

Increasing Thunderplugs' Website Effectiveness by Improving Website Design and Usability

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Abstract

Website effectiveness or website conversion rate is an essential indicator of website performance. There are many ways to improve website effectiveness, and this present study focused on enhancing website effectiveness by redesigning the user interface and website navigation to enhance the User Experience (UX). Analysis such as heuristic evaluation, heat maps tracking, and competitor analysis were conducted to evaluate the current website. Heuristic evaluation was performed to assess what's good and what's need improvement. Heat maps tracking study the user behavior and tracking user's eye movement. Competitor analysis was conducted to compare Thunderplugs' website performance against the competitor. User testing was also conducted to evaluate the prototype performance. Some data from Thunderplugs' Google Analytics were retrieved to provide more insights about the target market. From Krug (2014) and Qualaroo (2015), 14 items were adopted, to simplify the test and evaluation. Results from user testing indicated that the website redesigned were positively contributing to website effectiveness.

Keywords: Website Effectiveness, Website Design, Website Usability, Conversion Rate, User Experience.

Abstrak

Judul: Peningkatan Efektivitas Situs Web Thunderplugs dengan Memperbaiki Desain dan Usabilitas Situs Web.

Efektivitas atau tingkat konversi situs web adalah indikator yang penting dalam melihat performa situs web. Terdapat banyak cara untuk meningkatkan efektivitas sebuah situs web, studi ini berfokus untuk meningkatkan efektivitas situs web dengan cara mendesain ulang user interface (UI) dan navigasi situs web yang dapat meningkatkan User Experience (UI). Analisa seperti evaluasi heuristik, heat maps tracking, dan analisa kompetitor digunakan untuk mengevaluasi situs web saat ini. Evaluasi heuristik dilaksanakan untuk menilai apa yang baik dan apa yang membutuhkan perbaikan. Heat maps tracking diterapkan untuk mengamati tingkah laku pengguna dan juga untuk melacak pergerakan mata pengguna situs web Thunderplugs. Sedangkan, analisa kompetitor ditujukan untuk membandingkan performa situs web Thunderplugs terhadap kompetitornya. Untuk mengevaluasi performa hasil desain (prototype) yang ada, dilakukan user testing. Di sisi lain, data dari Google Analytics situs web Thunderplugs digunakan untuk mendapat tambahan informasi tentang audiens Thunderplugs. Dari Krug (2014) dan Qualaroo (2015), 14 poin pengukuran diadopsi untuk menyamaratakan proses tes dan evaluasi. Hasil dari studi ini mengindikasikan bahwa hasil desain situs web yang baru berkontribusi secara positif terhadap efektivitas desain situs web yang baru.

Kata kunci: Efektivitas website, Desain web, Usabilitas website, Tingkat konversi, User Experience.

Introduction

Thunderplugs is an earplug brand based in Amsterdam with a mission to provide affordable, high-quality hearing protection. Founded in 2012, It has been developed by two musicians: Quinten Huigen and Koen Brouwer. Based on Thunderplugs' press release (Koster, 2017), Koen and Quinten

encountered hearing damage in their business, that's why they decided to come up with good, affordable earplugs to put an end to hearing damage due to loud music. In February 2018, on the top of party plug, Thunderplugs added three more products: swimming, sleeping, and driving plugs (Donker, 2018). Besides, Thunderplugs change their brand name to Banamaz to appeal to the North American

market, and to avoid similar Thunderplugs name own by other company in North America.

At the moment, most of Thunderplugs global sales are from their direct ecommerce channel (www.thunderplugs.com), and their domestic sales are from distributors all across the Netherlands (Donker, 2018). According to the client's brief, Thunderplugs is facing a problem with their website effectiveness, as indicated by its conversion rate. The conversion rate in this paper defined as the percentage of visitors Thunderplugs' website that complete a checkout, divided by the out of the total number of visitors. Google Analytics indicates that in the year of 2017, Thunderplugs' website has 1,56% conversion rate, 60,51% bounce rate and only 11,6% returning visitors.



Source: Thunderplugs' google analytics

Figure 1. The statistics of Thunderplugs' Performance from 1 January 2017 - 1 January 2018

Meanwhile, the average conversion rate in the health industry is 2,8%, (Chaffey, D, 2018) but Thunderplugs' website has only 1,56% conversion rate which is lower than the industries' average. Laja (2017) stated that to be able to increase conversion rate is to adjust the current website through conversion research and set digital strategies as long-term optimization plan for website development.

Scope

The study aims to find out how to increase the conversion rate of Thunderplugs' website thus increase its effectiveness. There are many ways to improve conversion rate optimization, the scope of this paper will be limited to redesigning the website to improve its effectiveness. The author involves in the optimizing of Thunderplugs' website design based on company's UX framework and design research.

Method

There are four steps in this research, the first step is the evaluation of the current design, the second step is creating the new design based on the evaluation, the third step is testing the first prototype, lastly the prototype is perfected with input from user testing. In the evaluation step, there are three methods that were used: heuristic evaluation, heat maps tracking, and competitor analysis in addition data from google analytics were used to improve the design. All

versions of the prototype were designed using sketch. After the first prototype was designed, the usability test was conducted with user testing.

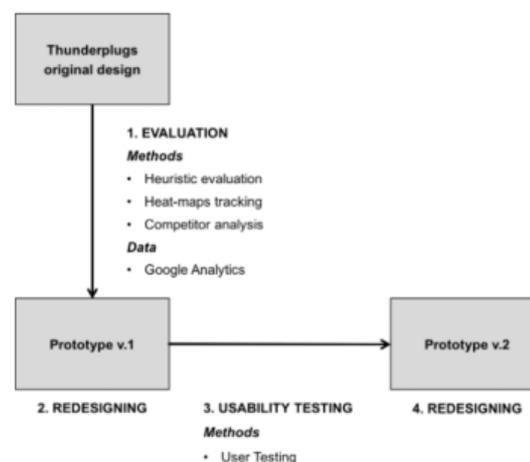


Figure 2. Steps and Methods

Heuristic Evaluation

“Heuristic evaluation is done by looking at an interface and trying to come up with an opinion about what is good and bad about the interface” (Nielsen, J, p. 249). In this study, heuristic evaluation was conducted using 14 items collected from previous researchers (Krug, 2014 and Qualaroo, 2015).

Table 1. 14 items that used as evaluation measurement

No	Item
1	Self-evident and self-explanatory
2	Clear visual hierarchy
3	Use web conventions
4	Timely content
5	Pages divided into a clearly defined areas
6	What is clickable is obvious
7	Noise minimized and reduced
8	Needless words omitted
9	Consistent navigation
10	Clear page name
11	Breadcrumbs and tabs
12	Site identity and mission
13	Social proof
14	Security

Heat Maps Tracking

This data collection technique is used to know Thunderplugs' user behavior, such as to understand where users have clicked on a page, how far they have scrolled down a page, or used to display the results of eye-tracking tests. The heat maps tracking data is collected by using Hotjar (analytics tool) that was installed on Thunderplugs' website. The data has been recorded from March until June 2018.

Competitor Analysis

Competitor analysis was conducted to evaluate competitors' website features, navigation, and design. Two Thunderplugs' competitors: Noizezz and Alpine. Both of the competitors are being analyzed because they have similar product range and target audience with Thunderplugs.

User Testing

User testing is used in this study to evaluate the design (prototype) to the user to get insights and a different perspective. This testing is done to 4 (four) respondents. The respondents give their feedback based on open-ended questions formulated by Qualaroo (2015) and Steve Krug (2014). Open-ended questions are used to gather more qualitative insights. The respondents were picked out randomly but following demographic data from Thunderplugs' Google Analytics.

Data from Google Analytics

In this study, some data from Thunderplugs' Google Analytics (period 1 January 2017 – 1 January 2018) were retrieved to get the better insight regarding the demographics of the audience and the performance of each page (bounce rate and seconds spent in each page). This data helps in determining the type of design that could attract the target market as well as deciding pages that need improvement.

Discussion

Evaluation on the Current Website

First, the current website was evaluated using heuristic evaluation and using the heat maps. Table 2 shows the summary of the evaluation. The summary shows what kind of improvement should be made to the website. Strong means that the website has the item and will not need further improvement for that item. Weak implies that the item needs further improvement. N/S mean that the analysis was not suitable to evaluate the item.

Table 2. Thunderplugs' current website evaluation

Item no.	Heuristic	Heat maps	Thunderplugs' current website
1	weak	N/S	weak
2	strong	N/S	strong
3	strong	strong	strong
4	weak	N/S	weak
5	weak	weak	weak
6	weak	weak	weak
7	weak	N/S	weak
8	weak	weak	weak

9	strong	strong	strong
10	weak	N/S	weak
11	weak	N/S	weak
12	strong	N/S	strong
13	weak	N/S	weak
14	weak	N/S	weak

Heuristic Evaluation

Based on the heuristic evaluation conducted by the author, the Thunderplugs' website has four strong items (clear visual hierarchy, use web conventions, consistent navigation, site identity, and mission). First, the website's visual hierarchy is clear, shown by the well-organized hierarchy of the visual elements. Secondly, Thunderplugs use web conventions are such as the primary menu on the top of the page; thus people can easily move between pages. Third, the navigation is in a clear position, so it's obvious where to find it. Lastly, the site identity and mission is well-explained in the website.

The Thunderplugs' website also has ten items (Self-evident and self-explanatory, timely content, pages divided into clearly defined areas, what is clickable is obvious, noise minimized and reduced, needless words omitted, clear page name, breadcrumbs and tabs, social proof and security) that would need improvement. First, it is not self-evident and self-explanatory. It has no timely content that usually can engage more user. Pages are not divided into a clearly defined area. The button is not obvious if it's clickable. Next, the noise comes from the solid yellow background. There's plenty of unnecessary happy texts that can be reduced. Additionally, it has an inconsistent page name which leads to confusion for the user. Moreover, it has no breadcrumbs and tabs, social proof, and security which has to be added to the new design.

Heat Maps Tracking

The heat maps evaluation was conducted to study the user behavior. In accordance with the data results, there are few problems that occurred by analyzing Thunderplugs' users' behavior: The call-to-action button on the homepage is unappealing. Users are directly going to the shop after entering the site. People don't read the texts; they focus more on the products. It's not visually clear which part is clickable or not, for instance, people click on the bullets that are not clickable but the login button "Mijn account" which is button is not clicked. The issues found could be translated to weak performance in item #5, #6, and #8.

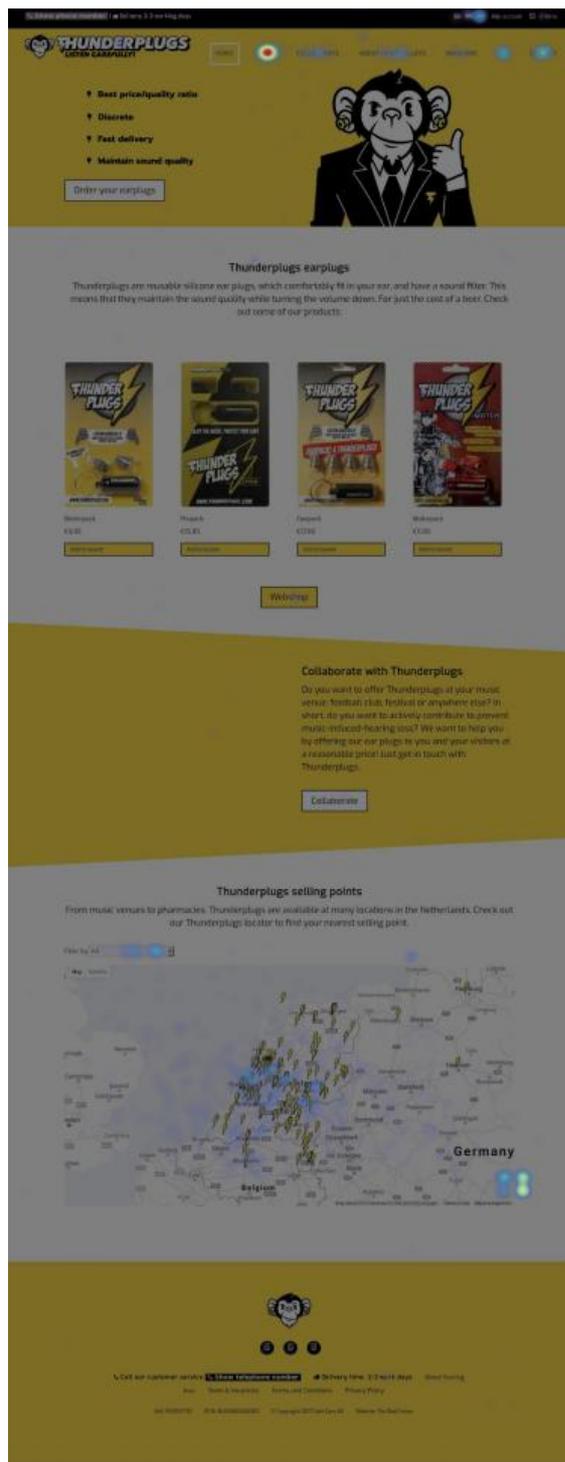


Figure 3. Click heat maps results of Thunderplugs' website from March until June 2018

Pages Performance

The data from google analytics show that Thunderplugs' Homepage has 56,78% bounce rate, the landing page has 60,51% bounce rate, and the product page has 61,90% bounce rate (Thunderplugs' Google Analytics, 2017). It's quite clear that the landing page will need more improvement.

Competitor Analysis & Target Market

Competitor analysis was conducted to understand better how Thunderplugs' website stands among its competitors. In addition, the analysis was conducted to gain more insights regarding competitor features, promotions, and branding. Table 3 shows the author's heuristic evaluation of each competitors' website.

Table 3. Competitors' analysis

Item no.	Alpine	Noizezz	Thunderplugs' current website
1	strong	strong	weak
2	weak	weak	strong
3	strong	weak	strong
4	strong	weak	weak
5	strong	strong	weak
6	weak	strong	weak
7	st rong	strong	weak
8	strong	weak	weak
9	strong	strong	strong
10	weak	weak	weak
11	strong	strong	weak
12	strong	strong	strong
13	strong	weak	weak
14	strong	strong	weak

Based on the author's evaluation, Thunderplugs' competitors have better website compared to Thunderplugs. In addition, the competitors' website design was used as an inspiration for the new prototype design.

Alpine

Alpine is one of the top manufacturers in the world that has hearing protection as their core business, with the primary aim of making ear protection as accessible as possible. Alpine deliver their products worldwide in 50 countries, including distributors, large chain stores, catering establishments, events and online shops. Alpine provides a wide range of earplugs, such as party, sleeping, motor, travel, aquatic, custom, or even children plugs (Alpine, n.d).

One notable feature from Alpine is their social media implementation on the homepage. Meeken (2017) explained that social media is one way to increase customer engagement. This feature could be

implemented on Thunderplugs' website, to invite more returning customers to the website. In addition, Alpine use less text and describe things by using relevant pictures. This practice would increase users' interest in the page and could theoretically reduce the bounce rate.

Noizezz

Noizezz is a Dutch earplugs company that has missions to protect people against hearing loss and let people enjoy sound by offering high-quality hearing protection equipment and earpieces. Furthermore, they positioned themselves as a specialist of choice in developing aids for deaf and hearing-impaired (Noizezz, n.d.).

Noizezz has a visually attractive home page. It displays a human picture which enticing the audiences. In addition, it has proper category placement, which 24 people can easily find and select them. Moreover, the color that they utilize is well-used and not distracting.

Understanding the Target Market

To better improve the design of the design, it is important to understand the target market of the product. Data are retrieved from Thunderplugs' google analytics (2017). The target audiences are men (67,7%) and women (32,3%). The majority are between the age of 25-34 (42,18%). They are from the United Kingdom (32,43%), Netherlands (25,84%) and others (41,73%). They are not engaged with Thunderplugs (88,4% new visitors, 11,6% returning visitors). They landed at 379 different landing pages via paid search (84,7%), and then 36,21% of the users viewed the shop page, but 87,85% bounced.

Designing the Prototype and Applying Changes

Based on previous analysis there are 10 items that became the main focus of the new improved website design: Self-evident and self-explanatory, timely content, pages divided into clearly defined areas, what is clickable is obvious, noise minimized and reduced, needless words omitted, clear page name, breadcrumbs and tabs, social proof, and security.

Self-evident and self-explanatory: to improve this item, make a more precise landing page which clearly explains what the website offered by showing four different products of Thunderplugs

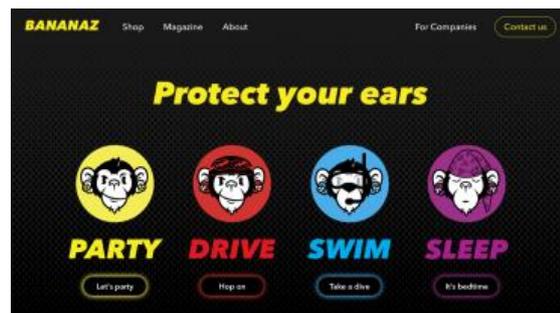


Figure 4. Four different products of Thunderplugs/Bananaz in the website landing page

Timely content: In order to improve this item, social media is integrated on the homepage to engage people with the timely content. The content from social media is updated daily, thus would improve its relevance and timeliness, compare to regular website content that is updated annually.

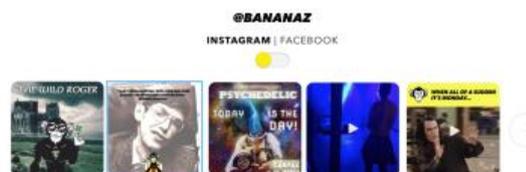


Figure 5. Social media implementation on Thunderplugs' homepage

Pages divided into a clearly defined areas: the pages are split into a defined area by using prominence and grouping principle. Thus, information with similar function should be grouped together.

What is clickable is obvious: for this item, the button is designed better by giving visual effects such as glowing effect, shadow, or a different color that make the button visible.

Noise minimized and reduced: the solid yellow background is removed to reduce the noise.

Needless word omitted: there is an adjustment to the content of the website, which eliminates unnecessary texts.

Clear page name: the best improvement for this item is to make consistent page name on every page.

Breadcrumbs and tabs: breadcrumbs and tabs are added in the product page.

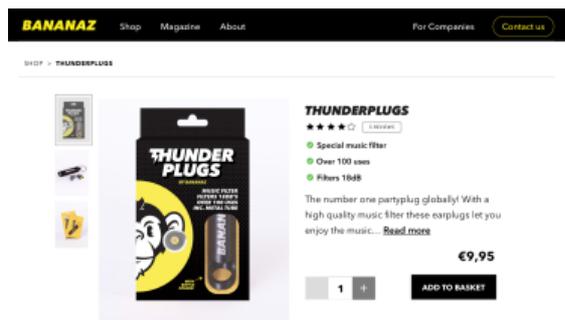


Figure 6. Breadcrumbs implementation on product page

Social proof: In order to add social proof to the website, the author implement review section into the product page.



Figure 7. Implementation of product reviews on the product page to increase credibility

Security: the security item is enhanced by showing logos of trusted payment methods to build customers' trusts.

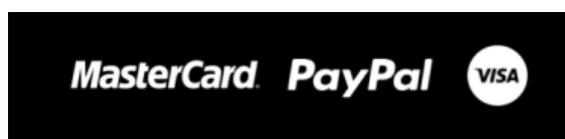


Figure 8. Logos of trusted payment methods in the page footer

User Testing and Finalizing the Prototype

The new prototype design was tested with the user. The objective of the user testing was to check the clearness and performance of the new design. The result of the test was quite good. Most of the changes were positively improve the website. The author acknowledges the limitation of the user testing: the limited number of the interviewee and the personal bias of the interviewees.

Table 4. Result of the usability or user testing of the design prototype

Item no.	#1	#2	#3	#4
1	strong	weak	weak	strong
2	strong	weak	strong	strong
3	strong	weak	strong	strong
4	strong	strong	strong	strong
5	weak	strong	weak	strong
6	strong	strong	strong	strong
7	strong	strong	weak	strong
8	weak	strong	strong	strong
9	strong	strong	strong	strong
10	strong	strong	strong	strong
11	strong	strong	weak	strong
12	strong	strong	strong	strong
13	strong	strong	strong	strong
14	strong	strong	strong	strong

Additional Changes

From the result of user testing, some additional changes were made to improve the final prototype. In addition, some valuable user feedbacks were implemented to the changes. The first change made is making the four buttons on the landing page bigger, so people can easily click on it. After that language options are added. Lastly, another minor addition is the enhancement of the footer content.



MADE BY MUSICIANS, USED BY EVERYONE

Founded by 2 musicians with a mission to make the party last. Offering everyone the most accessible way to rebel against hearing loss. Our goal is to become a hearing damage ambassador by producing 1,000,000 sets of plugs by 2020 in the most sustainable way possible. But for now, let's go Bananaz!



- Thunderplugs
- Motorplugs
- Aquaplugs
- Sleepplugs

PICK YOUR PLUGS:



@BANANAZ

INSTAGRAM | FACEBOOK



STORE LOCATOR

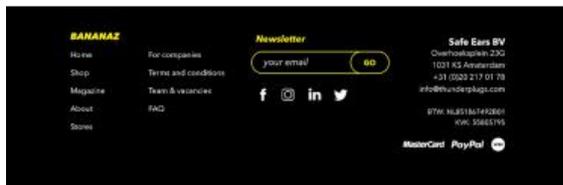


Figure 9. Homepage design of Thunderplugs/Bananaz website



SHOP > THUNDERPLUGS



THUNDERPLUGS

- ★★★★☆ (5 reviews)
- Special music filter
- Over 100 uses
- Filters 18dB

The number one partyplug globally! With a high quality music filter these earplugs let you enjoy the music. [Read more](#)

€9,95

1

DESCRIPTION SPECIFICATION



REVIEWS | THUNDERPLUGS

★★★★☆
5 REVIEWS

★★★★★ July 5, 2017
TOP PRODUCT!
Geen ruis meer in me oren wanneer ik in mijn badge lig!
Robert Heeren - Verified Purchaser

★★★★☆ August 1, 2017
LOVE IT!
Geen ruis meer in me oren wanneer ik in mijn badge lig!
Mera - Verified Purchaser

RELATED PRODUCTS

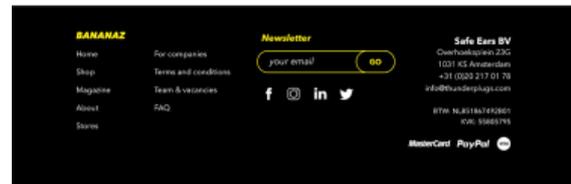


Figure 10. Product page design of Thunderplugs/ Bananaz website

Conclusion

Conversion rate is an important indicator of the performance of a site UX design and its effectiveness. Thunderplugs website effectiveness could be improved by improving user experience (UX), applying funnel optimization and conversion rates optimization, reducing bouncing and exit rates (Qualaroo, 2015). In this paper, the author conducted evaluations, analysis, and usability testing to gain more understanding about the current website performance. This paper attempted to improve the website effectiveness by improving the website interface design and navigation, to improve UX, reduce bouncing and exit rates

To measure the success of the redesigned website, one of the ways is to measure the changes in the conversion rate, bouncing, and exit rates using Google Analytics. Due to the time constraints, the changes in conversion rates have not been measured. User testing was conducted instead, to ensure changes were positively contributing to the website effectiveness.

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