

HOW CONVERT SOLVED THE FLICKER EFFECT

Speed in A/B Testing and
Personalization Matters!



convert

Hello. ■

This is Claudiu Rogoveanu,
co-founder of Convert.com

Thank you for your interest in solving one of the biggest problems conversion experts encounter; avoiding the Flash of Original Content (FOOC) or “the flicker effect” as we like to call it. We were so passionate about this topic that in 2010 we started working on a solution that led to the SmartInsert™ technology that you may have read about in 2012.

With a passion to deliver the most stable and scalable enterprise A/B testing and personalization tools, we made huge gains in solving the flicker effect for our customers. As one of the best solutions available in the market, Convert Experiences does not only have a superior feature set compared to other solutions on the market that helps to improve conversion but is also a strong solution for marketers and technology specialists that have experienced the flicker effect. At Convert.com we are committed to give our customers the most accurate data, scalable solutions and amazing results.

The speed of your site is essential for user experience and conversions. Working with Convert Experiences you can count on a transparent and



Claudiu Rogoveanu

Co-Founder & Chief Technical Officer
Convert.com

service oriented organization, with solutions focused on speed and performance. Convert Experiences is one of the world’s fastest client-side testing and personalization tools according to the ConversionXL speed test 2016*.

We invite you to explore Convert’s services and solutions and meet our team members who will work with you in a professional partnership. Enjoy the whitepaper.

*Convert Experiences fastest client-side tool in ConversionXL test closely following Oracle Maxymiser <http://conversionxl.com/testing-tools-site-speed/>

T A B L E O F C O N T E N T

/01

Why Does
Our SmartInsert™
Protection Matter?

/02

Improve Speed
of Experiences

/03

Opportunities in
Convert Experiences
Usage

- Use libraries already on the site rather than including them via the platform
- Put snippet in header
- Ensure archived experiments are not included in the snippet
- Make use of coding design patterns to avoid repeating similar code across variations with slight changes (advanced topic)
- Order your variation code to match your website code
- Consolidate your variation code

Why Does Our Smartinsert™ Protection Matter?



Some client-side A/B testing and personalization tools are inherently susceptible to the flicker effect. The flicker effect occurs when customer-side tools apply the changes in the visitor's browser while the webpage loads the changes through the Javascript snippet (tag) installed on the website. With Convert Experiences, the experience is loaded as a layer between the browser and the website making the changes visible and the original content hidden. When the original content loads faster than the experience layer (which loads later due to a latency issue) there will be a noticeable flick-

er or flash of the personalization or A/B testing variation of a website. This is referred to as the flicker effect or FOOC (Flash of Original Content).

According to a team of MIT neuroscientists, the human brain can identify images in as little as 13 milliseconds and with a flicker effect that can take longer, from 100 ms up to a whole second, which your website visitors will notice. With Convert Experiences SmartInsert™ technology the flicker effect is prevented. In this whitepaper we discuss additional tips on preventing the flicker effect in exceptional cases.

“

**Alhan Keser**

Optimization Strategist, Widerfunnel

Source:

<https://www.widerfunnel.com>

The flicker effect hinders your ability to run controlled experiments. If the variation content is appearing with a flicker every time your page loads, how do you know what effect that's having on your results? You don't, unless you isolate the flicker", explains Alhan Keser, Optimization Strategist of Widerfunnel. ”

The flicker effect happens when the code for the website is displayed before the replacement content finishes loading. Some A/B testing and personalization tools use an asynchronous script, and while it has the advantage of not slowing down the page, this type of script can cause a flicker effect.

SmartInsert™ protects all Convert Experiences

users by loading the code synchronous, hiding the body and lightning fast polls the website (DOM) for elements that can be replaced in a continuous loop, until all elements included in the experience are replaced. This combination of techniques benefits conversion experts without additional hacks for other tools.

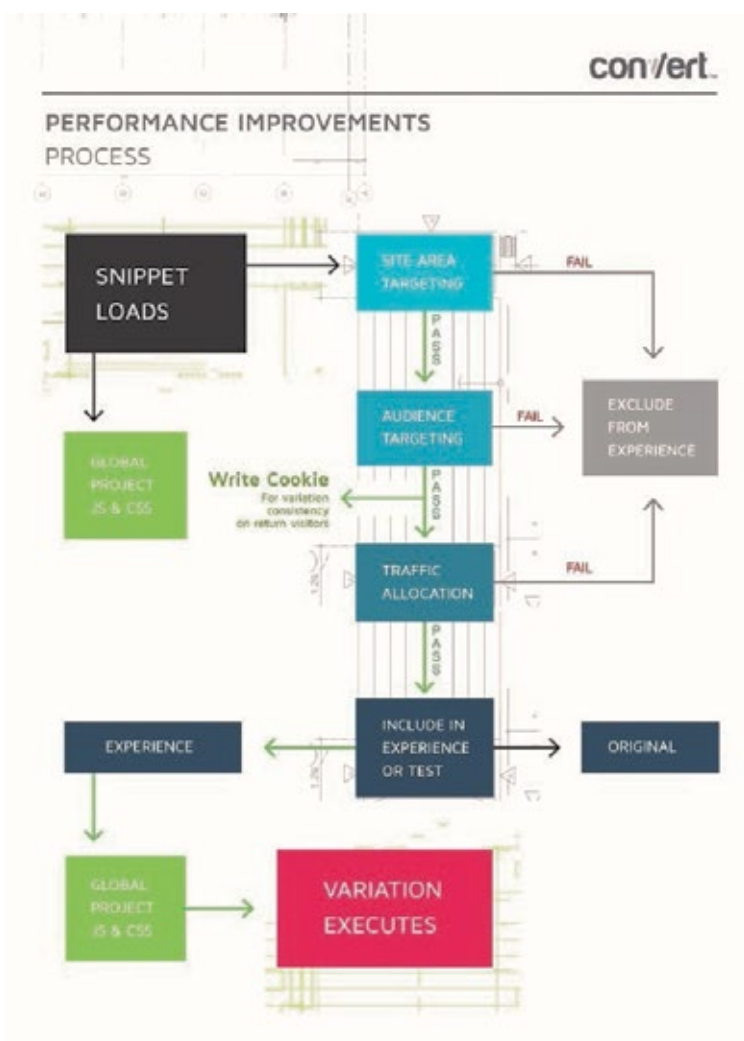
“ Convert Experiences offer a synchronous loading of script and content to prevent blinking. Tools with asynchronous scripts for personalization and A/B testing have a higher chance of causing the flicker effect.

**Dennis van der Heijden**Co-founder and Chief Executive Officer: **Convert.com**

”

Invest In Even Faster Experiences?

Improving the speed of your website is important and will help with your conversion rate. One of the most effective ways to improve speed is to reduce the size of your assets. This will help the experiences as well as your website in general. To understand where performance improvements can impact your clients conversion rates and engagement, we developed this flow diagram to help you visualize the process.



Improving the speed of your website is important and will help with your conversion rate. One of the most effective ways to improve speed is to reduce the size of your assets. This will help the experiences as well as your website in general.

To understand where performance improvements can impact your clients conversion rates and engagement, we developed this flow diagram to help you visualize the process.

Image Optimization

An image heavy site, particularly if the images are high-resolution, can be a victim of the flicker effect. To mitigate these effects consider these approaches:



Optimize all images for the web. Compress your images. There is both free online and professional image software that you can use to reduce the size of the image while maintaining web-standard quality.



Preload images in the Convert Experiences global javascript loader.



Consider the number of images loaded onto your pages. Remember graphics, photos, slideshows, carousels and other visual effects all contribute to the size of the website and ultimately the potential for the flicker effect.



Consider 'lazy loading' of your images. Meaning only load onscreen images. Load images as you scroll to them. Especially consider this option if you use carousels or have long pages. There are plugins and tools that assist you with this.

Note: You can apply these tips to the images you upload to the platform as well.

Script Optimization

The sheer amount of JavaScript libraries loaded on a site can negatively impact page-load speed and increase chances of the flicker effect. In that case, consider these options:



Remove the load of Convert Experiences

jQuery when current website already has jQuery. For sites that use jQuery, opt for the already loaded version over the one that is included in the platform's snippet. Remember that this will make your sites library a dependency and it will need to be loaded prior to the platform snippet.

BOTTOM LINE: use the sites existing libraries and code and avoid loading duplicate versions through the platform.



Minimize JavaScript libraries/dependencies as well as large CSS files.



Ensure that scripts (that the snippet/experiments do not depend on) are loaded after the snippet



Remove scripts that are no longer relevant to the site. Reduce JavaScript bloat wherever possible.



Minimize the amount of inline JavaScript throughout the site (JavaScript mixed in with the markup).



Put snippet in header. The Convert Experiences snippet needs to go as high in the `<head>` as possible assuming you have trimmed jQuery. Do not put the snippet in Google Tag Manager or in the footer. While this may add a few milliseconds to the load time when the page is first accessed, we haven't found it to be an issue when all of the suggested tips are followed.

Archive Experiments

Remove archived experiments and personalizations from the snippet to make it lighter to load and faster. Convert Experiences offers the ability to write experiment-level JavaScript; consider leveraging this capability to prevent rewriting duplicate/similar code across the different variations in an experiment.

Write the bulk of your code logic in the experiment-level JS and import only the functionality you need in the variation-specific JS.

Certain design patterns, such as the Revealing Module Pattern, will lend themselves to this based on a given scenario. Even if your platform

doesn't offer this capability, still consider using efficient modular coding designs to reduce the amount of similar code written. As this would

Make use of coding design patterns to avoid repeating similar code across variations with slight changes (advanced topic)

increase snippet size and consequently increase chances of the flicker effect.

BOTTOM LINE: use efficient coding patterns/designs to reduce the amount of code you need to write for subtle changes that are shared across variations/experiments.

Consolidate Your Variation Code

Keeping along the same theory, group your coding and remove unused changes to reduce the chances of the flicker effect. For example if you want to increase the size of your headline and change the color, do so in one line. If you decide later to reduce the size of the headline, update your existing code instead of adding an-

other line in order to make the reduction in size. In conjunction with consolidating code, when making changes via the Visual Editor, keep the scope of your changes to the most specific HTML element possible. Rather than selecting “#top-body” to modify the attributes of a sub-element, select that sub-element to begin with.

Conclusion

The commitment to create the fastest and most reliable technology for a flicker-free experience has led to the SmartInsert™ technology, an invaluable addition for all Convert customers. The technology was first developed in 2010 and applied in early 2011 on most customer accounts. All experiences, from A/B Testing, Multivariate testing and Personalizations now rely on this blink-free technology.

Creating this whitepaper and the suggestions within it is integral to our commitment of an optimal experience for all website visitors. We hope you find this information beneficial; don't hesitate to discuss any questions with your Account Executive or Customer Support Manager. Our aim is to help you grow your business.