SEO SOFTWARE DEVELOPMENT

Ultimate Guide

DataForSEO

A Word From the CEO

For the last several years the team of DataForSEO has been working with some of the leading digital marketing agencies and software businesses in addressing a variety of sophisticated challenges they faced while planning, building and launching SEO software solutions. From my experience and observations, there's a question that anyone keen to develop a marketing application should consider prior to making a decision to develop a project:

'Do you have what it takes to create, sustain, and scale up an SEO tool?'

Although the question seems pretty obvious, I've seen a lot of software projects falling through the cracks because of the inadequate perception of challenges and available resources. On the one hand, there is an ever-changing technology landscape forcing software development teams to continuously update their knowledge and ensure that their solutions do not lag behind the market. On the other hand, there is Google altering the rules of the SEO game and thus making it increasingly difficult to provide customers with effective solutions for tracking rankings, doing keyword research, etc. These issues can put you in a peculiar Moebius-ring-like situation: once you find resources to adapt to algorithm changes, it creates the need for using a more advanced technology to efficiently collect, store, and process data.

This White Paper was designed to answer the questions that may arise - or may already have arisen - to those of you who engaged in developing, sustaining, or scaling up SEO software solutions.

I also hope that it will help development teams to avoid being caught between a rock and a hard place.

Overview

This White Paper explores the following six aspects of developing SEO tools comparing different approaches and technologies, while also providing insights into scaling up an SEO software project.

01 Key Functionality

There are dozens of features one can include in their SEO software. In this part, we will help you to find out which features users will find most useful.

02 Architecture

Building a robust architecture is probably the most critical part of software development. We will walk you through the industry's best practices to help you with finding the best solutions for you SEO software project.

03 Leveraging APIs

Finding a reliable and cost-effective data source can be challenging. We will provide you with different solutions for supplying your SEO tool with reliable data and help to identify the most suitable one for exactly your project.

04 APIs For SEO Tools

Using API-based backend has proven beneficial for many development teams. Learn the ropes of implementing API solutions in SEO software with actionable examples and industry's best practices.

05 Scaling SEO Software

Taking a software project off the ground is only the beginning. How to make sure your solutions can be scaled up? How to implement the principles for continuous delivery? How to add more functionality to your SEO tool?

06 Summary

This part brings us to the end of our ultimate guide to developing SEO software, whether it be a powerful all-in-one enterprise platform or a simple keyword research tool.

Key Functionality

The SEO software market includes many all-in-one solutions designed for solving a big scope of search engine optimization issues and therefore offering a variety of tools is a single interface. While lots of industry leaders position themselves as the everything-you-need-in-one-pack kind of solution, the demand for some features can turn out to be low, what may result in the painful withdrawal of under-performing products.

Although the above case can seem to be applicable only for young software projects, it's not true. In 2013 the Moz team launched Moz Analytics, a groundbreaking product that was supposed to serve the needs, as it seemed at the time, the emerging class of inbound marketers. The then company's CEO, Rand Fishkin, believed having all inbound channels (social, search, content, email, etc.) in one package would help to catch up with the upcoming changes in the industry and capture the new segment of customers.

Now, whilst the product itself was quite promising at the beginning (Moz Analytics received over 80,000 signups before the launch), it turned out to be a failure. According to Rand Fishkin, the growth of the company dropped significantly after the Moz Analytics release - from the 100%year-over-year of the 2007–2013 era, to under 20% in 2014. [i]

The attempt to include too many solutions in one software product and thus appeal to the larger amount of potential users started the culmination of mistakes that led Moz to the layoff of 28% of its employees.

"What I regret most is not having the experience, the examples, and the proof to convince our team earlier to stay away from multiple products or all-in-one products while losing focus on our core customers and market. It took a long time, a lot of money, and now, this heartbreaking event to change direction. I really hope it's a lesson we've learned for good."

Rand Fishkin
Founder of MOZ

The team of Moz has eventually pivoted back to focusing on just two core products: Moz Pro and Moz Local.

Was Moz Analytics a failure? Probably yes. Would it become successful if it didn't try to appeal to too many audiences? Probably yes. Is focusing on point solutions better than developing an all-in-one software? It depends.

It's only natural that point solutions for optimizing certain aspects of SEO workflow have a much shorter development cycle and require fewer resources to build and maintain. However, that being said, teams that focus on developing stand-alone SEO tools need to invest more time and resources in determining what features will work best for their target audiences.

Below you'll find a few SEO-related issues that point solutions can solve, along with some typically included features.

Keyword Research

- Long-tail keywords
- Ranked keywords
- LSI keywords
- Keywords data

On-page Audit

- Pages with errors
- Pages load time
- Duplicate content
- Inbound links

SERP Analytics

- Extra SERP Features
- Keywords metrics
- Multiple locations
- Multiple languages

Competitor Analysis

- Traffic Value
- Traffic Sources
- Top keywords
- Backlinks

Link Analysis

- Inbound links
- Outbound links
- Noindex/nofollow links
- Anchor text

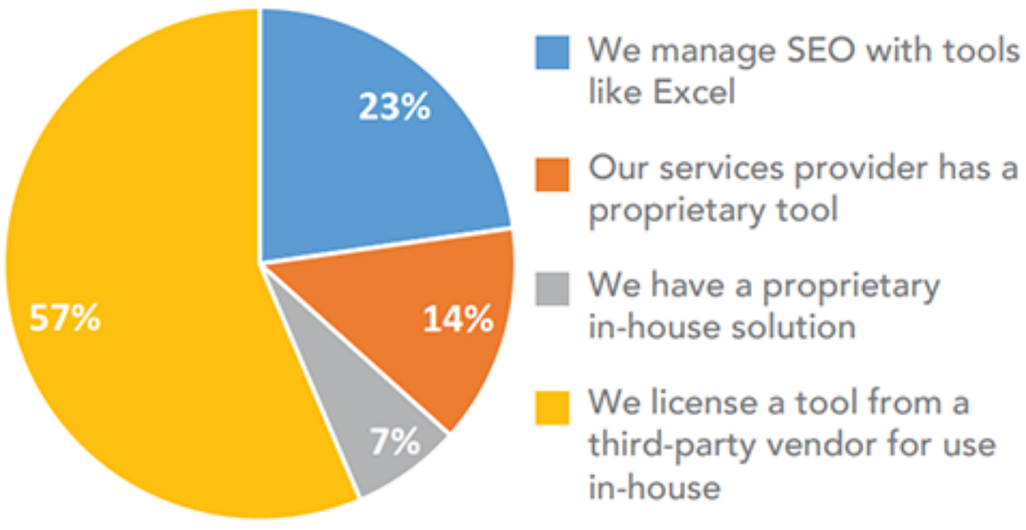
Local SEO Tracking

- Maps & Local Pack
- Brand mentions
- NAP consistency
- My business listings

What about SEO software developed in-house?

According to the Martech Intelligence Report [ii], 57% of digital marketing teams license SEO software from third-party vendors whereas only 7% have a solution created in-house.

Table 4: What technology do you use to manage SEO?



Source: SEMPO's *2016 State of Search industry report*

Why do marketers decide to build tools in-house rather than merely buying ready-made solutions from third-party vendors?

From our experience, marketing teams sometimes face issues that can't be solved by external software.

Although some of these issues require human intervention, many of them can - and should - be automated. If that's the case for you, here's a short list of things the automation of which can ultimately save you plenty of time and money:

- Customer Relationship Management.
- Analytics of customer data.
- Data-based reporting.
- Competitor analysis.
- Custom SEO dashboards.

Architecture of SEO Software

Once the software's core capabilities have been identified, they should then be "structured" so that the end-user can easily access them. Only by bringing these capabilities together and figuring out common use cases we can build a solution that users will probably find useful.

SEO software market is highly competitive, and vendors are continuously making adjustments to structure their products in the most convenient way. Capabilities of SEO software have changed dramatically over the past few years, so did the architecture.

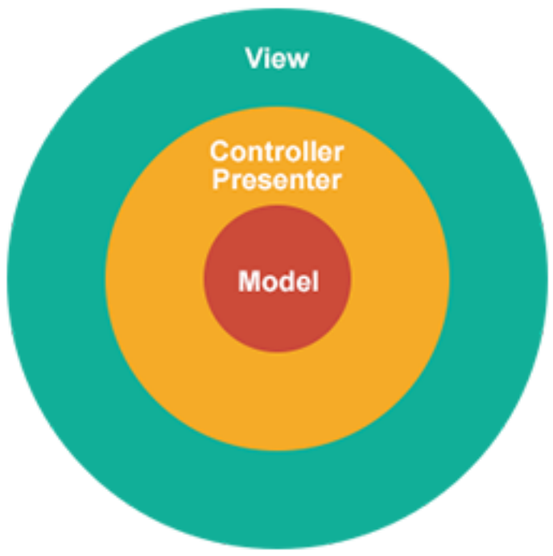
In this part, we'll take a look at several solutions used by SEO development teams to build their products.

N-tier Architecture

N-tier - also referred to as layered or multi-tier - architecture is one of the most frequently used solutions for developing SEO tools. Such architecture is built around the database, so it's more convenient for applications that use tables to store data (which is usually the case of SEO software).

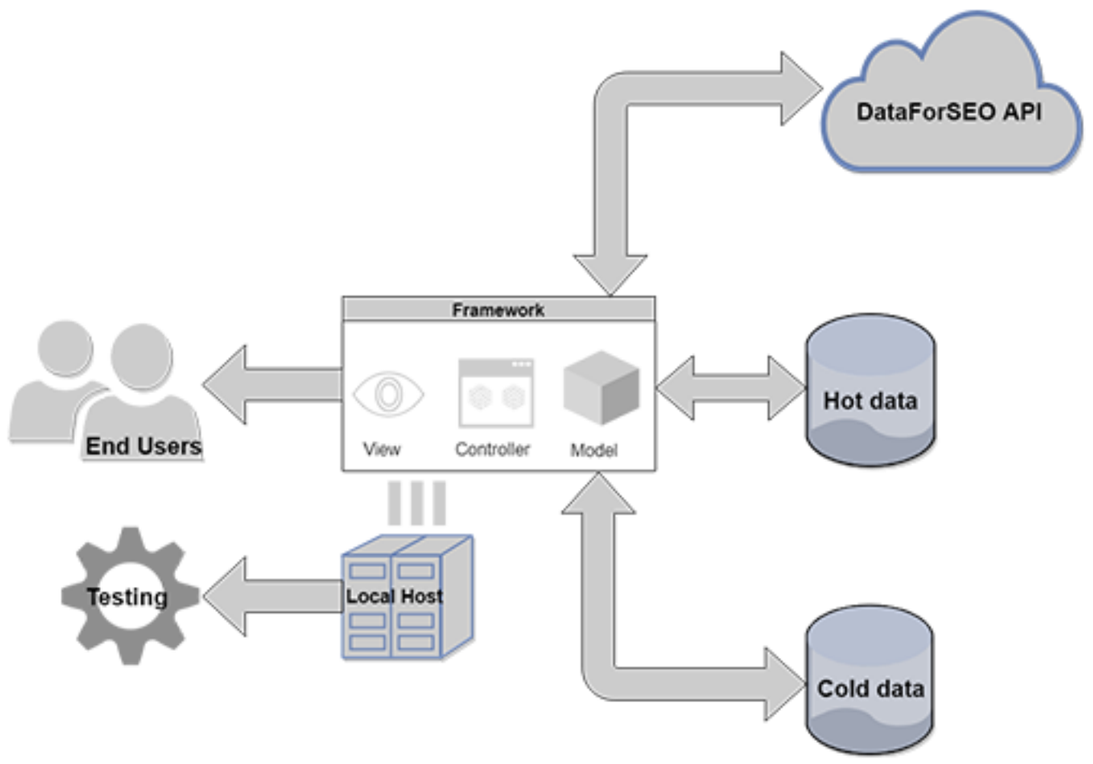
Layered models provide that the data make its way through several isolated layers and hits the database at the bottom. Now each of these layers is entitled to a certain activity, e.g., requesting ranking data or checking obtained data for consistency. Since layers are usually isolated, different applications can work independently of each other.

N-tier architecture often includes the Model-View-Controller structure. This rather conventional approach features three key elements: the Model that contains essential intel about the types of data in the database, the View that can include HTML with dynamic embedded code, CSS and JavaScript.



The Model and the View are connected by the Controller, which is responsible for transforming and transferring the data.

On a simplified scheme below you can see an example of the layered architecture of SEO software that relies on DataForSEO APIs.



Although separate layers can improve the maintainability of software, such structures are known for poor agility and scalability.

What's more, such solutions usually require monolithic deployment, meaning that even little updates to the system involve a total redeployment.

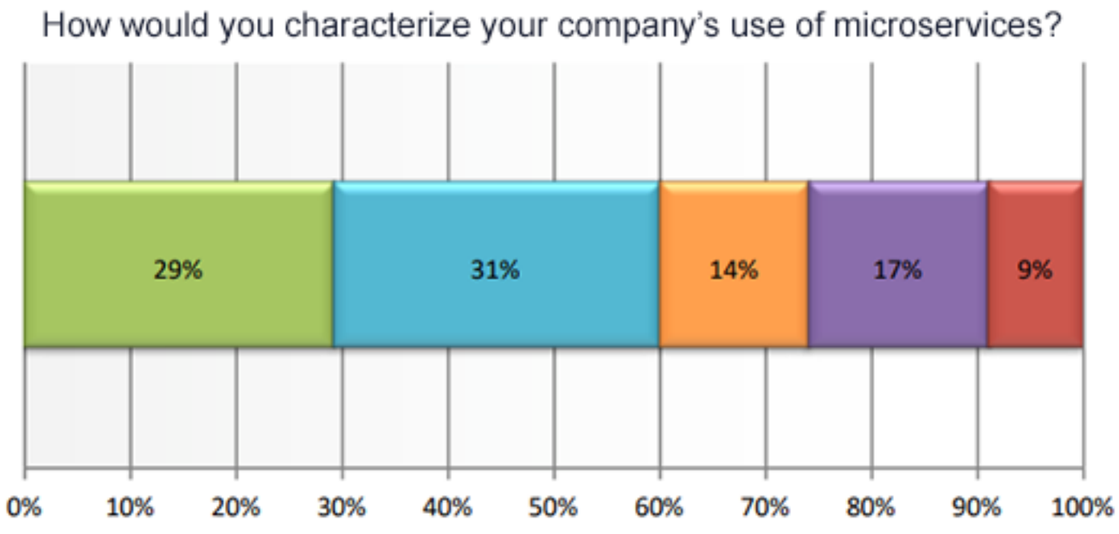
Despite that layered architecture has many downsides, many of the leading SEO software projects (e.g., RankActive, popular all-in-one SEO platform, and a long-standing DataForSEO customer) still rely on it heavily.

"There're still no clear borders in the monolith vs. microservices architecture issue. Our service, just like lots of other modern services, is at the crossroads between the two. RankActive leverages a three-tier architecture with closed layers. Monolith architecture with isolated modules and strictly designated APIs that work with different modules is used at each layer. All that allows us to get the right balance in the development and testing of the service. We don't have issues with the coherence between microservices and version support. On the other hand, layers and modules communicate via the pre-agreed API, so the development of these modules can be carried out by dedicated teams independently. All that allows us to make the most of both paradigms: we can test the entire application, as if there was a monolith architecture, while also having the ability to work on modules independently as if we had microservices."

Alexander Shevchenko
Head of Web Development at RankActive

Microservices

The concept of microservices has been at the forefront of software development for quite a long time. According to a new report [iii] from Dimensional Research Inc., 91% of development professionals are using or have plans to use microservices.



That trend, however, has seemingly bypassed lots of SEO tools. DataForSEO has had to work with dozens of SEO software development teams, and, according to our observations, only enterprise projects are built with a microservices approach to architecture, whereas a vast majority of point-solutions are built as monolith applications.

Simply put, the microservice architecture allows developers to create a stack of tiny autonomous programs, each of which has its role and functionality, instead of building one big centralized tool with multiple capabilities.

Here're a few benefits of using microservice architecture:

- **Independent deployment**. Teams can update parts of software without the need to redeploy it entirely.
- **Fault isolation**. The malfunction of a single service won't take down the entire project.
- **Container-ready**. Docker and other container technologies make

On the other hand, microservices work best for rather big software projects and require a certain level of DevOps culture. That may be the reason why typically only enterprise-grade SEO software projects adopted microservices architecture.

One of the SEO software companies that successfully implemented microservices [iv] is Conductor, one of the biggest players in the enterprise SEO tools market.

"For the past few years, we have explicitly used the Strangler Pattern to evolve our codebase and migrate to a Microservices architecture that allows us more control over our scalability and deployment, and in general more independence. Delivering on the product roadmap is always our primary mission, but we have explicitly approached it with good engineering practices, an architectural pattern that makes us as future proof as possible, and supporting tooling and infrastructure to enable good CI/CD."

Neetu Rajpal
CTO at Conductor

Strangler Pattern that Rajpal mentioned in her quote is a tool that helped many projects to migrate from monolith to microservices architecture.

The problem with replacing an old system typically involves a gradual migration, which means that you would have to support both new and old systems simultaneously. Strangler Pattern helps to intercept user requests through the so-called Strangler Facade and then redirect them to the new or old backend systems.

Leveraging APIs

We live in a time where APIs have taken over every aspect of the digital economy. If you're planning to start a new SEO software project or add more functionality to an old one - there's probably an API that can help you with that.

What's more, these APIs sometimes turn out to be of the much higher quality than anything you can come up with in-house.

Using API in the backend unfiles lots of development steps that teams would take to build backend systems, with a single block of functionality to remodel on top of.

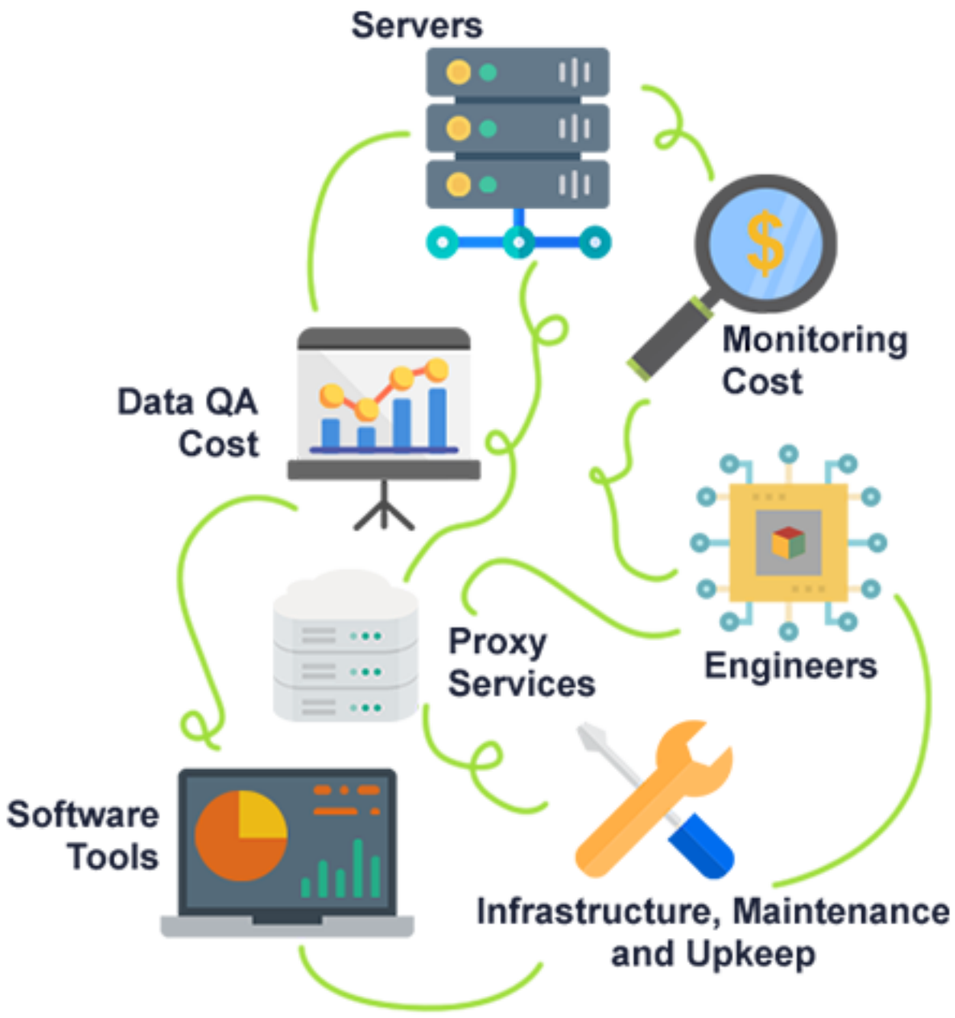
In the framework of SEO tools development, APIs are used to integrate search results, keywords metrics, information about on-page errors, and so on. In simple terms, you get the data you need straight to the application. Moreover, that data is typically structured, readable and can be accessed only by authorized users.

Let's imagine your team is building a keyword research tool. It's very likely you'll need to implement a few metrics for keyword analysis, e.g., search volume, competition, and CPC. For example, the picture below shows what you will find when going through the Ranked Keywords module of the RankActive software.

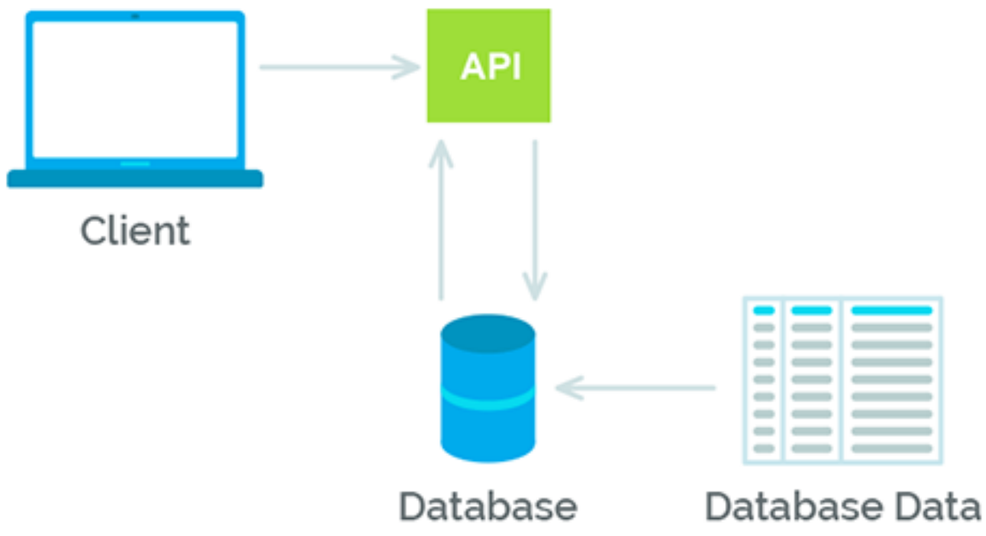
	Keyword	↓ Search volume	Competition	CPC	ETV	Position	Results count	Traffic cost
		>	>	>	>	>	>	>
	google keywords planning	49500	0.30	$3.45	103	72	70,500,000	$355.61
	keyword planning google	49500	0.22	$7.18	103	81	1,170,000	$739.82
	googlekeywordtool	12100	0.15	$8.51	25	77	390,000	$212.64
	google keywords tools	9900	0.31	$9.71	20	84	162,000,000	$194.22
	keywords google tool	9900	0.31	$9.71	20	95	121,000,000	$194.22
	keywords tool google	9900	0.31	$9.71	20	71	123,000,000	$194.22
	adword keyword tool google	5400	0.45	$6.41	11	92	5,920,000	$70.53
	google ad words key word tool	5400	0.45	$6.41	10	93	5,770,000	$64.12
	google ad words keyword tool	5400	0.45	$6.41	11	96	5,980,000	$70.53
	google addwords keyword tool	5400	0.45	$6.41	10	95	6,020,000	$64.12
	google adwards keyword tool	5400	0.45	$6.41	11	93	5,930,000	$70.53

The page displays a lot of information. In addition to keywords, it provides search volume, competition, CPC, ETV, Position, Results Count, and Traffic Cost values.

To retrieve any number of keywords that a webpage is ranking for, one would need to undertake a lot of technical issues, such as bypassing captcha at results pages (proxy services), building up a server infrastructure, not to mention the cost of hiring a dedicated team of software engineers.



Ready-to-use APIs can make the whole process remarkably easier by delivering all the necessary data straight to your application. For instance, here's how REST APIs typically operate:



1. Data gets stored in the database of an API provider.
2. You set a task to an API endpoint using your credentials.
3. API reaches out to a database and extracts requested data.
4. You recieve data from an API through an endpoint.

Thus, the process of retrieving data becomes significantly shorter and hence more cost-effective.

The overwhelming majority of SEO software vendors are leveraging data obtained through APIs from third-party providers. For example, here's what Alexander Nabatchikov, the CTO at DataForSEO, says about the benefits that third-party data has for software development teams:

"With third-party data, you can focus solely on the end product. Teams that use this approach don't have issues with obtaining, processing, and storing the data."

Alexander Nabatchikov
Head of Engineering at DataForSEO

APIs for SEO Tools

There are many third-party services one can use to obtain SEO data. From Google Adwords API to Twitter API - the choice of APIs is limited only by the essential functionality and scale of your software.

In this chapter, we'll walk you through the most popular API solutions and help to decide which of them will work best for your project. APIs are split into three sections, each of which represents a particular use case: Keyword Data, SERP Data, On-page data, and Ranked Keywords Data.

Keyword Data

Keyword data is the essential part of any SEO or PPC tool. The accuracy, speed, and availability of such metrics as search volume, cost-per-click, estimated traffic value, etc., can be a game-changer when it comes to choosing the provider of data. Below you'll find a list of sources that SEO software developers typically use to get the necessary keyword data.

Google Developers AdWords API

Google AdWords API allows integrating data from AdWords platform directly into applications. It not only helps to manage various AdWords accounts and campaigns more efficiently, but also provides tremendous opportunities to developers of third-party software.

That includes automated generation of keywords and destination URLs, key marketing metrics (Search Volume, CPC, Competition), location targeting, customizable reports, and so on. What's more, the SOAP interface of AdWords API is supported by six popular programming languages, comprising PHP, Java, Python, .NET, Ruby, and Perl.

If the process of authorization weren't too complicated, AdWords API would make an excellent tool for SEO software development. The point is that one needs to get a developer token in order to use pretty much all Google's APIs. Although this process itself is not that difficult, the so-called "token review team" rejects all applications that don't comply with the Terms & Conditions and the Required Minimum Functionality. In fact, lots of SEO software providers don't pass token review (any SEO software is considered a third-party tool).

DataForSEO

Keywords Data API from DataForSEO is a credible alternative to Google AdWords API. The data it provides is of the same quality as AdWords', but you don't need to comply with Google's terms of service to use it.

This API allows getting search volume, cost per click, competition level, and historical monthly searches for bulks of keywords. What's more, it can provide you with PPC metrics (ad position, maximum bid, cost per click, daily impressions, daily clicks, and daily cost).

Keyword Data API is REST, meaning that the exchange of data is done via the HTTPS protocol. You can retrieve data either in JSON or XML format.

SERP Data

SERP data is necessary when it comes to building rank checking tools. There are two ways to obtain SERP data from Google: parse results pages directly and buying it from third-party data providers. Since the former approach provides for running search queries, it's considered a violation of Google's TOS. Thus, incorporating third-party data is the only legitimate solution so far.

However, it's worth noting that other search engines (Bing, for example) allow developers to access SERP data through official APIs.

Bing

With the official Bing Web Search API, you can retrieve Bing results pages and, what's more important, narrow down the results by freshness, location, and type. This API also provides statistics for submitted queries (e.g., call volume, market distribution, etc.).

Despite the fact that Bing Web Search API is an excellent tool for SEO software developers, only a few tools incorporated its functionality. The main reason for that is Bing's relatively small market share - only 3.18%[viii] to date. Google, for comparison, holds 90.91%[viii].

Google Maps

Google Maps is a great source of data on local establishments. With Google's official Place API you can access the index of business listings along with POI data.

Since Places API uses the same algorithm as Google Maps and offers keyword search, developers can use it to fetch Google Maps results with website URLs, photos, and rankings. Moreover, with Places API you can order results by the closest distance.

The main drawback of this API is the strict limit of 60 results per a query.

DataForSEO

SERP API can provide you with TOP 100 organic and paid results based on a keyword, location, and language.

It's worth noting that this API supports Google SERPs extra features, including featured snippets, top stories, answer boxes, carousels, people also ask, local pack, maps, knowledge graphs, videos, images, and related search.

Using SERP API, you can build a powerful rank checking tool for keyword position analysis or competitor research. All results included in the API response array contain the result's title, snippet, URL, and type. Extra features can contain additional properties, such as phone numbers, ratings, tables, author, etc.

Here's how SERP API helped Semantic Juice with crawling Google's results pages:

*"With the help of DataForSEO API our users are able to setup simple topical crawls by choosing a phrase instead of manually collecting few dozen URLs, which makes our service *much* easier to use. I am impressed with the very granular geo-targeting options they provide. It enabled us to publish a unique SEO tool which combines their API with our machine learning algorithms. With their SERP API I will also be able to revive an old SEO tool where I was scraping Google myself before they introduced fancy anti-scraping measures, which requires serious investment and skill to bypass. "*

Lazar Kovacevic
Co-founder of Semantic Juice

On-page Data

On-page optimization has long been a crucial component of successful SEO campaigns. Checking hundreds of websites for dozens of on-page parameters can be tricky, especially when you have to build a crawler from the ground up.

Fortunately, there are many ready-made solutions that can supply your on-page tool with all the necessary functionality.

In this part, we'll take a look at several APIs which you can use to extend the functionality of your on-page tool, or even build a new one.

Google Developers

URL Testing Tools API allows running on-page performance check-ups against web pages. This API, however, is still in beta, and so far it only allows to run mobile friendliness tests.

To develop a basic on-page tool using URL Testing Tool API you should have an active Google Account and create a project in Google Search Console. You can invoke the API either by sending HTTP requests and parsing the responses or using ready-made client libraries (available for GO, Java, JavaScript, .NET, Node.js, Objective-C, PHP, Python, and Ruby). All responses are provided in JSON format.

Note that URL Testing Tool API requires authorization in Search Console (along with an API key), making it impossible to crawl websites that users to have access to through Search Console.

Yandex

Structured data validator API from Yandex allows extracting structured data from pages in JSON, along with the codes of generated errors. This API can be particularly useful when it comes to building on-page tools with micro-markup validation functionality.

Note that according to Yandex TOS [ix], applications that use this API should be available for free use by the general public.

On-Page API from DataForSEO provides a great set of functionalities which you can easily incorporate in your SEO tool. It features more than seventy on-page factors, including broken, duplicate and canonical pages, in- and outbound links, page speed, deprecated tags, etc.

This API allows you to set up advanced filtration parameters and crawl only those pages that match them. You can also specify the start and end points for crawling, along with the crawling depth.

On-page API is REST-based, meaning that data exchange is made via the HTTP protocol. The response is structured in JSON or XML format.

Ranked Keywords Data

Finding a way to programmatically discover what keywords web pages are ranking for is a challenging task. To confront this issue, developments teams often choose one of the following solutions:

- Use Google Search Console API.
- Use other third-party APIs.
- Develop a sophisticated algorithm for matching queries with search engine results.

Whereas the first two solutions are relatively easy to implement, the third requires addressing critical issues described in the previous chapter.

Search Console has a lot of features useful for SEO software developers. One of the most interesting, though, is the possibility to retrieve website's top queries. These are essentially, keywords that a website is ranking for.

With Search Console API you can match website pages to individual keywords, access page's rankings for these keywords, along with sorting them out by device types, countries, and languages.

The bad news is that you're not able to obtain data of websites that you aren't authorized to access thorough Search Console. Such limitations mean that users of your tool won't be able to get on-page data on their competitor's websites. Also, note that this API allows a limit of up to 5,000 rows of data per day.

Keyword Finder API from DataForSEO can provide you with ranked keywords for any web page. We use our own database of SERPs and keywords to match matching queries with search engine results.

Ranked Keywords is an essential tool when it comes to introducing competitor analysis to your software. The point is that you can generate keywords based on the domain name or the exact page's URL. This API comes with all the essential keyword metrics, including Search Volume, CPC, ETV, Traffic Cost, Competition Rate, Total Results count, etc.

Scaling SEO Software

Launching an SEO software project, whether it's a simple point-solution or enterprise tool, is a complex undertaking. A lot of things can go wrong. That, however, is only the first step.

The post-launch period contains lots of defining moments, which will make or break your product. In this chapter, we'll take a look at several things you need to consider when scaling SEO software.

Continuous Delivery

Continuous Delivery is the process by which software can be shipped to end-users with high frequency. Sometimes even several times per hour. This approach is intended at creating additional value for customers and competitive advantages for a product.

Competition in the crowded marketing tech market is fierce. With dozens of tools featuring similar functionality [(ii)] and the majority of users regularly renewing their marketing technology stacks [(x)], SEO software businesses are facing constant pressure to revise and update their products.

Matthew Giresi [(xi)], the Director of Quality Assurance at Conductor, was leading the company's migration to the Continuous Delivery model and microservices architecture in 2015. The concept of microservices architecture refers to building small, agile blocks of code to ensure that the final product will not be affected by the increase in the velocity of deployments. According to Giresi, the goal of the Conductor's team was to "minimize the duration and effort required by each integration episode" as well as "Be able to deliver a product version suitable for release at any moment."

Conductor reached its goals by using tools like TeamCity (continuous integration app) and leveraging AWS solutions. As a result, they are now able to deploy monolith code every day and microservices multiple times per day. That supposedly had a huge impact on the company's successful Series D funding (in 2015 Conductor raised $27 million [(xii)]). Today Conductor is often cited as the leader on the enterprise SEO software market.

Acknowledging the benefits of continuous delivery is a big step forward, but if you want to introduce this approach to your software development practices, there's an added element of risk. There are lots of challenges that your team will need to address: from developing new infrastructure, and test environment to building the mature DevOps culture.

Scaling Infrastructure

The issue of scaling infrastructure is a cornerstone of any software project. There are many things that can go wrong after you start adding more CPU, RAM, job threads, and disk storage (vertical scaling), or adding more servers (horizontal scaling).

In fact, most of the infrastructure-related issues should be addressed before you start

building an application. For instance, some database management systems cannot be scaled horizontally, such as PostgreSQL and MySQL. Of course, one may use various add-ons to solve the issue, but there is no native support for horizontal scaling. On the other hand, you should think about where to store all the data. If you want your project to be able to scale in and out, the cloud storage is the obvious choice.

AWS cloud has many tools that can help to build easily scalable infrastructure. There is the ElasticSearch which you can use to store billions of keywords and run the full-text search against them. At the same time, Dynamodb and Redshift are a solid solution for storing massive amounts of SERPs.

On the other hand, just because AWS is used by some of the biggest players on the SEO software market (e.g. BrightEdge and Conductor), doesn't necessarily mean that it's a one-fits-all solution. As an example consider the case of Moz moving its services off of AWS in 2014. According to Sarah Bird, the CEO of Moz, the decision was motivated by the high cost and instability of AWS services [(xiii)]. Moz had since relocated a bigger part of servers to their own data centers [(xiv)].

Planning Your Next Move

No product is perfect, especially when it comes to SEO software. Once you see that metrics are starting to take off, it's right the time to plan your next move.

That, however, is easier said than done. You may have dozens of great ideas, but great ideas alone don't guarantee great products. Something as simple as adding the support for a new language to the keyword research tool can drag on for months. The key solution is to lay the groundwork for future improvements on the early planning stages.

Below you'll find a few pieces of advice you can use to plan the progress of your SEO software project.

Visualise it.
One of the main goals of any roadmap is to share the project's progress and plan and thus make sure the company is on the same page with its customers and employees. A solid roadmap will present a comprehensive visual representation of the company's progress and goals.

Make it flexible.
It's important to realize that no roadmap is "absolute." Milestones and timelines should be subject to change, rather than the inviolable markers of failure. That, however, doesn't mean that everyone should be able to make edits - it's recommended to put a particular person in charge of adding, removing and adjusting items.

Maintain multiple versions.
In the highly competitive environment, good product ideas are more valuable than anything else. While sharing your roadmap with media and customers is beneficial, you wouldn't want to jeopardize the product by sharing too many details. That's why we recommend maintaining at least two versions of the roadmap - one for your team and another for the media, customers, investors, and competitors.

Summary

This brings us to the end of our ultimate guide to developing SEO software, whether it be a powerful all-in-one enterprise platform or a simple keyword research tool.

The goal is to build software that:

- Has functionality that fulfils user demands.
- Has a clear development roadmap.
- Is developed on time and budget.
- Is easy to maintain.
- Can be easily scaled.

It can be a very complex project, but having the right planning, architecture, data sources, and - what's even more important - the right people in the right place, you can eventually build a lucrative SEO software business.

About DataForSEO

DataForSEO is the leading provider of SEO data for the marketing technology industry. With an API-led approach to data delivery DataForSEO is enabling hundreds of software businesses to enhance their products with reliable, accurate, and fresh data.

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Endnotes

i https://sparktoro.com/blog/moz-returns-to-seo/

ii Martech Intelligence Report: Enterprise SEO Platforms 2018 (Third Door Media, 2018)

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