WHITEPAPER

Mobile web performance from business dilemma to super seller

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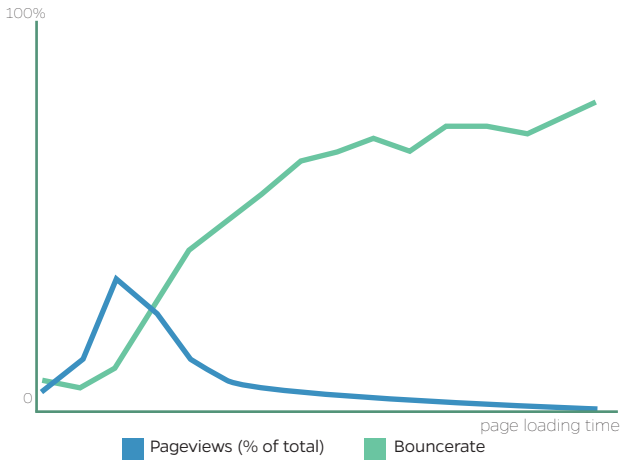
Introduction

A short guide to common performance issues, the role of culture and a first step to make a change!

You may have the best mobile website in the world. The best of all developers, the greatest creative ideas and functionalities. Perfect user testing, implementing all best practices you could possibly find. But if your mobile site does not perform right, all of the above means nothing.

To put it plain and simple: as great as your mobile website may be, if you have to wait five, ten, or even twenty seconds before its finally interactive, the majority of visitors will never find out. In fact, after 5 seconds most people will leave before they are able to interact at all.

Let's have a look at the following graph:



As you can see the best time to interaction is 2 seconds, or less. At Google they try to achieve it in 1,5 seconds. Up to about 3 seconds loading time you are still alright. But getting any further, more and more people will leave your site. Oh, by the way, don't think they will return anytime soon. Data shows that after four seconds people are getting negative thoughts about your company. 79 percent of those dissatisfied people won't come back, while 64 percent will start buying similar products from your competitor who offers a faster and better internet experience.

The real deal

So yes, speed matters. But that's not even the core topic this whitepaper deals with. The real question is this: how do you solve it? How will you make performance your ally, instead of a business dilemma? That's what this article is all about. And at the end we will offer you a unique opportunity to bring your mobile web performance to the next level! So stay with us if we dive into chapter one!

01.

Why is my mobile site slow, and how do I solve it?

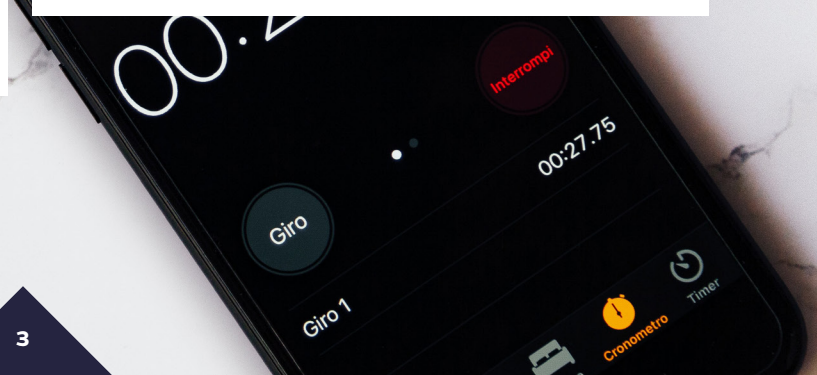
The average loading time of a mobile website on a mobile network is a staggering 22 seconds, according to Google research. To make things clear. That doesn't mean you won't see anything in those 22 seconds. It is the time necessary to load the whole site and to provide you with full functionality. However, comparing 22 to the 2 seconds people are expecting, you may wonder what has gone wrong. Are people unrealistic in their expectations?

One possible explanation for these high demands in speed is the stark difference compared to the average loading time of a desktop website, which is only 3,2 seconds. It seems people probably expect this speed from a mobile site as well. This is not ludicrous at all. The good news is that it is quite possible to bridge this gap and make your mobile app an absolute winner, compared to your competition.

But to start with: there are many possible reasons why performance can be poor, but here are some of the main ones:

1. Big bundle sizes
Most mobile sites and web applications run with a lot dependencies. In other words, they rely on other sources for specific web features and functionalities. In itself, this is not a problem. It does however become one when development moves ahead, new features are being developed and new functionalities occur. Building layer over layer of dependencies, like an onion, increases your bundlesize further and further, resulting in a longer loading time. In many cases this is an architectural problem.

2. Noninteractive loading experience
The more you load, the more time it takes to run the script. Luckily you don't have to load the whole website instantly. A visitor doesn't need to have the contact page loaded when entering the homepage. By cutting the bundles in pieces and only loading on request (lazy loading), you can make the initial load of the website much faster. Surprisingly enough, as simple as this sounds it is often forgotten.

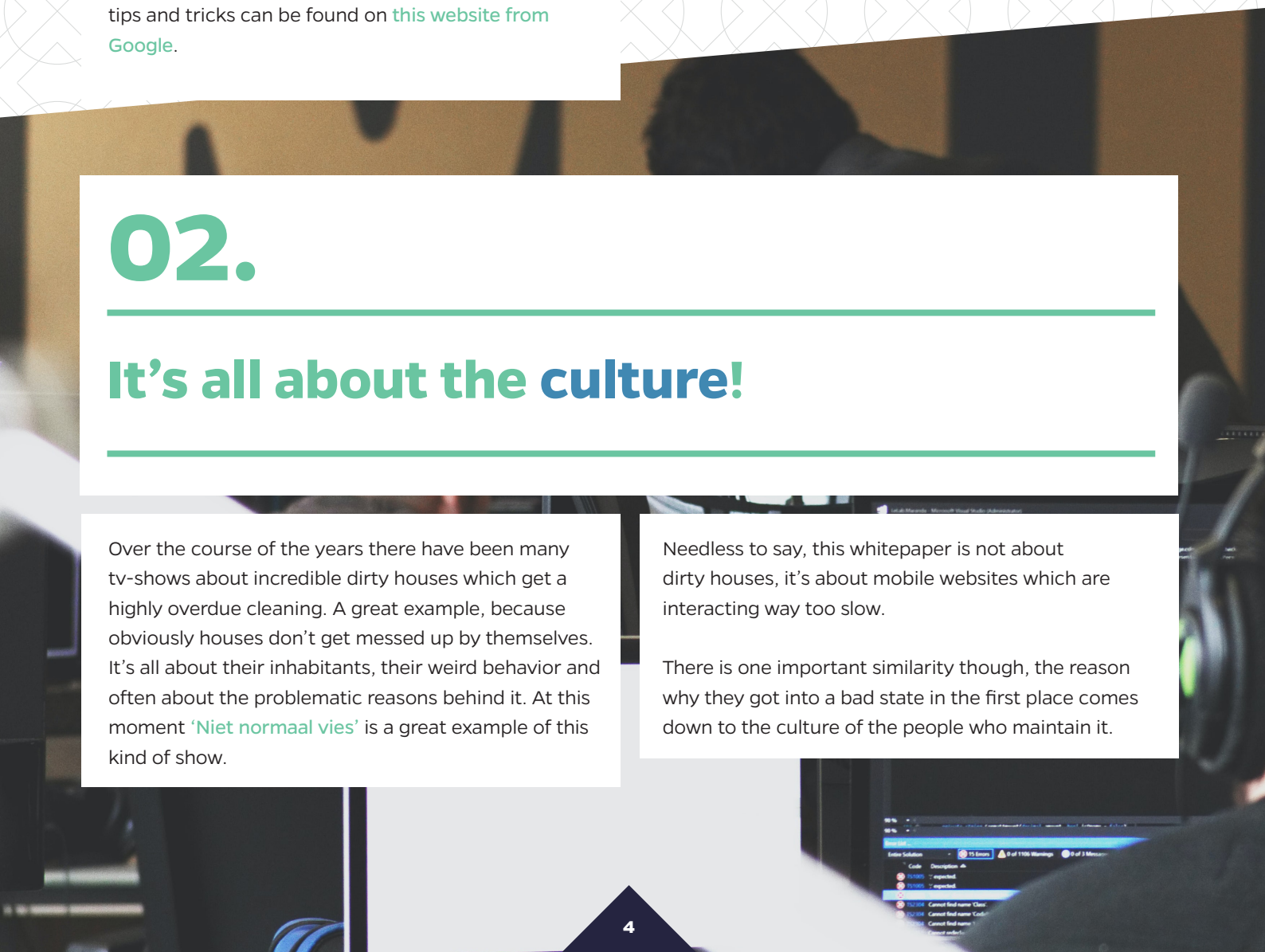


3. Big images, video's and more...

Most images, video's, graphs and more are being uploaded on a website using a CMS, like Wordpress. However, an average CMS doesn't tell you about the ideal size of that picture in order to maximize performance. Luckily, we can. 5 megabytes for a picture is out of the order. Something like 100 kilobytes is much better. In case you have colleagues, who suffer from 'amnesia', it is also possible to make use of software that automatically resizes images on your website when they are too big.

As we mentioned, these are only some of the reasons why mobile websites are underperforming on performance. A greater overview and a lot valuable tips and tricks can be found on this website from Google.

"It is possible to make use of software that automatically resizes images on your website when they are too big."



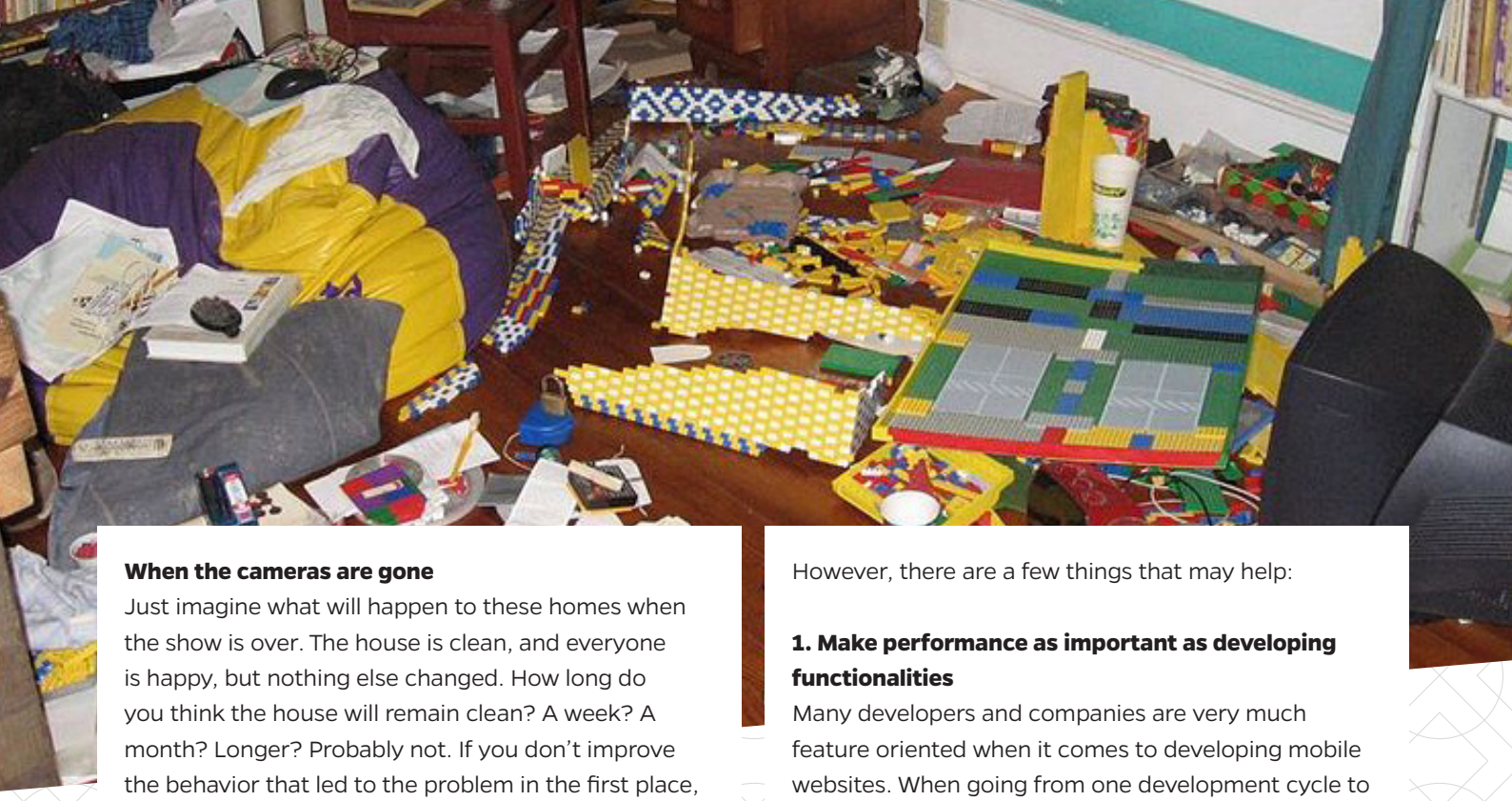
02.

It's all about the culture!

Over the course of the years there have been many tv-shows about incredible dirty houses which get a highly overdue cleaning. A great example, because obviously houses don't get messed up by themselves. It's all about their inhabitants, their weird behavior and often about the problematic reasons behind it. At this moment 'Niet normaal vies' is a great example of this kind of show.

Needless to say, this whitepaper is not about dirty houses, it's about mobile websites which are interacting way too slow.

There is one important similarity though, the reason why they got into a bad state in the first place comes down to the culture of the people who maintain it.



When the cameras are gone
Just imagine what will happen to these homes when the show is over. The house is clean, and everyone is happy, but nothing else changed. How long do you think the house will remain clean? A week? A month? Longer? Probably not. If you don't improve the behavior that led to the problem in the first place, cleaning the house won't help in the long run.

It's the same thing with fixing performance issues. Yes, it might be possible to fix the mobile site, increasing its performance to a good standard. But what if with every new functionality, every update, every new picture, you fall back in your old way of doing? How long do you think your website will stay in good shape?

Change culture to increase performance
So, to have great web performance in the long run, you need to dive deeper and make sure your approach to development adjusts together with the performance of your mobile site. Not the easiest of tasks.

However, there are a few things that may help:

1. Make performance as important as developing functionalities
Many developers and companies are very much feature oriented when it comes to developing mobile websites. When going from one development cycle to the other, humans tend to focus most on making new things instead of making sure performance criteria are met. That is assuming you already have great performance in the first place.

Not that easy
When you read this, it sounds easy; just change it. But it isn't that easy at all. Developing takes place in a fast pace environment. Not just because of rapid evolving technology, but also because of rapid evolving competitors. However, prioritizing the performance of your site during this is key to not only survive, but also to increase your market share. It's a challenge worth taking.

Technology can help. For example: by making use of the new Avif picture format which can compress the load of your pictures even further, decreasing the load time of your site. Culture counts when it comes to recognizing these developments and being able to implement them in your environment as fast as possible. Just to get a little more edge over your competitor.

2. Set performance budgeting

Budgeting in this case is not about money, but about setting metrics. For example, not to exceed 100 kb of load for your mobile website. Setting a budget specific for performance is a must do. As mentioned earlier, it all starts with running an analysis. With the right budget you can do this continuously. In fact, by integrating to CI, Continuous Integration Pipelines, you can even do it automatically. CI will run continuous performance tests of your site. When the load is for example 100 kb it gives a green light, but when it exceeds 200 kb it will sound the alarm, enforcing your team to take immediate action.

3. Make use of PWA's

PWA's, Progressive Web Applications, are not a solution in and of itself. Having said this, they are a great way to bring focus more towards performance. A PWA is a simple (mobile) website but behaves like a native app from the Appstore. When you visit a PWA website you will get a request to add the site to your homescreen, like an app. This is done using Web App Manifests.

Service workers

Next to this a PWA makes use of Service workers. They allow your site to cache a certain amount of the website's bundle size, running updates once a while. When the PWA is opened it shows the cached content immediately. This also gives the PWA more time to upload any other content necessary to run the PWA. It also makes it possible to run a PWA offline.

"PWA's are a great tool when applied in the right way, especially for e-commerce and social platforms."

Best cases

They are a great tool when applied in the right way, especially for e-commerce and social platforms. For example, a few years ago Twitter introduced their PWA Twitter Lite. This resulted in a 65 percent increase in the number of page visits, led to 75 percent more tweets and lowered the bounce rate by 20 percent. More such case studies can be found at www.pwastats.com.

Because PWA's are so much focused on performance, having one is a great way to enhance the capabilities of your application.

03.

The big surprise: a free performance test

So, you made it to the final part of this whitepaper! We hope it provided you with some new insights. As we said: fixing your performance issues are one side of the coin, while changing culture is the other. And it all start with... running analysis.

A free performance test!
This brings us to the next step of your journey. Reading this article hopefully gives you an idea of the importance of great web performance and some clues of where to start. But to really set things into motion, you need to go a step further. You need to have a report which clearly states how your mobile website is performing. And we are happy to offer this to you. For free!

We will check your site for a number of key factors such as: Performance, PWA, and best practices. We will also check how your site is running on different devices in a range of conditions. For example, Netherlands vs Australia at a 2, 3, or 4G network.

The outcome will give you an objective and clear starting point to make the necessary arrangements to increase performance as well as alter the course of your web channels toward a great future!

Request a free performance test or get in touch

If you want to request the free web performance analysis, please fill in this form. If you have any questions relating the test, or if you have any questions regarding this whitepaper, please get in touch with one of our experts!

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