

WeDoTeeth CASE STUDY



Speed Optimization for
WeDoTeeth Dental Website



ABOUT

We're **Spisek**, a leading **digital marketing agency** that helps businesses achieve their marketing goals by leveraging the latest digital technologies and strategies, such as our internally developed [Creeper SEO Audit Tool](#).

One of our clients, [WeDoTeeth.com](#), is a **dental service provider** operating in the US states of New Jersey and Pennsylvania that offers top-notch cosmetic, implant, and general dentistry services, as well as 100% natural facial esthetics procedures.



www.spisek.si



INTRODUCTION

Website speed is a **critical factor influencing both user experience and search engine performance**, especially in local service industries such as dentistry. Slow loading times not only discourage potential patients from exploring a website, but they also negatively affect organic rankings in search results, as **search engines such as Google prioritize fast, user-friendly sites**.

We conducted a thorough **technical SEO audit** of WeDoTeeth's website using [Creeper, our own technical SEO auditing solution](#), and identified several critical issues, including failing **Core Web Vitals** metrics on mobile and desktop platforms. This affected both the site's overall performance in search engine results and user engagement.

This case study outlines the **speed optimization process** and the measurable outcomes achieved after implementing critical improvements based on Core Web Vitals metrics.



Marko Jetic, DMD



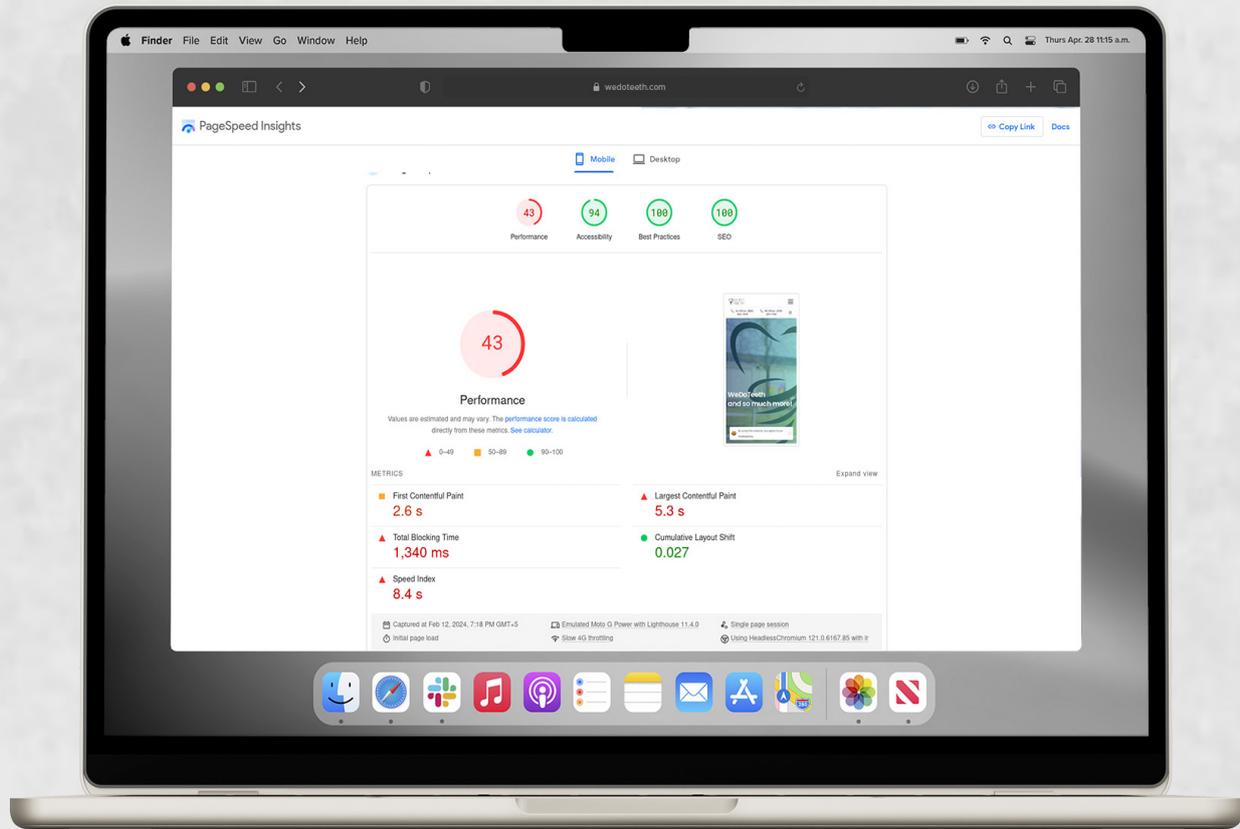
GOALS

The client sought to **improve loading times**, reduce page shifts, and ultimately boost PageSpeed scores, aiming to align with Google's Core Web Vitals for better SEO rankings, user retention, and conversion rates. Specifically, the project focused on:

1. MOBILE PAGESPEED OPTIMIZATION

The goal was to **drastically reduce loading times**, particularly for key metrics such as Time to First Byte (TTFB), Largest Contentful Paint (LCP), and First Contentful Paint (FCP). The aim was to **improve the mobile PageSpeed score** and ensure the site meets mobile usability standards with fast, stable, and responsive experiences.

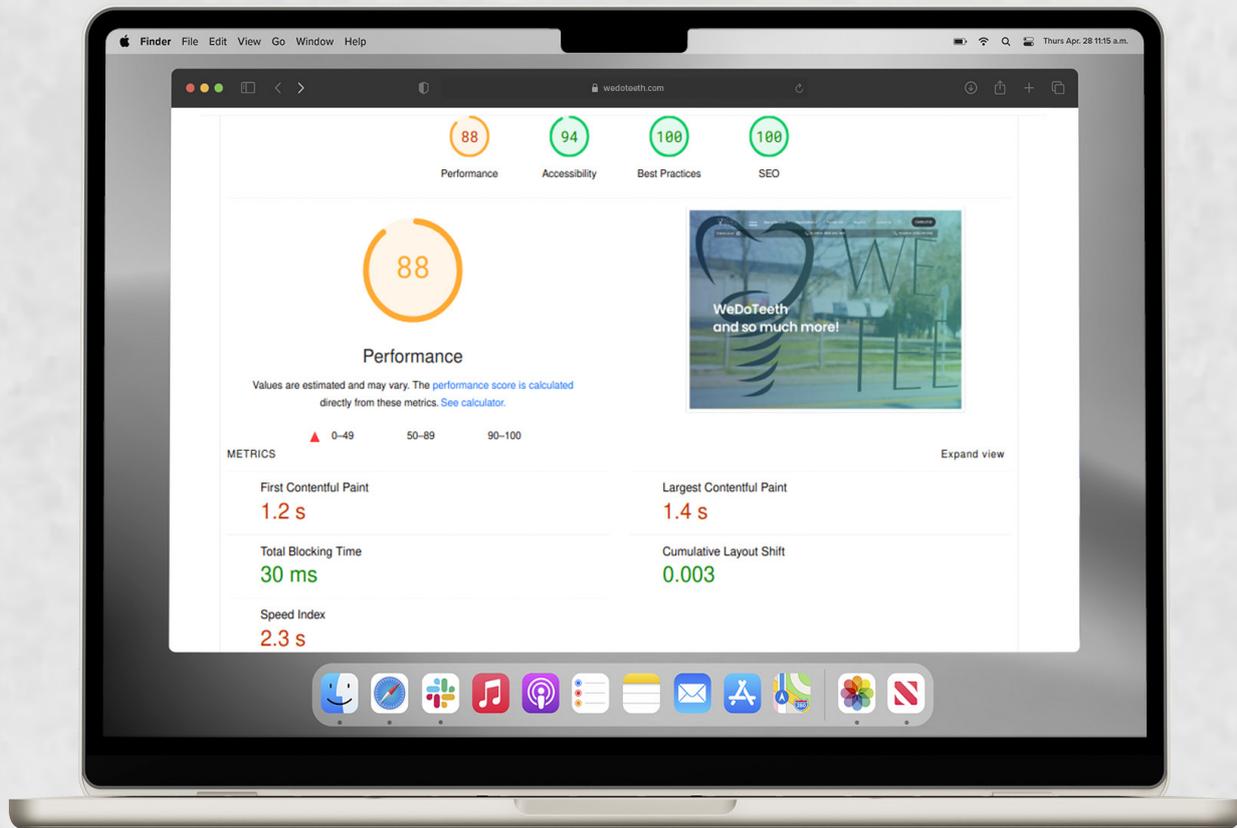
Initial PageSpeed Assessment (Mobile)



2. DESKTOP PAGESPEED OPTIMIZATION

While the desktop performance was already strong, the goal was to improve it further by minimizing LCP and FCP times and raising the desktop PageSpeed score closer to 100.

Initial PageSpeed Assessment (Desktop)



3. CORE WEB VITALS COMPLIANCE

A key objective was to **ensure that the site's core web vital metrics cleared the threshold score on both devices**, which would provide a fast and stable user experience and improve website rankings.

By achieving these goals, the client aimed to provide a faster, smoother, and more engaging experience for both mobile and desktop users, ultimately **driving better SEO outcomes, improving user satisfaction, and increasing conversion rates.**



PERFORMANCE EVALUATION TOOLS

To assess the website's speed and technical performance, the following tools were utilized:

GOOGLE PAGESPEED INSIGHTS

This tool measured the **Core Web Vitals metrics** and highlighted specific areas where performance improvements were required.



GOOGLE SEARCH CONSOLE

Provided **real user data**, allowing for an accurate assessment of how actual visitors experienced the site in terms of speed and usability.

GOOGLE ANALYTICS

Metrics such as **bounce rate, session duration, and conversion rates** were analyzed before and after the optimizations.





CREEPER SEO AUDIT TOOL

To **identify and fix the crawlability** and many other technical SEO issues such as broken links, redirects, sitemaps, robots.txt, etc



OPTIMIZATION PROCESS

The optimization process was centered around improving **three key Core Web Vitals metrics**:

Largest Contentful Paint (LCP)

Initially, LCP exceeded the recommended 2.5 seconds due to unoptimized images, render-blocking resources, and inadequate server response times. To address this:

- ⦿ Images were **compressed** and **converted** to next-gen formats (WebP).
- ⦿ **Caching mechanisms were implemented** to reduce server response time.
- ⦿ Unnecessary JavaScript and CSS files were **deferred or minified**.

First Input Delay (FID)

The website experienced slow response times to user interactions, particularly on mobile devices. This was improved by:

- ⦿ **Reducing JavaScript execution** times.
- ⦿ **Implementing asynchronous loading** for non-critical scripts to prioritize main-thread activity.

Cumulative Layout Shift (CLS)

Unexpected shifts in layout due to delayed loading of media and advertisements led to a high CLS score. The following measures were taken:

- ⦿ **Set explicit dimensions** for images and iframes to prevent layout shifts.
- ⦿ **Deferred the loading of less critical third-party scripts** that were causing visual instability.



KEY PERFORMANCE METRICS

LAB VS. REAL-WORLD PERFORMANCE METRICS

To **assess the impact** of the page speed optimization on WeDoTeeth’s website, both lab-based and real-user metrics were tracked and analyzed. Lab testing, performed using Google PageSpeed Insights and other analytics tools, simulates page speed under controlled conditions—accounting for variables like internet connection speed and device performance.

This offers a consistent, comparative view of how changes in optimization influence speed, independent of real-world user variability. However, to gain insights into actual user experiences, we also collected real-user metrics over the last 28 days using Creeper’s Web Vitals Pixel Technology.

Creeper’s technology allows small-traffic websites - which otherwise don’t qualify for Google’s Core Web Vitals data - to **monitor page speed metrics continuously**. This real-time feedback helps detect the immediate impact of any updates **without the 28-day delay** that Google’s RUM (Real User Monitoring) data requires, giving WeDoTeeth unparalleled visibility into the effectiveness of each optimization measure.

Before and after the optimization process, the following metrics were tracked using Google PageSpeed Insights and web analytics tools:

MOBILE PAGE SPEED PERFORMANCE METRICS

Lab Results

⦿ Time to First Byte (TTFB)

Improved by **26%** after implementing server optimizations.



26%
Improvement

⦿ Largest Contentful Paint (LCP)

Reduced from **5.3 seconds** to **1.8 seconds** on mobile.



⦿ Cumulative Layout Shift (CLS)

Improved from **0.027** to **0.004**, well below the **0.1** threshold.



⦿ First Contentful Paint (FCP)

Decreased from **2.6 seconds** to **1.2 seconds**. A whopping **54%** better FCP than the initial results.



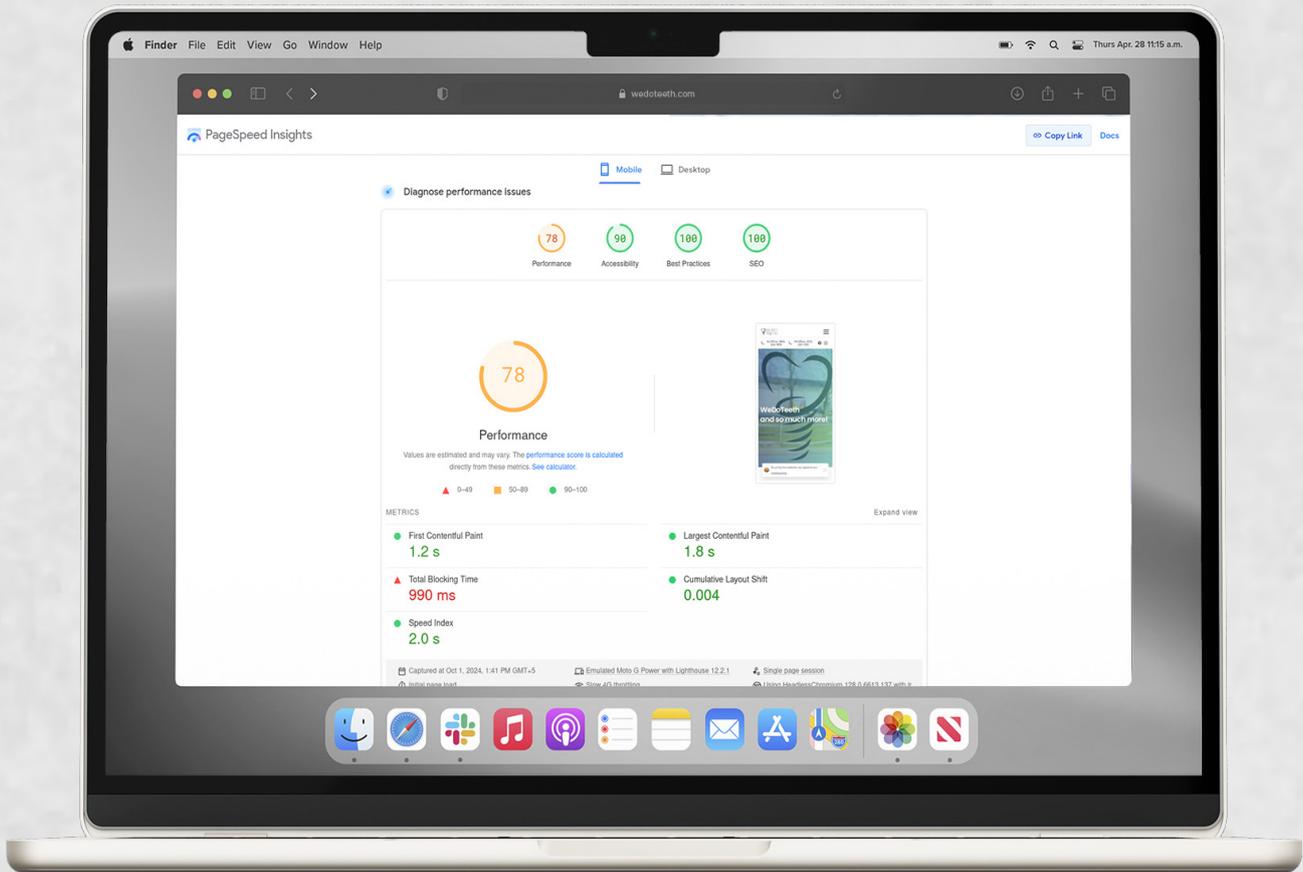
Speed Index (SI)

Improved from **8.4 seconds** to **2.3 seconds**. A **73%** decrease in time required for the entire page to load.



Mobile PageSpeed Score

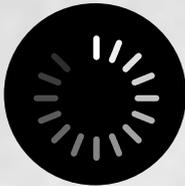
Increased from **43** to **78**.



Real-User Metrics

⦿ Largest Contentful Paint (LCP)

0.64 seconds, demonstrating that real-world load times are even faster than lab conditions.



0.64
Seconds

⦿ Interaction to Next Paint (INP)

0.03 ms, indicating minimal delay in user interactivity.



0.03
ms

⦿ Cumulative Layout Shift (CLS)

0.00, ensuring no unexpected layout shifts on live pages.



0.00
Seconds

⦿ First Contentful Paint (FCP)

0.59 seconds, well under 1 second.



0.59
Seconds

⦿ Time to First Byte (TTFB)



0.46
Seconds

⦿ Page Views



392
Page Views

Switch Devices

All Mobile Desktop

Duration

Last 28 Days

Largest Contentful Paint (LCP)
0.64 s

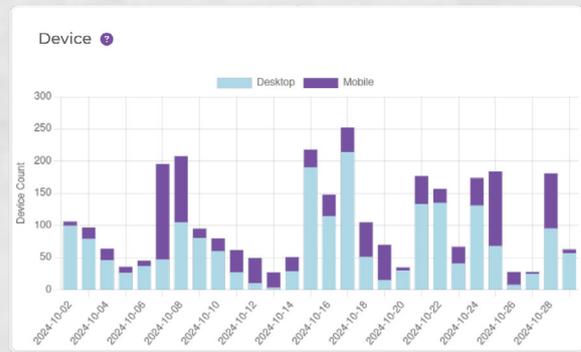
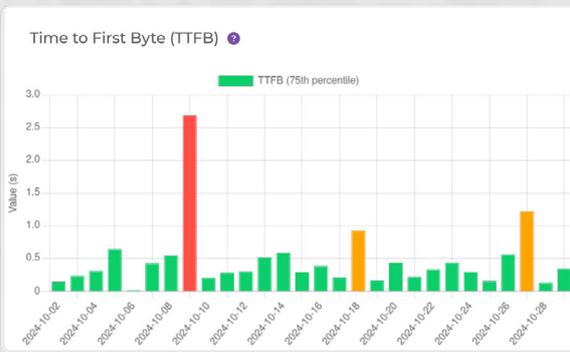
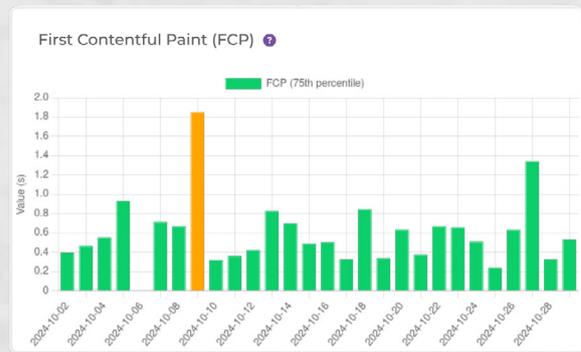
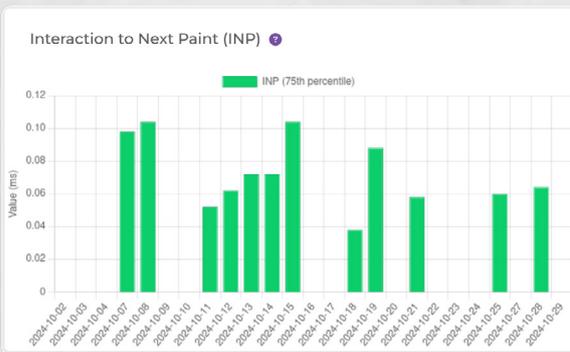
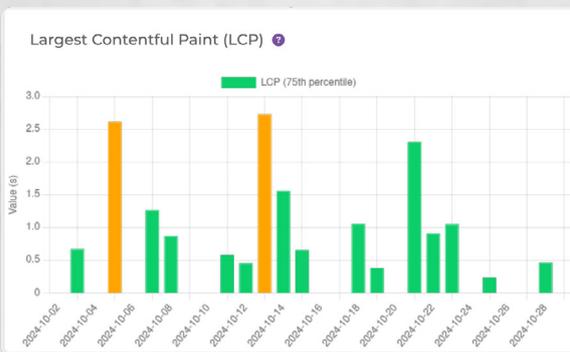
Interaction to Next Paint (INP)
0.03 ms

Cumulative Layout Shift (CLS)
0.00

Page Views
392

First Contentful Paint (FCP)
0.59 s

Time to First Byte (TTFB)
0.46 s



DESKTOP PAGE SPEED PERFORMANCE METRICS

Lab Results

⦿ Time to First Byte (TTFB)

Remained unchanged at **30 ms** on desktop.



30ms
Unchanged

⦿ Largest Contentful Paint (LCP)

Reduced from **1.4 seconds** to **0.7 seconds** on desktop.



⦿ First Contentful Paint (FCP)

Decreased from **1.2 seconds** to **0.3 seconds**. A whopping **75%** better FCP than the initial results.



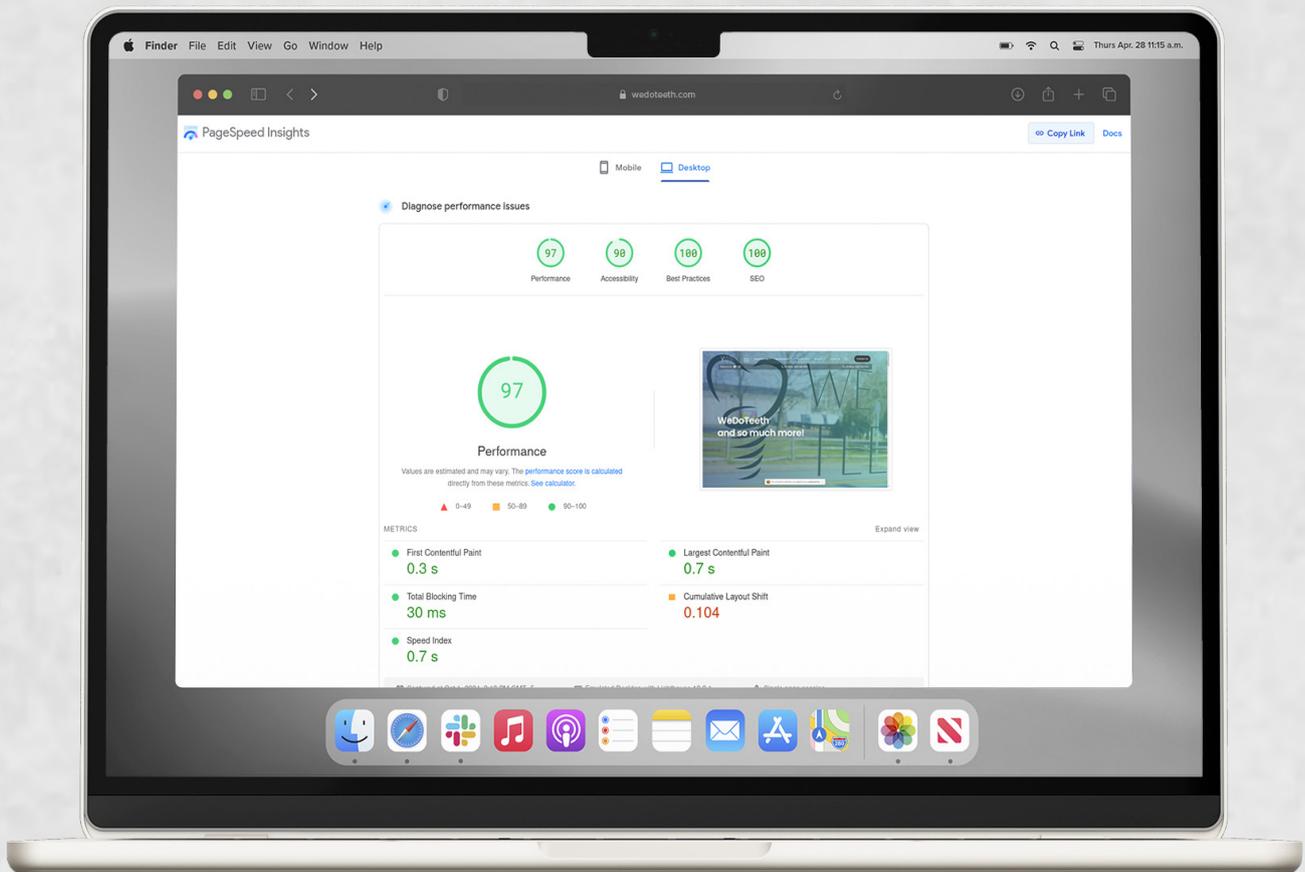
⦿ Speed Index (SI)

Improved from **2.3 seconds** to **0.7 seconds**. A **70%** increase in how quickly the entire page loads.



🕒 Desktop PageSpeed Score

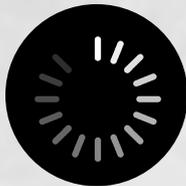
Increased from **71** to **97**.



Real-User Metrics

⦿ Largest Contentful Paint (LCP)

1.96 seconds, closely aligning with lab measurements.



1.96
Seconds

⦿ Interaction to Next Paint (INP)

0.05 ms, confirming swift user interaction response.



0.05
ms

⦿ Cumulative Layout Shift (CLS)



0.13
Seconds

⦿ First Contentful Paint (FCP)



1.26
Seconds

⦿ Time to First Byte (TTFB)



0.68
Seconds

⦿ Page Views



593
Page Views

Request a Consultation
We'll be in touch within 24hours.

Switch Devices

All Mobile Desktop

Duration

Last 28 Days

Largest Contentful Paint (LCP)
1.96 s

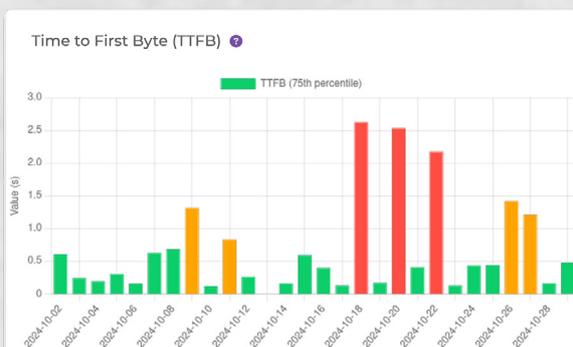
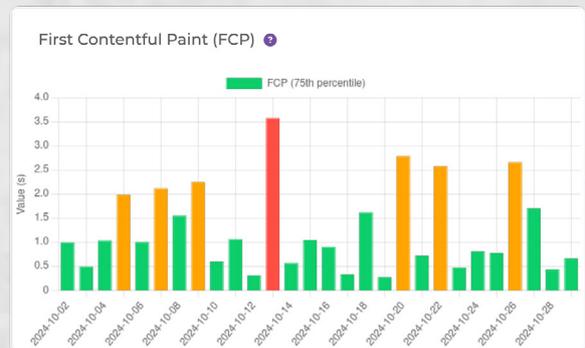
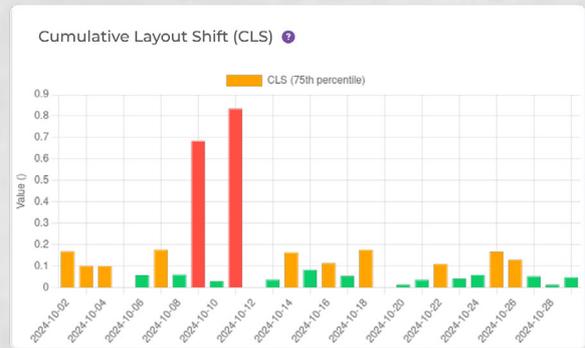
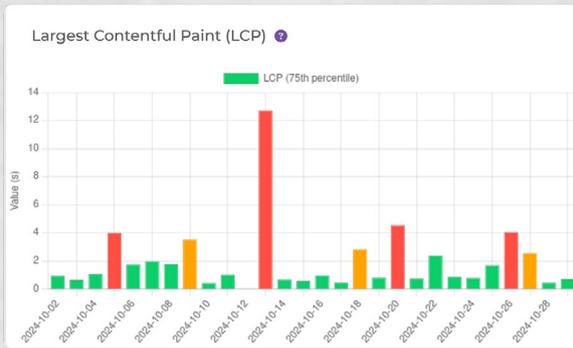
Interaction to Next Paint (INP)
0.05 ms

Cumulative Layout Shift (CLS)
0.13

Page Views
593

First Contentful Paint (FCP)
1.26 s

Time to First Byte (TTFB)
0.68 s



These combined results underscore the **substantial gains achieved through optimization**. WeDoTeeth’s real-user metrics—captured with **Creeper’s Web Vitals Pixel**—highlight improvements in both speed and usability, offering an **optimized experience for users** across devices and real-world conditions.



IMPACT AND RESULTS

“We knew our website was underperforming, particularly when it came to mobile users. Patients were bouncing off the site before even booking an appointment,” said dr. **Marko Jeftić**, DMD and owner at **We Do Teeth**. “After the speed optimizations and SEO work done by **Spisek**, we’ve seen a **remarkable improvement in both our site’s performance and the number of new patient inquiries**. Our mobile page speed improved drastically, and as a result, we’ve noticed a **significant uptick in appointment requests and overall engagement**.”

The following compares data obtained in Google Analytics 4 and Google Search Console between January 2024 and April 2024, as well as May 2024 and August 2024, **before** and **after** website speed optimization.

USER EXPERIENCE



37%

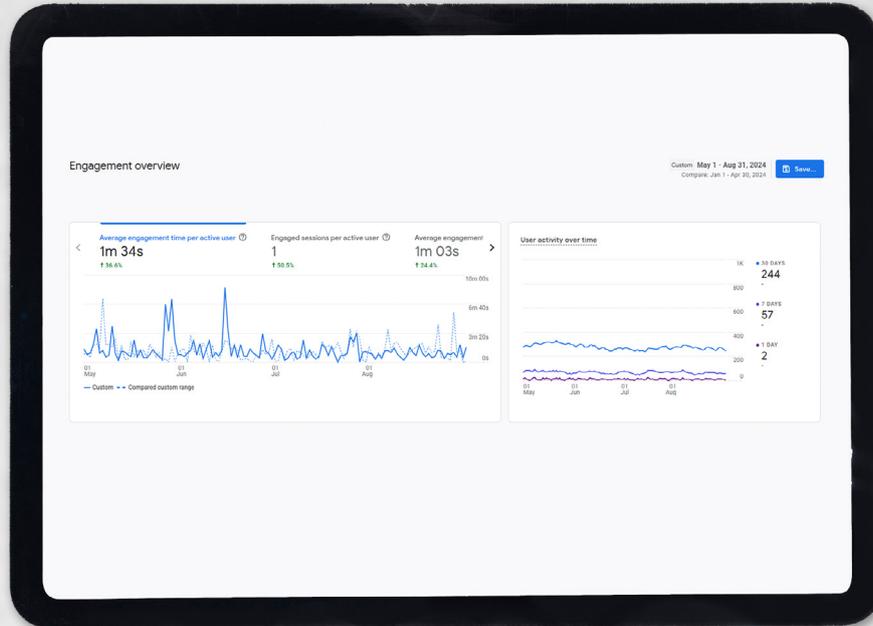
**Increase in Average
Engagement Time**



51%

**Increase in
Sessions Per User**

The optimizations led to a notable **increase of 37% in average engagement time** per active user. The total number of **sessions per user increased by more than 51%**, meaning that users spent more time exploring the website. Faster loading times, combined with improved visual stability, enhanced the overall browsing experience, resulting in higher user satisfaction.

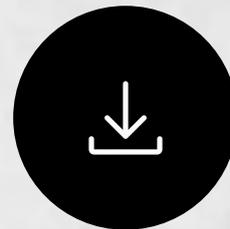


CONVERSIONS AND KEY EVENTS



173%

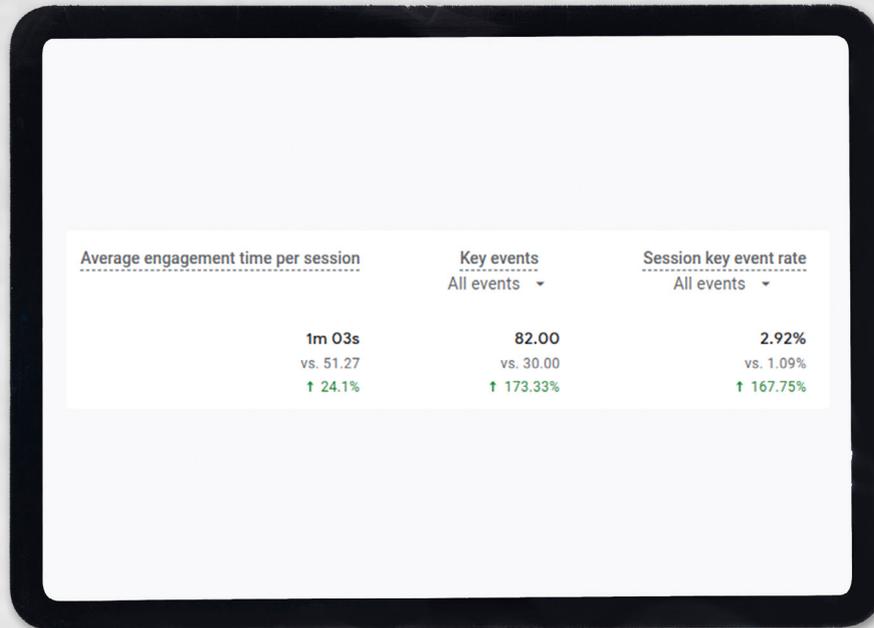
Increase in Form Submissions



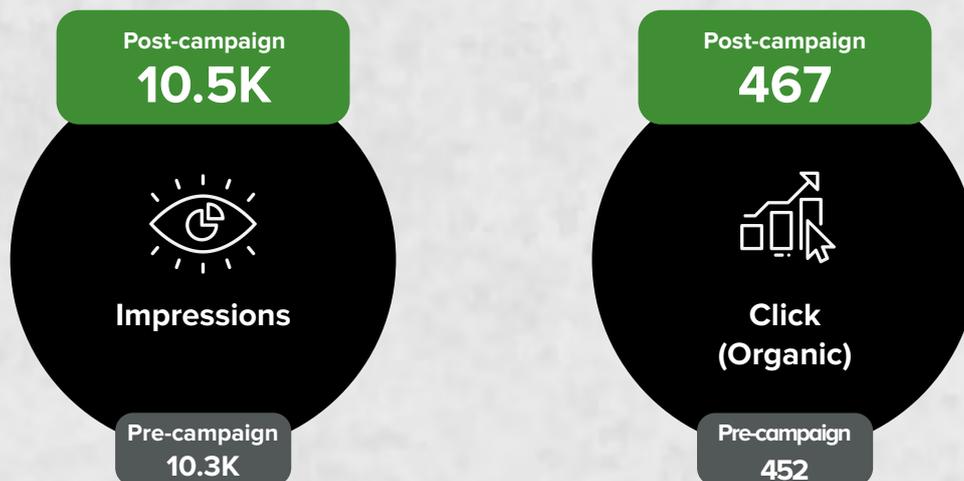
173%

Increase in Downloads

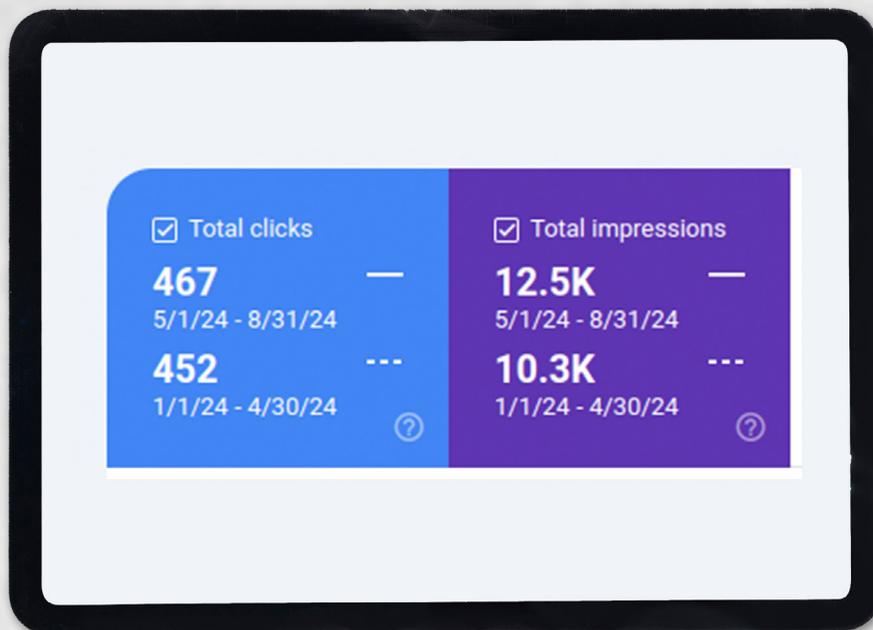
The impact of improved Core Web Vitals and the overall user experience was also observed on key events (form submissions and downloads). There was a **massive increase of 173% in key events**.



SEO RANKINGS AND ORGANIC TRAFFIC



The improvements in Core Web Vitals **directly impacted the site's organic search rankings**. WeDoTeeth.com experienced a **16% increase in local search visibility**.



CONCLUSION

The case of WeDoTeeth.com demonstrates the **profound impact** that technical SEO improvements, particularly those focused on **Core Web Vitals**, can have **on both user experience and search engine performance**.

By optimizing page speed, improving interactivity, and stabilizing the layout, the **website now delivers a faster, more engaging experience to its users**. The subsequent increases in organic traffic and improved SEO rankings costs underscore the importance of speed optimization for websites in highly competitive industries such as dentistry.



REFERENCES

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+386 41 347 077

info@spisek.si

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