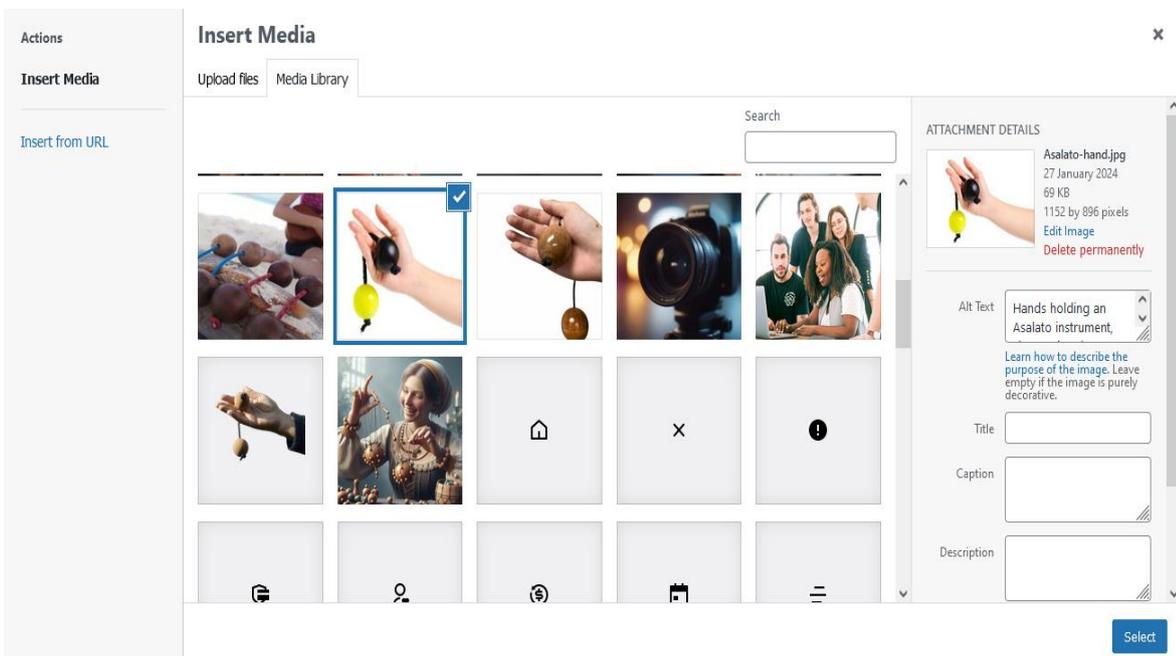


Figure 29 Image Optimisation in WordPress 'Media Library' (own source)

d) Internal Linking

To improve user engagement and facilitate internal linking, a section featuring related articles was strategically integrated into the sidebar of the article pages on 'AsalatoCourses.com'. This section blends smoothly with the article layout, providing readers with additional relevant content to explore further.

Technically, the capabilities of the 'Elementor' plugin within the WordPress platform were utilised for this implementation. Within the WordPress dashboard, access was made to the page editor for the article pages, and a 'simple posts' widget was added to the sidebar and customised to resemble a traditional sidebar layout using Elementor's interface (figure 30).

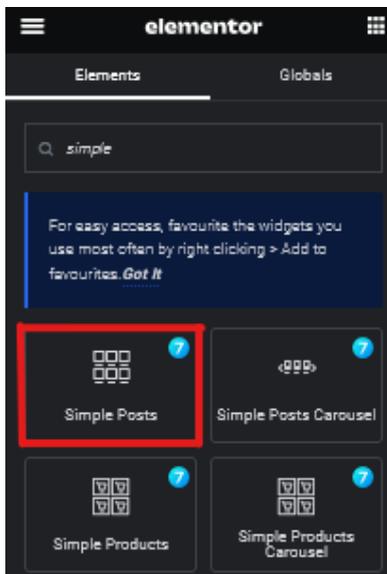


Figure 30 Adding the 'Simple Posts' widget in the sidebar for the Article Page Using 'Elementor' (own source)

Following this, the 'simple posts' widget was customised to dynamically display related articles based on specific criteria such as content relevance. This customisation involved adjusting the widget settings to ensure that the displayed articles closely align with the main content of the page (figure 31).

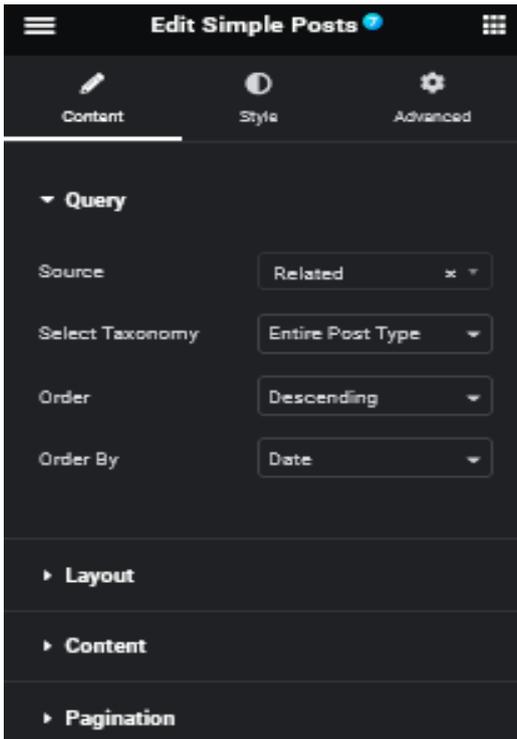


Figure 31 Customising the added ‘Simple Posts’ Widget Using ‘Elementor’ (own source)

Additionally, careful attention was given to the design and layout of the sidebar section to maintain visual consistency with the overall article page. This included fine-tuning elements like font size, spacing, and colour scheme to match the website's branding.

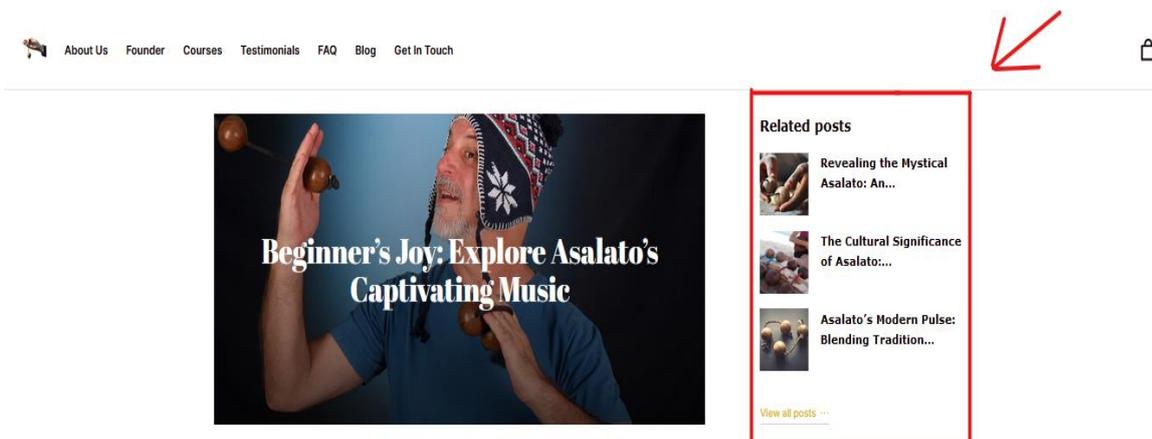


Figure 32 Customised ‘Simple Posts’ Widget (own source)

In addition to the sidebar section on article pages, internal linking was emphasised on course pages. However, instead of a sidebar, a horizontal section titled ‘You May Also Like’ was incorporated, showcasing courses related to the one presented on the page (figure 33).



Figure 33 Horizontal 'You May Also Like' Section for Course Pages (own source)

Integrating the sidebar on every article page and including related courses on each course page aimed to promote internal linking and offer users convenient access to relevant content. This strategy enhances the browsing experience, encouraging visitors to explore a broader range of resources available on the website.

e) Mobile Responsiveness Optimisation

The 'Elementor' plugin was used to optimise the mobile responsiveness of AsalatoCourses.com's homepage and all other pages. The initial step involved activating Elementor's mobile editing mode. This required accessing the desired page within the WordPress dashboard and entering the 'Elementor editor' (figure 34).

Homepage

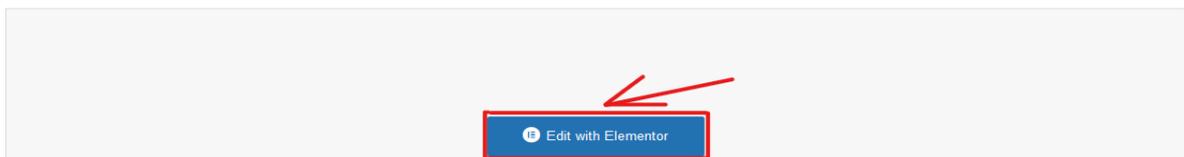


Figure 34 Entering 'Elementor editor mode' for the homepage (own source)

Upon entering the editor interface, the device icon positioned at the screen's bottom left corner was identified and clicked (figure 35).



Figure 35 Accessing the "mobile editing mode" using 'Elementor' – Part 1 (own source)

Subsequently, a click was made on the mobile icon in the top centre of the screen (figure 36).

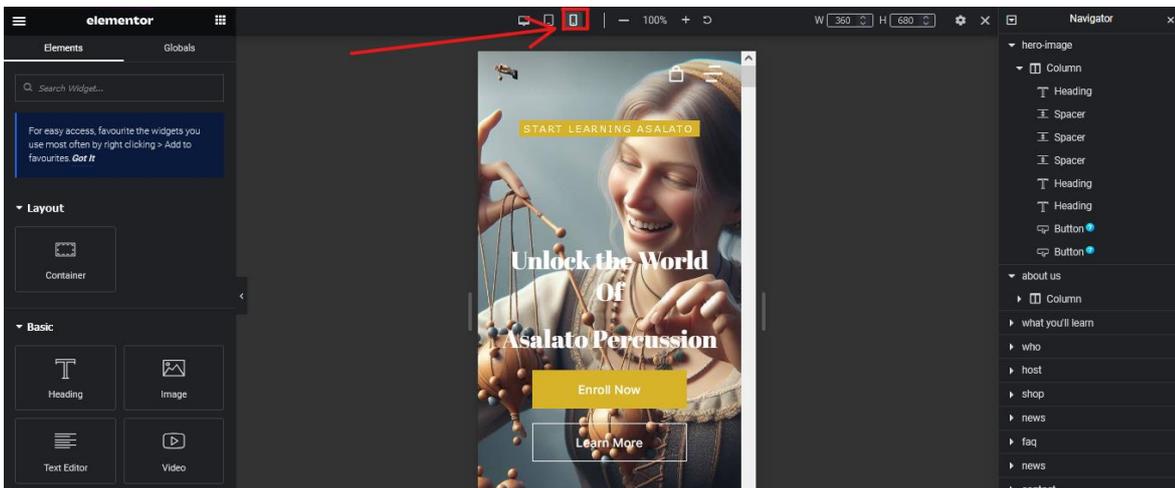


Figure 36 Accessing the "mobile editing mode" using Elementor – Part 2 (own source)

Throughout this process, focus was placed on making targeted adjustments tailored for smaller screens. Font sizes were fine-tuned to improve readability, and spacing was optimised to prevent overcrowding or overlapping of elements. Technical adjustments were also made to reposition elements for a visually appealing layout. This involved refining padding, margins, and image ratios.

Furthermore, Elementor's extensive library of mobile-friendly widgets was integrated. These widgets were placed to improve usability and engagement on mobile platforms.

4.4.5 Off-page SEO

a) Google Search Console

To establish 'asalatocourses.com' with 'Google Search Console,' the TXT (text) verification method was employed and integrated through Namecheap's cPanel Zone Editor. Initially, within 'Google Search Console,' the 'TXT' verification option was selected, and the verification token provided by Google was obtained (figure 37).

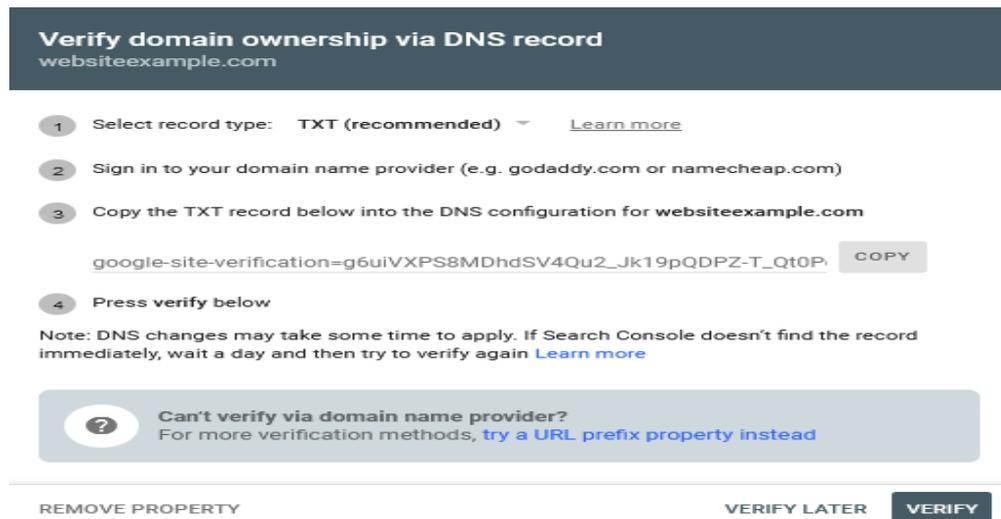


Figure 37 Domain Ownership Verification in 'Google Search Central' (own source)

Subsequently, access was gained to Namecheap's cPanel dashboard, and navigation led to the 'Zone Editor' section. Here, the 'TXT' verification record supplied by Google was appended to the domain's DNS (Domain Name System) settings, ensuring precision and proper formatting. Then, adjustments were saved, and DNS propagation awaited completion (figure 38).



Figure 38 Configuring DNS Settings for Domain Verification using Namecheap's cPanel Zone Editor (own source)

Upon successfully propagating the 'TXT' record, a return to the 'Google Search Console' facilitated the conclusion of the verification process (figure 39). With verification secured, access to invaluable insights and tools within the 'Google Search Console' was granted, enabling the monitoring and optimising of the website's performance in search results.

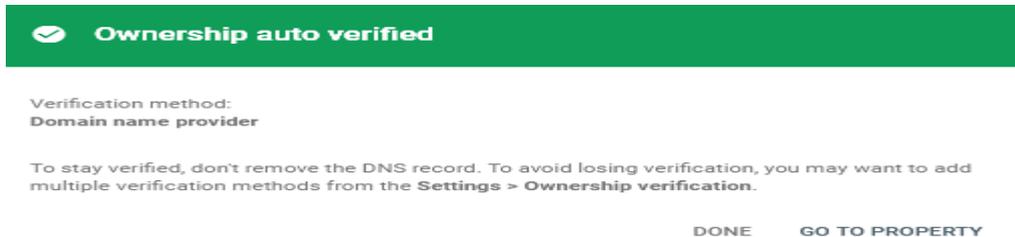


Figure 39 Domain Ownership Verification Success in 'Google Search Central' (own source)

b) Social Media Sharing Button Integration

To extend the reach of the website's content, social media sharing buttons were integrated into the blog section of the WordPress site using 'Elementor'. This involved accessing the WordPress dashboard and navigating to the 'Elementor editor' for the blog pages. Within Elementor's interface, a social media sharing widget was added to the desired location on the blog posts (figure 40).

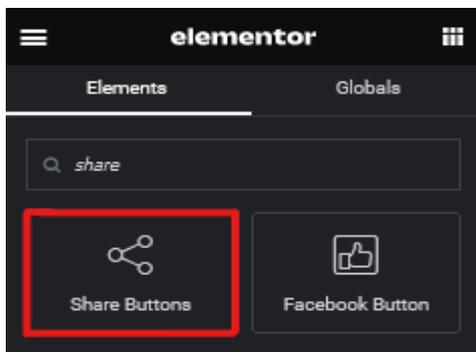


Figure 40 Adding the 'Share Buttons' widget to an article page (own source)

Next, the widget settings were configured to include specific social media platforms for sharing, such as Facebook, Twitter, and LinkedIn, as well as an email-sharing button (figure 41).

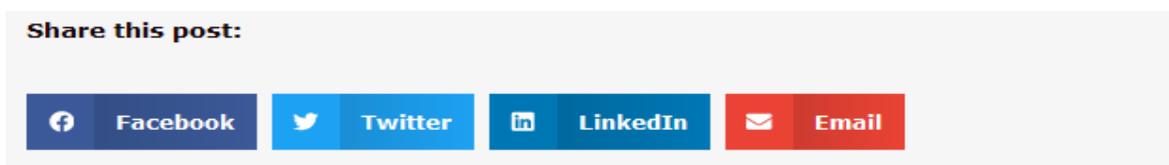


Figure 41 Layout Presentation of the "share buttons" widget implemented within the article of 'asalatocourses.com'

Open Graph (OG) metadata was automatically incorporated into the theme across all pages. This involved the integration of specific markup tags within the HTML of each webpage to define metadata attributes such as title, description, URL and the thumbnail image accompanying the link preview. This results in an enhanced appearance and presentation of shared links, ultimately boosting visibility and engagement across social media channels.

```
<meta property="og:site_name" content="Asalato Master" />  
<meta property="og:title" content="Revealing the Mystical Asalato: An Evolutionary History" />  
<meta property="og:description" content="Despite its modest origins in West Africa, this portable treasure has grown and  
<meta property="og:image" content="https://asalatocourses.com/wp-content/uploads/2024/01/Revealing-the-Mystical-Asalato-  
<meta property="og:url" content="https://asalatocourses.com/revealing-the-mystical-asalato-an-evolutionary-history/" />  
<meta property="og:type" content="article" />
```

Figure 42 HTML OG Meta Tags Displayed in 'AsalatoCourses.com' Homepage Source Code (own source)

Even without a dedicated social media page for the website 'asalatocourses.com', the articles' sharing buttons facilitate link building. These buttons allow the content to be shared across readers' social media profiles, extending its reach to their networks. As more individuals share the articles, they gain visibility on social platforms, potentially attracting attention from other website owners or bloggers who may link back to the content from their sites. Additionally, the social signals generated by these shares can influence search engine rankings, further enhancing the website's visibility and potential for link acquisition.

4.4.6 Technical SEO

a) XML Sitemap

A series of steps were followed to implement XML sitemaps on the 'AsalatoCourses.com' website. Firstly, access was gained to the 'SEOPress' plugin settings within the WordPress dashboard. Upon entering the plugin interface, navigation was made to the 'XML Sitemap' section, where options for configuring its settings were found. Next, toggling the appropriate switch enabled the 'XML sitemap' functionality. This action activated the generation of

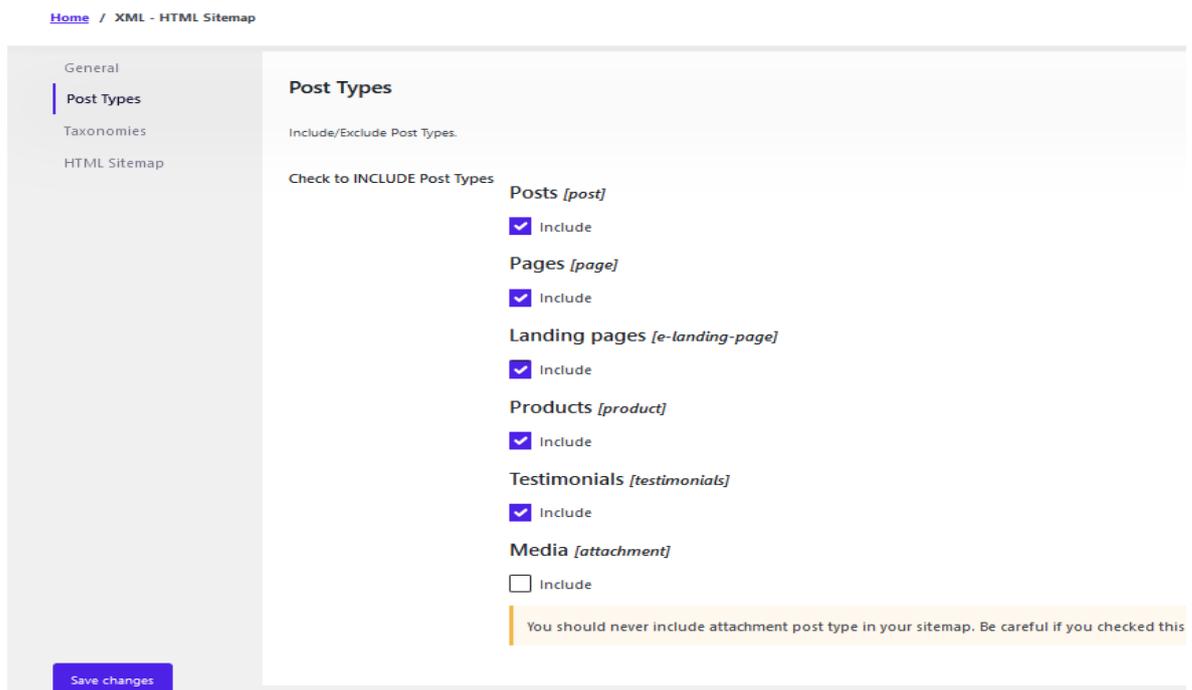


Figure 44 Selection of Post Types within ‘SEOPress’ XML Sitemap Settings (own source)

After configuring the ‘XML sitemap’ settings to align with the website's content structure and SEO strategy, the changes were saved and ‘SEOPress’ automatically generated the ‘XML sitemap’.

To verify the successful implementation, navigation was made to ‘<https://asalatocourses.com/sitemaps.xml>’ in the web browser. This action displayed the generated ‘XML sitemap’, showcasing a structured list of URLs and their associated metadata (figure 45).

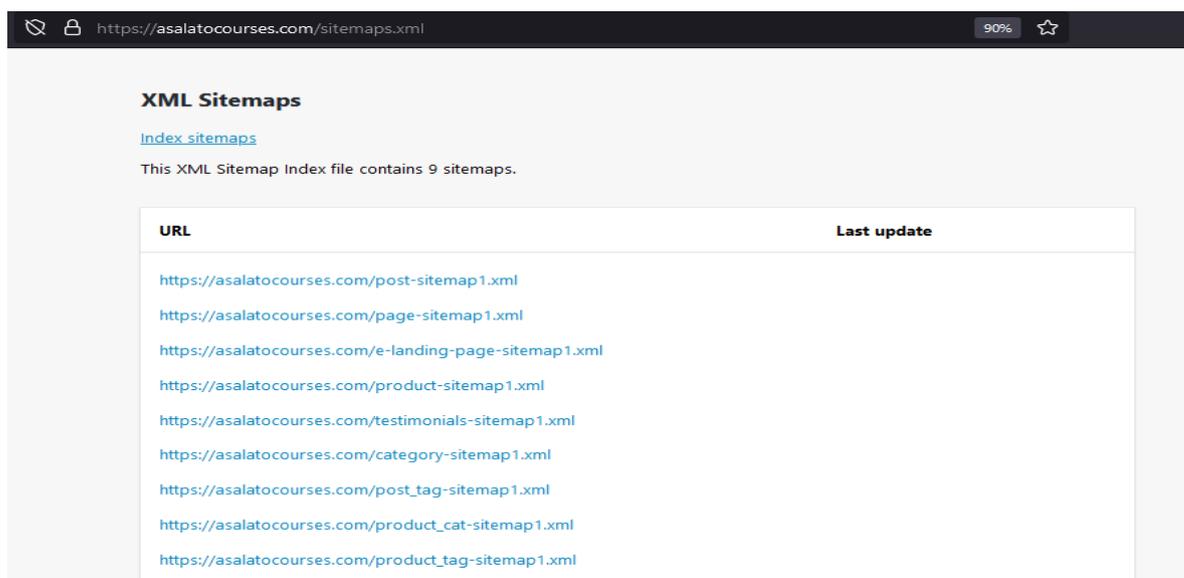


Figure 45 XML Sitemap for ‘Asalatocourses.com’ (own source)

Moreover, the diagnostic tool for sitemaps in ‘*Google Search Console*’ was employed to monitor the health and functionality of the XML sitemap. This entailed accessing the ‘*Google Search Console*’ website and utilising its interface to gain detailed insights into various aspects of the ‘*XML sitemap*’. Specifically, information regarding the submission date of the ‘*XML sitemap*’, its indexing status, and the number of pages discovered and indexed was carefully checked, as shown in Figure 46.

Sitemap	Type	Submitted ↓	Last read	Status	Discovered pages	Discovered videos
https://asalatocourses.com/sitemap.s.xml	Sitemap index	6 Feb 2024	19 Feb 2024	Success	47	0

Figure 46 Submitted Sitemaps in ‘*Google Search Central*’ (own source)

b) Robots.txt File

The ‘*robots.txt*’ file for ‘*AsalatoCourses.com*’ was crafted and configured by accessing the website’s file system directly through the ‘*cPanel*’ file manager tool provided by the web hosting service. Upon navigating the website’s root directory, a new text file named ‘*robots.txt*’ was created promptly. Within this file, directives governing the behaviour of search engine crawlers, such as specifying allowed and disallowed paths, were added using a text-based syntax. For instance, the directive ‘*User-agent: **’ addressed all search engine crawlers. The directive ‘*Disallow: /wp-admin/*’ was set to restrict access to the WordPress administrative backend, preventing crawlers from indexing sensitive administrative pages. However, the directive ‘*Allow: /wp-admin/admin-ajax.php*’ was specified to permit access to the ‘*admin-ajax.php*’ file, which is necessary for adequately working certain functionalities within the WordPress dashboard.

Once these adjustments were made, the updated ‘*robots.txt*’ file was promptly saved to ensure its directives were accurately enforced.

```

User-agent: *
Disallow: /wp-admin/
Allow: /wp-admin/admin-ajax.php

```

Figure 47 ‘*Robot.txt*’ File Code (own source)

c) Indexing

To facilitate the indexation of ‘*AsalatoCourses.com*’ in search engines, the ‘*SEOPress*’ plugin was used, mainly because of its ‘*Instant Indexing*’ feature, which is designed to expedite the indexing process. This feature has ensured that newly created or updated content is promptly indexed by search engines, enhancing the website's visibility in search results. To activate ‘*Instant Indexing*’ in ‘*SEOPress*’, the setup involved configuring Google’s Application Programming Interface (API) key and inserting it into the appropriate fields. Initially, access to the ‘*SEOPress*’ plugin settings was made, and then, within the ‘*Instant Indexing*’ section, the option to establish the Google ‘*API*’ key was located. Subsequently, the necessary ‘*API*’ key was acquired from the Google developer platforms. This step necessitated the creation of a project on the ‘*Google Cloud*’ platform. The ‘*API*’ key was then generated with the requisite permissions to access indexing services. After acquiring the ‘*API*’ key, they were copied and pasted into the designated fields within the SEOPress ‘*Instant Indexing*’ settings (figure 48).

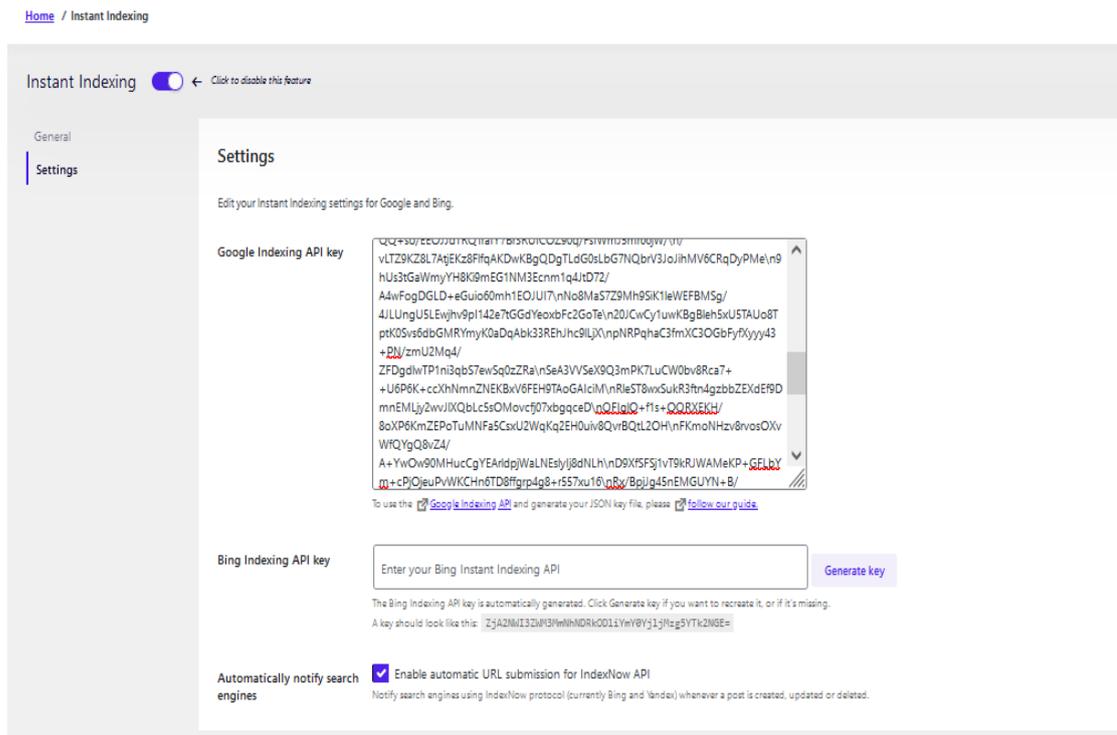


Figure 48 ‘*SEOPress*’ Plugin *Instant Indexing* Settings (own source)

Subsequently, access was made to the general section of SEOPress's ‘*Instant Indexing*’ feature to specify the search engine for indexing and designate the search engine for indexing, where the Google search engine was chosen. Following this, the URLs of all

desired pages were submitted for indexing, and then the indexing process was initiated by clicking the ‘Submit URLs’ button (figure 49).

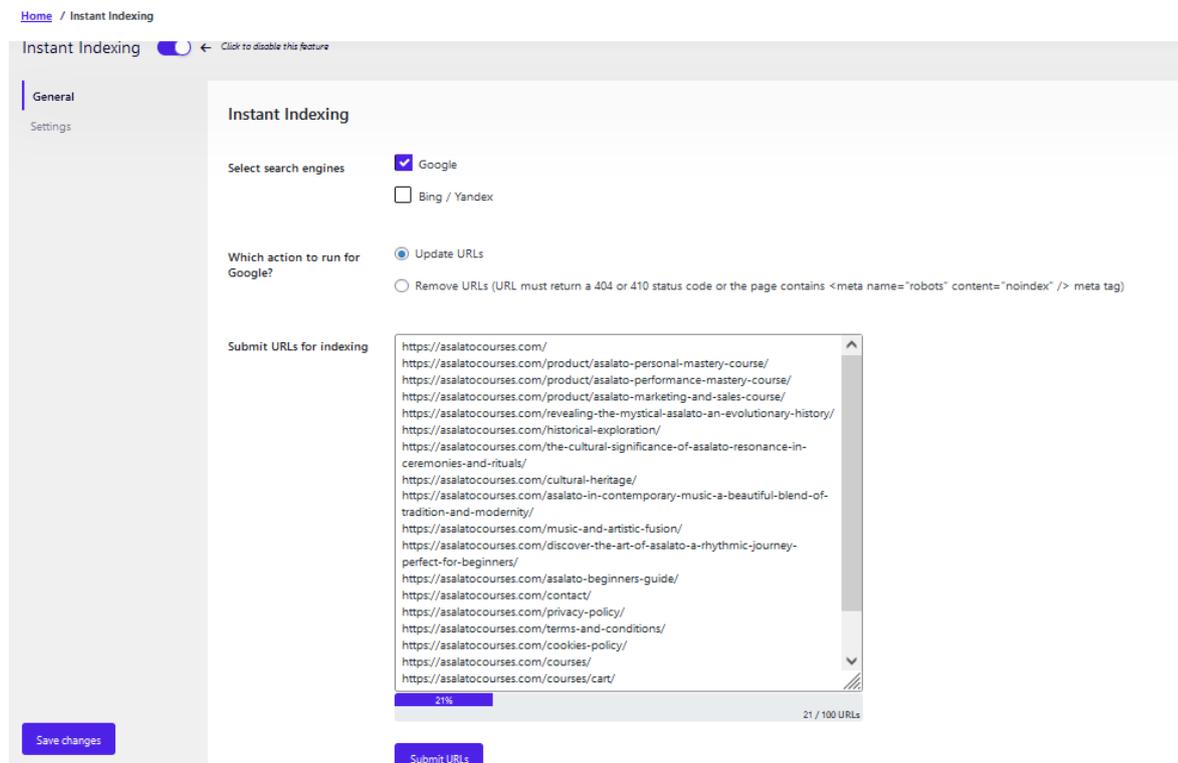


Figure 49 ‘SEOPress’ Instant Indexing: General tab (own source)

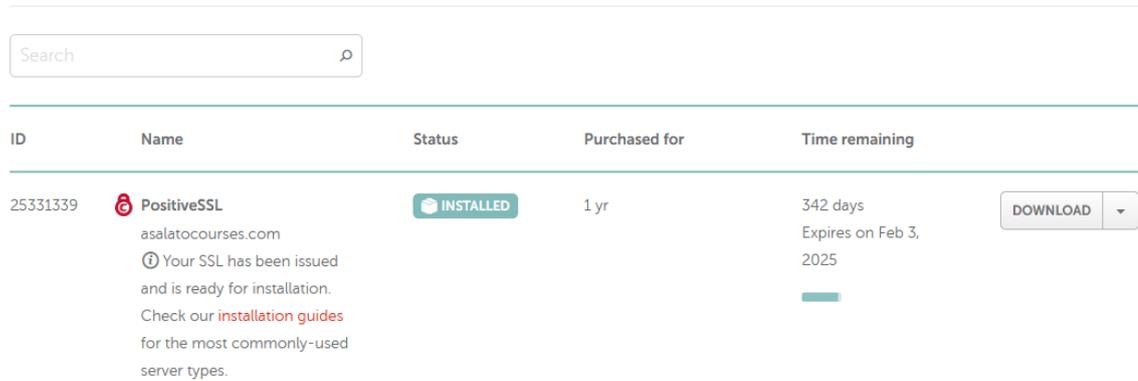
With the ‘API’ keys properly configured, ‘SEOPress’ communicated with Google, ensuring that newly published or updated content was submitted for indexing. This streamlined process contributed to maintaining the website's accessibility in search engine results.

d) SSL Certificate

With Namecheap’s ‘Stellar Business Hosting’ plan, a free SSL certificate was included as part of the package, eliminating the need to purchase one separately. This SSL certificate provided essential security features for the website, ensuring that data transmitted between users and the website remained encrypted and protected. Additionally, because both the hosting plan and domain were acquired from ‘Namecheap’, the SSL certificate was automatically installed on the website without any additional action required. Namecheap's cPanel SSL auto-installer feature facilitated this process, seamlessly configuring the SSL certificate for the website. As a result, the website benefited from enhanced security and encryption protocols without the need for manual installation or configuration efforts on the

user's part. In addition, search engines like Google prioritise secure websites in search results, meaning this implementation can contribute to higher rankings.

SSL Certificates



The screenshot shows a search bar at the top with the text 'Search' and a magnifying glass icon. Below it is a table with the following columns: ID, Name, Status, Purchased for, and Time remaining. The table contains one row for an installed SSL certificate. The 'Name' column includes a PositiveSSL logo, the domain 'asalatocourses.com', and a message: 'Your SSL has been issued and is ready for installation. Check our installation guides for the most commonly-used server types.' The 'Status' column shows a green 'INSTALLED' badge. The 'Purchased for' column shows '1 yr'. The 'Time remaining' column shows '342 days' and 'Expires on Feb 3, 2025'. A 'DOWNLOAD' button with a dropdown arrow is located to the right of the table row.

ID	Name	Status	Purchased for	Time remaining
25331339	 PositiveSSL asalatocourses.com ⓘ Your SSL has been issued and is ready for installation. Check our installation guides for the most commonly-used server types.		1 yr	342 days Expires on Feb 3, 2025

Figure 50 Namecheap's Website Dashboard Displaying Installed SSL Certificate for 'AsalatoCourses.com' (own source)

e) Schema Markup

Implementing schema markup via the 'Schema Pro' plugin involved several methodical steps in configuring structured data for various content types across 'AsalatoCourses.com', including articles, courses, and the homepage. Initially, the plugin was accessed within the WordPress dashboard by navigating to 'Settings' and selecting 'Schema Pro'. Once within the 'Schema Pro' interface, a new schema markup was created for various content types. For articles, the process began by clicking on 'Add New' and then specifying the 'Schema Type', opting for 'Article' as shown in Figure 51.

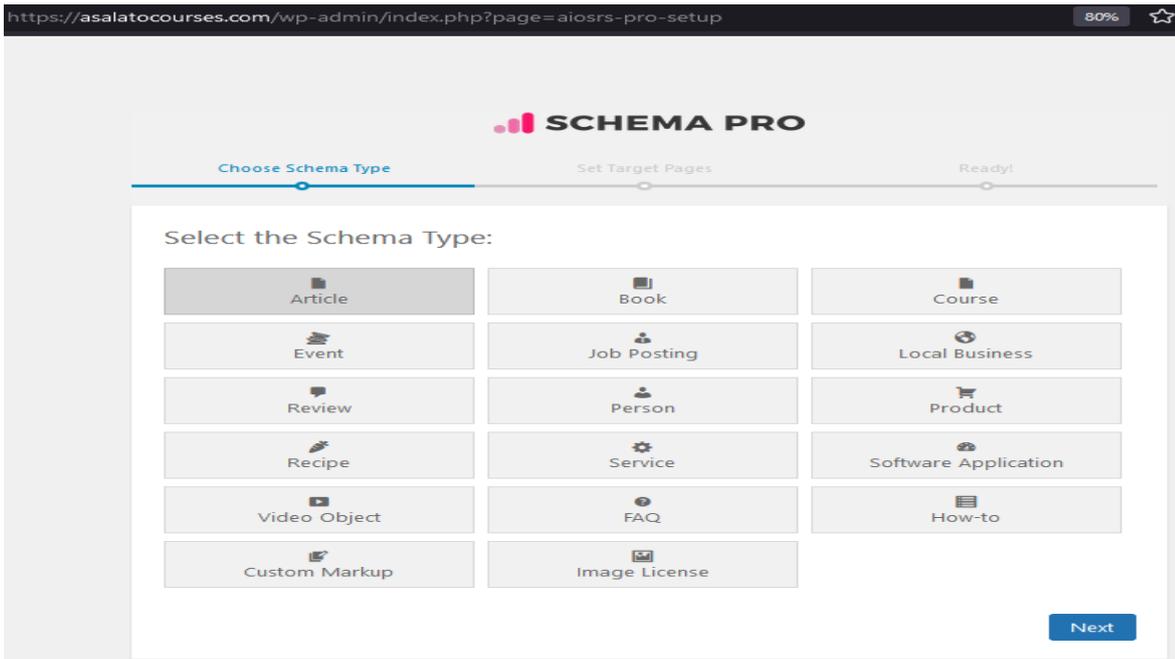


Figure 51 Selecting 'Article' Schema Type using 'Schema Pro' Plugin (own source)

Subsequently, the location for integrating the 'Article' schema was determined, and all posts were selected as they represent articles in WordPress (figure 52).

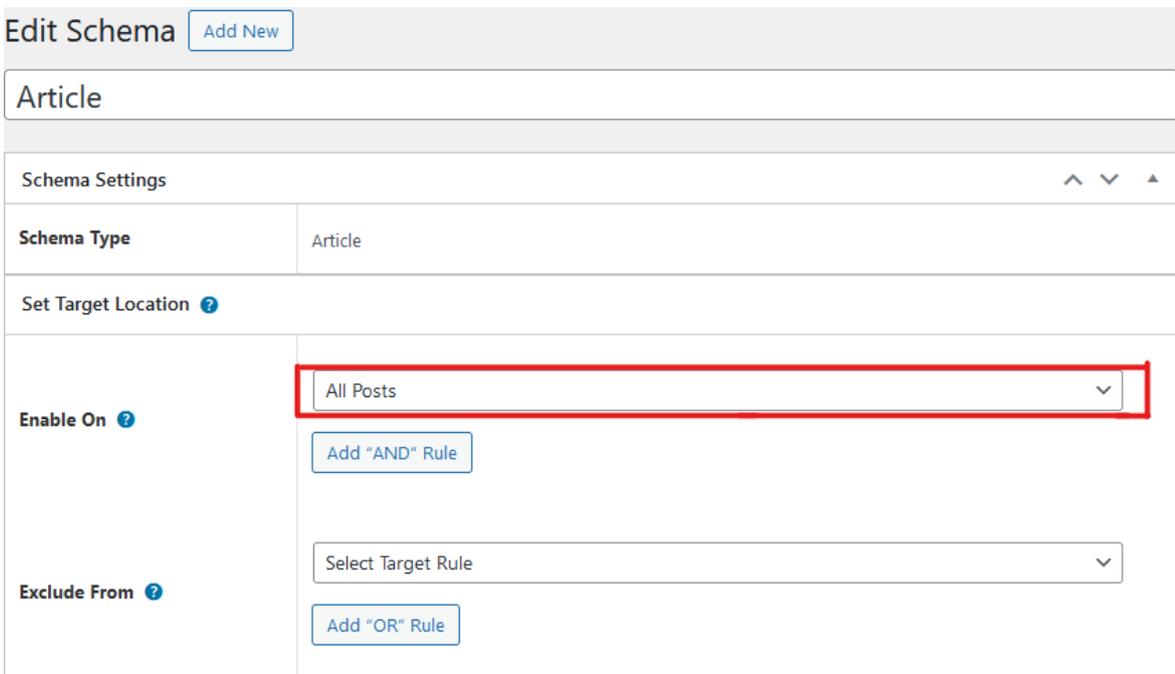


Figure 52 Applying Schema Type 'Article' to All Posts Using 'Schema Pro' Plugin (own source)

Following this, the mandatory schema fields were completed, including 'article type', 'author name', 'image', 'headline', 'published date', and more (figure 53).

All Schema Fields [🔗](#)

Guidelines [Read Guidelines for Article Schema](#) [🔗](#)

Article Type *

Author Name *

Author URL

Image *

Short Description

URL

Headline *

Published Date *

Modified Date *

Publisher Name *

Publisher Logo *

Figure 53 Filling Mandatory and Optional Fields for Article Schema Type Using ‘Schema Pro’ Plugin (own source)

The process was concluded by clicking ‘Update’ to implement the additional schema markup details (Figure 54).

Publish ^ v ▲

 Status: **Published** [Edit](#)

 Visibility: **Public** [Edit](#)

 Published on: **18 February 2024 at 20:56**
[Edit](#)

[Move to Bin](#) Update

Figure 54 Finalising Schema Markup Implementation (own source)

This systematic approach remained consistent for other content types, with adjustments in the chosen schema type and the specific details relevant to each content type. For instance, when applying schema markup to course pages, the focus was on presenting comprehensive details about each course offered on the website, encompassing important information such as the course name, description, instructor, duration, pricing, and more. Similarly, when implementing schema markup for the homepage, the objective was to furnish essential

information delineating the website's purpose and organisation, including vital details such as the website's type (education), logo, description, and contact information.

Finally, the Google Rich Results Test tool is employed to verify the successful integration of article markup. This online resource can be accessed via 'https://search.google.com/test/rich-results' (Figure 55).

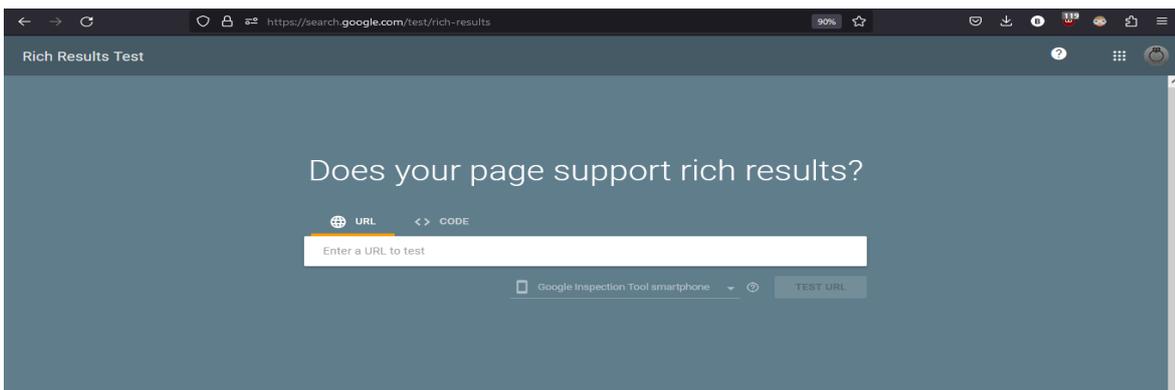


Figure 55 Google Rich Results Test: Homepage (own source)

After copying the URL of the article page to be examined, it is pasted into the designated field on the tool's interface. Clicking the 'Test URL' button initiates an analysis of the provided URL for structured data markup, including 'schema.org'. Once the test is complete, the results indicate whether the markup was detected and if the page qualifies for rich results in Google's search engine (figure 56).

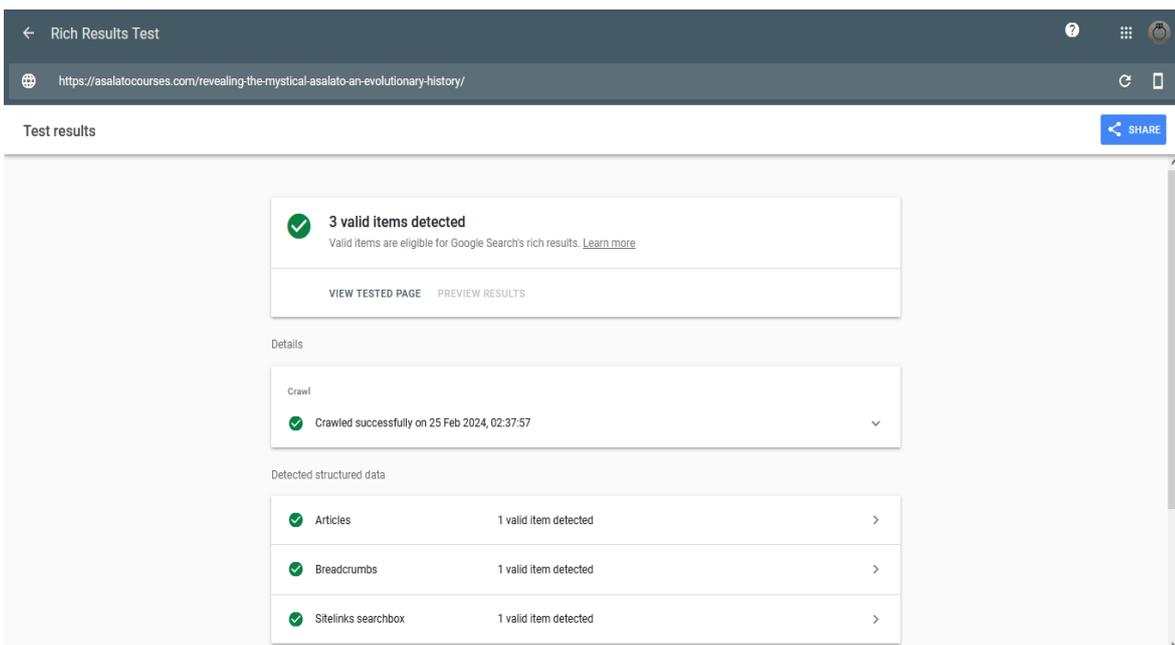


Figure 56 Google Rich Results Test for one of the articles of 'asalatocourses.com' (own source)

Any identified issues or errors are highlighted, allowing for prompt resolution by adjusting the markup as necessary. This systematic approach ensures that articles and other content types meet optimal visibility and presentation criteria in Google search results.

Detected items	
✔ Revealing the Mystical Asalato: An Evolutionary History	
type	Article
mainEntityOfPage	
type	WebPage
id	https://asalatocourses.com/revealing-the-mystical-asalato-a-n-evolutionary-history/
name	Revealing the Mystical Asalato: An Evolutionary History
headline	Revealing the Mystical Asalato: An Evolutionary History
image	
type	ImageObject
url	https://asalatocourses.com/wp-content/uploads/2024/01/Revealing-the-Mystical-Asalato-An-Evolutionary-History.jpg
width	1500
height	1000
datePublished	2024-02-06T21:51:14Z
dateModified	2024-02-25T02:10:59Z

Figure 57 In-depth analysis of the detected schema.org items within the article page (own source)

Implementing markup data across various content types allowed search engines to enhance their comprehension of the context of each type of content. This could ultimately result in heightened visibility and more captivating user search results.

f) Website Speed Optimisation

The ‘*WP Rocket*’ plugin was employed to refine the speed and performance of the website ‘*asalatocourses.com*’. Upon installation and activation, ‘*WP Rocket*’ automatically initiated browser and page caching by saving copies of dynamically created web pages as static HTML files. When a user accesses the page, ‘*WP Rocket*’ verifies if a cached version exists. If found, it serves the static HTML file directly to the user's browser, bypassing the need for server-side processing.

To further optimise caching specifically for mobile devices, the ‘*WP Rocket*’ settings within the WordPress dashboard were accessed, and mobile caching was enabled to ensure that mobile users experienced enhanced loading speeds and smoother navigation (figure 58).

This step was made to deliver an optimised browsing experience across various devices.

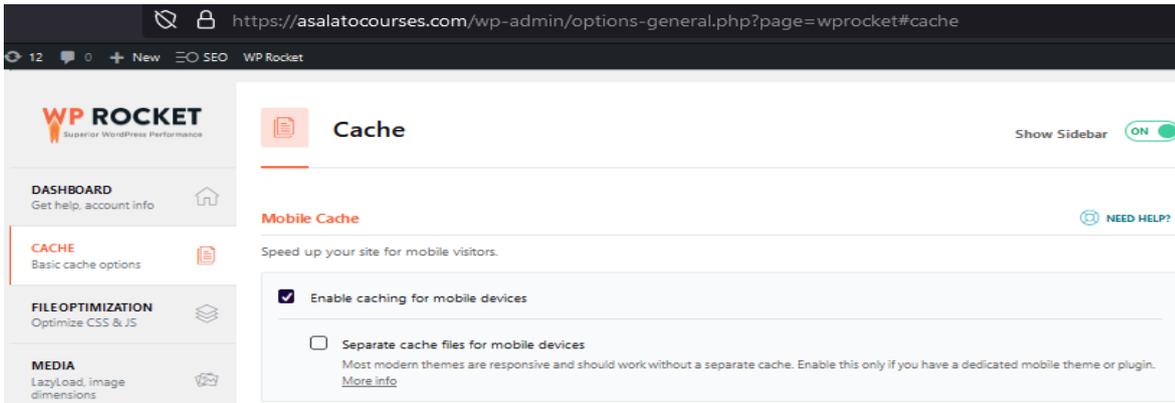


Figure 58 Cache optimisation within the 'WP rocket' plugin (own source)

In addition to caching optimisations, a series of performance-enhancing measures were implemented using the same plugin. These included the minification of CSS (figure 59) and JavaScript files (figure 60), which eliminate unnecessary characters like white spaces, line breaks, and comments from the code without affecting its functionality. Additionally, optimising CSS delivery enabled the reduction of the number of CSS files and combining them into one file (figure 59).

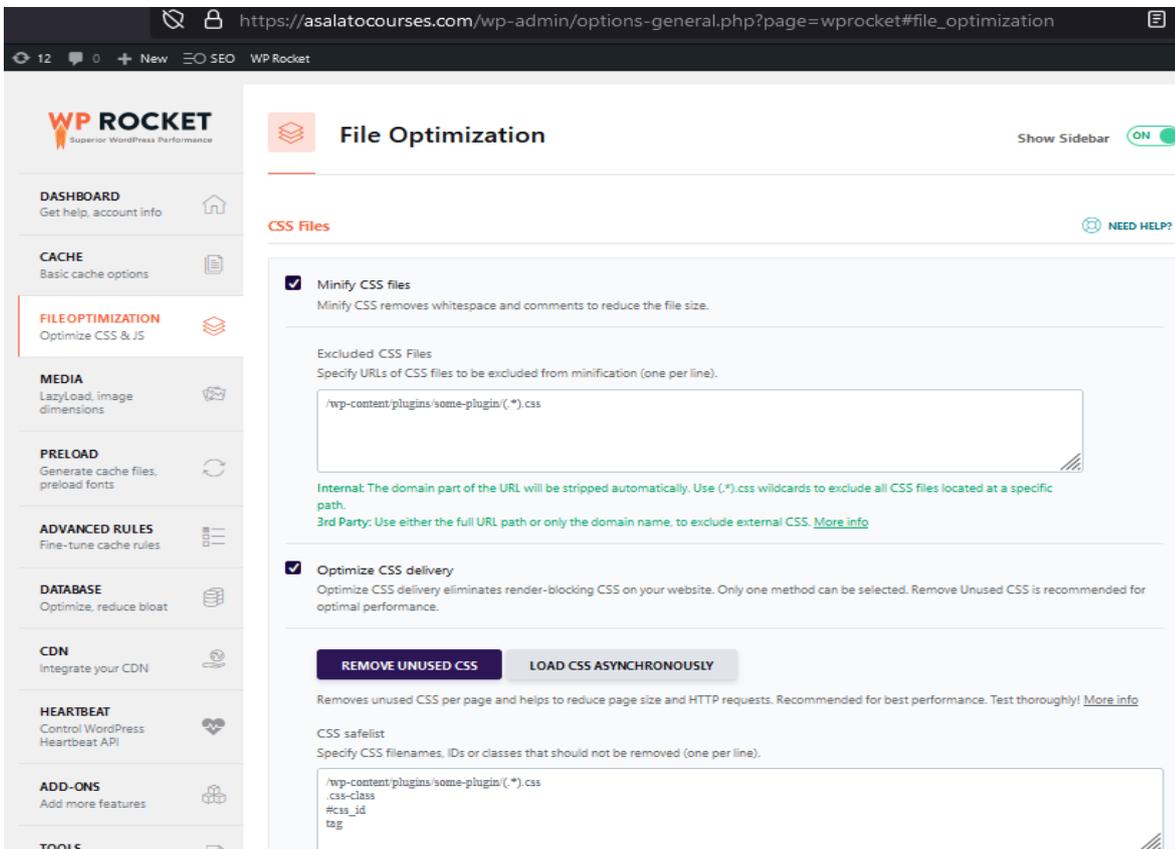


Figure 59 File optimisation within the 'WP rocket' plugin - part 1 (own source)

Deferred loading of JavaScript was also employed, delaying the execution of non-critical JavaScript code until the initial page content had been already rendered (figure 60).

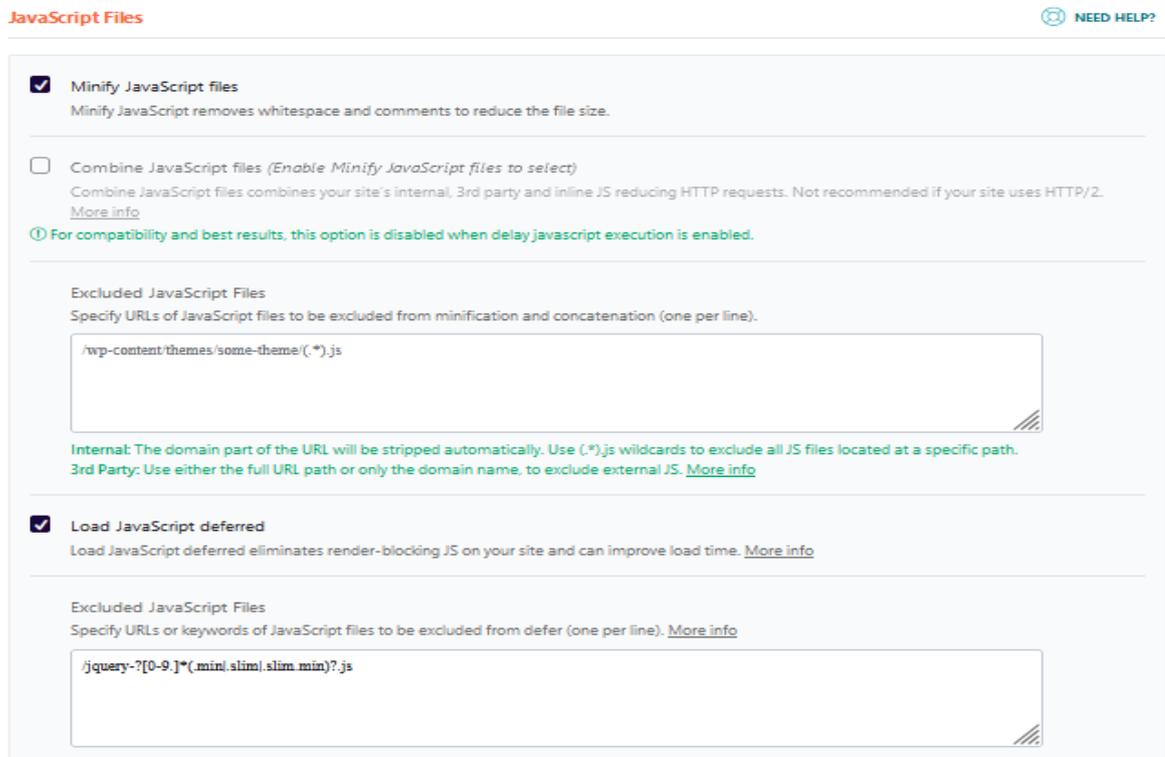


Figure 60 File optimisation within the 'WP rocket' plugin - part 2 (own source)

Lazy loading of images was also enabled, meaning that images are not immediately visible when the page loads and will only be fetched from the server once the user scrolls down to them (figure 61).

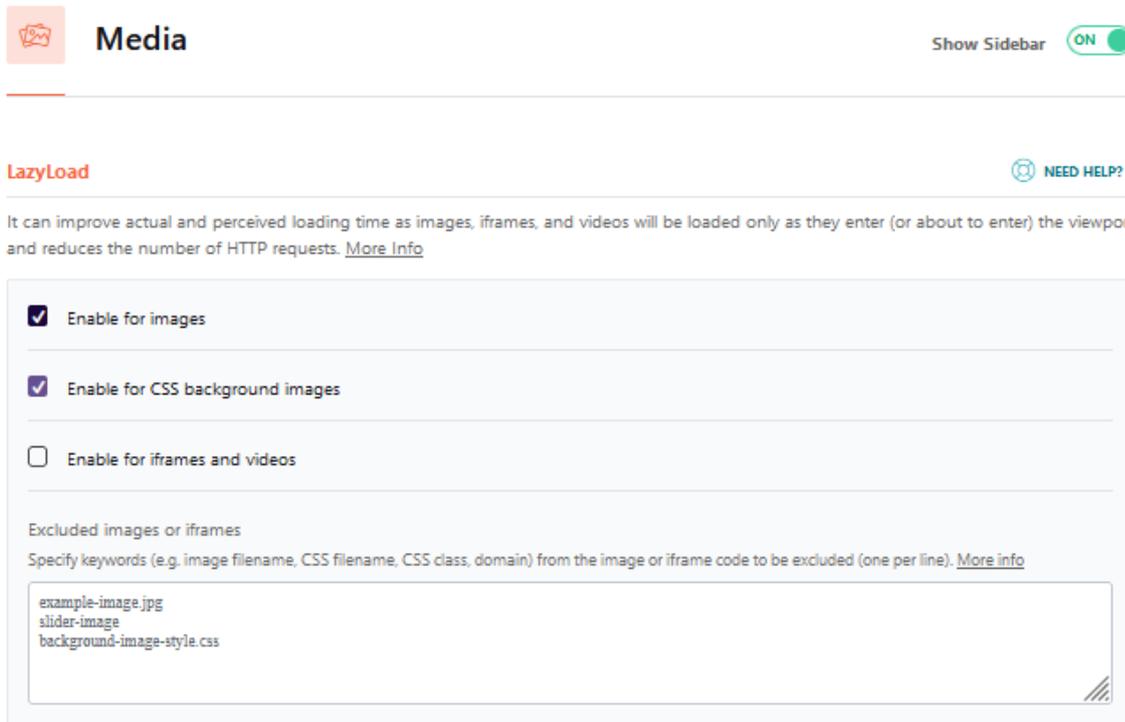


Figure 61 Media File optimisation within the 'WP rocket' plugin (own source)

Moreover, to optimise picture size for the website, every image uploaded to 'asalatocourses.com' was manually processed through 'tinypng.com'. This tool efficiently reduced the size of most images without compromising quality, ensuring faster website loading times and improved overall performance.

The 'Advanced DB Cleaner PRO' plugin was installed and activated for database optimisation. This plugin offers a range of features to manage the website's database efficiently (Figure 62). Scheduled automatic cleanups were configured to remove redundant data such as revisions, drafts, spam comments, trashed items, and transient options. Additionally, options were provided to optimise database tables, repair corrupted tables, and delete orphaned metadata. These functionalities collectively contribute to reducing the size of the database, thereby enhancing website performance and ensuring smoother operation.

Advanced DB Cleaner PRO 3.2.8
By Younes JFR. | Need help? Contact me

General clean-up | Tables | Options | Cron jobs | Overview & settings | License

Bulk actions 14 items

<input type="checkbox"/>	Elements to clean	Count	View	Scheduled	Keep last
<input type="checkbox"/>	Revisions	52			0 days Edit
<input type="checkbox"/>	Auto drafts	1			0 days Edit
<input type="checkbox"/>	Trashed posts	4			0 days Edit
<input type="checkbox"/>	Pending comments	0			0 days Edit
<input type="checkbox"/>	Spam comments	0			0 days Edit
<input type="checkbox"/>	Trashed comments	0			0 days Edit
<input type="checkbox"/>	Pingbacks	0			0 days Edit
<input type="checkbox"/>	Trackbacks	0			0 days Edit
<input type="checkbox"/>	Orphaned post meta	0			N/A
<input type="checkbox"/>	Orphaned comment meta	0			N/A
<input type="checkbox"/>	Orphaned user meta	0			N/A
<input type="checkbox"/>	Orphaned term meta	0			N/A
<input type="checkbox"/>	Orphaned relationships	0			N/A
<input type="checkbox"/>	Expired transients	2			N/A

Bulk actions 14 items

Figure 62 'Advanced DB Cleaner Pro': General Clean-up (own source)

To assess the effectiveness of the optimisations implemented using 'WP Rocket', the 'Advanced DB Cleaner PRO' plugin, and the picture size reduction through 'tinypng.com', a test was conducted to 'asalatocourses.com' using 'Google PageSpeed Insights' and here are its performance results shown in figure 63:

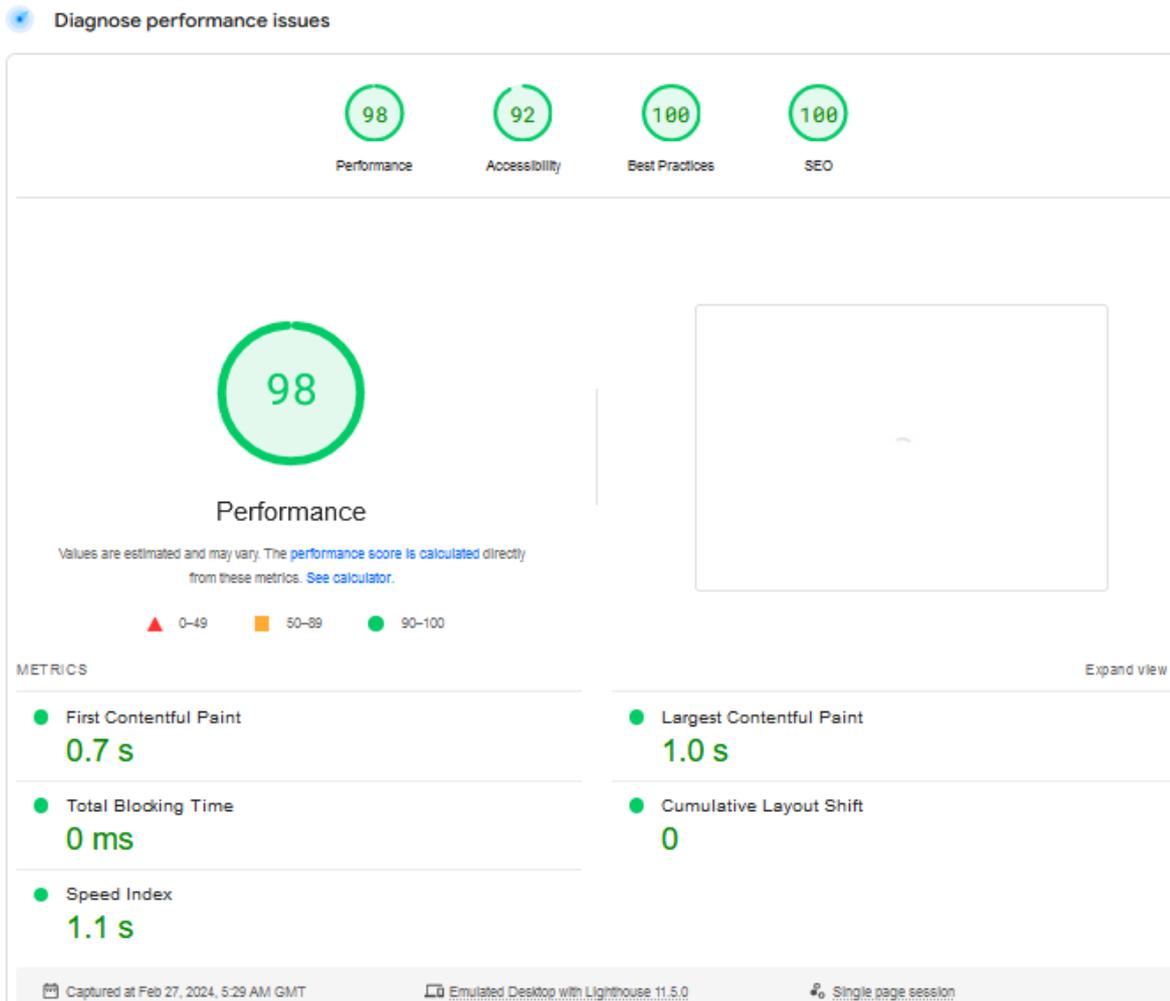


Figure 63 'AsalatoCourses.com' Performance Analysis Conducted Through 'Google PageSpeed Insights' (own source)

Through these strategic optimisations, the website's speed and responsiveness experienced a marked improvement, as evidenced by the green colour indicators in Google PageSpeed Insights. These green indicators signify that the results align with Google's recommendations, indicating acceptance and adherence to industry best practices in website performance enhancement.

5 Results and Discussion

The practical component of this thesis focused on developing a WordPress website to achieve high rankings in Google search engine results. WordPress was selected for its robust framework, which provides the flexibility and customisation options required for an effective SEO implementation. The initial steps, including selecting a suitable domain name, hosting provider, and "the7" theme, were foundational for the website's online presence. Subsequently, keyword research played a pivotal role in shaping the website's content strategy, aiming to target relevant search terms and phrases related to the website domain name 'Asalatocourses.com'. By identifying and prioritising keywords based on search volume and competition levels, the website's content was optimised to align with user intent and search engine algorithms, forming an integral part of the SEO implementation strategy. Implementing SEO techniques encompassed various aspects, including on-page and off-page optimisation, content creation, and technical improvements. Within the WordPress environment, plugins such as 'SEOPress' were instrumental in streamlining on-page SEO efforts, offering features like meta tag optimisation and content analysis to ensure adherence to SEO best practices. Content creation played a vital role in engaging users and attracting organic traffic to the website. Informative, high-quality content tailored to the target audience's needs was developed, incorporating relevant keywords naturally throughout the website's pages. Additionally, integrating multimedia elements, such as images, enhanced the user experience and contributed to the website's overall appeal.

Regarding off-page SEO, social media integration buttons were incorporated, aiming to leverage the potential of social media shares to generate valuable backlinks to the website. These backlinks can play a crucial role in enhancing the website's authority and improving its search engine rankings. Integration with Google Search Central was also implemented, providing valuable insights and data on the website's visibility and indexing within search results.

Technical optimisations were also implemented to improve the website's performance and accessibility to search engine crawlers. This included optimising website speed, ensuring mobile responsiveness, and enhancing website security measures. Plugins like 'WP Rocket' were utilised to optimise website speed, while themes and plugins with built-in responsive design capabilities facilitated seamless viewing across various devices.

Due to these SEO implementations and considering the significance of rankings in the SERPs, a factor extensively discussed in the literature review, 'AsalatoCourses.com' attained remarkable positions in Google search engine results. When searching for "asalato Prague," the website ranked **first** with its homepage and **third** with its course "Asalato Personal Mastery Course" on the same page (figure 64).

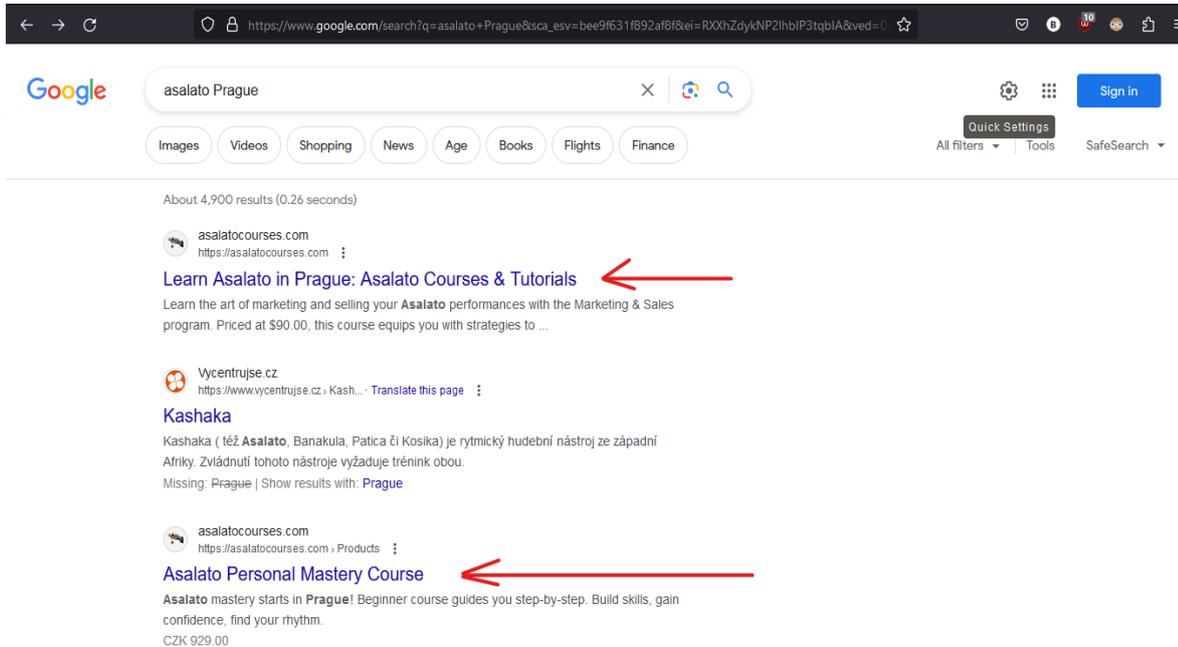


Figure 64 'AsalatoCourses.com' Ranking for 'asalato Prague' on Google's search results (own source)

Similarly, searching for 'asalato Czech Republic' displayed the website as the **fifth** result with its homepage (figure 65) and the **seventh**, with its course, 'Asalato Personal Mastery Course,' on the same page (figure 66).

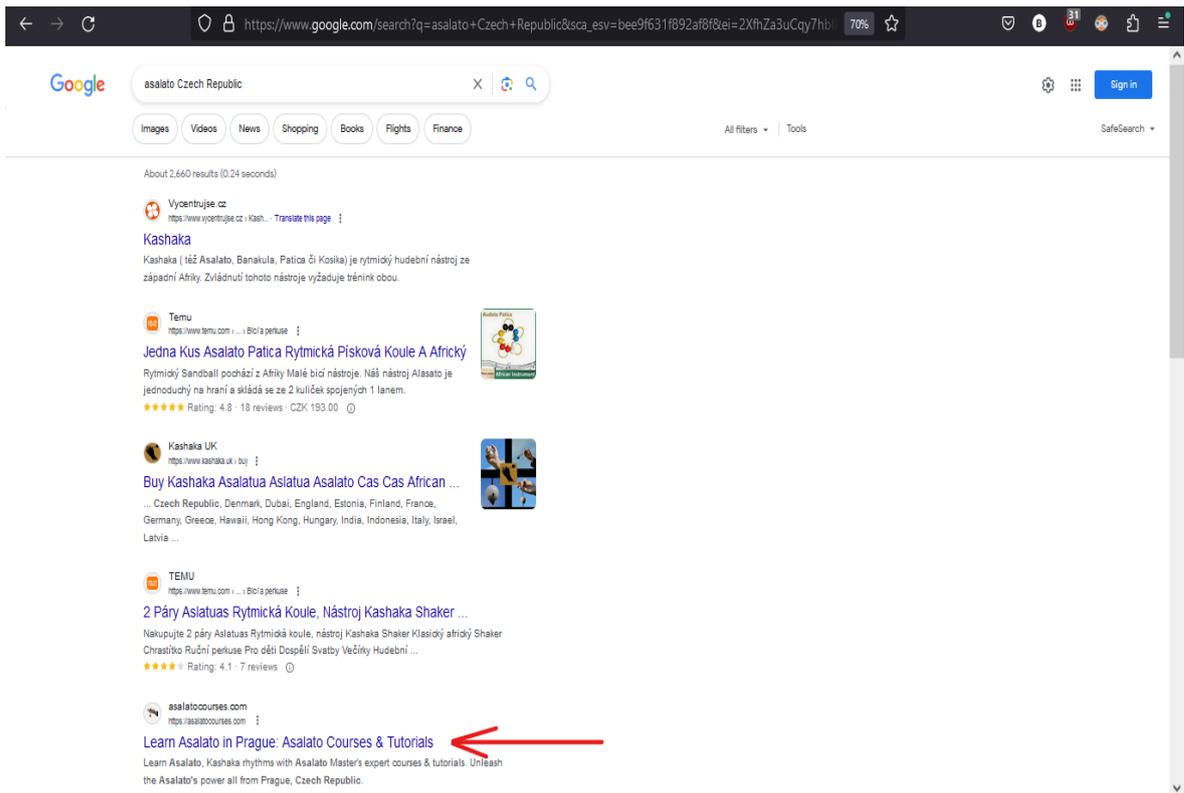


Figure 65 'AsalatoCourses.com' Ranking for 'asalato Czech Republic' on Google's search results (own source)

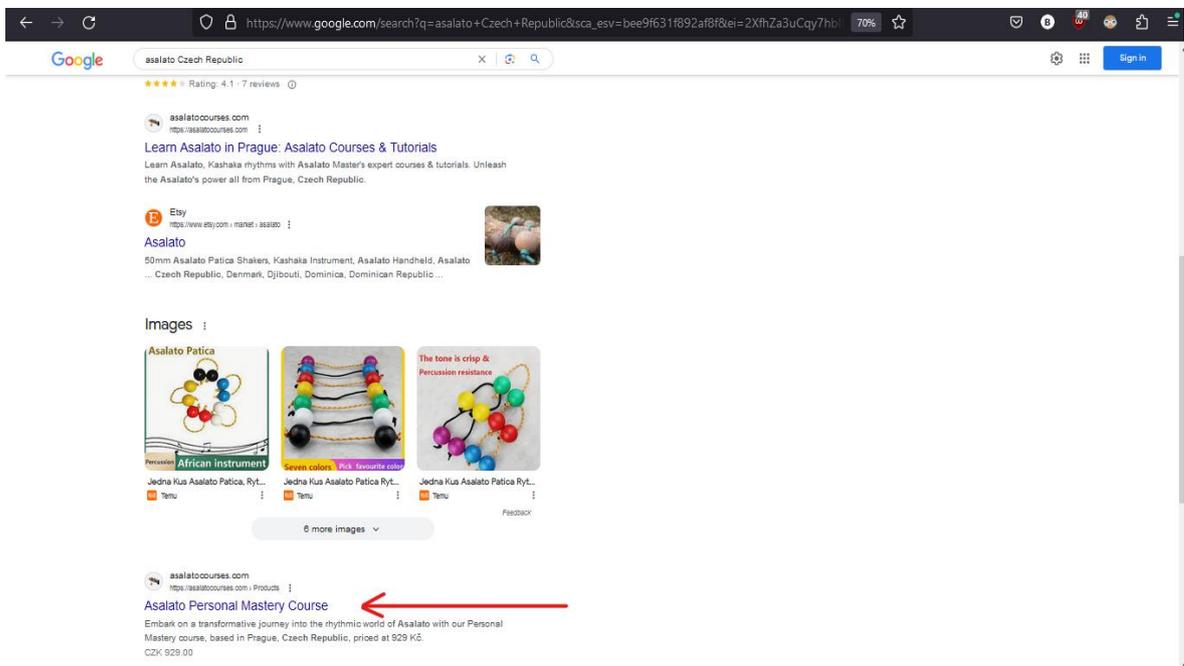


Figure 66 'AsalatoCourses.com' Ranking for 'asalato Czech Republic' on Google's search results (own source)

When searching for the ‘*asalato course*,’ the website ranked **third** with its homepage and **sixth** with its course “*Asalato Personal Mastery Course*” on the same page (figure 67).

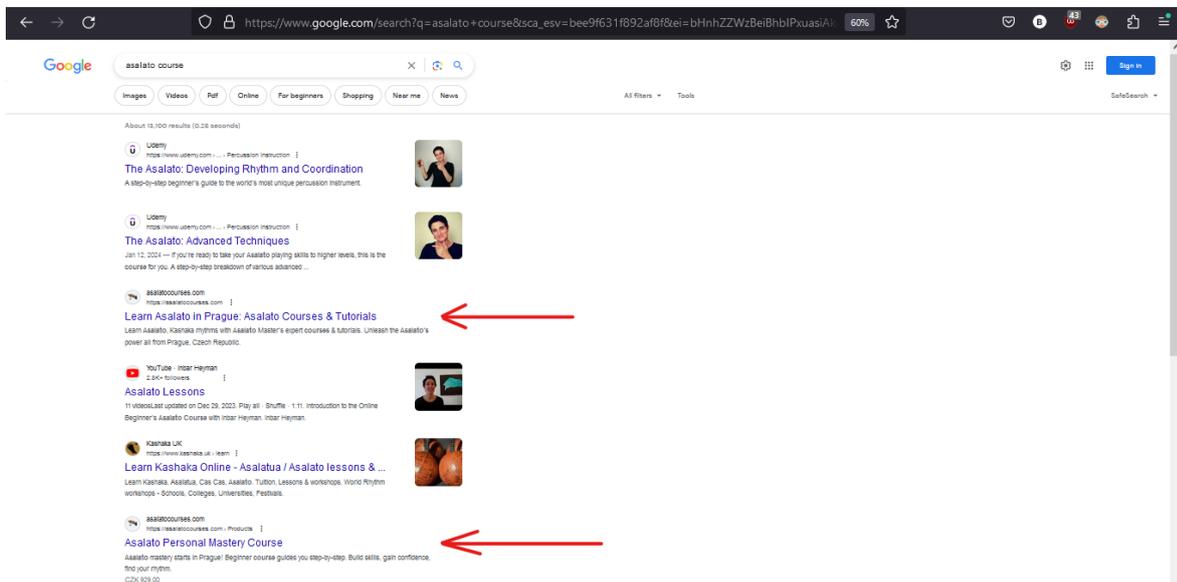


Figure 67 ‘AsalatoCourses.com’ Ranking for ‘asalato Course’ on Google’s search results (own source)

Searching for ‘*learn asalato*’ displayed the website’s homepage as the **fifth** result (figure 68).

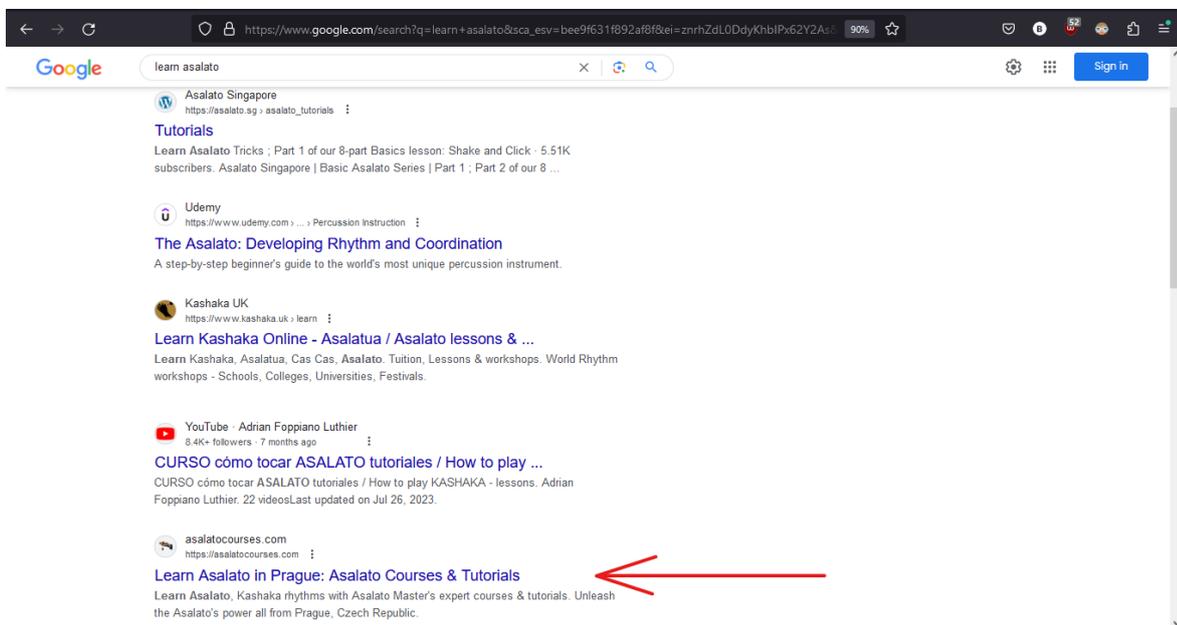


Figure 68 ‘AsalatoCourses.com’ Ranking for ‘Learn Asalato’ on Google’s search results (own source)

Additionally, when searching for "history asalato", the website's article titled "Revealing the Mystical Asalato: An Evolutionary History" ranked **fifth** (figure 69).

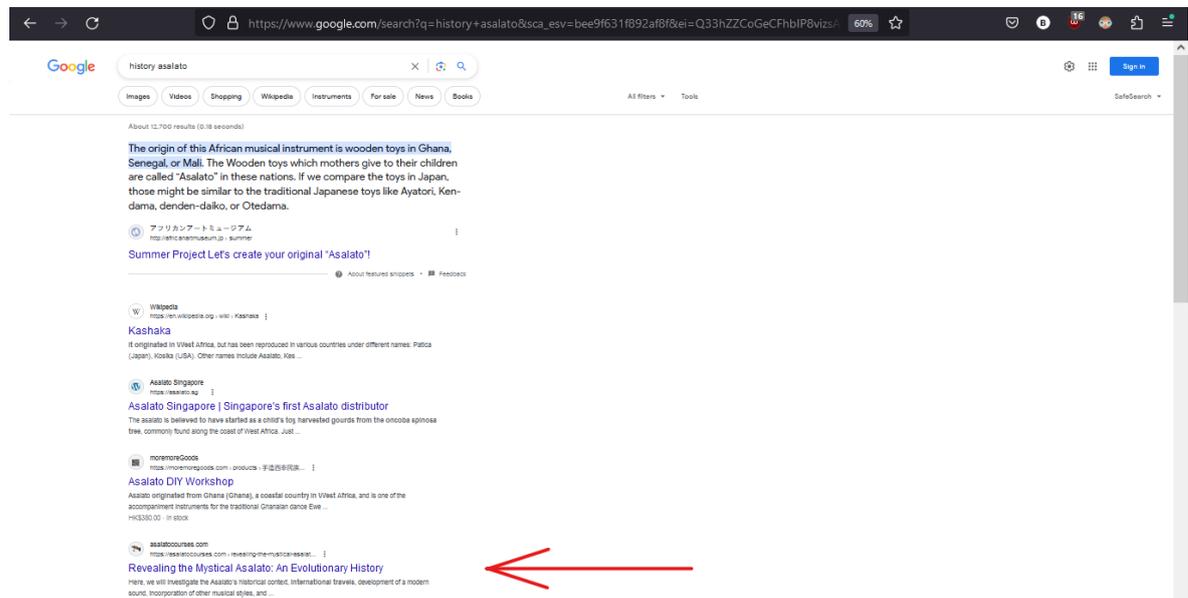


Figure 69 'AsalatoCourses.com' Ranking for 'history asalato' on Google's search results (own source)

When searching for "culture of asalato", the website's article titled "The Cultural Significance of Asalato: Unveil Asalato's Power" ranked **second**, while the article "Revealing the Mystical Asalato: An Evolutionary History" ranked **fourth** on the same page (figure 70).

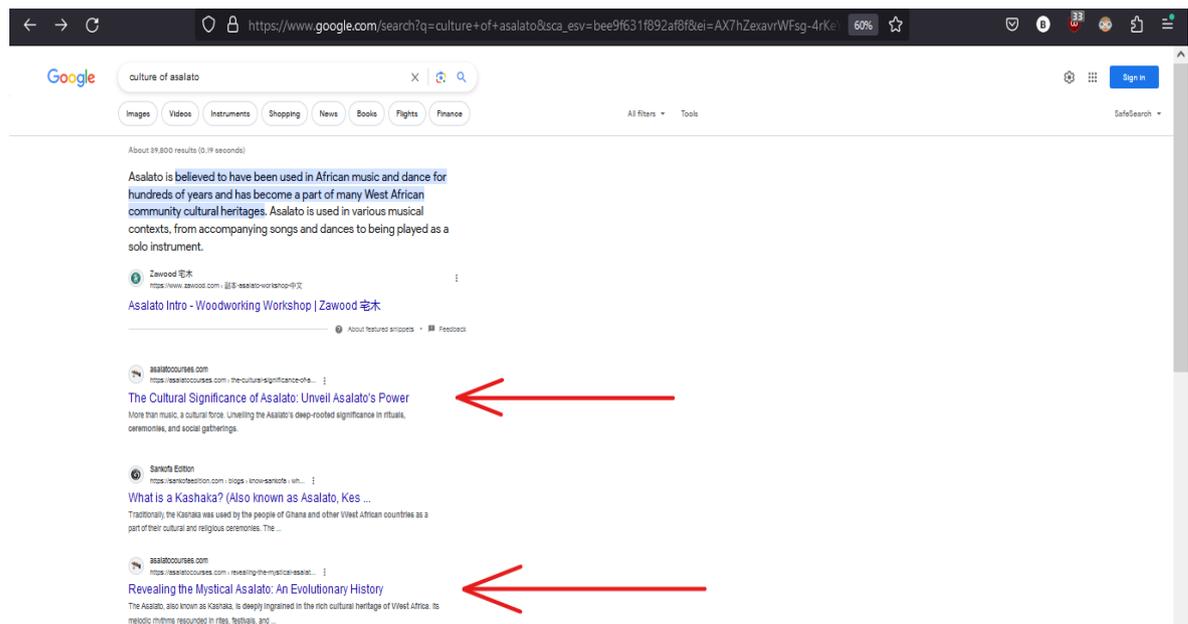


Figure 70 'AsalatoCourses.com' Ranking for 'Culture of asalato' on Google's search results (own source)

These rankings demonstrate the effectiveness of the implemented SEO strategies in enhancing the visibility and prominence of *'AsalatoCourses.com'* in relevant search queries. It is important to note that these search results were based on *'Google.com'*, with the Google search settings configured to display *'language'* and *'results language filter'* in *'English'*, the region to *'Czechia'* and search customisation was turned off. Moreover, these rankings are solely relevant to organic results, aligning with the thesis's exclusive focus on organic search engine optimisation while excluding paid ranking outcomes.

In conclusion, the practical phase of this thesis has exemplified the successful integration of WordPress and SEO techniques in the ranking of *'AsalatoCourses.com'* in organic search engine results. Through meticulous planning, implementation, and refinement of SEO strategies, the website has achieved remarkable rankings for relevant search queries, showcasing its prominence online.

While the SEO strategies implemented in the development of *'AsalatoCourses.com'* have yielded significant improvements in search engine rankings and visibility, certain limitations should be acknowledged. Firstly, the effectiveness of SEO efforts may vary over time due to the alterations in search engine algorithms or the competitive landscape, necessitating ongoing monitoring and adaptation of strategies. Additionally, this study's scope of SEO techniques focused primarily on on-page optimisation, content creation, and technical enhancements within the WordPress framework. Thus, other off-page SEO factors, such as backlink building and social media engagement, were not extensively explored, potentially impacting the website's overall search engine performance. Furthermore, the study's focus on organic search engine results excludes the consideration of paid advertising and other marketing channels, which may complement SEO efforts in enhancing online visibility. Despite these limitations, the insights gained from this study provide valuable guidance for website owners and digital marketers seeking to improve their online presence through effective SEO strategies.

6 Conclusion

In conclusion, this thesis has successfully achieved its goals of delving into the complexities of SEO, along with maximising the website's ranking in search engine results pages.

Beginning with an extensive review of SEO's historical evolution and major Google algorithm updates, the study provided a solid foundation for understanding the dynamic nature of SEO practices. By examining various SEO techniques, including white-hat and black-hat methods, the thesis underscored the importance of adopting ethical and effective strategies to improve SEO ranking sustainably.

Moreover, the study emphasised the pivotal role of SEO in enhancing the online presence and traffic of company websites, highlighting its significance in today's digital age. Through a practical demonstration involving creating and optimising a WordPress website, the thesis illustrated the real-world application of SEO principles. Spanning from pre-planning considerations to executing the SEO campaign, which includes keyword research, content generation, on-page SEO, off-page SEO, and technical SEO enhancements, the thesis provided actionable insights for website owners and developers seeking to improve their online visibility.

It is noteworthy to mention the remarkable success witnessed in the practical part, especially considering the recent creation of the website domain in early February 2024. Despite its recent launch, the website achieved impressive results, rapidly securing a prominent position on the first page of search engine results pages. This swift rise in visibility can be ascribed to the successful implementation of the SEO strategies outlined within this study, thus validating the efficacy of the employed methodologies.

Overall, this thesis thoroughly explores SEO strategies, providing valuable theoretical and practical insights into the evolving realm of digital marketing. By integrating theoretical frameworks with real-world applications, this study equips readers with the requisite knowledge and tools to navigate the complexities of SEO and achieve significant enhancements in website ranking and overall performance.

As digital platforms continue to evolve, the lessons learned from this thesis will remain relevant in helping businesses adapt and thrive in the competitive online marketplace.

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