



Auto-generated Web Application for User Acquisition through SEO within Women's Football

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BACHELOR'S THESIS 2019:38

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DATX02-19-38

CHALMERS UNIVERSITY OF TECHNOLOGY

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Gothenburg, Sweden 2019

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Cover: Abstract illustration of how users could be acquired to a smartphone application through the use of SEO and User Acquisition, see chapter 1.2.

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Abstract

Football has been around for more than a century and has gathered a large following, creating a tremendous market for livescore applications. To gain users, companies compete using Search Engine Optimization (SEO) and User Acquisition methods, which are the topics of this thesis. The purpose is to explore how a livescore web application with auto-generated content for women's football can acquire users by appearing on the Google search engine, as well as how users can be redirected from the web application to download a livescore smartphone app. The web application was developed through an iterative process and continuous improvements were made following user feedback. The ranking on Google increased as more SEO techniques were implemented, allowing users to find the web application. From this userbase, the web application was able to get some users to download the smartphone application. Ultimately, it was determined that more time and testing will be required for any sure conclusions to be drawn.

Sammandrag

Fotboll har spelats i mer än ett sekel och har samlat ett stort antal följare samt skapat en enorm marknad för livescoreapplikationer. Genom att utveckla applikationer för fotbollsresultat kan företag tävla mot varandra för att få lojala användare med hjälp av hög ranking på sökresultat. Sökmotoroptimering (SEO) är därför en vital del i en företagsstrategi för att värva nya användare. I denna uppsats utforskas hur en webbapplikation för damfotbollsresultat med autogenererat innehåll kan utvecklas för att optimera dess placering på Googles sökmotor, samt hur man på bästa sätt kan övertala användare att ladda ner och använda en mobilapplikation med hjälp av nämnda webbapplikation. Applikationen utvecklades genom en iterativ process och kontinuerliga förbättringar med hjälp av återkoppling från användare. Det observerades att sidan rangordnades högre upp för varje iteration där fler sökmotoroptimeringstekniker implementerades. Det gick också att dra slutsatsen att webbapplikationen lyckades få användare att ladda ner mobilapplikationen, men att mer tid och undersökningar krävs för att några säkra slutsatser om vilka metoder som är bäst ska kunna dras.

Keywords: Search Engine Optimization, SEO, User Acquisition, Web Application, Women's Football.

Acknowledgements

The group wants to thank Forza Football for providing us with this opportunity. Special thanks to Andreas Rolén, Head of Growth at Forza Football, and Pelle Evensen, Academic Supervisor, for their guidance and contribution.

List of Abbreviations

CSS – Cascading Style Sheets
DR – Domain Rating
HTML – Hyper Text Markup Language
HTTP – Hyper Text Transfer Protocol
HTTPS – Hyper Text Transfer Protocol Secure
FFSA – Forza Football Smartphone Application
KD – Keyword Difficulty
PR – Page Rank
REST – REpresentational State Transfer
SEO – Search Engine Optimization
SERP – Search Engine Results Page
SSR – Server Side Rendering Page
UR – URL Rating
URL – Uniform Resource Locator
UX – User Experience



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1

Introduction

This thesis aims to study how a livescore web application with auto-generated content can be developed and optimized for search engines and how the same web application can be utilized to acquire new users to a livescore smartphone application. The thesis is a continuation of *Web Application for User Acquisition through Search Engine Optimization* [1].

1.1 Background

For a long time, the only way to follow a football match – unless physically attending – was through live TV and radio. With increased accessibility through the use of Internet, a whole new way of following football has emerged where fans can receive live updates from matches in real-time [2] through *Livescore applications*. Today, all that is needed to keep track of your favorite team is simply a livescore application for desktop or smartphone.

Concurrently, the increased usage of search engines has created new ways for customers to find what they are looking for [3]. Nowadays, it is more likely for a customer to take the first step into an interaction with a company instead of the other way around [4]. Therefore, it is increasingly important for companies to be visible on the Internet. By using techniques for *Search Engine Optimization* and *User Acquisition* methods, businesses and their products or services can get exposure without having to pay for ads.

1.1.1 Search Engine Optimization

The topic of *Search Engine Optimization* or *SEO*, meaning the procedure of optimizing online content for higher search engine rankings, has grown to become an important field of improvement for companies in order to stay competitive. Traditionally, businesses could advertise their products by appearing in commercials or advertisements on television, radios, and printed papers. However, thanks to advancements in the digital sector, search engines has emerged as a new medium for customer interaction. Appearing in search engines for relevant search queries is an effective way to generate traffic to websites, especially if a website is shown as one of the top results. Research has shown that 90% of the users on Google's search engine only visit links displayed on the first page of results [5]. Therefore, ranking high for relevant keywords in a search query results in a larger exposure for companies

towards their potential future customers [6].

1.1.2 User Acquisition

Gaining new users is an important part for companies wanting to increase their market share. Through various marketing strategies and techniques, referred to as *User Acquisition* methods, the users are exposed to advertisements and offerings provided by the company. With these methods, companies hope to acquire and keep new users that invest in or use their products [7].

1.1.3 Forza Football

Forza Football is a company that provides a smartphone livescore application called “*Forza Football*”, hereafter referred to as *FFSA (Forza Football Smartphone Application)*. In *FFSA*, users can receive statistics from live and previously played football matches. However, *Forza Football*’s website does not currently provide any statistics or livescores for football matches and is used purely for marketing purposes [8]. The smartphone application that this thesis’ web application aim to acquire users for is *FFSA*.

1.2 Purpose

The purpose of this thesis is to create and develop a web application with auto-generated content and to investigate how it can be utilized to acquire users to a smartphone application. The purpose can be divided into two sub-areas. First, known SEO techniques will be applied to see if the web application can achieve a high ranking on Google’s search engine. Second, User Acquisition methods will be implemented on the web application in order to acquire users to the *FFSA*. Figure 1.1 shows an illustration of the purpose.

Initially, the purpose of this thesis was not just to implement SEO and User Acquisition methods, but also to evaluate the effect of different techniques and methods individually. In the interest of time, the scope had to be reduced and the purpose changed. Further discussion follows in chapter 7.1.

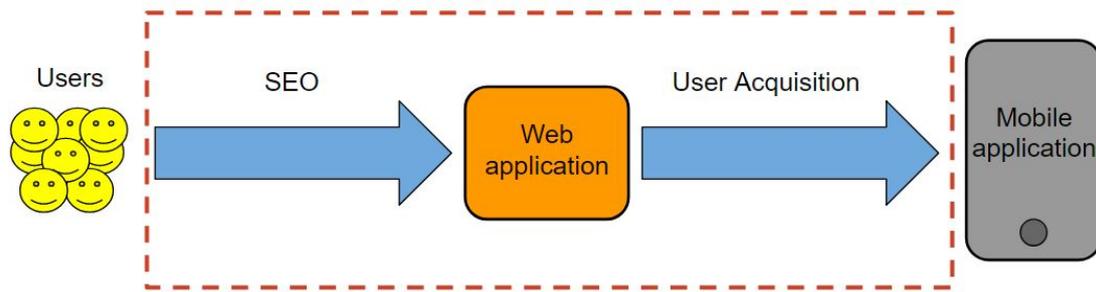


Figure 1.1: Illustration of how users can be acquired to a smartphone application through the use of SEO techniques and User Acquisition methods. The dashed frame encapsulates the scope of this study.

1.3 Problem

In order to acquire a user from the search engine page to the smartphone application, the user must perform two crucial actions. First, if the web application is shown for a search query, the user needs to click the link and enter the web application. Second, the user must choose to download the smartphone application when prompted by the web application. If the user visits the site and downloads the smartphone application, the purpose will be fulfilled. With the purpose in mind, the thesis will focus on solving two main problems:

- Can SEO techniques be used to rank a web application with auto-generated content among the top results for a given search query on Google’s search engine?
- Using methods for User Acquisition, how can a web application with auto-generated content be used in order to acquire users to a smartphone application?

1.4 Limitations

Due to a limited time frame, limitations are necessary in order to complete the thesis with clear results. Three main limitations have been defined.

1.4.1 Targeting of Women’s Football

There are two main reasons behind focusing solely on women’s football. First of all, gender inequality is a big problem in football. The pay gap between male and female football players is larger than in most other working sectors [9]. In Forza Football’s smartphone application, less than 1% of all matches listed today are women’s matches [10]. For this reason, this thesis has chosen to focus on women’s football in order to counteract the marginalization of the sport and instead help elevate it.

The second reason for focusing on women's football is because of Search Engine Optimization. SEO is often a long, drawn out process which means that results would potentially be hard to notice within the time frame of the thesis [11, p. 374]. However, if there is low competition and low search traffic on a search query, it is easier to rank higher and results will be shown more quickly [12]. Comparing search traffic for international men's football with search traffic for international women's football reveals that the number of searches done for the latter is substantially lower than the former [13]. This implies that it should be easier to see results when focusing on women's football instead of men's football due to less competition.

1.4.2 Search Queries

Due to a limited time frame, the web application will only be provided in one language; English. However, even within the English language, there are some differences to take into consideration. The major one is the difference between British and American English which, coincidentally, relates to the topic of football. The distinction between the two languages is relevant because in America, the equivalent word for football is *soccer*. This thesis as well as the web application will use the term *football* instead of soccer due to the former being the majority in terms of usage around the world [14]. Another reason for this is because the name of the smartphone application is *Forza Football*. The website will therefore be optimized for British English search queries rather than American English ones.

1.4.3 Search Engine

Focus will lie on *Google's* search engine because it is the most frequently used search engine on the market with the most traffic [15]. Again, due to a limited time frame, only one search engine was selected, so that valuable results can be collected and the purpose fulfilled in time. Also, the optimization efforts will only focus on organic search results and not ads, which is an entirely different subject (*Search Engine Marketing*).

1.5 Societal and Ethical Aspects

With the rapid growth of technology and data along with gender equality becoming a hot topic, these subjects will be brought up in this section and considered throughout this thesis.

1.5.1 Gender Equality

As mentioned in 1.4.1, the fact that less than 1% of all matches listed today in FFSA are women's matches indicates that work is needed to improve gender equality in the world of football. Besides salary and popularity gaps between the two genders in football, the word *football* refers to men's football by default. This goes along with the general discussion about justice between the two genders in today's society.

1.5.2 Data and Privacy

During the thesis, data will be collected with the main purpose of improving the platform by understanding how users interact with it. This evokes ethical challenges since collecting data about users implies that the data and actions taken by the users could be tied to real life persons. Due to this, the decision was made to not log or save any data which can be tied to a person. Privacy concerns will not be investigated further.

1.5.3 Exposing Underaged to Gambling Advertisements

Another aspect to take into account is that there could be underage people who find the web application and end up downloading the FFSA. Since the smartphone application contains advertisements, problems can occur such as gambling ads being displayed to minors. Forza Football is working on this problem and plan to have an age restriction by the summer of 2019 which ensures that inappropriate advertisements will not be shown to minors [10]. The web application will not contain any advertisement except promoting the FFSA.

1.5.4 Fair Play

Additionally, some SEO techniques can be considered unethical, such as hiding text on the web page by making some text invisible for the users through color adjustments. The web application should also not overuse keywords just for the sake of more successful SEO, since this would make the User Experience less enjoyable (More on keywords, SEO and User Experience will be presented in chapter 2) [16]. Another way of attaining SEO success is by using paid services. Such techniques are strongly discouraged by Google and will negatively affect site ranking [17]. These techniques will not be investigated or applied on the web application. Instead, focus will lie on creating high quality content with the user experience in mind.

2

Theory

This chapter aims to explain the theory behind Search Engine Optimization and User Acquisition as well as introduce concepts and terminology that are often used within the subjects. The fundamental aspects of SEO will first be presented, followed by Keyword Research. After that, the chapter will go into detail about On- and Off-site SEO as well as specific SEO techniques which can be used to enhance a web page's competitiveness on Google. Lastly, methods for User Acquisition and enhancing the User Experience will be introduced.

2.1 SEO Fundamentals

In the following section, essential concepts of SEO will be explained. These concepts are integral to any SEO research and will be used continuously throughout the thesis.

2.1.1 Search Engine Results Page

A *Search Engine Results Page*, SERP, is a web page which is displayed as a response to a search query on Google [18]. The page typically contains links to ten different web pages relating to the search query. The vast majority of clicks from Google searches go to links displayed on the SERP [19].

2.1.2 URL Rating

Google uses an algorithm to calculate a relative score of a web page's authority on a zero to ten scale, resulting in a score called *PageRank*, PR, named after Google's co-founder Larry Page [20]. The PageRank can be seen as a measurement of a specific page's weight to the algorithm and its ability to show up on the SERP [21]. However, Google stopped officially updating the PageRank algorithm in 2016, and since then the actual ranking algorithm remains a secret [22]. Because of this other metrics such as Ahrefs' *URL Rating*, UR, are used to determine the importance of a web page [23]. The URL Rating is a continuation of the PageRank formula and is likely to have a high correlation with the page's ranking for search results [24]. A fresh page usually starts with a URL rating of 10, where 100 is max.

2.1.3 Domain Rating

While PageRank and URL Rating are measurements of each specific page or URL's success, the *domain authority* is a measurement of the entire website's weight [25]. This paper will use the definition of domain authority provided by Ahrefs, called *Domain Rating*, DR [23]. The domain authority is one of the most important factors when it comes to achieving a high rank for search engines and one of the main site attributes studied in the field of SEO [26].

2.1.4 HTML tags

HTML is a computer language used when creating websites. Since web browsers use *HTML* to interpret a web page, tags serve the important purpose of explaining to Google what the site as a whole and its specific elements are about [27]. With the use of *HTML* tags, site components can be enhanced by adding certain features or information to them [28]. The five most important tags in relation to SEO are *Title tags*, *Meta Description tags*, *Heading tags*, *Anchor tags* and *Image tags* [29].

Title tags are the clickable text shown to the users before entering a website from Google or another search engine. It is also the text displayed in the web browser tab (see Figure 2.1) [30]. Creating unique Title tags is a major factor to get the users attention towards a website and thus generate traffic for it [30]. Title tags are also the first to be noticed by Google's search engine crawler (explained below) and therefore plays a big role in getting a high rank on the SERP [31].

The Meta Description tag is displayed under the Title tag in a search engine result. It conveys additional information about the website and is usually more of a running text than the Title tag [27]. It can be used to convince the users to click the link by presenting a detailed description of the website's functionality or its content [32, p. 33].

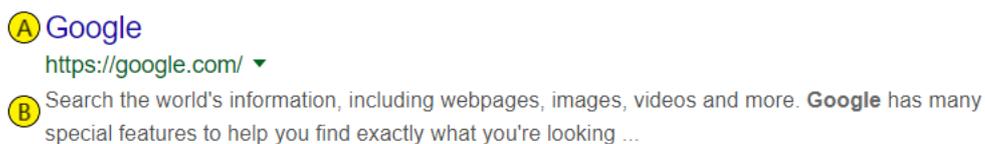


Figure 2.1: The blue text shown at the top of the search result (A) is defined by the Title tag and the description at the bottom (B) is defined by the Meta Description tag.

Heading tags provide structural information about the data on a site. There are six types of Heading tags, ranging from level 1 header (<h1>), representing the highest level, to level 6 header (<h6>), representing the lowest. A higher level indicates a higher priority [32, p. 35].

The visible text used in a clickable link is called Anchor text and is produced by using the Anchor tag, <a>. The Anchor tag is used to hide a link's URL and in-

stead display a text of choice, generally describing the page which the link leads to [33]. The *nofollow* attribute can be added to an Anchor tag in order to tell search engines not to follow the link.

The *Alt attribute* is used in an Image tag as a way of describing images and videos by text. Other than for the purpose of SEO, which will be brought up in later chapters, it is often used for visually impaired people that would otherwise not be able to tell what the image is showing. Other cases could be when the browser is unable to load the image for some reason [34].

2.1.5 Crawler

A *Crawler* is a robot or bot searching, also known as *crawling*, through the web. The crawler goes through all the content on each web page and stores it in a database. The data is then analyzed by Google's algorithms and the page is given a PageRank [18]. Without the crawlers there would be no way for Google to understand what a web page contains.

2.1.6 Backlinks

Backlinks are links appearing on sites around the web, leading back to the website of interest. Backlinks are considered a powerful instrument both for SEO as they are essentially recommendations for users to visit other sites than the one they are currently on [35]. The concept of backlinks will be further explained in the section about Off-Site SEO.

2.1.7 Keyword Difficulty

Keyword Difficulty, KD, is a metric which gives an indication about how difficult it is to rank for a given search query [23]. There are different ways to calculate a keyword's difficulty. This paper uses Ahrefs' definition, which is calculated by checking the number and quality of backlinks to the web pages that is ranking on the first 10 pages of Google for a given search query [12].

2.1.8 Bounce Rate and Time on Site

The percentage of visitors who leave the website after only visiting one page is called the *Bounce Rate*. A high Bounce Rate can be an indication of bad user experience [36]. The amount of time a user decides to spend on a website, such as by navigating from subpage to subpage, is called *session duration* or *Time on Site*. It can be used as a measurement of the site's usability and its ability to capture the users interest [37].

2.2 Keyword Research

Most SEO professionals agree that the most important thing to do before commencing with any other SEO-related activities is to do *Keyword Research* [38]. According to SEO practitioner Gustaf Alströmer, ignoring to do Keyword Research is the number one rookie mistake when working with SEO [26]. Therefore, it is essential to explain what Keyword Research is and why keywords are so important.

Keywords can be described as the words or search terms which users put into the search engine when they are looking for a certain site or piece of information [5]. If a website includes many of those keywords, it is more likely to show up among the top results for the search [39]. That is why Keyword Research is important; knowing which keywords the intended users of the website might use can assist in acquiring those users to the website.

The first step when approaching Keyword Research should be to identify the *seed keywords* (also known as *primary keywords*) [26]. This can be done by describing the product in one's own words and by thinking of what other people might search for [12]. Once the primary keywords have been identified, secondary keywords should be added to the list. This can be done by looking up what keywords the site already ranks for (presuming there already is a site up-and-running) or by researching what keywords one's competitors rank for [40]. Talking to potential users of the website and getting to know what they deem important when searching for information is also a good way of generating keywords [12]. In order to maximize the number of relevant keywords or phrases, the keywords can then be combined in a spreadsheet, creating a *mammoth list* of all combinations of keywords [12][26].

Once a satisfyingly large number of keywords have been targeted, they can be tracked using a keyword analysis tool such as *Google Keyword Planner* or *Ahrefs' Keyword Explorer*. This will display information about each keyword and the list can then be filtered by removing keywords with little or no search volume. Other pieces of information, such as number of clicks and Keyword Difficulty, also help determine the strength of that keyword.

When the Keyword Research is finished, the Search Engine Optimization can commence. With knowledge of which keywords potential users include when searching for information, websites can be optimized by incorporating these keywords on sites using *On-Site SEO*.

2.3 On-Site SEO

On-Site SEO deals with optimization techniques which can be executed on the website itself and usually revolves around the structure and content of a website [18], presented in the upcoming section.

2.3.1 Title Tags

As mentioned in 2.1.4, Title tags are a major factor in SEO and the most powerful On-site SEO technique [41]. Since the Title tag is the first thing seen by both the users and Google’s crawlers, it should be designed with care. With the importance of a good Title tag in mind, the question of what constitutes a good Title tag arises.

Keywords play a major part in the Title tag. Keywords closer to the beginning of the Title tag will have more impact on the search ranking [32, p. 33]. The users will also get a quicker impression for what the application contains. Just like with all other content on a website, a Title tag should not overuse keywords [42]. Although Title tags are important to SEO, the main purpose of a Title tag is unfulfilled if it fails to attract clicks from targeted users [43].

Google’s search engine will cut off long Title tags. It is therefore recommended to keep the Title tag between 50–60 characters long, or more precisely 512 pixels (since not every letter has the same width). Using only upper case letters should be avoided since it can seem annoying to users. If a Title tag is interpreted as such by Google, it will often be replaced [44].

2.3.2 Meta Description

Since 2009, Meta Description tags are no longer crawled by Google and are therefore not included as an attribute in their algorithms for ranking websites [45]. Consequently, it is not as important to include keywords in the Meta Description as it is in the Title tag [32, p. 33]. Since Meta Descriptions usually have more of a running and coherent text than Title tags, they aid users by providing a better overview of what the website contains. Therefore, the Meta Description is still an influential factor in SEO since it can convince the users to click on the link and enter onto the website [46].

Every page on a website should have a different Meta Description [31]. An optimal Meta Description should be between 50–300 characters long, employ keywords relevant to the users, and, most importantly, be a compelling and unique description of the website. This will help the site differentiate itself from similar search results [47].

2.3.3 Content

One of the fundamental SEO requirements is that the content on a website should be qualitative and relevant. Word choice is important because well chosen words have a way of connecting with the users and give an authentic impression of the website [18]. Including keywords in body text on a website is a good SEO technique, but the content should be written for the users’ readability and not for Google’s crawler. Overdoing keywords will decrease the quality of the text from the users’ perspective. Sloppy language will be disparaged both by Google and the users [48].

Google’s search engine uses sophisticated algorithms which calculates a page’s relevance with consideration of the page’s overall topic. Coherent content throughout the website is appreciated and rewarded by Google via higher rankings [18].

Heading tags are another good way of providing a better structure of the content on a site [30]. The Heading tags should reflect the page’s topic and include keywords for better SEO. Further, the Alt attribute is important for On-Site optimization. By using the Alt attribute, Google can easily understand what type of content is being shown and will thus contribute to the rank of the website. However, using too many images or videos should be avoided due to decreased page loading speed [30].

Aside from the ranking purpose, content optimization is also important for providing a good experience for users. The content on a site should make the users want to stay and utilize the website, as well as performing activities related to traffic generating such as clicking through different subpages. Good content also increases the chance of the users returning to the website and could prompt them to recommend the site through blogs, forums, or social media [30].

2.3.4 URLs

Another aspect of ranking high on Google is to have *URLs*, *Uniform Resource Locator*, which can be easily understood by humans and effortlessly indexed by Google’s crawlers. For this reason, putting effort into parsing a clean and informative URL is an important aspect of SEO. If the users can understand the content of a web page just by reading the URL, he or she is more likely to click that link [49].

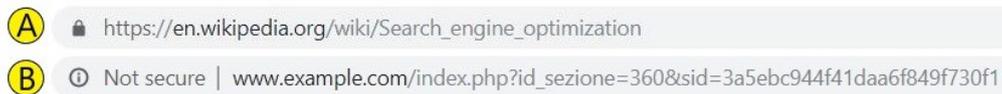


Figure 2.2: An example of a short and informative URL (A) versus a long and cluttered URL (B).

According to Google themselves, a site’s URL structure should be logical and simple [50]. To make the users’ experience even better, sub pages should follow the same pattern throughout, thus giving the website a structured and thought-out feeling [48]. An example of what an URL should and should not look like is shown in figure 2.2 where the URL labeled as A is the preferred URL.

2.3.5 Internal Linking

Internal links are links which navigate the users to other pages on the same site [30]. These links help Google crawl the site and ensure that every page on the site can be found by the crawlers. *Internal Link Structure* is one of the most important SEO factors, especially for sites with many sub pages [51, p. 77]. Thankfully, it is also one of the easiest to attain since the link building activities can be completely controlled by the search engine optimizer [41].

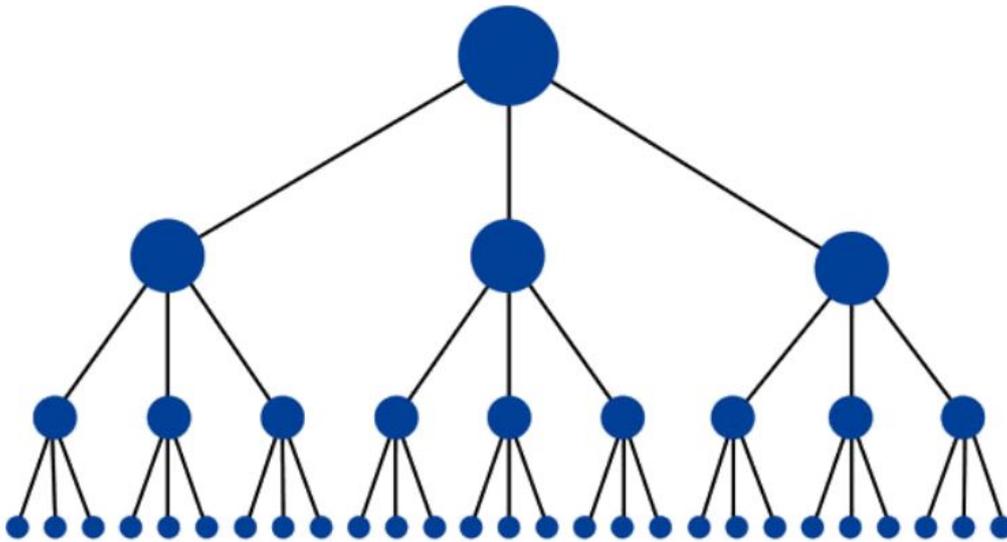


Figure 2.3: An illustration of an Internal Link Structure, with the most visible page at the top of the hierarchy.

The internal link structure can be illustrated as a hierarchy of pages on a website (see Figure 2.3), where the page with the most internal links can be considered to be in the top of the hierarchy and therefore the most visible page. The internal links act as bridges between the pages. These bridges make sure that PageRank is transferred between pages, allowing for synergy effects where pages with low PR can be lifted by pages with high PR [52]. Moreover, they aid site users by making navigation on the site easier [51, p. 85]. Web pages should never be more than three clicks away from the home page and every subpage should have a link back to the home page [41].

Internal links should preferably be displayed using Anchor text [52]. Including relevant keywords in an Anchor tag tells both the users and Google what to expect on the other side of a link and generally increases the weight of the link [52].

2.3.6 External Linking

External links are links which redirect the users to pages outside the current website [30]. Page links can be seen as votes, where incoming links are votes in favor of the website receiving them. When giving external links, these votes are given away which will reduce the ranking of the site on Google's SERP [53]. External linking should therefore be avoided from a SEO perspective.

2.3.7 Loading Speed

The *Web Performance* or *Loading Speed* of a page or website is defined as the time it takes for the web page to fully load its content and is included in the Google algorithm when ranking websites [32, p. 38]. The loading speed of a website depends on its size, which in turn depends on the size and type of the content on the site. Thus, including a large amount of images is not a good idea with regards to SEO, as

it will slow down the website. Besides being unfavorable for Google's ranking algorithm, a slow website is also off-putting for the user due to bad User Experience [21].

There are different methods of reducing the time and size of data sent to the users of a web application, *gzip* being one way. Gzip allows the server to send compressed files to the client which can then decompress them [54]. Furthermore, *minifying* files is another thing that can be done to decrease the loading speed of the web page. Minifying means that the files that are sent are made smaller by removing comments, spaces, and new lines from the code [55].

2.3.8 Sitemap

From an SEO standpoint it is important that Google's search engine is able to find all the content that a website has to offer and get an overview of the content that is provided. This can be done with a *Sitemap*, which is a file that provides information about the pages or resources on a website [18]. The Sitemap should contain information about all the pages of the website. This information should contain the URL of the page, when it was last modified, how often the content of that page tends to update, and the priority of the page relative to other pages on the web site [18].

According to Google, if a website's pages are linked properly, the crawlers are usually able to find their way around a site without a Sitemap when indexing the web page [56]. However, there are a few cases where Google recommends using a Sitemap [56]:

- When a website is large.
- When a website has content that is isolated or not well linked to each other.
- When a website is new and has few external links.

If a website meets at least one of the criteria above, it should have a Sitemap in order to make sure that Google can easily find the content on the website [56].

2.3.9 Mobile Friendliness

One of the things that Google takes into account when ranking websites is the site's *Mobile Friendliness* [57]. Mobile Friendliness means that the website is easy to view and use on a mobile device. While being easy to view and use is subjective, there are a few things that Google present as making the mobile experience better [58]. According to Google, a website has to have text that is readable on a smaller mobile device and clickable elements should be easy to press and not be too close to each other. For a site to be mobile friendly, there should also be no need to zoom in and out on a web page.

When making a website mobile friendly, Google recommends using a *Responsive Website Design*, RWD [59]. A RWD uses the same code for the website regardless of what device is being used (smartphone, tablet, desktop, or laptop), displaying the website differently depending on the screen size of the user's device [59]. RWD

is recommended because it allows users to share the website more easily since the same URL can be utilized for both desktop and mobile devices. This also means that Google only has to crawl the website once in order to index the page [59].

A responsive web page design can be achieved using nothing more than *Cascading Style Sheets*, CSS, and CSS media queries. CSS is a language used in web development for styling a web page's appearance. CSS media queries are filters which apply different styling depending on the size of the screen [60].

2.4 Off-Site SEO

Off-site SEO, also called backlinking, can be defined as all activities related to link building actions, i.e. the obtaining of backlinks [35]. According to Google, each reference from one web page to another is counted as a vote for that page [61]. The impact of the referral depends on the domain authority and the total number of outgoing links on the referring web page, meaning that references from pages with high domain authority and few outgoing links hold more weight [21]. It also depends on whether the link is defined as a nofollow link, as nofollow links do not contribute towards a page's rank [62]. According to most SEO practitioners, backlinking is the most important factor of SEO [26][39][63].

There are two ways in which backlinks can be attained; *Natural link building* and *Strategic link building* (referred by Google as unnatural link building) [35]. The procedures for each of these are further described in the upcoming sections.

2.4.1 Natural Link Building

Natural link building is the process of users independently sharing content and linking to the website, usually obtained by creating high quality content and providing a satisfying experience for users [61]. Shareable content is desirable on a website, as it is a way of nudging users who enjoy the site towards linking to it. For example, this can be done by adding shortcuts to share functions on social media sites [64]. However, it should be noted that links from sites without editorial control, such as forums or social media platforms, usually do not have a significant impact on SEO [65].

2.4.2 Strategic Link Building

When backlinks to a page are acquired by reaching out to other websites and actively asking them to link to one's page, it is referred to as Strategic link building. Strategic links can be obtained in a number of ways. For example, they can be paid for or traded in exchange for linking back to the other page. There are ways to obtain backlinks which are free, such as posting social networks or other forms of online communities, but these links will not weigh as heavily in the Google algorithm as links obtained from sites with higher DR [35].

The more backlinks that are acquired, the higher a page will generally rank on the Google search engine, especially if the sites from which the backlinks originate themselves have a large number of backlinks leading to them and therefore a high DR [35]. However, a backlink from a website with low DR can sometimes have a larger influence than a website with a high DR, as the transferred Domain Rating is distributed evenly among all of its external links [66].

Although strategic link building undoubtedly is an important aspect of SEO, it should not be overdone. Google claim that they can distinguish natural from unnatural links and that only natural links are counted when rating domains [61]. In reality, it is probably harder to distinguish natural from strategic link building than Google will admit [35]. However, if there are too many unnatural links without an obvious connection to a web page it can be punished by Google and in the worst case, banned from appearing in search results all together [61].

Google does not have anything against the promoting of web pages, but they warn that overdoing strategic link building can be harmful for the site [48]. Current or potential users may be annoyed by the shameless promotion and may decide to not use the site. It is therefore important to only post where relevant, and not spam forums and online communities with links [30].

2.5 User Acquisition

User Acquisition is described as the science of gaining new users or customers. The goal is to find the most optimal way to convert an average visitor or temporary user to a core member of the userbase. This can for example be applied to a subscription based service, convincing the user to sign up for a newsletter or to persuade the user to download some sort of software or application [7].

2.5.1 Methods for Acquiring Users

There are various methods to convince users to consume a product. One of the most common methods include notifications or pop-ups of some sort, the notification-component is often called *Snackbar* [67]. Another method is to limit the available content in a product or platform and in order to receive the full experience the users have to purchase a service or download some kind of software.

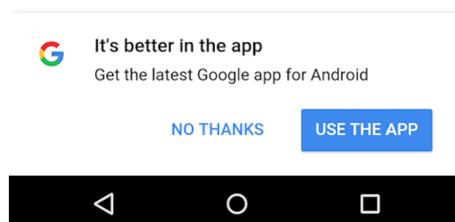


Figure 2.4: An example of a Snackbar from Google, prompting the user to download a smartphone application.

2.5.2 Conversion Rate

A *Conversion Rate* is the percentage of users that perform some given action, i.e. a conversion event. This action is usually something that brings some sort of profit, such as downloading an application [68].

$$\text{ConversionRate} = \frac{\#conversionEvents}{\#users}$$

2.6 User Experience

User Experience, henceforth referred to as UX, is the process of enhancing user satisfaction with a platform or a product by improving the usability and accessibility provided in the interaction between the user and the product [69]. Studies of UX often apply a psychological approach, where the behavioural patterns of different types of users are studied in detail. It is an iterative process of creating, designing and re-researching [70].

2.6.1 Presenting Information

Many applications provide logical interfaces which help the user find information, answer their questions, and complete tasks. However, others may lack the necessary organization of data which can lead to the user not being able to find the product he or she desires. Even worse, the user possibly cannot locate important documents or vital information that they seek. The goal is to provide the user with a pleasant experience using the platform. However, if the information hierarchy is poorly designed, the user might be left feeling frustrated.

Presenting information in a structured and well thought out way is its own science, named *Information Architecture*. It usually focuses on the following things [71, p. 2-3]:

- A blueprint and navigational aid to the content of information-rich systems.
- The combination of organization, labeling, search, and navigation systems within web sites and intranets.
- Shaping information products and experiences to support usability and findability.

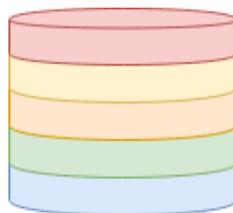


Figure 2.5: Illustration of The Cake of Information.

One of the most famous analogies about Information Architecture is the *Cake of Information* (see Figure 2.5). Imagine a big birthday cake. The way a person

usually consumes the cake is with the proper cutlery in small slices. The same thing applies to presenting information to users. You provide the user with the necessary tools, UX design for instance, in order for the user to properly consume the product and information.

2.6.2 Response Time

One of the most important aspects in interaction design is *Response Time*. The product should never feel slow when responding to a user's actions. This should be applied to everything; from fetching information from a server to animations displayed to the user. If the technology feels slow and clunky, chances are that the user will quickly lose interest in the product. The basic advice regarding Response Time has been about the same for thirty years [72, p. 135]:

- **0.1 second** is enough of a response time in order to make it feel natural and that the system is reacting instantaneously.
- **1 second** is roughly the limit of the user's flow of thought to stay uninterrupted, even though the user will notice the delay.
- **10 seconds** is about the limit of keeping the user's interest. For longer delays, the user will want to perform other tasks while waiting for the process to finish.

If a platform cannot provide immediate response, continuous feedback should be provided to the user with the help of a *Progress Indicator*. This will reassure the user that the platform has not crashed and is working on the user's request, as well as indicating how long the user approximately can be expected to wait. Finally, providing users with something visual to look at helps keep their patience [73, p. 134].

2.6.3 User Interface Design Heuristics

The 10 *User Interface Design Heuristics* were developed by Jacob Nielsen with colleagues. The heuristics are a rule of thumb to guide designers when making decisions about the user interface for a product and are as follows [74]:

- **Visibility of System Status:** The system needs to keep the user informed about the state of the system by some feedback within some reasonable time.
- **Match Between System and the Real World:** The system should use words and phrases that are familiar to users.
- **User Control and Freedom:** Let users use the system freely by making it easy to leave an unwanted state.
- **Consistency and Standards:** Differentiate enough between actions to not confuse users.
- **Error Prevention:** The system needs to prevent errors that the user makes, stemming from both lack of focus and from a misunderstanding of the system.
- **Recognition Rather Than Recall:** Minimize the workload on the user's memory by implementing interfaces that support recognition.
- **Flexibility and Efficiency of use:** Give users the possibility to increase the

performance in the way they do their tasks by including features for experienced users such as keyboard shortcuts.

- **Aesthetic and Minimalist Design:** Remove unnecessary content that does not support the users in doing their tasks.
- **Help Users Recognize, Diagnose and Recover from Errors:** Display error messages clearly and in a non technical way so that users understand what the problem is and how to proceed from there.
- **Help and Documentation:** Provide concise and easy-to-use help tools and documentation.

3

Technologies and Tools

In this chapter, the technologies and tools used during the project will be presented. The technologies refer to software libraries and frameworks used in the development of the web application, as well as the architecture used.

3.1 Libraries and Frameworks

Using frameworks and libraries is often beneficial when building an application since it allows developers to reuse already written code for parts of the application. This is done in order to prevent having to write everything from scratch, in turn greatly speeding up the development process.

3.1.1 Node.js

JavaScript is a popular programming language used for developing web application. *Node.js* is an environment that allows JavaScript to be used to create applications that run on a server [75]. Node.js also provides a package management system known as *Node package manager*. The package manager allows developers to share and use others packages in their own applications. This makes it possible to re-use other's code in an easy way [76].

3.1.2 React.js

React.js or *React* is a library that uses JavaScript to create user interfaces [77, p. 11]. According to Alex Banks and Eve Porcello, React is able to solve the problem of displaying large amounts of data while still being able to update a web site efficiently [77, p. 88]. For example when navigating from one page to another, if the navigation menu stays the same then React will not apply any changes to the navigation menu so that the web browser will not re-render that part of the web page.

3.1.3 Next.js

Next.js is a framework that enables React to be rendered on a server, a concept known as *Server-Side Rendering*, SSR [78]. This means that the content of a web page gets put together on a server and that the web page is delivered to the users' web browser containing all the content without running any JavaScript [79, t.11:00]. Because of SSR, Next.js is able to speed up the time it takes to access a web page

on slower devices. That is because the server is putting the web page together so that the client only needs to display what the server generated, meaning that the computation is off-loaded from the slower device to the server [80].

Google recommends that SSR is used because the first time the crawlers index a web page, they do it without running any JavaScript, only returning the non-JavaScript content [81]. The page might then get revisited at a later time to execute the JavaScript and update what Google has indexed [79, t.13:00].

3.1.4 Representational State Transfer

Representational State Transfer, hereafter referred to as REST, is a software architectural style that applies a set of standards for how requests for information and information is sent over the Internet [82, p. 7].

When using REST, the communication is done using *Hypertext Transfer Protocol*, usually shortened as *HTTP*. The communication is done by the client sending HTTP requests to the server which it responds to. REST can also be used to add, update or delete information on a server [82, p. 7]. Nowadays its recommended to use HTTPS instead since this adds encryption to the traffic which makes the exchange of data secure [83].

3.2 Tools

There are many tools that can be used to aid in the development of the web application and data gathering, of which some will be presented in the following section.

3.2.1 Docker

To ensure that the web application behaves exactly the same on every device, *Docker* is used to create *Docker Containers* that simulate and deploy code in identical environments for all operating systems [84]. Docker Containers are similar to virtual machines, except more lightweight [85]. By running on the same operating system as its host, containers are able to use many resources shared by the host operating system.

3.2.2 Heroku

The web application will be built, hosted, and scaled using the *Heroku Cloud Platform*. Applications hosted on Heroku can be accessed using a URL. Heroku provides a simplicity compared to other hosting services [86] [87]. By not having to worry about infrastructure management, efforts can instead be fully put into development.

3.2.3 Google Analytics

Google Analytics is a tool developed by Google which is used to analyze how users behave and interact with a platform [88]. Google Analytics is able to collect different kinds of user data, such as how many have accessed the platform, which pages they have accessed and how the platform was found (via search engine or directly via an URL) [89]. Moreover, Google Analytics can be used to filter and visualize the collected data [90].

3.2.4 Google Search Console

Google Search Console is used to understand and improve what Google knows about a website [91]. Search Console provides a way to suggest to Google that a web page should be indexed [92]. Furthermore it also allows the owner to submit or update a Sitemap to Google [93]. The tool also collects data about how often the website is displayed in the Google search engine and how many times a link to the site has been clicked on from the SERP [91].

3.2.5 Google's Lighthouse

Lighthouse is a tool developed by Google that is used to improve the quality of websites [94]. Lighthouse is able to audit a website, examine the performance and accessibility of the website, if best practices are being used, and if the website is SEO friendly. Furthermore, the tool produces a report which contains information about what audits were passed and which were not. In the report it is also suggested what could be done in order to solve these problems [94].

3.2.6 Ahrefs

One of the most popular tools for analyzing traffic and SEO related data is Ahrefs [26]. It has a wide range of functionalities such as the *Site Explorer*, where a website's UR, DR, and other metrics can be tracked. Another functionality Ahrefs has is the *Keyword Explorer*, which allows the analysis of search queries. The Keyword Explorer makes it possible to track and receive information about keywords, such as how large the search volume is for that keyword or the amount of backlinks needed to rank among the top results [23].

4

Method

The following chapter describes the steps that were undertaken in order to address the thesis' problem statements. To recap, the following were mentioned in chapter 1.3:

- Can SEO techniques be used to rank a web application with auto-generated content among the top results for a given search query on Google's search engine?
- Using methods for User Acquisition, how can a web application with auto-generated content be used in order to acquire users to a smartphone application?

To cover these topics, this chapter will first explain how the livescore web application was intended to be developed and then go on to describe how the site could be optimized to meet the intended objectives.

4.1 Development of the Web Application

The development of the web application was carried out iteratively, where each iteration added new features and improvements. These features and improvements were intended to help enrich UX and help with the SEO of the web application.

The web application was built using the Next.js framework, which allows for Server-Side Rendering. Since Next.js is built using React, several re-usable components that are created could be used on various pages for the web application. Since Node.js is also at the base of the web application, it will be possible to use modules already available online instead of needing to create everything from scratch. This form of code reuse helped advance development at a rapid pace.

For the backend, Node.js and Heroku were used to make the web application available to users. The communication between the web application and the external data source was done using the REST architectural style.

Throughout development, the web application was hosted online using the Heroku cloud platform and launched iteratively. After compiling the project and successfully running it locally using Docker, it was then uploaded to Heroku, from where the web application can be accessed via a URL.

4.2 Optimizing for Search Engines

The theoretical aspects of SEO have been discussed at length in the theory part of this thesis. In order to optimize the web application for search engines, the three focus areas are Keyword Research, On-Site SEO, and Off-Site SEO.

To begin with, an extensive Keyword Research was carried out. By brainstorming for keywords and conducting user research, a list of seed keywords relating to the topic of women's football was created. A large amount of relevant keywords was added to the list and then combined with the seed keywords into a mammoth list of keywords. The keywords were then checked for search traffic and Keyword Difficulty in order to pick out the keywords of focus.

With the chosen keywords at hand, specific HTML tags were carefully chosen to comply with the requirements specified in chapter 2.1.4. The web application's URLs were styled in a short and informative manner. The amount of internal links on the site were maximized whereas external linking was kept to a minimum. Modifications of the On-Site SEO were performed throughout the thesis as new information and feedback was received from Ahrefs and Google.

When the web application is deemed suitable for public use, potential backlinkers will be contacted and asked to add a backlink to the web application from their website.

4.3 Designing for User Acquisition

In order to persuade users to download the smartphone application, the User Acquisition methods were discrete but at the same time determined. A small and subtle component nudging the users to download the smartphone application was implemented, appearing only once in a while. An algorithm was developed to decide when the notification should be displayed to avoid it sparking annoyance with the user and negatively affecting the UX.

4.4 Data Collection and Validation of Results

In order to validate the results of the thesis, data was collected using Google Analytics, Google Search Console, and Ahrefs. The data gathered was then used to determine the web application's performance in terms of how well it ranked on Google and how many users converted from the web application to the smartphone application.

5

Implementation

Acknowledging the theoretical aspects previously discussed in chapter 2, the following chapter will describe how the web application was developed and designed for SEO and User Acquisition.

5.1 Developing the Web Application

Through an iterative process, the web application was reviewed and made better at a steady pace. Every update to the web application in its production stage brought more features for users and improvements to the design. By using Lighthouse, improvements in regards to performance, accessibility, best practices, and SEO were considered and put into production. The releases that the web application underwent are presented in Appendix A.

5.1.1 Content of the Web Application

The web application contains liverscores and statistics for women's football matches. It is also possible to access information about different teams and leagues around the world. The content of the web application is automatically generated from an external data source, without which the web application would be missing most of its content. This essentially means that the large amount of pages existing on the web application are not created manually by the developers. Instead, a template for each sub page has been developed, allowing auto-generated content to fill the page. The different types of pages that the web application contains are:

- Home page
- Match page
- Tournament page
- Player page
- Team page
- World Cup page

5.1.2 Integration of Data Collection

Google Analytics and Google Search Console were used to collect data about the web application. In order to track how many users downloaded the smartphone application directly from the web application, a special link connected to the web

application was added. Other than simply taking users to the download page of the smartphone application, this link also tracks how many users have clicked the link and how many ended up downloading the smartphone application.

5.2 Conducting Keyword Research

As described in chapter 2.2, the first step of any proper SEO implementation should be Keyword Research. First of all, a list of seed keywords was made by discussion and brainstorming. Another, larger list was then created by adding secondary keywords to the list of seed keywords. Secondary keywords were acquired by meetings with employees of Forza Football with specialization in Women's football. Further keywords were acquired by conducting a Competitor Analysis, which identified what keywords other Livescore application sites with focus on women's football rank for (see Appendix C). Lastly, the most popular female football players, teams and leagues were added to the list.

After that, the seed keywords were combined with the larger list of keywords in a spreadsheet, resulting in a mammoth list consisting of over 30 000 keywords and phrases. In order to sort out the relevant keywords, the list was analyzed using Ahrefs' Keyword Explorer, and all keywords with a search volume of less than 100 searches per month were removed. The remaining keywords were saved to a spreadsheet and further analyzed by removing keywords with high KD and low search traffic. The process of running the keywords through Ahrefs' Keyword Explorer was done three times in order to test a difference between British, American and Australian search trends (see Appendix D).

5.3 Implementing On-Site SEO techniques

In chapter 2.3, a number of On-Site SEO techniques were introduced, of which most have been applied on the web application. The implementation of these techniques will be presented in the upcoming section.

5.3.1 Page Optimization

Once the web application was live, each sub-page was given individualized Title and Meta tags, and the content was analyzed for further optimization possibilities. The main target of the Title tags was to fit the primary keywords into each tag while retaining the optimal length of 50–60 characters. The pages were given original Title tags relating to the content of the page with the aim of appearing attractive to the user, which turned out to be hard to do in a short and compressed sentence.

Since the Title tags would often include team or tournament names of differing lengths, the tags were at times too long and parts of it did not show on the SERP. Match pages with two team names in the Title tag were especially problematic if both club's names were long. The Title tags were therefore adjusted to fit better

with varying lengths to reassure that the entire Title tag would show on the SERP.

Just like Title tags, Meta tags were optimized in the same manner by going through each sub-page and adding a qualitative description of the page. Here, additional keywords could be added which were missed out in the Title tag due to limited space. Initially, the implemented Meta tags were too short according to Ahrefs' recommendations of 50–300 characters. The length of Meta tags for player, team and match pages were therefore increased, adding more keywords and descriptive sentences. The landing page also got its meta tags optimized (see Figure 5.1).

[Forza Women's Football: LiveScore, Results and Fixtures](https://womens-livescore.forzafootball.com/)

<https://womens-livescore.forzafootball.com/> ▼ Översätt den här sidan

Get **live** scores, results, fixtures, tables, statistics and news for **Women's Football**. We believe in equality and our focus is to provide quality statistics for **Women's** ...

Figure 5.1: The Meta tag for the landing page after it was changed. Many more keywords such as results, fixtures and statistics were added for better SEO.

Lastly, the page content was scrutinized for SEO opportunities. Keywords, especially in the form of player, team and tournament names, were put into Heading tags. Alt attributes were applied to every image, and as much extra text as deemed reasonable was added on all pages. However, the inclusion of in-depth text is rarely called for on a livescore implementation and only the landing page was deemed fit for the purpose of adding body text.

5.3.2 URL Structure

The main URL of the web application is *womens-livescore.forzafootball.com*. The URL was chosen because it contains the word livescore, which is a popular search term, and since it contains a common misspelling of the word “*women's*” (as in women's football). Keyword Research showed that many users will leave out apostrophes in search queries, and since apostrophes are not compatible with URLs it is a clever way of optimizing for a common search query without including any misspellings on the web application itself.

Effort was put into parsing short and descriptive URLs on all pages of the application. Any URL will consist of the main URL followed by the type of page, such as */match/* or */team/*, and a specification of the identity of the specific subpage such as a team name or a match-id. The reasoning behind the URL-structure is that users should be able to make informed decisions of whether to enter the site or not just by reading the URL. Figure 5.2 shows an URL from the web application.



Figure 5.2: Example of an explanatory URL, showing what type of subpage it is (match) as well as the match-id and the teams that are playing.

5.3.3 On-Site Link Building

One objective with the web application was to make the entire page clickable. Therefore each team, player, match etc. was made clickable to ensure a correlated network between each sub-page and to receive higher PR on all pages of the web application. This also results in every page on the web application being able to be found by the crawlers.

Since external links reduce the Domain Rating, as mentioned in chapter 2.3.6, external links have been avoided. The only external links on the web application are to Forza Football's website and to the download page for the smartphone application.

5.3.4 Decreasing Page Loading Speed

As described in chapter 2.3.7, avoiding large files and excess lines of code are key to delivering a site with fast-loading pages. These two guidelines were followed in the construction of the web application. To ensure fast page loading speed, each image on the web application was compressed, resulting in smaller images file size. Despite the file size being reduced, the difference in image quality was barely visible. Moreover, minifying and gzip was used to reduce the size of the data being sent.

5.3.5 Constructing a Sitemap

Since the web application is new and contains a large amount of content, a Sitemap is an important factor. As stated in chapter 2.3.8, it is recommended that the Sitemap contains all the web pages of a website. Due to this, the Sitemap for the web application contains most of the content that is available to the users. The only pages which were excluded from the Sitemap were the pages for individual players, due to a technical limitation of how player data could be retrieved from the external data source that was used to supply the web application with information.

5.3.6 Optimizing the Site for Mobile Devices

As stated before in chapter 2.3.9, Mobile Friendliness is an important factor of SEO. Therefore, a Responsive Web Design was used in accordance with Google's recommendations and implemented using CSS media queries. This made it possible to use the web page on different kinds of devices with different screens.

5.4 Implementing Off-Site SEO techniques

As mentioned in chapter 2.4, Off-Site SEO is the most important part of Search Engine Optimization. For this reason, a lot of effort was put into producing shareable content and reaching out to other domains in order to obtain backlinks.

5.4.1 Share Function

In order to allow for the natural sharing of content, the ability to share a page to social media was added to almost every page of the application. The reasoning was that the process of sharing the web application should be as simple as possible in order to nudge the users into sharing the application. Figure 5.3 shows the implemented share function on the match page.

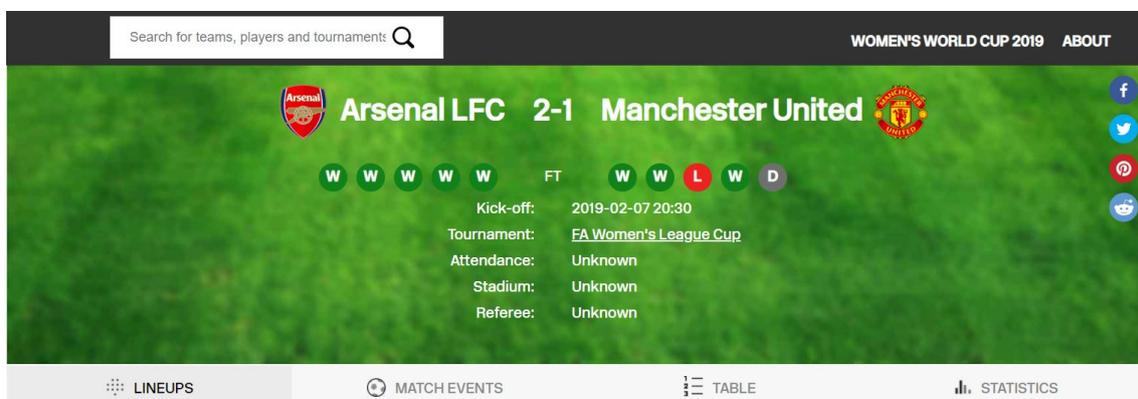


Figure 5.3: On the right hand side, users can click the icons in order to share the page on their choice of social media.

5.4.2 Strategic Link Building

Research was conducted in order to acknowledge opportunities for attaining backlinks to the web application, resulting in a list of different courses to pursue. First on the list were online football forums, where the link was posted with an explanation and a request for feedback, and social media channels, through which the link was distributed. Secondly, bloggers were contacted and asked if they would be inclined to promote the link on their blog. Which bloggers to contact was decided based on how regularly they write about women's football and by studying the Competitor Analysis, which identified bloggers who had previously shared links to similar Livescore web applications. Lastly, football clubs in the Gothenburg area were contacted. Ahrefs' Site Explorer was used daily to follow up on the strategic link building activity.

5.5 User Acquisition driven by UX Design

The platform design was based on the research on User Experience and inspiration was taken from the FFSA design. The main reason for the web application to

resemble the smartphone application is so that the user can get a familiar experience after downloading the application. Therefore, some components were introduced to the platform, which were directly inspired by the smartphone application as well as the work from last year's thesis [1].

5.5.1 Snackbar

In order to provide a way for the user to download the smartphone application, a Snackbar was implemented reminding the user that more information is available in the smartphone application. The design of the Snackbar is shown in figure 5.4. The Snackbar will not appear on every page to avoid annoying the user as discussed in chapter 4.3. If the user is using a mobile device, the Snackbar will appear at the top of the screen and when interacted with redirect the user to the App Store or Google Play depending on which type of device is being used. Furthermore, if the user already has the application installed, the link will instead open up the application. When using a desktop, the Snackbar will instead appear in the top right corner and redirect the user to Forza Football's website when clicked.

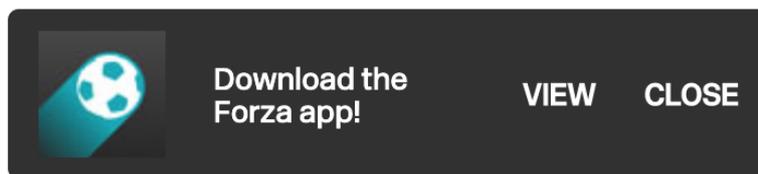


Figure 5.4: One instance of the dynamic Snackbar.

5.5.2 Search Bar

A *Search bar* can be found in most modern websites and applications. It allows the user to navigate easily and freely between all the pages and information on the platform. A specific tournament or perhaps a player are only clicks away, which supports flexibility and efficiency and is proven to be good UX [37]. The same search function can be found in FFSA. The implemented search bar is shown in figure 5.5.

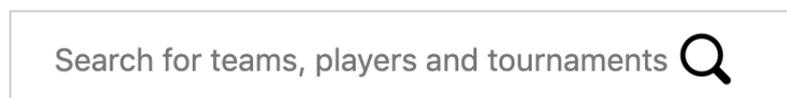


Figure 5.5: The search bar displayed in the navigation bar on every single page for easy access.

5.5.3 Sidebar

The *Sidebar* works as the main component for navigating between matches. The information hierarchy is designed in the follow schema: *Date* → *Tournament* → *Match* [*Time*, *Score*, *Team1*, *Team2*]. The Sidebar can be viewed in figure 5.6.

Together with the Search bar, the two components gives the user the ability to quickly navigate between all of the matches, tournaments, and players. Which covers all content on the platform. In order to prevent errors when entering a date, a date picker component was used to make it impossible to enter an invalid date.

2019-05-08	
Campeonato Brasileiro, Women ^	
20:00	0 Vitoria PE 0 Foz Cataratas PR
20:00	0 Sao Francisco BA 0 Gremio Osasco Audax SP
20:00	0 SC Do Recife 0 Minas Icesp DF
01:00	0 Kindermann SC 0 Sao Jose Dos Campos SP
Urvalsdeild, Women ^	
20:00	0 Thor Ka Akureyri 0 Fylkir Reykjavik
21:15	0 KR Reykjavik 0 Valur Reykjavik
U17 Euro Championship, Women v	
Elitedivisionen, Women v	

Figure 5.6: One instance of the Sidebar. It is displayed to the far left of every page.

5.5.4 Layout

The layout of the pages containing the main content was designed with a tab layout. This was chosen over a layout in which all content on a page would be displayed at the same time, for several reasons. The first is to remain consistency across platforms since the FFSA also uses a tab layout. The second reason was that a tab layout easily can be converted to fit a small screen, which could not be done with the other layout. The third reason for implementing a tab layout was to avoid information overload. Each tab on the web application has been labeled with unique icons fitting all screen sizes. On larger screen sizes, the tabs also contain descriptive texts.

5.5.5 Progress Indicator

The web application provides continuous feedback using a progress indicator in the form of a loading bar, this provides the user with visibility of system status as presented in chapter 2.6.3. Whenever an action is performed on the web application, such as clicking on a link, the loading bar shows up at the top of the page. While

retrieving information, the loading bar confirms that the application is responsive and is currently working on the request.

5.5.6 Error Page

An error page was implemented to indicate to the user if something has gone wrong. The text displayed on the error page states that the requested page does not exist and gives the user a possibility to recover from the error by supplying a link back to the landing page. This helps the user recover from errors and allows them to continue to use the web application, this is one of the heuristics presented in chapter 2.6.3.

6

Results

The following chapter will present the results of the thesis. First, the appearance of the User Interface of the web application will be presented after which data collected from Google Analytics, Google Search Console and Ahrefs will be presented. Lastly, the rankings on Google's search engine and the number of conversions to the smartphone application will be investigated.

6.1 User Interface

Applying the methods mentioned in chapter 2.6, the web application went through a number of iterations before it reached its final form, presented below.

6.1.1 Desktop View

Using a web browser on a computer will most often render a landscape view of the web application. Components displayed in this manner have ample space to occupy. Screenshots of the match, world cup and player page can be found in figures 6.1, 6.2, and 6.3.

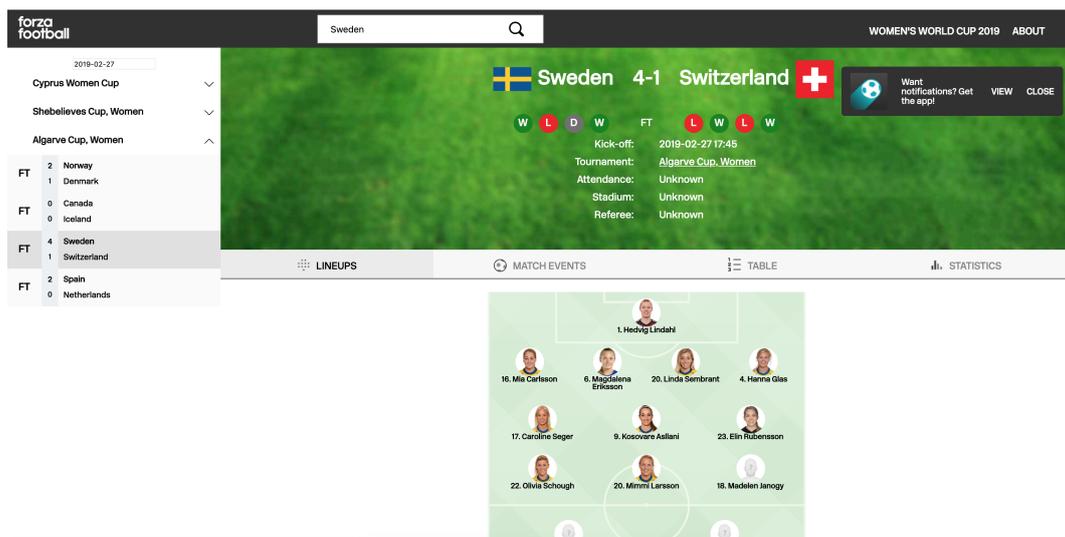


Figure 6.1: An auto-generated page for an arbitrary match.

6. Results

The screenshot shows the 'forza football' app interface for the 'WOMEN'S WORLD CUP 2019'. The main header features a search bar and navigation options. A large banner image displays the tournament title 'FIFA Women's World Cup' with dates '2019 June 07' and '2019 July 06'. Below the banner, there are tabs for 'GROUPS', 'PLAYOFF', 'TOP SCORERS', and 'PREVIOUS MATCHES'. The 'GROUPS' tab is active, showing four group tables:

Group A	Played	+/-	Points
1 Norway	0	0	0
1 South Korea	0	0	0
1 France	0	0	0
1 Nigeria	0	0	0

Group B	Played	+/-	Points
1 South Africa	0	0	0
1 Spain	0	0	0
1 China	0	0	0
1 Germany	0	0	0

Group C	Played	+/-	Points
1 Italy	0	0	0
1 Jamaica	0	0	0
1 Australia	0	0	0
1 Brazil	0	0	0

Group D	Played	+/-	Points
1 Japan	0	0	0
1 Scotland	0	0	0
1 Argentina	0	0	0
1 England	0	0	0

Figure 6.2: A custom page was developed specifically for the Women's World Cup.

The screenshot shows the 'forza football' app interface for a player profile. The header features a search bar and navigation options. The main content area displays the player's information:

2019-04-30

Super League, Women

Campeonato Brasileiro, Women

Liga Mx, Women

NM Cup, Women

Full name
Caroline Seger

Nationality
Sweden

Team
Sweden

Team
FC Rosengard

Position
Midfielder

Birth Date
19 March 1985 (34 years)

Weight & Height
62 kg , 173 cm

Season statistic
No information available

Follow the player? Download the app!

Biography

Team

Team

Position

Birth Date

Weight & Height

Figure 6.3: An auto-generated page for an arbitrary player.

6.1.2 Mobile View

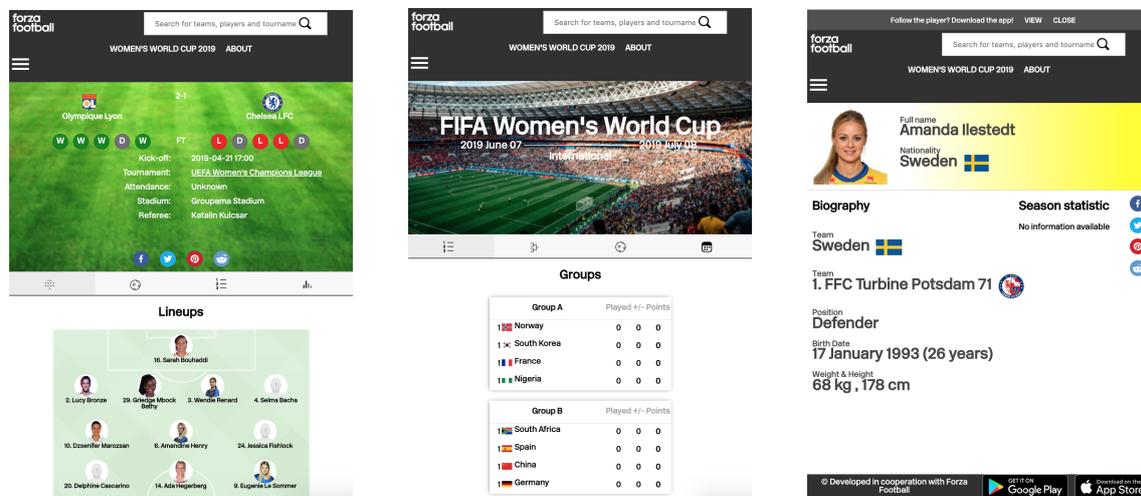


Figure 6.4: Screenshots from the application in mobile view.

The web application was optimized to fit all screens, rendering components differently depending on the user's device and screen size. When viewing the web application on a smartphone or another type of mobile device, the page orientation will usually be a portrait view. The mobile view is shown in figure 6.4.

6.2 Data Collected from the Web Application

Some of the data gathered by Google Analytics and Google Search Console is presented in table 6.1. The web application was launched on 2019-03-29 and data was gathered from the launching until 2019-05-06. It should be noted that data from error pages is included in the collected data.

Table 6.1: Statistics from Google Analytics and Google Search Console.

Data from Google	
Total Users	6 559
Mobile Device Users	83.5%
Bounce Rate	78.34%
Avg. Time on Site	1 min 33 s

In total, the application was used by 6 559 users of which 83.5% used a smartphone device. The Bounce Rate was 78.34% and Average Time on Site was 1 minute and 33 seconds. Out of the users that did not enter via a Google search, a rather large chunk originated from Sweden, where the developers are located. The number of users from Sweden who entered the web application from a direct link instead of a SERP was 1.1%.

6. Results



Figure 6.5: The number of users who used the web application each day.

Figure 6.5 shows the evolution of the user base over time. The graph shows a lot of volatility and seems to peak around Thursdays. On days with a large amount of matches, the number of users increased. The graph also correlates somewhat with the match schedule of South American leagues, which were the most popular leagues.

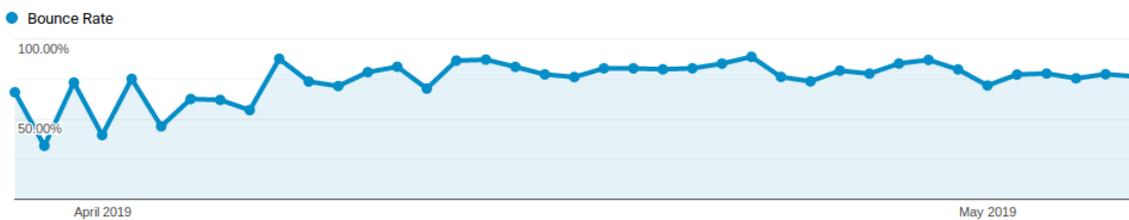


Figure 6.6: The Bounce Rate over time.

The data shows that the overall Bounce Rate was quite high. The change in Bounce Rate can be studied in figure 6.6. In the beginning, when users were few, the Bounce Rate was lower. As the number of users rose, the Bounce Rate did too, followed by a slight decline towards the end.

6.3 Results of the SEO

In the upcoming section the results of the Keyword Research, On-Site SEO and Off-Site SEO will be presented.

6.3.1 Chosen Keywords

The Keyword Research resulted in a list of keywords with relatively low KD and high search volume (Appendix D). Unsurprisingly, the phrase *women's football* seems to be the most important when it comes to searches within the area of women's football. Queries including *world cup* also have a large search volume. Generally keywords with low KD were chosen, and if the difference between two words was small (for example, *match* vs. *fixture*), the term which is most popular in the UK was chosen.

6.3.2 Statistics from Ahrefs

When the thesis started, the site had a URL-ranking of 10 and a Domain Rating of 59. During the span of the thesis, both the UR and DR ended up increasing by

one, to 11 and 60 respectively. A screenshot from Ahrefs showing the UR and DR of the web application is displayed in 6.7.



Figure 6.7: Statistics from Ahrefs' Site Explorer.

Unfortunately, the response from potential backlinkers was fairly low and only seven backlinks were in the end recognized by Ahrefs' Site Explorer, of which six were nofollow links, meaning they contribute to neither UR nor DR. A link from a local football club's website remains the only backlink attained as a result of the strategic link building activities, contributing with a DR of 11 distributed on a 13 external links. The attempts to increase the UR and DR by posting on forums and social media gave no results, as none of the links were recognized by Ahrefs.

6.3.3 Ranking on Google

Since a SERP is created dynamically by Google and changes over time, it is hard to tell exactly which position the web application is ranked at for a given search query. However, by observing which search queries the incoming traffic comes from, it is possible to get an estimation of how well the web application ranks for a query. Table 6.2 shows some rankings that were observed. Images and screenshots of some observed rankings can be found in Appendix B.1.

Table 6.2: Rankings on Google for some queries.

Search Query	Position on SERP
netherlands vs mexico womens football	1
netherlands vs chile women's football	1
portugal vs slovakia women's football	1
switzerland vs finland women's football	1
Foz Cataratas PR vs Kindermann SC	1
ferroviaria sp vs foz cataratas pr	2
finland vs poland women's football	2
iceland vs netherlands women's football	2
Puebla FC vs CF Tigres UANL	3

One of the keywords that was decided to focus on was *women's football*. By comparing rankings for some matches, the difference between when this keyword is included in the search query and not can be seen.

Table 6.3: Difference in position on Google when appending women’s football phrase on a query. Not found means that the web application did not show up in the search results at all.

Search Query	Position
flamengo rj vs ferroviaria sp	7
flamengo rj vs ferroviaria sp women’s football	3
vitoria pe vs sao francisco ba	Not found
vitoria pe vs sao francisco ba women’s football	3
SC Corinthians SP vs Sao Jose Dos Campos SP	5
SC Corinthians SP vs Sao Jose Dos Campos SP women’s football	2
Zhfk Yenisey Krasnoyarsk vs CSKA Moscow	Not found
Zhfk Yenisey Krasnoyarsk vs CSKA Moscow women’s football	4
Växjö DFF vs Piteå IF	Not found
Växjö DFF vs Piteå IF women’s football	5
FC Twente Enschede vs PEC Zwolle	Not found
FC Twente Enschede vs PEC Zwolle women’s football	4

6.4 Conversions to Smartphone Application

As of 2019–05–06, 3 users had downloaded the smartphone application, and 142 users had clicked the link in the Snackbar leading to the download site for the smartphone application. That means that out of the 6 559 total web application users, approximately 2.16% clicked the Snackbar and the Conversion Rate was approximately 0.046%.

$$SnackbarClickRate = \frac{\#SnackbarClicks}{\#TotalUsers} = \frac{142}{6559} \approx 0.0217 = 2.17\%$$

$$ConversionRate = \frac{\#Downloads}{\#TotalUsers} = \frac{3}{6559} \approx 0.000457 = 0.046\%$$

7

Discussion

This chapter will focus on discussing how the development of the web application and chosen implementation of SEO techniques and User Acquisition methods affected the results and how it could have been done differently. Additionally, it will reflect upon the purpose and problem statements and discuss the validity of the collected data.

7.1 Time Limit and Change of Purpose

As mentioned in chapter 2, SEO is a long, drawn out process with results showing with quite a time lag, sometimes taking up to six months before showing any results. This obviously causes problems for a thesis aiming to provide results within the same time frame.

Initially, the thesis' purpose was to evaluate different SEO techniques and User Acquisition methods. However, due to the time constraints, many techniques and methods had to be implemented in tandem. Therefore the purpose was changed (see chapter 1.2), as an analysis of the individual techniques or methods could not be done. If the initial purpose was to be studied, a longer time frame would be required to be absolutely sure that the data which the results are based on is uncorrelated in order to avoid drawing wrong conclusions.

7.2 Difficulties During the Development

One of the difficulties when developing the web application has been that HTTPS initially was not used by the external data source which the application retrieved information from. This meant that when navigating on the web application using HTTPS, users were often presented with error pages since the web browser did not want to retrieve information from a data source which used HTTP.

When the external data source got updated to support HTTPS, the decision made to use HTTPS instead of HTTP in order to solve the problem with retrieving information that led to error pages. However, this introduced a new problem since the IDs used to auto-generate content on the web application were changed. This meant that all web pages previously indexed by Google now routed users to wrong or non-existing pages.

The problems with HTTPS have had significance in several parts of the thesis, not least the results. The Bounce Rate and Time on Site are likely to have been affected as well as the SEO and the User Acquisition, which was also influenced in a negative way. This is because the change of IDs meant that Google had to crawl all the content of the web page again which is a timely process. The UX probably suffered most from the HTTPS problem as the site not working properly is a big discouragement for the user.

7.3 SEO

As presented in the results, the web application did manage to rank high enough to be displayed on the SERP several times, showing up first for some queries, and get a total of 6 559 users. This shows that it is entirely possible to apply SEO techniques to a web application with auto generated content in order to rank highly. All of the SEO techniques researched were applicable to the web application. However some problems arose from having auto-generated content, presented in chapter 7.3.2.

7.3.1 Takeaways from the Keyword Research

The amount of data on user search queries was too small to get a reliant representation of the average women's football fan. More data and knowledge on users could have been gathered since it is a big part of Keyword Research. However, this would leave even less time for implementing other SEO techniques.

Keyword Research takes a lot of work, and in this case the outcome pointed towards many of the initially chosen primary keywords being good keywords. Since it is a timely process of generating a mammoth list of 30 000 key phrases, and the results turned out to be similar to the primary keywords, the time spent on Keyword Research could have been lowered in order to allow focusing on other aspects of SEO. For example, the keywords that came intuitively in the beginning could have been used instead, and more time could have been spent on Off-Site SEO (more specifically; retrieving backlinks). Of course any serious SEO work requires a solid Keyword Research, and to be 100% sure of having chosen the best keywords possible, all potential keywords should be tested.

7.3.2 On-Site SEO and Auto-generated Content

Producing content for On-Site SEO turned out to be the main obstacle with regards to having auto-generated content. Since the web application's content is auto-generated, it leaves little room for content in the form of text. With important keywords such as team names, tournament names, etc., being shown in the few places where keywords can be displayed, the negative effect of having little content may have been counteracted by the positive effect of having a lot of quality content.

Other than the auto-generated keywords, focus was also put on the phrase *women's football*. As shown in the results, when searching for two teams facing each other,

the position for the ranking on Google would improve significantly if *women's football* is added to the search query after the team names. This is an indication of successful Keyword Research and On-Site implementation.

Having auto-generated content turns out to be a problem when it comes to producing good Title and Meta tags – especially when it comes to long team names and matches. Directly after the tags were changed to better fit the auto-generated content, the amount of visitors to the web application had quite an increase (Appendix A shows a log of the updates done to the web application). This could be a direct effect of the changed tags, since users are more inclined to click on a link with appealing Title and Meta tags. Since more than 83.5% of the visitors come from mobile devices, another reason could be the implementation of mobile friendliness, which happened around the same time as the previous change.

As mentioned in chapter 7.1, most SEO practitioners agree on the long-term effects of SEO. Therefore, the change of HTML tags and implementation of mobile friendliness might not be the reason for the increased traffic, due to short time span between the implementation of mobile friendliness and the increased traffic to the web application through Google's search engine.

Some match names generated titles that were too long for the Title tag to be of optimal length. Hence, the use of keywords in a tag is restricted by the tag's optimal length. Even though the web application ranked high on a few matches with too long Title tags, it is possible that the inclusion of the team names in the URL might have helped achieve a higher ranking. Sadly, it is impossible to say if the URLs had any impact on their own unless tested in more detail.

Other On-Site implementations not yet discussed were to increase the loading speed and to minimize the number of external links in the application. Since the site experienced a rise in UR before attaining any backlinks, it can be determined that the applied On-Site SEO techniques did have an impact. However, it is just not possible to determine how much any individual SEO technique impacted the result.

7.3.3 Attempts with Backlinkers

Out of almost 300 emails, only one backlink was attained. One of the main factors was likely that backlinkers were contacted quite late in the thesis. This was due to waiting for the web application to be fully developed (and without the HTTPS-problems) before distributing it, to give a good first impression to backlinkers. In order to receive more backlinks, the quality of the web application could have been compromised by contacting backlinkers already in the early stages of the web application. This could have made it possible for a second or even third round of attempts. Prioritizing whom to contact as well as time planning could have been done better. Only two weeks were spent focusing on backlinks (compared to three weeks spent on Keyword Research), even though research mentioned in chapter 2.3.6 shows that backlinking is the most vital factor for ranking high on Google.

7.4 User Acquisition

Since only 0.046% of users ended up downloading the smartphone application, the User Acquisition probably could have been executed differently. The low Conversion Rate can depend on a variety of factors. First, the User Acquisition methods could have been implemented earlier. Second, the User Acquisition methods could have been a bit more aggressive, with the risk of being an annoyance to users. One way could have been to not provide certain information, such as previously played matches or specific pages, and instead refer users to the smartphone application. Another way could be to have the Snackbar appear more often. Third, the problems with HTTPS were likely a big factor since it damages the UX, which can be seen in the high Bounce Rate. Over time the Bounce Rate had a slight decline, which could be a reason for the improvement of UX.

Lastly, a miscalculation was that good UX was expected to support User Acquisition. A lot of effort was put into creating a good UX, which did not lead to good User Acquisition. Perhaps prioritizing between User Acquisition and UX would have been necessary in order to acquire more users to the smartphone application.

7.5 Validity of Collected Data

Throughout the thesis, emphasis has been put into keeping the data intact. Because of this, measures were taken to make sure that the data collected from Google Analytics was unbiased by discarding previous data and adding certain IP-addresses to a filter. What could not be avoided were the problems related to HTTPS, described in chapter 7.2. Due to these problems, key UX and User Acquisition metrics such as Bounce Rate and Time on Site could not be analyzed without doubting the validity of these.

Furthermore, the traffic from Sweden must be questioned because some of these users are likely people from Forza Football or users related to the web application's developers, both located in Sweden. When studying the data it shows that only 1.1% of the users from Sweden did not find the web application using Google. This means that the data regarding how many users the web application had should be relatively free from interference.

8

Conclusion

The main purpose of the thesis was to create and develop a web application with auto-generated content and to investigate how it can be utilized to acquire users to a smartphone application.

Consequently, a web application was developed in collaboration with Forza Football. At the time of finalizing the thesis, the platform has been live for roughly two months at the following address: *womens-livescore.forzafootball.com*.

The creation of the web application was aided by a variety of libraries and frameworks. Using a combination of Next.js and an external REST data source, it was possible to automatically generate content on the web page, rendering it discoverable by Google's crawlers. The chosen tech stack suited the development of the web application well and could be used for future applications with similar purposes.

The platform succeeded in ranking as the first result for some of the targeted search queries and got more than 6 500 users as a result of Search Engine Optimization. Therefore, it can be concluded that techniques for SEO can be applied to a web application with auto-generated content in order to attract users. However, evaluation of individual SEO techniques was not possible. In order to evaluate which techniques yield the best results, a longer time frame would have been necessary.

Conclusively, the platform managed to persuade three users to download the smartphone application, whereas 142 out of 6 559 total users clicked on the Snackbar component. However, it is believed that a different approach would have resulted in a better outcome. Specifically, a more aggressive approach towards User Acquisition is believed to be favorable. As for the continuation of this purpose, it is recommended to test a variety of User Acquisition methods.

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A

Web Application Releases

29 March

- Added sidebar containing matches
- Added a match page
- Added the Women's World Cup page

3 April

- Initial SEO has been added in the form of Title and Meta Description tags
- Team page is added
- Player page has been added and styled
- Tournament page has been styled
- Optimized images and added Alt attributes
- Fixed bug where wrong date was used in the Sidebar by default.
- World Cup path has been updated from /wc to /womensworldcup

5 April

- Improved Sidebar with Matches added
- Search functionality added

12 April

- Mobile friendliness
- Added error(404) page
- Added styling to world cup page, tournament page.
- Reworked the landing page
- Added previous meetings to match page
- Sitemap changes, added more URLs (team and tournament)
- Made Sidebar menu mobile friendly

20 April

- Changed title and meta tags to better fit SEO
- Made the last parts of the platform mobile friendly
- Added share buttons for social media
- Added dynamic Snackbar which displays different text depending on page
- Fixed design misalignment's and lighthouse issues
- Added tabbed layout to tournament and team pages
- Fixed incorrect colors and sizing on recent & upcoming matches, had low contrast before

25 April

- Enabled HTTPS on the web application

B

Images and Screenshots

B.1 Screenshots from Google Search Engine

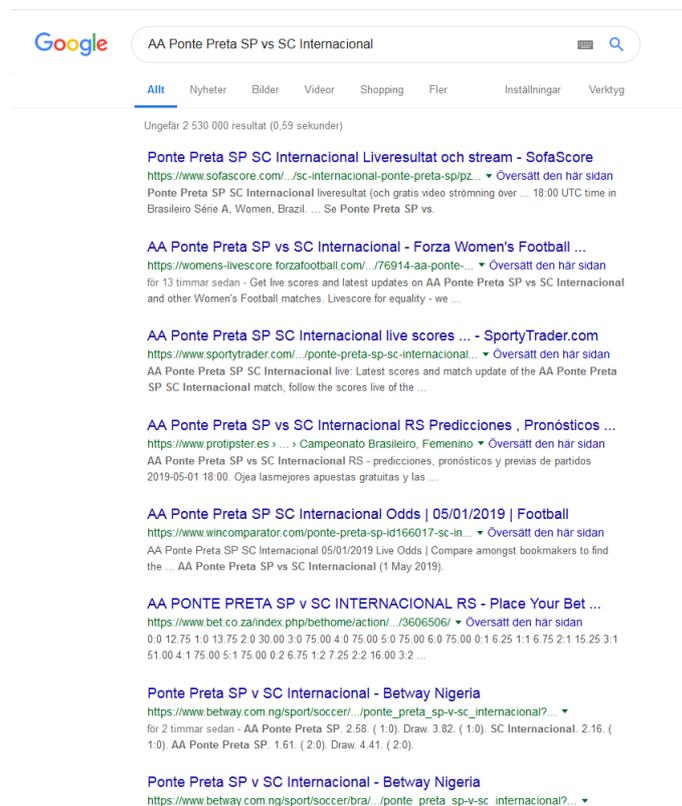


Figure B.1: AA Ponte Preta SP vs SC Internacional. 2019 May 1.

B. Images and Screenshots

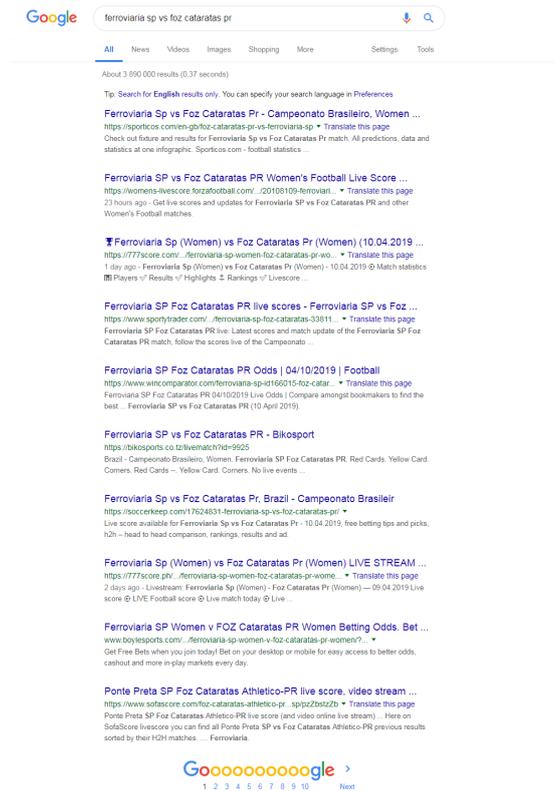


Figure B.2: Ferroviaria SP vs Foz Cataratas PR. 2019 April 11.

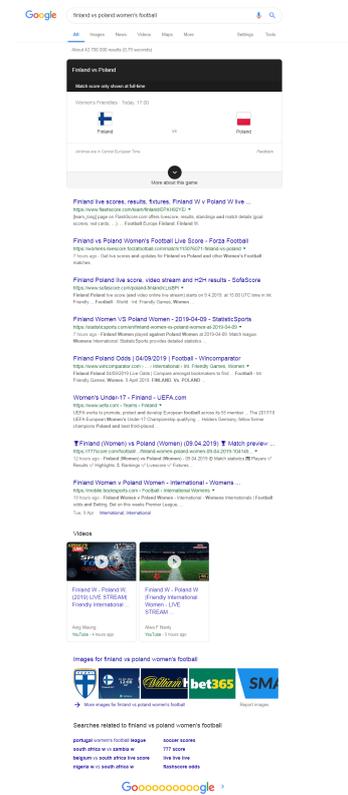


Figure B.3: Finland vs Poland. 2019 April 11.

B. Images and Screenshots

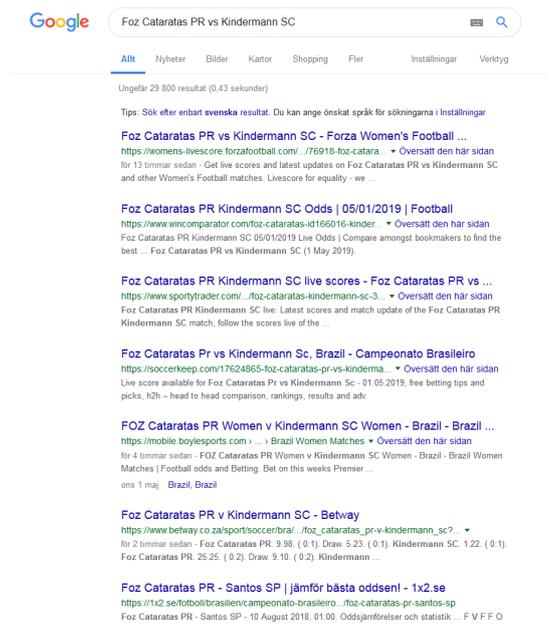


Figure B.4: Foz Cataratas PR vs Kindermann SC. 2019 May 1.

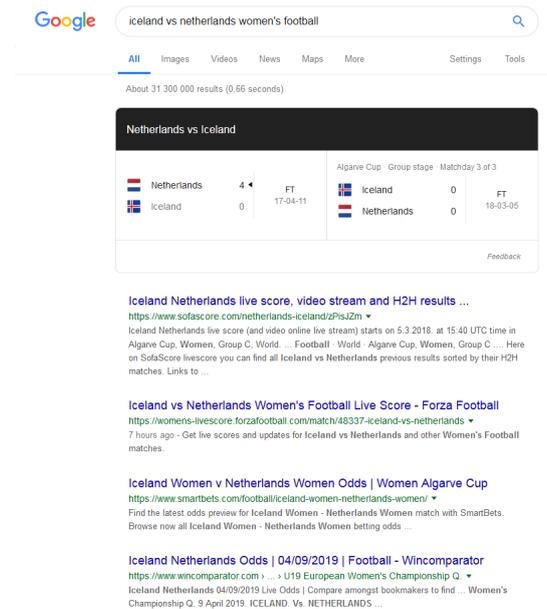


Figure B.5: Iceland vs Netherlands. 2019 April 9.

B. Images and Screenshots

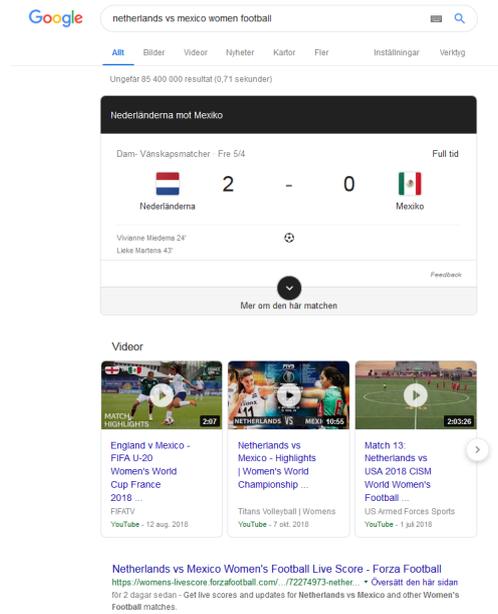


Figure B.6: Netherlands vs Mexico. 2019 April 7.



Figure B.7: Netherlands vs Chile. 2019 April 9.

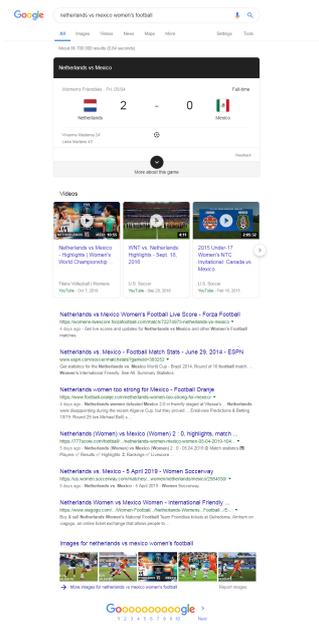


Figure B.8: Netherlands vs Mexico. 2019 April 9.

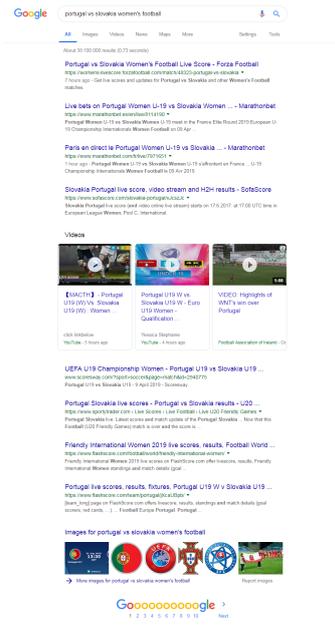


Figure B.9: Portugal vs Slovakia. 2019 April 9.

B. Images and Screenshots

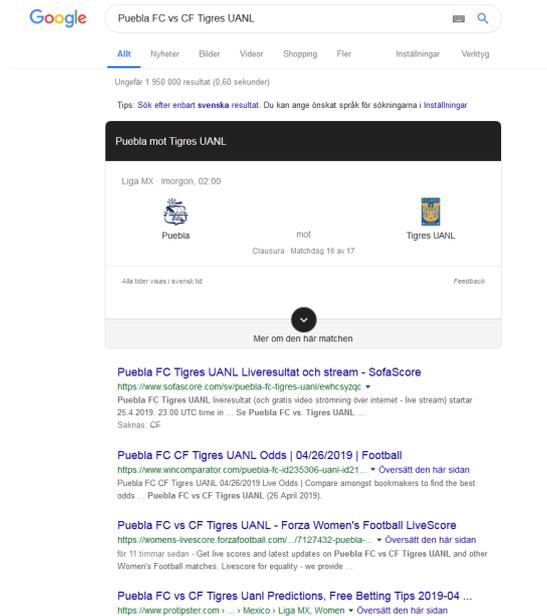


Figure B.10: Puebla FCCF vs Tigres UANL. 2019 April 6.

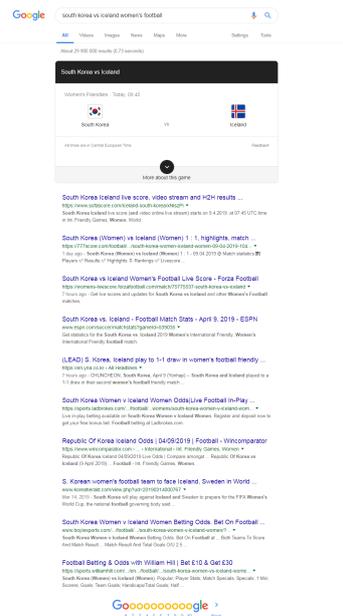


Figure B.11: South Korea vs Iceland. 2019 April 9.

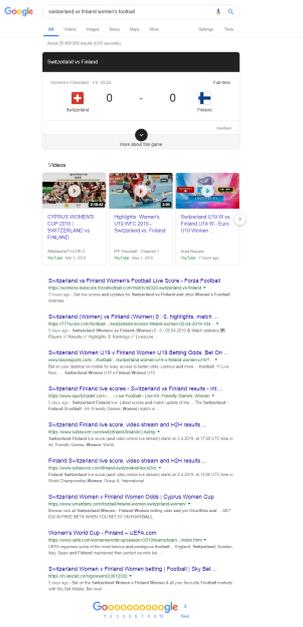


Figure B.12: Switzerland vs Finland. 2019 April 9.



Figure B.13: Switzerland vs Slovakia. 2019 April 9.

B. Images and Screenshots

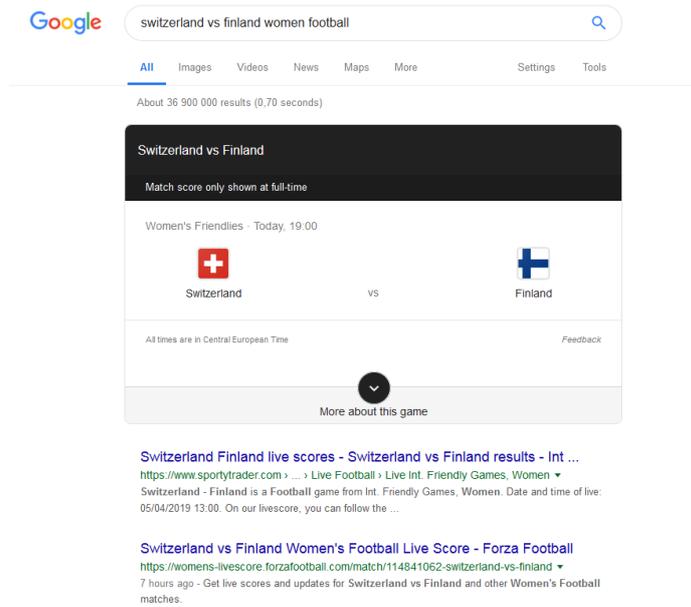


Figure B.14: Switzerland vs Mexico. 2019 April 5.

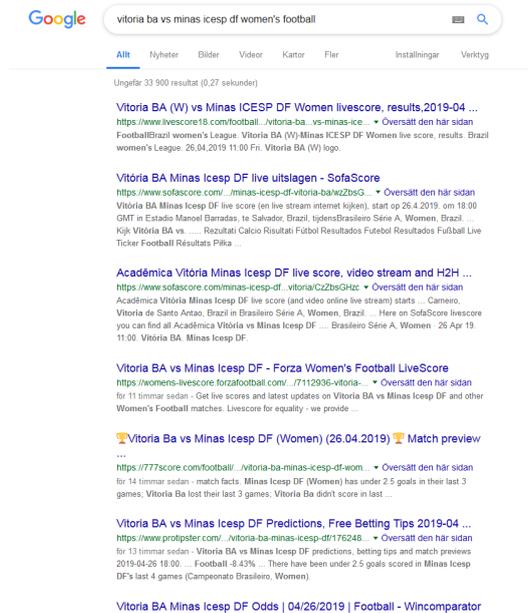


Figure B.15: Victoria vs Minas. 2019 April 16.

B.2 Screenshots from the Web Application

B. Images and Screenshots

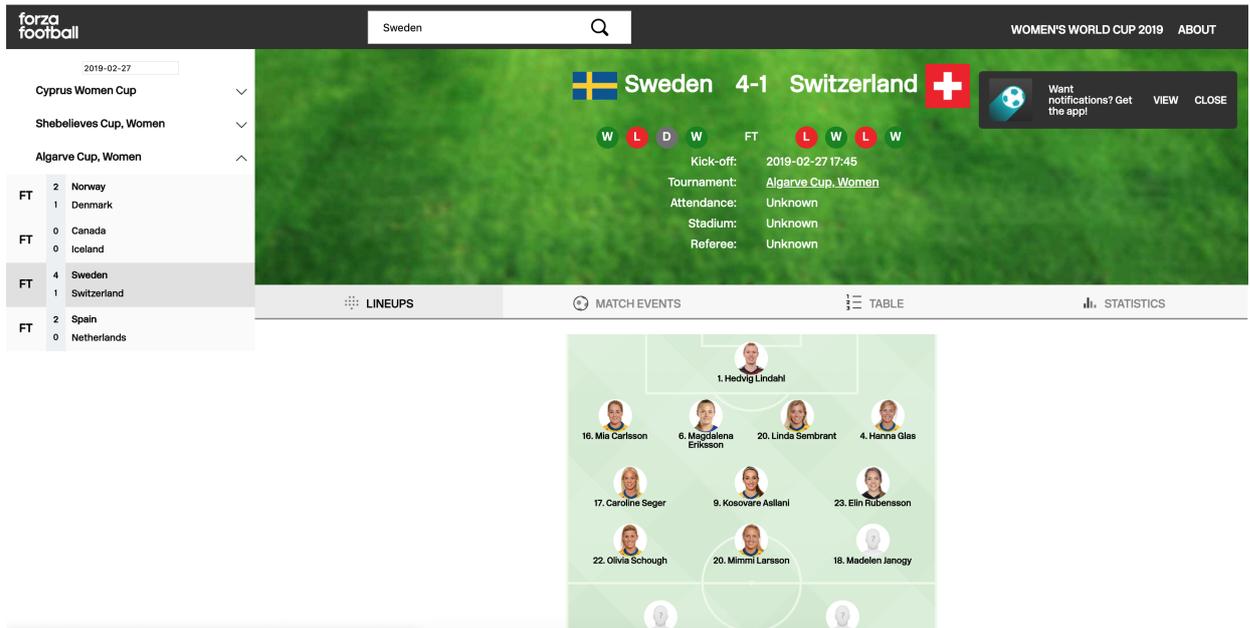


Figure B.16: An auto-generated page for an arbitrary match.

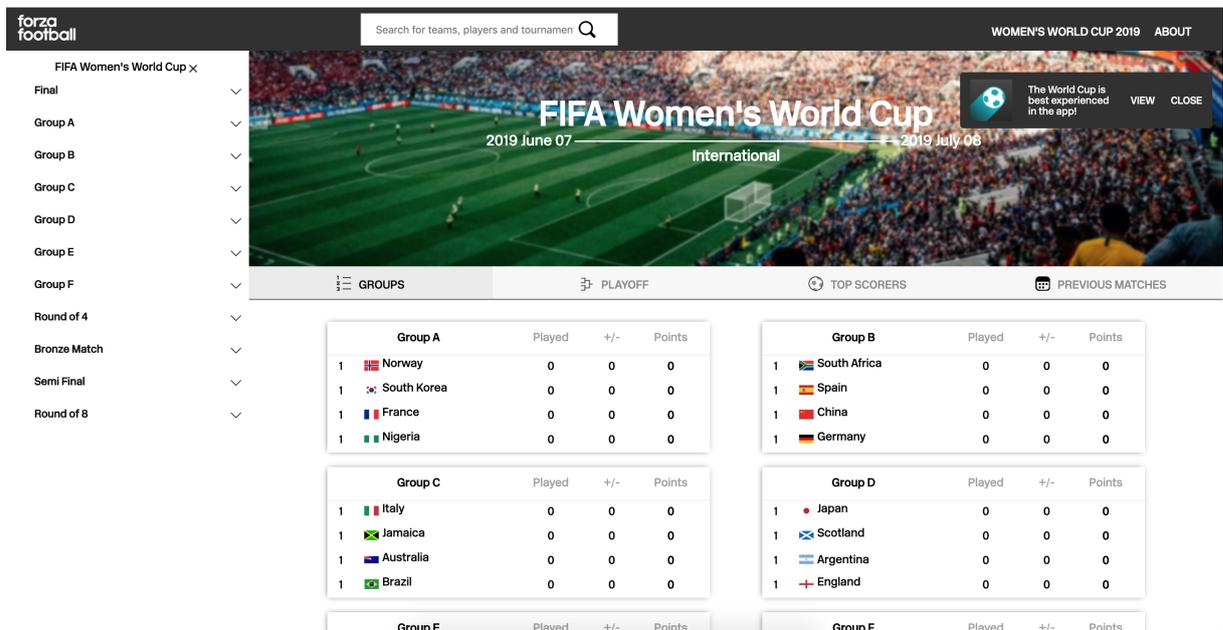


Figure B.17: A unique page was developed specifically for the Women's World Cup.

B. Images and Screenshots

The screenshot shows the 'forza football' website interface for the Women Bundesliga tournament. The top navigation bar includes the logo, a search bar, and links for 'WOMEN'S WORLD CUP 2019' and 'ABOUT'. The main content area is divided into three sections:

- Left Sidebar:** A match schedule for the Women Bundesliga, listing dates and times for various matches, such as '16 December 2018' and '05 May 2019'.
- Center:** A live match view for 'Tyskland' on '2018 September 15', with a '2019 May 13' date also visible. The background shows a soccer field with a goal.
- Right Table:** A league table titled 'Women Bundesliga' with columns for 'Played', '+/-', and 'Points'. The table lists 11 teams, with VFL Wolfsburg at the top (20 games played, 80 +/-, 53 points).

Figure B.18: An auto-generated page for an arbitrary tournament.

The screenshot shows the 'forza football' website interface for the national team of Sweden (Sverige). The top navigation bar includes the logo, a search bar, and links for 'WOMEN'S WORLD CUP 2019' and 'ABOUT'. The main content area is divided into two sections:

- Left Sidebar:** A list of categories for the national team, including 'Vänskapsmatcher', 'Nadeshiko League, Div. 1, Women', 'Premier League, Women', 'Campeonato Brasileiro, Women', 'Urvalsdeild, Women', 'Division 3A Göteborg', and 'Obos Damallsvenskan'.
- Center:** A yellow banner featuring the Swedish national flag and the text 'Sverige'. Below the banner are tabs for 'INFO' and 'SQUAD'.
- Right Table:** A list of 'Squad Members' with their names and positions: Hilda Carlen (goalkeeper), Emma Berglund (defender), Mia Carlsson (defender), Fridolina Rollof (attacker), and Julia Spetsmark (midfielder).

Figure B.19: An auto-generated page for an arbitrary team.

B. Images and Screenshots

The screenshot shows the Forza Football website interface. At the top, there is a search bar and navigation links for 'WOMEN'S WORLD CUP 2019' and 'ABOUT'. A sidebar on the left lists various leagues and tournaments. The main content area features a player profile for Caroline Seger, a Swedish midfielder for FC Rosengard. The profile includes her photo, full name, nationality, team, position, birth date (19 March 1985, 34 years old), and weight/height (62 kg, 173 cm). A 'Season statistic' section indicates 'No information available'. Social media icons for Facebook, Twitter, and YouTube are visible on the right side.

Figure B.20: An auto-generated page for an arbitrary player.

The screenshot shows a 404 error page on the Forza Football website. The page features a large '404' in the center, followed by the text 'OOPS, THE PAGE YOU'RE LOOKING FOR DOES NOT EXIST.' Below this, there is a message: 'You may want to head back to the homepage. If you think something is broken, report a problem.' Two buttons are provided: 'RETURN HOME' and 'REPORT PROBLEM'. The background of the page is a dark image of a soccer field at night with stadium lights.

Figure B.21: A unique page was developed specifically for error messages.

The screenshot shows the Forza Football website interface. At the top, there is a navigation bar with the 'forza football' logo on the left, a search bar in the center containing the text 'Search for teams, players and tournamen' with a magnifying glass icon, and 'WOMEN'S WORLD CUP 2019 ABOUT' on the right. Below the navigation bar, there is a sidebar on the left with a date selector set to '2019-05-14' and a list of categories: 'Urvalsdelld, Women', 'Premier League, Women', 'Vänskapsmatcher', 'U17 Euro Championship, Women', and 'Liga Mx, Women'. The main content area is titled 'Search Results for "lotta"'. It features three filterable sections: 'TEAMS', 'TOURNAMENTS', and 'PLAYERS'. Each section has a table with columns for 'Name', 'Region', 'Sex', and 'Age Group'. The 'PLAYERS' section is expanded, showing a list of 13 players with their names and regions.

PLAYERS	
Name	Region
Lotta Schelin	Sweden
Jordan Lotomba	Switzerland
Augusto Lotti	Argentina
Aris Lottas	Greece
Jordan Loties	France
Mitija Lotric	Slovenia
Paulius Lotuzys	Lithuania
Lido Lotefa	Ireland
Christian Lotitto	Portugal
Maksim Lotysh	Belarus
Albert Lottin	France
Robert Lotsbom	N/A
Lothar Hilkes	Germany

Figure B.22: A unique page was developed specifically for search results.

C

Competitive Analysis

	livescore.com		whoscored.com		flashscore.com		soccerway.com		
Website	livescore.com		whoscored.com		flashscore.com		soccerway.com		
	Key Stats (#2)								
Domain Rating (DR)	72		72		73		75		
Ahrefs Rank (AR)	59,363		53,105		46,059		29,561		
Referring Domains	10,153		6,281		4,035		13,478		
Estimated Monthly Search Traffic	7,913,896		1,289,812		7,863,323		5,998,321		
Estimated Top 100 Keyword Rankings	187,207		816,349		1,530,687		1,569,852		
Do they have a blog?									
	Backlink Growth (#3)								
New Ref. Domains / Month (Cumulative)	-157		0.8333333333		-46		-157.5		
"Hockey stick" growth?	✘		✘		✘		✘		
Consistent growth?	✘		✘		✘		✘		
	Superfans (#4)								
Superfan 1	assistgr.blogspot.com [1]		anfieldbanter.blogspot.com [2]		theboudasblog.blogspot.com [3]		lovfsports.blogspot.com [4]		
Superfan 2	yourflashreport.blogspot.com [5]		vedetadabola.blogspot.com [6]		nothingandall.blogspot.com [7]		pranchetamagica.blogspot.com [8]		
Superfan 3	migist.blogspot.com [9]		lifeisawager.blogspot.com [10]		nordestebol.blogspot.com [11]		colunasports.blogspot.com [12]		
Superfan 4	evermovember.blogspot.com [13]		barcaforum.com [14]		bancadirecta.blogspot.com [15]		yesoccerpost.blogspot.com [16]		
Superfan 5	55giannis.blogspot.com [17]		55giannis.blogspot.com [18]		banhadasandebol.blogspot.com [19]		lapaciondeldeporte.blogspot.com [20]		
	watanzaniaoslo.blogspot.es [21]								
	encarnado-e-branco.blogspotdamonline.blogspot.com [22]								
	donodalaja.blogspot.cotente.blogspot.com [23]								
	Broken Pages (#5)								
Broken page 1	- [21] [22]		- [23] [24]		- [25] [26]		- [27] [28]		
Broken page 2	- [29] [30]		- [31] [32]		- [33] [34]		- [35] [36]		
Broken page 3	- [37] [38]		- [39] [40]		- [41] [42]		- [43] [44]		
Broken page 4	- [45] [46]		- [47] [48]		- [49] [50]		- [51] [52]		
Broken page 5	- [53] [54]		- [55] [56]		- [57] [58]		- [59] [60]		
	Country (#6)								
Country 1	United States 19% [61]		United Kingdom 23% [62]		United Kingdom 20% [63]		United Kingdom 16% [64]		
Country 2	United Kingdom 6% [65]		United States 13% [66]		Romania 8% [67]		Kenya 13% [68]		
Country 3	Thailand 6% [69]		India 8% [70]		United States 7% [71]		Indonesia 10% [72]		
Country 4	Vietnam 4% [73]		Indonesia 3% [74]		Tunisia 6% [75]		United States 5% [76]		
Country 5	Nigeria 4% [77]		Turkey 3% [78]		Indonesia 5% [79]		Nigeria 4% [80]		
	Keywords (#7)								
Keyword 1	world cup live [81] 45,000 [82]		football scores [83] 141,000 [84]		premier league fixtures [85] 341,000 [86]		la liga table [87] 167,000 [88]		
Keyword 2	world cup score [89] 13,000 [90]		coutinho [91] 96,000 [92]		2018 african nations championship [93] 199,000 [94]		serie a table [95] 61,000 [96]		

C. Competitive Analysis

	livescore.com		whoscored.com		flashscore.com		soccerway.com	
Keyword 3	world cup scores today [97]	7,200 [98]	harry kane [99]	101,000 [100]	premier league results [101]	151,000 [102]	serie b [103]	17,000 [104]
Keyword 4	world cup 2018 scores [105]	6,700 [106]	football stats [107]	10,000 [108]	world cup standings [109]	295,000 [110]	championship table [111]	464,000 [112]
Keyword 5	* scores [113]	∞ [114]	arsenal fixtures [115]	169,000 [116]	world cup scores [117]	210,000 [118]	epl table [119]	124,000 [120]
	Featured Snippets (#8)							
Number of featured snippets	0		20		19		2	
	Content Gap (#9)							
Content gap keyword 1	* scores [121]							
Content gap keyword 2	* standings [122]							
Content gap keyword 3	* fixtures [123]							
Content gap keyword 4	* results [124]							
Content gap keyword 5	* table [125]							
	Top Pages (#10)							
Top page 1	World cup [126]	[127]	Live Scores [128]	[129]	tennis [130]	[131]	Results [132]	[133]
Top page 2	Premier league [134]	[135]	Messi [136]	[137]	World Cup [138]	[139]	Premier League [140]	[141]
Top page 3	tennis [142]	[143]	Coutinho [144]	[145]	Premier League [146]	[147]	La Liga [148]	[149]
Top page 4	Champions League [150]	[151]	Statistics [152]	[153]	Basketball [154]	[155]	Serie A [156]	[157]
Top page 5	Soccer Today [158]	[159]	Serie A [160]	[161]	Champions League [162]	[163]	Champions League [164]	[165]
	Most Linked Content (#11)							
Most linked content 1	- [166]	[167]	- [168]	[169]	- [170]	[171]	- [172]	[173]
Most linked content 2	- [174]	[175]	- [176]	[177]	- [178]	[179]	- [180]	[181]
Most linked content 3	- [182]	[183]	- [184]	[185]	- [186]	[187]	- [188]	[189]
Most linked content 4	- [190]	[191]	- [192]	[193]	- [194]	[195]	- [196]	[197]
Most linked content 5	- [198]	[199]	- [200]	[201]	- [202]	[203]	- [204]	[205]
	PPC Keywords (#12)							
PPC keyword 1	0		0		0		0	
PPC keyword 2								
PPC keyword 3								
PPC keyword 4								
PPC keyword 5								

D

Results of Keyword Research

UNITED KINGDOM													
Keyword	Country	Difficulty	Volume	Keyword	Country	Difficulty	Volume	CPC	Clicks	CPS	Return Rate	Parent Keyword Last Update	SERP Features
england women gb		18	5900	england women gb		18	5900	0.9	2933	0.5	1.29	england women 2019-03-05 6:1	Site links, Top stories, Thumbsnalls, People also i
women's footba	gb	30	5700	women's footba	gb	30	5700	1	3056	0.54	1.19	women's footba 2019-03-06 19:5	Site links, Top stories, Thumbsnalls, People also i
england women gb		11	3000	england women gb		11	3000	0.04	1263	0.42	1.24	england women 2019-03-05 4:1	Top stories, Thumbsnalls, Site links, Tweet box, V
arsenal women gb		19	2500	arsenal women gb		19	2500	0.8	1695	0.68	1.69	arsenal ladies 2019-03-08 2:2	Top stories, Thumbsnalls, Site links, Tweet box, I
women's super gb		6	2300	women's super gb		6	2300	0.8	1801	0.77	1.18	fa wsl 2019-02-26 18:8	Site links, Tweet box, Top stories, Thumbsnalls, F
women's chamj gb		6	1900	women's chamj gb		6	1900	1.4	1268	0.68	1.2	women's chamj 2019-03-04 4:0	Site links, Tweet box, Top stories, Thumbsnalls, V
women's premi gb		4	1500	women's premi gb		4	1500	0.4	1513	1.01	1.62	wsl football 2019-03-03 7:0	Site links, Image pack, Videos, Knowledge panel
england women gb		11	1400	england women gb		11	1400	3	617	0.44	1.17	england women 2019-02-28 16:6	Top stories, Thumbsnalls, Site links, People also i
manchester citi gb		14	1400	manchester citi gb		14	1400	1	975	0.71	1.3	man city wome 2019-03-05 1:1	Top stories, Thumbsnalls, Site links, Videos, Imag
womens premi gb		2	1100	womens premi gb		2	1100	1123	1.02	1.71	fa women's pre 2019-02-26 6:0	Tweet box, Site links, People also ask, Image pa	
iceland women gb		2	1000	iceland women gb		2	1000	0.15	430	0.44	1.09	icelandic wome 2019-03-05 11:1	Top stories, Thumbsnalls, People also ask, Site li
chelsea women gb		24	1000	chelsea women gb		24	1000	0.35	526	0.52	1.16	chelsea ladies 2019-03-01 23:3	Adwords top, Top stories, Thumbsnalls, Tweet b
womens chamj gb		4	800	womens chamj gb		4	800	0	607	0.76	1.24	women's chamj 2019-02-28 4:2	Site links, Tweet box, Top stories, Thumbsnalls, V
women's footba	gb	10	700	women's footba	gb	10	700	1.9	674	0.99	1.11	wsl football 2019-02-28 23:3	Site links, People also ask, Image pack, Videos, I
scotland wome gb		10	700	scotland wome gb		10	700	0.9	410	0.61	1.2	swf 2019-03-14 3:1	Site links, Top stories, Thumbsnalls, Tweet box, I
womens super gb		9	700	womens super gb		9	700	0.7	464	0.7	1.29	swl 2019-03-06 22:2	Site links, Tweet box, Top stories, Thumbsnalls, F
liverpool wome gb		3	600	liverpool wome gb		3	600	2.5	235	0.39	1.16	liverpool 2019-03-04 17:7	Site links, Image pack, Knowledge panel
benfica women gb		7	450	benfica women gb		7	450	0.35	332	0.71	1.05	2019-02-18 4:5	Site links, Videos, Image pack, Thumbsnalls
thailand wome gb		3	450	thailand wome gb		3	450	1.6	136	0.31	1.25	thai women 2019-03-05 14:4	Adwords top, Image pack, Top stories, Thumbn
women's footba	gb	30	400	women's footba	gb	30	400	0.9	191	0.5	1.14	women's footba 2019-03-04 0:5	Top stories, Thumbsnalls, Site links, People also i
brazil women gb		13	400	brazil women gb		13	400	3	177	0.44	1.21	brazilian wome 2019-03-03 12:2	Adwords top, Site links, Tweet box, Top stories
bristol city wom gb		5	400	bristol city wom gb		5	400	0	306	0.76	1.33	bristol academj 2019-03-04 17:7	Site links, Tweet box, Top stories, Thumbsnalls, I
barcelona wome gb		1	400	barcelona wome gb		1	400	0.3	224	0.59	1.08	barcelona wom 2019-03-09 4:5	Site links, Top stories, Thumbsnalls, Image pack,
arsenal women gb		7	350	arsenal women gb		7	350	0.15	220	0.64	1.07	arsenal ladies 2019-02-23 7:0	Site links, Tweet box, Top stories, Thumbsnalls, I
new zealand wv gb		6	350	new zealand wv gb		6	350	1.4	119	0.34	1.15	new zealand gir 2019-02-24 16:6	Image pack, Top stories, Thumbsnalls, Site links,
reading women gb		11	300	reading women gb		11	300	0.1	185	0.58	1.53	reading fc 2019-02-17 2:2	Site links, Image pack, Top stories, Thumbsnalls,
germany wome gb		9	300	germany wome gb		9	300	0.45	130	0.45	2.58	germany wome 2019-03-03 20:2	Image pack, Site links, Top stories, Thumbsnalls,
liverpool wome gb		4	300	liverpool wome gb		4	300	0.5	152	0.53	1.17	liverpool ladies 2019-02-25 11:1	Tweet box, Site links, Image pack, Knowledge pa
womens footba	gb	30	250	womens footba	gb	30	250	0.6	131	0.54	1.03	women 2019-02-25 8:2	Adwords top, Site links, People also ask, Videos,
england women gb		15	250	england women gb		15	250	1.1	102	0.45	1.14	england women 2019-02-23 23:3	Site links, Top stories, Thumbsnalls, Videos, Imag
denmark wome gb		8	250	denmark wome gb		8	250	0.3	66	0.27	1.14	danish women 2019-03-10 5:5	Site links, Top stories, Thumbsnalls, People also i
women's chamj gb		2	250	women's chamj gb		2	250	0.4	124	0.48	1.27	fa women's cha 2019-02-27 6:3	Site links, Top stories, Thumbsnalls, Image pack,
juventus wome gb		1	250	juventus wome gb		1	250	0.49	119	0.49	1.24	juventus wome 2019-03-08 5:5	Site links, Videos, Image pack, Knowledge panel
argentina wome gb		1	250	argentina wome gb		1	250	1.9	73	0.27	1.12	argentinian wo 2019-03-02 10:0	Adwords top, Site links, Image pack, Top stories
lyon women gb		0	250	lyon women gb		0	250	0	177	0.74	2.09	lyon women 2019-02-17 2:0	Site links, Thumbsnalls, Image pack, Videos, Kno
sweden wome gb		28	200	sweden wome gb		28	200	1	67	0.3	1.16	swedish wome 2019-02-28 5:3	Site links, Top stories, Thumbsnalls, People also i
womens final gb		12	200	womens final gb		12	200	0	70	0.35	1.21	women's final 2019-03-04 20:0	Top stories, Thumbsnalls, Videos, People also as
scotland wome gb		12	200	scotland wome gb		12	200	0.4	77	0.36	1.13	scottish wome 2019-02-24 23:3	Site links, Top stories, Thumbsnalls, Image pack,
womens chamj gb		11	200	womens chamj gb		11	200	0.7				women's chamj 2019-03-13 14:5	Site links, People also ask, Top stories, Thumbn
women super li gb		8	200	women super li gb		8	200	1	179	0.95	1.3	wsl 2019-03-09 17:7	Site links, Tweet box, Top stories, Thumbsnalls, F
norway women gb		6	200	norway women gb		6	200	0.2	62	0.33	1.06	norwegian won 2019-03-09 17:7	Image pack, Top stories, Thumbsnalls
west ham wom gb		5	200	west ham wom gb		5	200	0.2	152	0.76	1.14	west ham ladie 2019-02-20 4:4	Top stories, Thumbsnalls, Site links, Tweet box, I
netherlands wv gb		2	200	netherlands wv gb		2	200	0	41	0.23	1.07	netherlands wo 2019-02-15 4:1	Site links, Image pack, Top stories, Thumbsnalls,
women's chamj gb		2	200	women's chamj gb		2	200	0.5				women's chamj 2019-02-14 14:1	Site links, Videos, Image pack, Thumbsnalls
birmingham wc gb		1	200	birmingham wc gb		1	200	0.2				birmingham wc 2019-02-17 8:5	Site links, Videos, Image pack, Knowledge panel
netherlands wv gb		0	200	netherlands wv gb		0	200		143	0.67	1.13	netherlands wo 2019-02-22 17:7	Site links, Top stories, Thumbsnalls, Image pack,
professional wv gb		22	150	professional wv gb		22	150	0.1				professional wv 2019-03-01 4:1	Image pack, People also ask, Top stories, Thumli
chelsea women gb		19	150	chelsea women gb		19	150	0.4	115	0.85	1.26	chelsea ladies 2019-02-25 18:8	Tweet box, Site links, Top stories, Thumbsnalls, I
uefa women gb		10	150	uefa women gb		10	150					women's footba 2019-02-19 4:0	Site links, Top stories, Thumbsnalls, Tweet box, I
womens footba	gb	8	150	womens footba	gb	8	150	0.1	134	0.93	1.07	football league 2019-03-10 14:1	Site links, People also ask, Top stories, Thumbn
glasgow wome gb		4	150	glasgow wome gb		4	150	0.5				glasgow wome 2019-02-17 6:1	Site links, Image pack
denmark wome gb		3	150	denmark wome gb		3	150		148	1	1.14	denmark wome 2019-02-21 11:1	Site links, Top stories, Thumbsnalls, Image pack,
fc barcelona wv gb		2	150	fc barcelona wv gb		2	150	0.6				fc barcelona fe 2019-02-15 9:4	Site links, Top stories, Thumbsnalls, People also i
psg women gb		0	150	psg women gb		0	150	0				psg women's te 2019-02-25 21:1	Site links, Videos, Thumbsnalls, Image pack, Kno

D. Results of Keyword Research

UNITED STATES

#	Keyword	Country	Difficulty	Volume	CPC	Clicks	CPS	Return Rate	Parent Keyword Last Update	SERP Features
210	womens best	us	5	15000	2	15471	1.03	1.51	womens best 2019-03-13 12: Site links, Top stories, Thumbnails	
232	iceland women	us	4	11000	0.2	6052	0.55	1.2	icelandic womne 2019-03-11 8:0 Image pack, People also ask, Top stories, Thumbnails, Knowledge panel	
317	argentina women	us	3	3800		1279	0.34	1.16	argentina wom 2019-03-12 13: Image pack, Site links, Top stories, Thumbnails, People also ask	
333	thailand women	us	5	3500	1.8	1062	0.3	1.19	thai women 2019-03-12 17: Image pack, Top stories, Thumbnails, Videos, Adwords bottom, Site links	
345	womens soccer	us	8	3200	1	1628	0.51	1.16	uswnt schedule 2019-03-13 18: Top stories, Thumbnails, Site links, People also ask, Image pack, Knowledge panel	
74	womens soccer	us	8	3200	1	1628	0.51	1.16	uswnt schedule 2019-03-13 18: Top stories, Thumbnails, Site links, People also ask, Image pack, Knowledge panel	
349	women's best	us	5	3100	0.8	3219	1.05	1.36	womens best 2019-03-12 0:5 Site links, Top stories, Thumbnails	
350	new zealand women	us	8	3100	0.7	1026	0.33	1.2	new zealand gr 2019-03-12 11: Featured snippet, Image pack, Site links, Top stories, Thumbnails, Videos, Knowledge panel	
359	brazil women	us	6	2900	1.2	814	0.28	1.13	brazilian womne 2019-03-12 20: Site links	
372	women world cup	us	29	2600	0	1373	0.53	1.2	world cup 2019-03-12 13: Site links, Top stories, Thumbnails, Tweet box, People also ask, Image pack, Knowledge panel	
83	women world cup	us	29	2600	0	1373	0.53	1.2	world cup 2019-03-12 13: Site links, Top stories, Thumbnails, Tweet box, People also ask, Image pack, Knowledge panel	
94	womens world	us	11	2300	0.8	1690	0.72	1.14	womans world 2019-03-03 6:1 Site links, Top stories, Thumbnails, Image pack, Tweet box, Knowledge panel	
93	women's football league	us	24	2300	2.5	1355	0.58	1.12	women's footba 2019-03-08 9:4 Featured snippet, Thumbnails, People also ask, Site links, Videos, Image pack, Knowledge panel	
394	norway women	us	6	2200	1.7	766	0.35	1.17	norwegian wom 2019-03-12 17: Image pack, Top stories, Thumbnails	
100	women's world	us	29	2000	0.7	1805	0.88	1.75	womens world 2019-03-03 6:3 Site links, Top stories, Thumbnails, Tweet box, Image pack, Knowledge panel	
417	sweden women	us	15	1900	0.8	468	0.25	1.09	swedish womer 2019-03-13 4:5 Image pack, Site links, Top stories, Thumbnails, People also ask	
430	denmark women	us	4	1800	0.03	434	0.24	1.16	danish women 2019-03-08 15: Image pack, Top stories, Thumbnails, Site links, People also ask	
428	spain women	us	12	1800	1.9	329	0.18	1.16	spanish women 2019-03-13 8:4 Image pack, Site links, Top stories, Thumbnails, Videos, Knowledge panel	
432	professional women	us	12	1800	2.5	474	0.27	1.07	national associ 2019-03-10 10: Image pack, Site links, People also ask	
438	women women	us	28	1700	1.4	1498	0.88	1.49	women women 2019-03-05 3:4 People also ask, Top stories, Thumbnails	
115	women women	us	28	1700	1.4	1498	0.88	1.49	women women 2019-03-05 3:4 People also ask, Top stories, Thumbnails	
453	national women's soccer league	us	15	1500		1006	0.67	1.11	nwsl 2019-03-13 12: Site links, Tweet box, People also ask, Top stories, Thumbnails, Image pack, Knowledge panel	
121	women's group	us	25	1500	0.9	574	0.38	1.34	the women's gr 2019-03-05 11: Site links, Videos	
471	nigeria women	us	11	1400	1.8	688	0.5	3.47	nigerian womer 2019-03-10 1:2 Adwords top, Site links, Top stories, Thumbnails, Videos, Image pack, Knowledge panel	
476	women soccer	us	23	1400		767	0.53	1.15	uswnt 2019-03-06 9:2 Top stories, Thumbnails, People also ask	
133	women soccer	us	23	1400		767	0.53	1.15	uswnt 2019-03-06 9:2 Top stories, Thumbnails, People also ask	
489	portugal women	us	3	1200	0.1	391	0.33	1.12	portuguese wom 2019-03-12 12: Image pack, Top stories, Thumbnails, Site links, People also ask	
143	womens group	us	6	1200	1.8	581	0.5	1.33	women's heath 2019-03-09 22: Site links, Top stories, Thumbnails	
499	switzerland women	us	9	1200	0.03	357	0.31	1.11	switzerland wu 2019-03-08 10: Image pack, Site links, Top stories, Thumbnails, People also ask	
508	netherlands women	us	3	1100	0.08	218	0.2	1.13	dutch women 2019-03-13 18: Image pack, Site links, Top stories, Thumbnails, People also ask, Knowledge panel	
514	chile women	us	12	1000	0.9	340	0.35	1.26	chile women 2019-03-04 1:1 Adwords top, Site links, Top stories, Thumbnails, People also ask, Videos, Adwords bottom, Image pack, Knowledge panel	
156	women's soccer league	us	23	1000	1.8	666	0.65	1.09	nwsl 2019-03-03 1:2 Site links, Tweet box, People also ask, Image pack, Knowledge panel	
527	feminine women	us	3	900		605	0.69	1.51	feminine 2019-03-09 18: Top stories, Thumbnails, Image pack, People also ask, Videos	
524	cameroon women	us	7	900	0.1	244	0.28	1.18	cameroon peop 2019-03-02 0:5 Image pack, Top stories, Thumbnails, People also ask	
167	women united	us	3	800	1.7	383	0.49	1.16	women united 2019-03-12 23:	
169	women's champions league	us	3	800	1.1	643	0.8	1.29	women's chamy 2019-03-08 12: Site links, Top stories, Thumbnails, Tweet box, Image pack, Knowledge panel	
568	roma women	us	2	700		198	0.28	1.08	romani 2019-03-03 18: People also ask, Site links, Top stories, Thumbnails, Videos, Image pack, Knowledge panel	
579	champion women	us	4	700	1.3	679	1.02	1.15	champion cloth 2019-03-12 22: Adwords top, Site links, People also ask, Image pack, Top stories, Thumbnails	
185	champion women	us	4	700	1.3	679	1.02	1.15	champion cloth 2019-03-12 22: Adwords top, Site links, People also ask, Image pack, Top stories, Thumbnails	
562	china women	us	700	8	1.9	453	0.67	1.14	chinese women 2019-03-02 19: Image pack, Site links, Top stories, Thumbnails, Adwords bottom, Knowledge panel	
180	women group	us	13	700		156	0.23	1.14	the women's gr 2019-03-05 5:5 Site links, Image pack, Top stories, Thumbnails	
587	poland women	us	2	600	5	241	0.41	1.09	polish women 2019-03-06 7:1 Adwords top, Image pack, Top stories, Thumbnails, Site links, Adwords bottom	
613	italy women	us	5	600		77	0.13	1.17	italian women 2019-03-10 0:0 Image pack, Top stories, Thumbnails, Site links, Knowledge panel	
592	manchester city women	us	6	600	1.8	476	0.85	1.51	man city womer 2019-03-13 12: Site links, Top stories, Thumbnails, Videos, Image pack, Knowledge panel	
593	women best	us	8	600		583	0.92	1.36	womens best 2019-03-08 0:0 Site links, Top stories, Thumbnails	
198	womens soccer league	us	19	600	2	275	0.49	1.08	nwsl 2019-03-06 16: Site links, Tweet box, People also ask, Top stories, Thumbnails, Image pack, Knowledge panel	
639	australia women	us	5	500	0.5	130	0.27	1.08	australian wom 2019-03-15 18: Image pack, Tweet box, Site links, Top stories, Thumbnails, People also ask, Knowledge panel	
625	germany women	us	11	500	0.09	100	0.2	1.38	german womer 2019-03-10 10: Image pack, Site links, Top stories, Thumbnails, People also ask, Knowledge panel	
661	south africa women	us	4	450	0.45	65	0.15	1.03	south african w 2019-02-16 5:5 Image pack, Site links, People also ask, Top stories, Thumbnails, Adwords bottom, Knowledge panel	
648	arsenal women	us	7	450	0	393	0.88	2.27	arsenal ladies 2019-03-11 11: Site links, Tweet box, Top stories, Thumbnails, Videos, Image pack, Knowledge panel	
236	womens champions league	us	9	400	0	284	0.69	1.22	women's chamy 2019-03-08 17: Site links, Top stories, Thumbnails, Tweet box, Image pack, Knowledge panel	
238	women's tournament	us	10	400	0	232	0.55	1.38	ncaw womens b 2019-03-11 9:1 Top stories, Thumbnails, People also ask	
709	guadalajara women	us	0	350	0.25	200	0.61	1.15	guadalajara wo 2019-03-15 13: Image pack, Site links, Top stories, Thumbnails, Videos, Adwords bottom	
738	barcelona women	us	2	350	0.04	43	0.12	1.03	barca womens 2019-02-23 21: Site links, Image pack, People also ask, Top stories, Thumbnails, Videos, Adwords bottom	
731	women's champion	us	6	350		192	0.55	1.22	champion cloth 2019-03-13 14: Site links, People also ask, Image pack, Top stories, Thumbnails	
262	women's champion	us	6	350		192	0.55	1.22	champion cloth 2019-03-13 14: Site links, People also ask, Image pack, Top stories, Thumbnails	
712	scotland women	us	7	350		86	0.24	1.06	scotland woma 2019-03-06 3:4 Site links, Top stories, Thumbnails, Image pack, Knowledge panel	
717	women's league	us	11	350	1.4	147	0.41	1.03	women's leagu 2019-03-08 12: Site links, Image pack	
255	women's league	us	11	350	1.4	147	0.41	1.03	women's leagu 2019-03-08 12: Site links, Image pack	
251	women reading	us	14	350	0	96	0.26	1.21	reading womer 2019-03-09 12: Image pack, Top stories, Thumbnails, Adwords bottom, Site links	
266	womens final	us	17	350	0.6	170	0.46	1.09	ncas final four 2019-02-19 15: People also ask, Videos, Thumbnails, Image pack	
740	canada women	us	28	350	0.2	108	0.33	1.22	canada women 2019-03-08 22: Image pack, Tweet box, Site links, Top stories, Thumbnails, People also ask, Knowledge panel	
777	soccer women	us	0	300	0.8	95	0.3	1.03	women's socce 2019-03-13 10:1 Top stories, Thumbnails, Image pack, Site links, Knowledge panel	
287	soccer women	us	0	300	0.8	95	0.3	1.03	women's socce 2019-03-13 10:1 Top stories, Thumbnails, Image pack, Site links, Knowledge panel	
800	jamaica women	us	0	300	0.7	74	0.26	1.13	jamaican womer 2019-02-13 20: Image pack, People also ask, Top stories, Thumbnails, Videos, Knowledge panel	
752	france women	us	7	300		63	0.22	1.17	france women 2019-02-13 16: Image pack, Top stories, Thumbnails, Site links, People also ask, Knowledge panel	
746	england women	us	22	300	0.25	65	0.22	1.23	england womer 2019-03-01 20: Site links, Top stories, Thumbnails, Image pack, Knowledge panel	
826	olympique lyonnais women's	us	0	250					olympique lyon 2019-02-13 0:2 Site links, Image pack, Top stories, Thumbnails, Videos, Knowledge panel	
871	women's table	us	1	250	0.45	92	0.35	1.24	women's table 2019-02-16 9:5 Image pack, Site links, Top stories, Thumbnails, Videos	
855	north carolina women	us	4	250	0.4				carolina blue cl 2019-02-14 12: Image pack, Top stories, Thumbnails, Knowledge panel	
324	women's premier league	us	6	250	0.05	221	0.95	1.05	women's premi 2019-02-22 12: Site links, Top stories, Thumbnails, Image pack, Knowledge panel	
841	paris women	us	7	250	0.6				parisian womer 2019-02-22 17: Image pack, People also ask, Top stories, Thumbnails	
310	women's final	us	8	250					ncaw women's l 2019-02-16 9:3 Featured snippet, People also ask, Videos, Thumbnails, Image pack, Knowledge panel	
901	tijuana women	us	0	200	0.45				tijuana sex 2019-02-27 20: Image pack, Top stories, Thumbnails	
909	us womens	us	1	200	0.4				uswnt 2019-03-06 12: Site links, Top stories, Thumbnails, People also ask, Image pack, Knowledge panel	
918	champion women's	us	4	200					champion appa 2019-02-14 9:4 Site links, Image pack, Top stories, Thumbnails	
359	champion women's	us	4	200					champion appa 2019-02-14 9:4 Site links, Image pack, Top stories, Thumbnails	
916	live women	us	14	200	0.7				icc women's wc 2019-03-07 3:2 Top stories, Thumbnails, Site links, Adwords bottom	
440	pig womens	us	0	150	0.1				pig feminine 2019-02-25 10: Site links, Videos, Thumbnails, People also ask, Image pack, Knowledge panel	
441	reading women	us	1	150	0.7				reading women 2019-03-01 12: Site links, Top stories, Thumbnails	
963	juventus women	us	1	150	0.35				juventus womer 2019-03-10 0:5 Site links, Tweet box, Videos, Image pack, Knowledge panel	
415	real madrid women	us	2	150	0.35				real madrid wo 2019-02-18 4:0 Site links, Image pack, Top stories, Thumbnails, Videos	
435	women champions league	us	2	150					women's chamy 2019-02-19 18: Site links, Image pack, Top stories, Thumbnails, Tweet box, Videos, Knowledge panel	
438	best women's	us	8	150	0.7				womens best 2019-02-24 1:5 Site links, People also ask, Top stories, Thumbnails, Image pack	
957	women score	us	16	150	1.2				ncaw 2019-03-04 5:5 Site links, People also ask	
987	chelsea women	us	16	150	1.3				chelsea ladies 2019-03-02 5:4 Site links, Tweet box, Top stories, Thumbnails, Image pack, Knowledge panel	
967	uefa women	us	16	150					uefa women 2019-02-15 21: Site links, Top stories, Thumbnails, Tweet box, Image pack, Knowledge panel	
392	women score	us	16	150	1.2				ncaw 2019-03-04 5:5 Site links, People also ask	
140	wing women	us	19	150	0.02				wing women 2019-02-27 11: People also ask, Site links, Top stories, Thumbnails, Image pack	
452	womens international	us	26	150					women's intern 2019-02-19 21: Site links, Top stories, Thumbnails	
431	date women	us	28	150	3				single women 2019-03-11 7:3 Top stories, Thumbnails, People also ask, Adwords bottom, Site links	
423	date women	us	28	150	3				single women 2019-03-11 7:3 Top stories, Thumbnails, People also ask, Adwords bottom, Site links	
468	pig women	us	0	100	0.6				paris saint ger 2019-03-11 12: Site links, Videos, Thumbnails, Image pack, Knowledge panel	
237	liverpool women	us	2	100	0				liverpool ladies 2019-02-14 11: Site links, Tweet box, Image pack, Videos, Thumbnails, Knowledge panel	
500	champion womens	us	4	100	1.4				champion sport 2019-02-23 15: Site links, Top stories, Thumbnails, Image pack	
460	champion womens	us	4	100	1.4				champion sport 2019-02-23 15: Site links, Top stories, Thumbnails, Image pack	
461	chelsea womens	us	6	100	0.1				chelsea ladies 2019-03-12 11: Site links, Tweet box, Top stories, Thumbnails, Image pack, Knowledge panel	
486	womens premier league	us	7	100					women's premi 2019-03-08 5:0 Site links, People also ask, Top stories, Thumbnails, Image pack, Videos, Knowledge panel	
473										

D. Results of Keyword Research

AUSTRALIA												
#	Keyword	Country	Difficulty	Volume	CPC	Clicks	CPS	Return Rate	Parent Keyword	Last Update	SERP Features	
634	women group	au		11	100	1.7			women group	2019-03-13 21:	Image pack, Site links	
680	melbourne victi	au		2	100				melbourne victory w league	2019-03-05 23:	Site links, Top stories, Thumbnails, Image pack, Videos, Knowledge panel	
681	womens premi	au		2	100	4.5			wpl ladder	2019-03-19 3:2:	Site links, People also ask, Top stories, Thumbnails, Image pack, Knowledge panel	
683	womens chamf	au		18	100	0			wwe women's championship	2019-03-09 23:	Site links, Image pack, Top stories, Thumbnails, People also ask, Videos, Knowledge panel	
684	womens final	au		3	100	0			australian open 2019	2019-03-13 23:	Thumbnails, Videos	
686	women's leagu	au		17	100				w league	2019-03-16 10:	Site links, People also ask, Image pack, Knowledge panel	
693	australia wome	au		25	100	0.04			matildas	2019-03-24 15:	Site links, Top stories, Thumbnails, Tweet box, Image pack, Knowledge panel	
539	sydney fc womi	au		2	150				w league	2019-03-08 14:	Site links, Image pack, Thumbnails, Videos, Knowledge panel	
547	women's premi	au		2	150	0			women's premier league	2019-03-09 8:1:	Site links, Top stories, Thumbnails, Image pack, Knowledge panel	
565	women's footb	au		23	150	2			afw	2019-03-17 3:0:	Site links, Image pack, People also ask, Top stories, Thumbnails, Knowledge panel	
574	argentina wom	au		2	150	0	25	0.16	1.28 argentine women	2019-03-10 22:	Image pack, People also ask, Top stories, Thumbnails	
465	wsl women's	au		19	200				women surfing	2019-03-02 2:5:	Site links, People also ask, Top stories, Thumbnails, Tweet box, Videos, Image pack	
480	women best	au		6	200		206	1.07	1.17 womens best	2019-03-11 9:1:	Site links, Videos, Thumbnails	
487	brazil women	au		4	200	0.4	37	0.21	1.17 brazilian women	2019-03-15 23:	Site links, Top stories, Thumbnails, People also ask, Image pack, Knowledge panel	
533	new zealand wr	au		7	200	0.45	71	0.4	1.15 w zealand girls	2019-03-12 20:	Image pack, Site links, Top stories, Thumbnails, People also ask, Videos, Knowledge panel	
534	sydney fc womi	au		3	200	0.8			sydney fc players	2019-03-16 15:	Site links, Top stories, Thumbnails, Image pack, Videos, Knowledge panel	
432	womens footba	au		17	250	1.5	122	0.46	1.09 afw	2019-03-16 8:0:	Site links, Top stories, Thumbnails, People also ask, Image pack, Knowledge panel	
451	thailand womei	au		4	250	0.8	78	0.33	1.22 thai cupid	2019-03-10 19:	Adwords top, Image pack, Videos, Thumbnails	
412	womens soccer	au		30	300	0.1	135	0.44	1.23 w league	2019-03-15 4:1:	Site links, Top stories, Thumbnails, Image pack, Knowledge panel	
358	womens world	au		24	400	0	224	0.53	1.16 world cup	2019-03-14 8:3:	Site links, Top stories, Thumbnails, Tweet box, People also ask, Adwords bottom, Knowledge panel	
349	women's socce	au		18	450	0	102	0.22	1.1 matildas	2019-03-23 22:	Site links, Top stories, Thumbnails, Image pack, People also ask, Knowledge panel	
325	women's footb	au		23	500	1.5	380	0.7	1.1 afw	2019-03-05 6:0:	Site links, Top stories, Thumbnails, People also ask, Image pack, Knowledge panel	
291	women's best	au		1	700		651	0.96	1.67 protein store	2019-03-21 1:4:	Site links, Videos, Thumbnails	
280	iceland women	au		5	800	0.15	374	0.44	1.2 slandic women	2019-03-19 22:	People also ask	
246	women's	au		11	1300	0.02	470	0.37	1.06 woman	2019-03-09 21:	Top stories, Thumbnails, People also ask	
228	womens	au		18	1700	0.25	651	0.38	1.07 sale	2019-03-05 17:	Top stories, Thumbnails	
129	womens best	au		0	7100	1.5	6969	0.98	1.73 womens best	2019-03-23 1:01	Site links, Videos, Thumbnails	

D. Results of Keyword Research

WWC UNITED KINGDOM										
#	Keyword	Country	Difficulty	Volume	CPC	Clicks	CPS	Return Rate	Parent Keyword	Last Update
1	world cup fixtures	gb	38	631000	0.4	170241	0.27	3.14	world cup fixtures	#####
2	world cup results	gb	52	163000	0.9	40679	0.25	2.85	world cup results	#####
3	world cup schedule	gb	39	84000	0.02	36092	0.43	2.43	world cup schedule	#####
4	world cup matches	gb	67	59000	4.5	19450	0.33	1.93	world cup	#####
5	world cup scores	gb	32	43000	0.01	12423	0.29	2.91	world cup results	#####
6	world cup tables	gb	7	26000		8723	0.34	2.13	world cup tables	#####
7	world cup live	gb	32	26000	0	22539	0.86	1.61	world cup live	#####
8	world cup table	gb	10	22000	0.04	7500	0.34	2.23	world cup groups	#####
9	world cup standings	gb	33	10000	0	3444	0.33	2.09	world cup standings	#####
10	world cup live score	gb	24	3300	0	1113	0.34	2.44	world cup results	#####
11	world cup match schedule	gb	34	1400		556	0.39	2.34	world cup schedule	#####
12	world cup live scores	gb	14	1300		551	0.41	2.23	world cup 2018	#####
13	world cup livescore	gb	25	40					world cup results	#####
WWC UNITED STATES										
#	Keyword	Country	Difficulty	Volume	CPC	Clicks	CPS	Return Rate	Parent Keyword	Last Update
1	world cup schedule	us	50	1160000	1.6	464683	0.4	3.52	world cup schedule	2019-03-2
2	world cup standings	us	28	295000	0.7	106074	0.36	2.51	world cup standings	2019-03-2
3	world cup scores	us	39	210000	0.6	86041	0.41	3.4	world cup scores	2019-03-2
4	world cup results	us	42	76000	0.6	39536	0.52	2.82	world cup results	2019-03-2
5	world cup live	us	32	45000	1.7	53552	1.2	1.46	fox sports world cup	2019-03-2
6	world cup matches	us	70	41000	0	18875	0.46	2.87	world cup schedule	2019-03-2
7	world cup fixtures	us	36	17000	0	6965	0.42	2.51	world cup fixtures	2019-03-2
8	world cup table	us	68	7100	2	3192	0.45	1.9	world cup standings	2019-03-2
9	world cup tables	us	29	4200	2.5	1583	0.38	2.54	world cup standings	2019-03-2
10	world cup live score	us	20	2200	0.25	972	0.44	2.46	world cup scores	2019-03-2
11	world cup match schedule	us	40	1300	0	683	0.53	1.63	world cup schedule	2019-03-2
12	world cup live scores	us	22	1000		476	0.46	2.09	world cup scores	2019-03-2