Project assignment in Web development

Author(s)
Neubauer Nico, Neubauer Andre and Mortensen Wisarut

W. W. W.
Usability Catalouge

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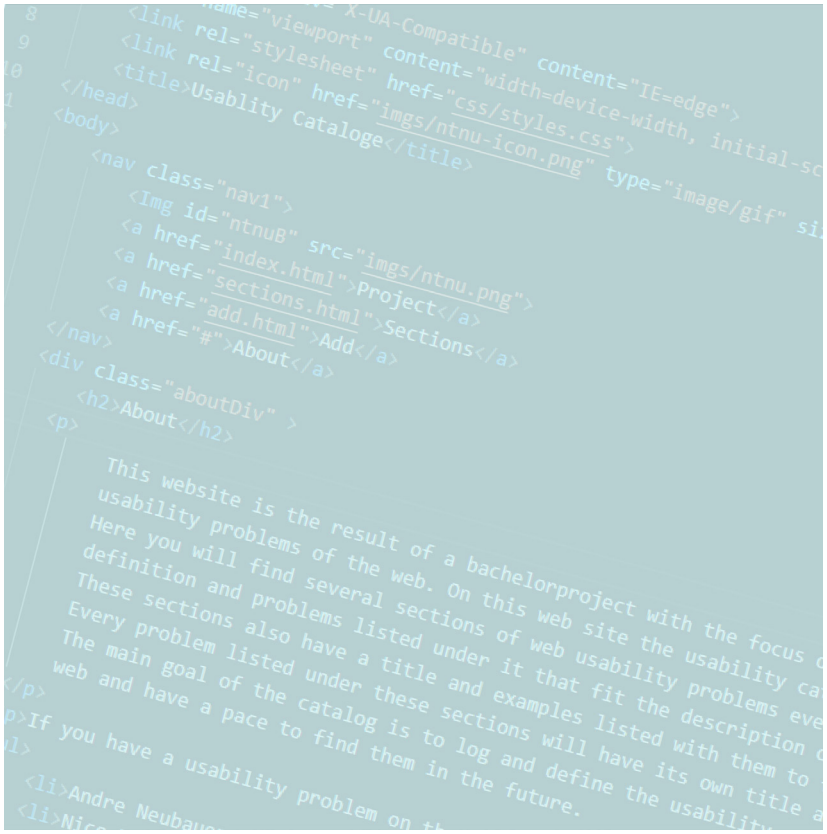

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Author(s)
Neubauer Nico, Neubauer Andre
and Mortensen Wisarut

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Summary

Usability Catalogue Summary

Today we live in the era of the internet, and we spend more time there than ever before. But how is the usability on the web, especially on the pages we use the most? We think that these things are not well documented, and that is what we try to shine a light on in this thesis. How is a catalog like this supposed to be structured, and why? Join us as we go through relevant theory, what our methods were, and finally what findings we made.

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W W W

Usability Problems

by Andre N., Nico N. and Wisarut M.

NTNU

Preface

This Web Development bachelor was written by Andre Neubauer, Nico Neubauer, and Wisarut Mortensen. This bachelor was written in 2021 while studying at the Norwegian University of Science and Technology (NTNU) and while the world was facing a global pandemic. Gioele Barabucci proposed this research question at NTNU, which was a great help whenever problems or questions occurred. This Usability catalog is about usability problems on the web today and the usability problems we found while analyzing some of the most visited pages on the web.

The Usability Catalogue

What is the thesis about?

Today we live in the era of the internet, and we spend more time there than ever before. But how is the usability on the web, especially on the pages we use the most? We think that these things are not well documented, and that is what we try to shine a light on in this thesis. How is a catalog like this supposed to be structured, and why? The structure was also one of the more significant questions we had going into the research of this project.

Why is the usability catalog important?

The usability catalog is a tool to classify, identify and define usability problems of the web. The catalog can be used in the same way as a dictionary. The catalog can be used to both have a place to achieve usability problems and to look at their definition. This can then be used as an essential tool for web developers to identify usability problems.

The research question discussed in this thesis is

Can you make a cataloage of usability problems of the web?

Structure of thesis

Introduction: What this is about why this is important and the research question.
Theory: In the theory part, we talk about all the essential things to understand to make sense of our research. Understanding the design and web development concepts is very important to tackle before continuing to the later sections of this thesis because everything is based on these concepts.
Methods: Presenting all the methods we chose and their backgrounds, how they were previously used. Some research methods have been used in the thesis.
Result: In this section, we talk about our findings and what those findings mean in the context of this thesis.
Conclusion: Making a statement and summarizing the points and conclusion.

Theory

Design

For most designs and especially for interactive Web-based designs, one of the most important things is how usable something is. When designing a product it is important to know what a user wants and what the most used conventions are because innovation for the sake of just changing something is often not a good plan. There should always be a strong reason why changes are made when designing. This is why it is often very helpful to follow some kind of design method or philosophy, but the most important thing is research. The more a designer knows about the users or other solutions to similar problems the better. This is important to know a little bit about design to have a better understanding of our usability catalog research and.

Usability

Figure 1: Usability testing Notes

In the paper “What is usability” published in 1991, the term usability was replaced with the term“user-friendly,” which by early 1980 had acquired a host of undesirably vague and subjective connotations (what is usability, 1991). Anyway, the main goal here is to make a product user-friendly or more usable for most people.

There are many ways to measure usability, but the paper “Measuring Usability with the use questionnaire” by Arnold M. Lund made a questionnaire of the five solid factors or sections like Usefulness, Ease of use, Ease of learning, and satisfaction. Each section had many questions that determined if the product was useful or satisfactory to use.

Web design

Web design requires many different skills because the web is almost a living thing in the sense that it is continuously evolving. This is not only because of the progress in technology but also because of how user behavior changes over time. So a good web design is maintained throughout its life. The design of a web page is often split into UX/UI design and more traditional graphic/layout design. UI design focuses on the user interface meaning everything a potential user interacts actively with.

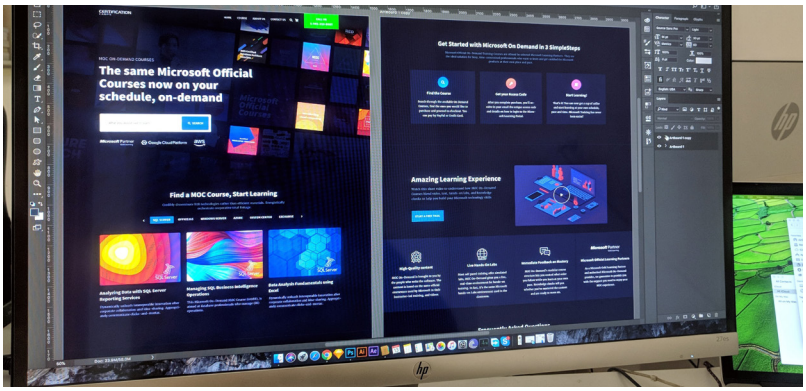

Figure 2: Skreen of the web design process

Interaction design

Interaction design has its origins in web and graphic design but has grown into a realm of its own. Far from merely working with text and pictures, interaction designers are now responsible for creating every element on the screen that a user might swipe, click, tap, or type: in short, the interactions of an experience. Interaction design was changed after the purpose was more than just designing static copy like posters and designing what is on computers' screens. Everything from a button to a link to a form field is part of interaction design. Over the past several decades, several books have been released explaining facets of interaction design and exploring the myriad ways it intersects and overlaps with experience design. Take as an example the book "COOPER, Alan, et al. About face: the essentials of interaction design. John Wiley & Sons, 2014". This book is an extension of the book "about face" and is meant for interaction design. That is why this is a good reference if there is something you want to know about interaction design.

Figure 3: Interaction design workspace

Interaction design has evolved to glue interactions between people and their environment. Unlike the user experience design, which accounts for all user-facing aspects of a system, interaction designers are more concentrated on the specific interactions between users and screen. This is very important and relevant because the reason there are usability problems on the webpage is that there is something on the web screen that does not interact with the people that are using it. Most of the poor user experiences tend to come from web content that does not interact so well with the people that are using it.

Even when interaction design concepts are more about types of web and mobile applications and sites, there are specific methodologies the designers rely much on upon. These standard methodologies are goal-driven design, the five dimensions, cognitive psychology, and human interface guidelines. These methodologies dominate most of the usability designs that people are using today. That is why it is worth mentioning them and why designers choose to use them as guidelines.

Goal-Driven Design

In the book “About face” Alan Cooper introduces a new kind of behavior-oriented design, providing a complete process for understanding users’ goals, needs, and motivations (About Face, 2014). Alan thinks goal-driven design is a design that holds problem-solving to be the highest priority. The concept of goal-driven design focuses on satisfying the specific needs and desires of the end-user, as for the older design methods that focused on what capabilities were available on the technology side of things.

The few points Alan brings up seem obvious, but designers rarely select interactions based solely on development constraints. The methodology is all about satisfying the end-user’s needs and wants. An example is that users’ goals are often very different from what we might guess them to be. We might think that an accounting clerks’ goal is to process invoices efficiently (About Face, 2014). That is far from the truth. Efficient invoice processing is more like a goal of the clerk’s employer. The clerk probably concentrates on goals like appearing competent at this job and keeping himself engaged with his work while performing routine and repetitive tasks (About Face, 2014).

The process involved in goal-driven design requires five shifts in the way interaction designers should be thinking.

The first is the design, then comes the programming after that. Goal-driven design begins with considerations for how users interact and how things look, rather than beginning with technical instructions.

There must be a separation of responsibility for design and programming. This means the necessity of interaction designers who can make a good end-user and not have to worry about technical constraints. A designer should be able to trust developers to handle the technical aspects. The designers must make outstanding user satisfaction. Interaction designers are responsible for understanding and specifying how the product should behave. This work overlaps with the work of both visual and industrial designers in a couple of important ways. When designing physical products, interaction designers must work with industrial designers early to specify the requirements for physical inputs and understand the behavioral impacts of the mechanisms behind them (About Face, 2014).

This idea has developed into something that is now more commonly called user research or personas. Alan reminds us to connect personas back to the product and constantly asks: Where will this person use this? Who are they? What do they want to accomplish?

The Five Dimensions

In the book “The five dimensions of usability.” Whitney Quesenbery talked about creating a new model where she expanded the characteristics of usability. The main aspects of usability design concepts were making the product more efficient, effective, and satisfying. So later in the book, she changed the usability design concept from satisfying to error-tolerant, easy to learn, and engaging. That made the usability concept to the five dimensions.

Effectively describes the completeness and accuracy with which users achieve their goals. This means this is all about if the user reached his goals successfully and understood the information and flexibility to reach them.

Efficient is the speed with accuracy where the users can get done with their task. This is about how much effort the user uses to get done with a specific task.

Engaging in the style and tone of the interface can make a product pleasant or satisfying to use. As stated in the book, “An engaging product is in that draws the user in, encouraging interaction. Visual design is the most obvious medium through which use and the interaction style all play a part in creating the experience that creates engagement” (Information design in technical communication,2003).

Error tolerant means to design something that helps with recovery from those errors that do occur. This means that if the user did something wrong or a mistake, errors should provide information, choices of actions to undo the mistake and try to help with a solution.

Easy to learn is where the product supports both initial orientations and a deepening understanding of its capabilities (Information design in technical communication,2003). If the product is easy to learn, that will likely make more users use it.

These five dimensions of usability must somehow work together to make a usable product for the users.

Cognitive Psychology

Cognitive psychology studies how the mind works and what mental processes take place there. These processes include but are not limited to “attention, language use, memory, perception, problem solving, creativity, and thinking.”

Some key elements of cognitive psychology are exceptionally valued and have helped form the field of interaction design. Here are just a few of them that helped to develop the area.

Mental models are the images in a user’s mind that inform the expectation of a specific interaction. By studying the user’s mental model, interaction designers can create systems that feel intuitive for the user.

Interface metaphors make use of known actions to lead users to new activities. For instance, the folder icon on most computers resembles a physical folder to make the user think about how it should work.

These are so-called Affordances first mentioned in Don Normans the design of everyday things. Affordances are designed to look like they are designed to do something. A button that looks like a physical object you can push, for example, a smartphone with keyboards, is an affordance designed so that someone unfamiliar with the button will still understand how to interact with it.

Human Interface Guidelines

The idea behind creating human interface guidelines is in itself a methodology. The goal is the same for all of them: to alert prospective designers and developers to advice and recommendations that will help them to create universally intuitive interfaces and programs for the users. But take an example of Apple’s book “Human interface guidelines’’ the guidelines are Apple’s desktop interface and the specifications of all standard elements. The principle summarizes the fundamental tenets of design and graphics in the human interface guidelines and discusses accessibility to disabled people. General design principles that lie at the heart of the guidelines

The ten principles of human interface guidelines

Metaphors from the real world

Make the metaphors based on real-world counterparts plain so the users have a general understanding of what to expect and apply it to the computer environment. Carefully craft a visual, aural, behavioral illusion to support the metaphor so that the user can operate in a stable artificial reality.

Direct manipulation

The users expect their physical actions to have physical results and want their tools to provide feedback so they know they have been doing it right.

See-and-point (instead of remember-and-type)

Users select actions from alternatives presented on the screen. They rely on recognition, not recall; they should not need to remember anything the computer already knows. Most programmers have no trouble working with Boolean logic and with a command-line interface that requires memorization, but the average user is not a programmer. (“Apple® Human Interface Checklist.”, 1989)

Consistency

Effective applications are both consistent within themselves and consistent with one another. Users like to rely on familiar ways to get things done. (See the section, A strategy for design

WYSIWYG (what you see is what you get)

There should be no secret that the user wants no difference between what is on the screen and what the result will be after what gets printed after a specific task.

User-initiated actions

The user should be the one who controls the actions and initiates them. The computer on the other hand, should not have to do anything but help users through it.

Feedback and dialog

Users appreciate immediate feedback on the progress of an operation. Communication should be brief, direct, and expressed in terms of the user's point of view. ("Apple® Human Interface Checklist.", 1989)

Forgiveness

Users make mistakes; therefore, they must be forgiven. Forgiveness in this situation means letting users know they have done something wrong and help them through it and help them to reverse it.

Perceived stability

Users feel comfortable in a computer environment that remains understandable and familiar rather than one that changes randomly. Consistent graphic elements provide visual stability. a finite set of objects and actions to perform on them provide conceptual stability. ("Apple® Human Interface Checklist.", 1989)

Aesthetic integrity

Visually confusing or unattractive displays detract from the effectiveness of human-computer interactions. Messes are acceptable only if the user makes them applications are not allowed this freedom.

Users should be able to control the superficial appearance of their computer workplace to display their own style and individuality. ("Apple® Human Interface Checklist.", 1989)

The main purpose of the Human Interface Guidelines is to create an interface accessible to everyone possible, which means people who are disabled too. Computers have a huge promise to help people with disabilities, but the bad part is that it has gone the opposite way. When some modifications in the hardware or software have a different effect, developers and programmers should be thinking every time they are developing some applications. Take this instance. When software is modified a little bit, it can make it easier for people with vision problems to read the screen or audible messages that read what is on the screen or can make it possible for people with hearing problems to take notice.

Then we have another example guideline in the paper “Guidelines for handheld mobile device interface design. 2004” where it represents eight principles for designing to apply it to mobile devices. The principle enables frequent users to use shortcuts, offer informative feedback, design dialogs to yield closure, support internal locus of control, consistency, reversal of action, error prevention and simple error handling, and reduce short-term memory load. As we can see here, some of the principles are aligned with Apple’s principles.

The reason this is important to mention is that people are using these principles to design websites. The principles have been a good guideline so far, but the website that has not been designed with these principles tends to have a poor user experience and therefore can help the project to identify it and write it down.

Daily Tasks and Deliverables

The reason this is important to mention is that people are using these principles to design websites. The principles have been a good guideline so far, but the website that has not been designed with these principles tends to have a poor user experience and therefore can help the project to identify it and write it down.

Design Strategy

Interaction designers will need to know who they are designing for and what the user’s goals are. This is provided by a user researcher. Then the interaction designer will assess the goals and develop a design strategy, either independently or with help from other designers. A design strategy will help the team to have a common understanding of what interactions need to take place to facilitate user goals.

Wireframes of Key Interactions

When the interaction designer has a good idea of a design, they can begin to sketch the interfaces that will implement the necessary interactions.

Prototypes

The next step for an interaction designer is to make prototypes. There are several different ways a team might prototype an interaction, such as HTML/CSS prototypes or paper prototypes. The point here is that even this project has to be in the prototype phase because there are some issues or new things to add on. It also gives time to improve the project.

Stay Current

One of the trickiest parts about being a practicing interaction designer is the speed of change in the industry. Every day, new designers are taking the medium in a different direction. Consequently, users are expecting these new kinds of interactions to appear on the website. The prudent interaction designer responds to this evolution by constantly exploring the web for new interactions and taking advantage of new technologies. It is very clear that when a website is not aligned with the new sets of design, it tends to have some usability problems.

The design sprint

The design sprint is a five-day intensive concept where the team must solve complex problems through rapid prototyping and qualitative testing with targeted users. The goal is to progress from problem to tested solution. In a week, a different skillset of a team comes together for a week to schedule a deep dive into a problem and design a solution that may solve it. Design Thinking and Agile methodologies pave the way towards adopting a user-centered perspective. In a time of mass customization, a design sprint gives first-hand insights into your target users' reaction towards a particular solution. The Design Sprint activities have five different stages or days. Each day has a different purpose and list of activities.

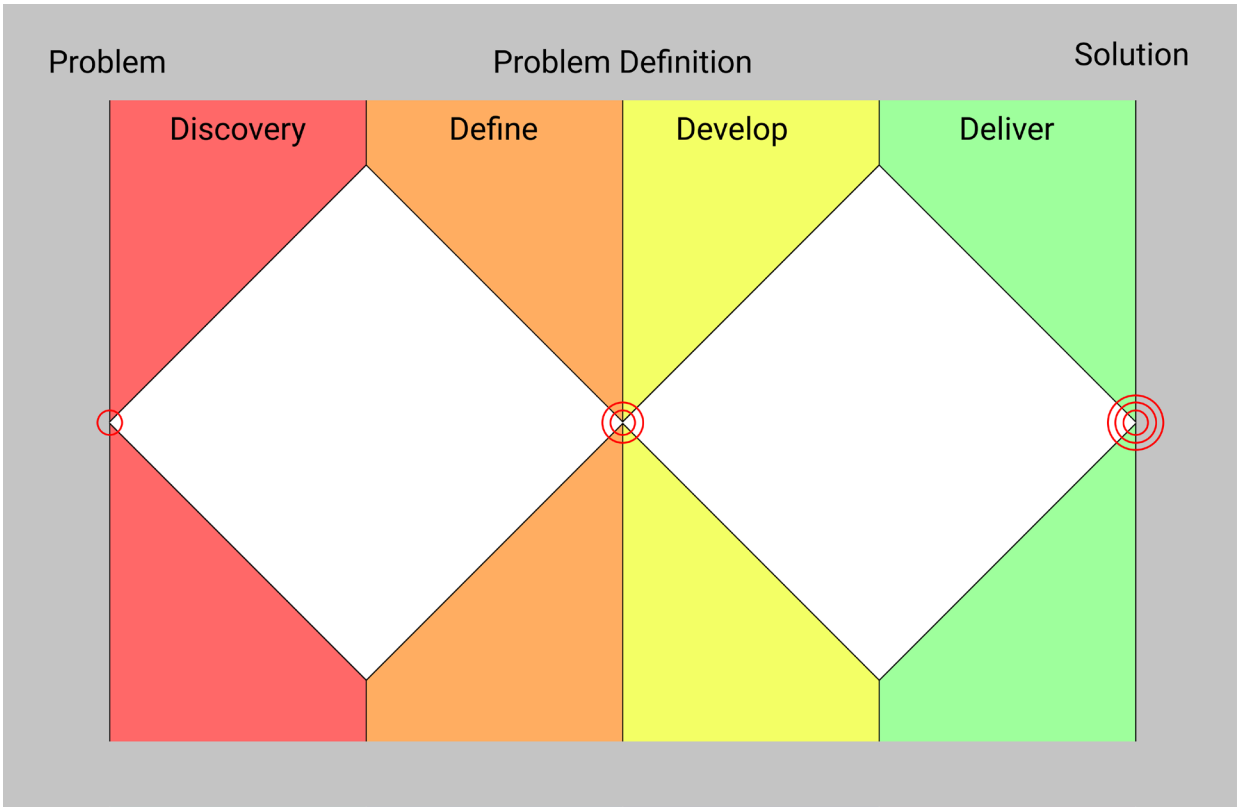

Figure 4: Illustration of the double diamond design process

The Double Diamond is a simple visual map of the design process. The model is divided into four phases like discover, define, develop, and deliver. These methodologies are making the process iterative. That means the ideas are developed, tested, and refined several times, with weak ideas dropped in the process. The Practical design methods used in the double diamond are user stories, journey mapping, and character profiles will move a project through the four phases of the Double Diamond. This design process was chosen to help us to make the usability catalogue. We chose this because the process let us redefine our usability catalogue in case there was something that was missing.

Web development

Introduction

Web development is developing websites on the internet. Since there are many focus groups on the internet because of their age, culture, abilities, and IT knowledge. Therefore, the websites must contain as few usability problems as possible to be usable for many people. There are two main ways to make a website: one is static pages, and the other is a web app. The static pages are used just to access information. The other web app is more used to accomplish some task that requires inputs and responses like payment.

The browser

When we interact with a web page we do so true the browser. This is an aspect that is unique to this medium. Different browsers can give users different user experiences, such as keyboard shortcuts for experienced users. Like Go Incognito Mode On Windows: Ctrl + Shift + N or On Mac: command + Shift + N.

Internet Explorer was the most used browser for a long time, but because of lack of innovation and stagnation in the development process, it's no longer the dominant browser today. Today Google Chrome is the most used browser by far. Chrome was the first browser that through the so-called chromium-based architecture had web apps in focus for the future of the internet.

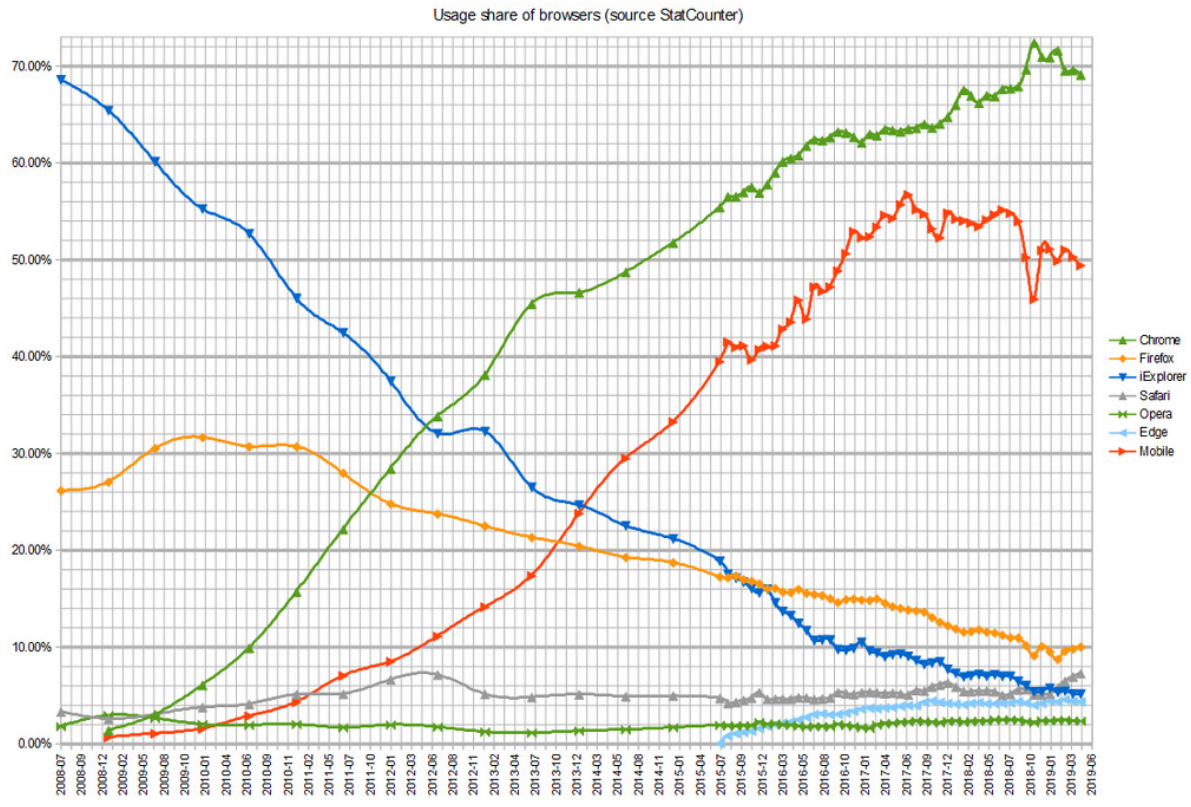

Figure 5: Browser Usage share of web browsers according to StatCounter 2019-05

Programming

What are programming languages?

Programming languages can be seen as a language that is a set of instructions that produce different types of output. These instructions are usually for computers. There are two main types of languages declarative and Imperative.

Imperative programming is a programming paradigm that uses statements that change a program's state. Declarative programming is a programming paradigm that expresses the logic of a computation without describing its control flow.

Programming paradigms are a method on how a programming language can be classified based on its features. The reason why the programming languages are mentioned is that as time went on the programming languages can become a usability problem. Since what is displayed on the screen is after all that has been programmed. In this part, we will be talking about CSS, HTML, and javascript because these are the one which are relevant in the field of web development. These three programming languages are tools that can make usability on web pages bad or good.

HTML

Hypertext Markup Language(HTML 4.01 Specification 1999) is a markup language for documents designed to be displayed on the web. This means that a developer may only use HTML for the basic structure of a webpage and its content. HTML 1.0 goes as far back as 1991 and today we use HTML 5 which was released in 2014 the fifth and last major HTML version that is a World Wide Web Consortium (W3C) recommendation. Note the age here because on the internet things tend to be outdated rather quickly and 1 year is in internet terms a felt century. HTML does not take a lot of effort to run both from a soft and hardware perspective. In addition, the ease of combination with other existing programming languages makes it still one of the most used technologies on the web.

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>Title goes here</title>
  </head>
  <body>

  </body>
</html>
```

Figure 7: Example of HTML code

Figure 6: Icon of HTML 5

CSS

CSS or Cascading Style Sheets are used for describing the presentation of a document written in a markup language (Meyer, E.A., 2006. CSS). Today CSS is one of the key technologies for the modern web as we know it today. CSS gives a web developer a seemingly endless list of options and makes it easy to split one big design into many simple to handle minor elements.

Figure 8: Icon of CSS

Javascript

JavaScript (JS) is a lightweight or interpreted compiled programming language (Crockford, D., 2008. JavaScript: The Good Parts p 2-4). While it is most well-known as the scripting language for Web pages many non browser environments also use it, some of them are Node.js or Adobe Acrobat. On the web, Javascript is used in almost all existing pages on the web that allows you to implement complex features into web pages.

Figure 9: Icon of Javascript

Accessibility vs Usability

Many today focus on accessibility like WCAG for instance and even in some countries, some accessibility guidelines are mandated by the law. But there are key differences between usability which we are talking about and accessibility. Accessibility strives to make the web open for as many people as possible and it wants every solution to be made for as many people as possible. The goal of usability is that something needs to be ad usable and streamlined as possible. Some problems like missing alt text on a picture can be accessibility problems because they make it harder for people who are using screen readers without being a usability problem.

WCAG

The Web Content Accessibility Guidelines WCAG for short are guidelines on how content on the web should be presented to be accessible for people no matter what challenges they might have. WCAG was developed by the World Wide Web Consortium in 1999 its recommendations changed over time and threw out the evolution of the web.

There are four key principles that are at the essence of what the guidelines are.

Perceivable: Perception of action and consequences need to be clear and shown in more than one way.

Operable: Things have to be able to be controlled in some way like using tab and it has to be clear what the right way for interaction is.

Understandable: The content must be understandable to its users.

-Robust: Content needs to work in all browsers and many different environments.

These four principals each have 12 guidelines that provide examples and explanations of how to use them. Under each guideline, we have success criteria that provide testable requirements and conformances. Each of the three previous layers has its own documentation in the last layer called Sufficient and Advisory Techniques.

Information architecture

Today we live in a world where there is more information available with the click of a button than people have time to read in a lifetime. So it is a key concern to know what to show a user and how to present information. This is what information architecture has its focus on exactly that problem on a line between theoretical and design-focused problems.

Information gathered can be used in many ways but here we have models and guidelines to guide us like the garret model that gives us guidelines on how to structure and plan a webpage. This design model was made by Jesse James Garrett focus (2010. The elements of user experience) on making a streamlined information structure by building the webpage from the bottom up in 5 steps.

Figure 10: Information Architecture checklist with post-it notes

Tools

Introduction

In this section, we write about the tools used to make this bachelor thesis happen. These are important to talk about because if someone attempts to recreate our findings some of these tools will be essential. However, there may be better tools for some of these things in the future and these are not necessarily the best tools to use but the ones we used because they were useful and familiar.

Communication

Collaborating digitally was mainly done through the use of Discord. Discord gives users the option to create a discord server that is connected to video and chat rooms. These are highly customizable and provide us with a meeting space we could use at any time. We used this discord server to have meetings two to four times a week(look log for more in-depth info). No meetings were done physically. We as a group decided that online meetings work just as well. For the communication with the product owner and advisor, we used Microsoft Teams and Microsoft Outlook that is provided thru the NTNU infrastructure. Since these tools are provided by NTNU they are just natural to use whenever we communicate with other members of NTNU.

Writhing collaboration

For collaboration, while writing we used Google Docs. We chose this over Microsoft Word because the collaboration on google docs is seamless and the extremely advanced log features on Google Docs make it easy to see what people have done and what needs to be done. Google docs had many good features but much like Word, it is not fit to make a well-finished end product.

To finish the bachelor thesis we used Indesign. This was a hard choice because we for a long time wanted to use Latex and Overleaf for this but finally, we choose Indesign because we are much more familiar with it, and learning a new technology that lat into the project proves a big challenge.

Graphics

The simple graphical elements were made with Google sheets which is google's version of Excel. When working with numerical data this is just the most tried and easiest solution possible.

More advanced graphical elements were made with photoshop. The possibilities of photoshop are endless and it made it possible to make things exactly how they originally were envisioned by us.

User surveys

Most user testing was done with user surveys via google forms. Google forms give its user an easy way to make forms and to later see exact data on the answers that were given although the graphs that are provided by google forms were often lacking and we chose to make them ourselves. We also used a page called "optimal workshop" to make card sorting where users could choose what sections problems fit into.

Coding software solution

For coding the solution we have decided to go with Visual Studio Code by Microsoft. Visual Studio Code is a well-established name in the coding world and it is easy to work with yet powerful enough to be a good coding solution. We used a Visual Studio extension called Live share to collaborate on the writing of code.

To implement the mailing service we used MialJS which makes it possible to implement an email solution without needing to resort to complicated backend PHP.

Methods

Introduction to methods

The research question was Can you make a catalog of usability problems of the web?
With this question in mind, it leads us to choose methods and surveys to find out more about what the usability problems are and how we can categorize them. The methods can also help to answer some part of the research question. We are using different kinds of methods: state-of-art reviews and user surveys. We use different methods because we have different parts like catalogue and web-site that will be present later in the chapters.

Phase 1: Survey of existing usability catalogs

For this project, we are working with limited time. Therefore doing all research from scratch might be hard and take too much time. Therefore we wanted a method that makes it possible to catch up to the current level of research the field of usability testing is at now. Therefore we choose state-of-the-art reviews. The thought was if we were able to assess the state of the art early in the research process we would later have an easier time making relevant contributions to the field of usability on the web. One problem we had is that we can not choose everything and there is just too much choice of research on the internet therefore finding the most relevant information to analyze was one of the most crucial parts of the state-of-the-art reviews.

What are state-of-art reviews?

State of the art is a way to demonstrate the novelty of your research results (Babak, 2007). In this section, there will be an already existing academic theory and research method that is about usability categories. This research paper will be about some of the usability categories that can be compared to the bachelor thesis. This paper does contribute to answering a part of the research question. The research paper is about the eye-tracking method research that is used to find usability problems that might be on the web pages. The bachelor thesis on the other hand is supposed to sum up all the usability problems that are on web pages. The two are still related to each other but at the same time a little different. Because the bachelor thesis is a sum of collected information about usability problems and acts as a guide to solve these problems. The eye-tracking research on the other hand is supposed to find and address issues that are in the present moment.

Why did we use state-of-art reviews?

The reason we use this eye-tracking retrospective research is that it does have some similarities to our project at some point. They are comparing the old methods like the think-aloud method with the new trend eye-tracking method to find usability problems on the webpage. As for this project is to make a usability catalogue that can be found on web pages. The research paper sums up five different usability problems that are found. These five are layout problems, navigation problems, terminology problems, feedback problems, and comprehension problems. These five problems are good to present but when looked up for them there are some catalogs that define what they are, but not how to fix these usability problems and why it is very important to fix them. The methods presented are used to find the usability problems there and then but not how to fix them or tell why it is very important. Still, the eye-tracking research paper did add some most common usability problems that can be added to the bachelor thesis.

The pitfalls of the state-of-art.

Most good research is never 100% original so it makes sense to base your research on someone before who has laid the groundwork of the work you intend to write. But it is key to choose the right kind of research that only uses studies that are vigorously tested and accepted by other researchers in the same field.

Phase 2: User survey of Web habits and perceived usability problems

After finding out the state of the art in this field, it was time to conduct our research. We chose to use user surveys to fresh our target group and see what usability aspects users struggle with within their daily life on the internet. We sent surveys out on public forums and sent them to students. After some of the problems were identified, we made cart sorting surveys where people could see some problems and section descriptions and then put problems into the sections they thought they belonged to.

What are user surveys used for?

A user survey is a set of questions that are used to find information generally about a target audience (Dalrymple, 2019). The target audience in this scenario is people who are using the internet. The survey was made from google surveys and was sent to different people.

Why did we use user surveys?

The user survey was the most efficient way to get information from people in a short time. The powerful thing about surveys is that you can control what information the project is after and make the questions that suit the project itself. Another reason to use the survey as it is inexpensive and quick to get information.

What kind of user surveys did we do?

The project used a google questionnaire. The questions were about age, how many hours they spend on the internet, what devices they used, and the top three websites they used the most.

User testing and Covid-19

All user testing in this project has been done using online tools. The reason for that is just a safer option regarding the state of the current pandemic. The downside with online testing is that some of the information is lost, like all the body language of users that are getting tested. One of the upsides was that some of the work like making graphs or finding patterns is done by the used software. The two tools we used for online user testing were Google forms for more extensive general surveys and Optimal workshop for card sorting types of surveys.

Phase 3: Analysis of existing Websites using our catalog of usability problems

In this last phase of the project, we analyzed some of the most visited pages of the internet with the usability catalogue we had at this point. This was mainly done for two reasons: the first reason is to see if the catalogue works. It is possible with the sections and problems we identified earlier to find usability problems. The second reason is to test it under real-life scenarios to see what changes need to be made. We choose web pages that have a lot of traffic because most people are familiar with and use them and because, in theory, these would be the pages that have the best possible usability experience. We thought it makes the most sense to test the catalog under challenging conditions.

Results

Introduction

This section will show the result of your findings of the usability catalogue research. the research question we are trying to answer was can you make a catalogue of usability problems of the web?”

Hypothesis

With that question in mind we tried to extract information from user surveys and add to the catalogue. Then also take the results findings from the other research paper that are similar to our reach. Information from both user surveys and the research papers was enough to make the usability catalogue. The catalog was filled with information about different usability problems and how to fix it.

Outcome

After the catalog was done we tried to use it to analyse the top 50 most visited pages. The top 50 pages that were analysed had points that went from one to ten and ten was the best. The average score was calculated based on how good the web pages followed the guideline of usability catalogue. The outcome of this catalogue was surprisingly good because it worked very well with many websites as we analyse. we found some usability problems that can be addressed and fixed.

Result of user surveys

Introduction to Result of user surveys

Later in the survey, we confirmed that people are using a lot of the time on the internet. This can mean it can be very important to have good usability. Since people are spending more of their time on the internet, it should be a good idea to make sure the usability on the internet is good. Even more important is to make a catalog that can document every usability problem that can occur on the web pages. As mentioned before, usability is important because it can make people interact with screens much better rather than make the user experience very poor.

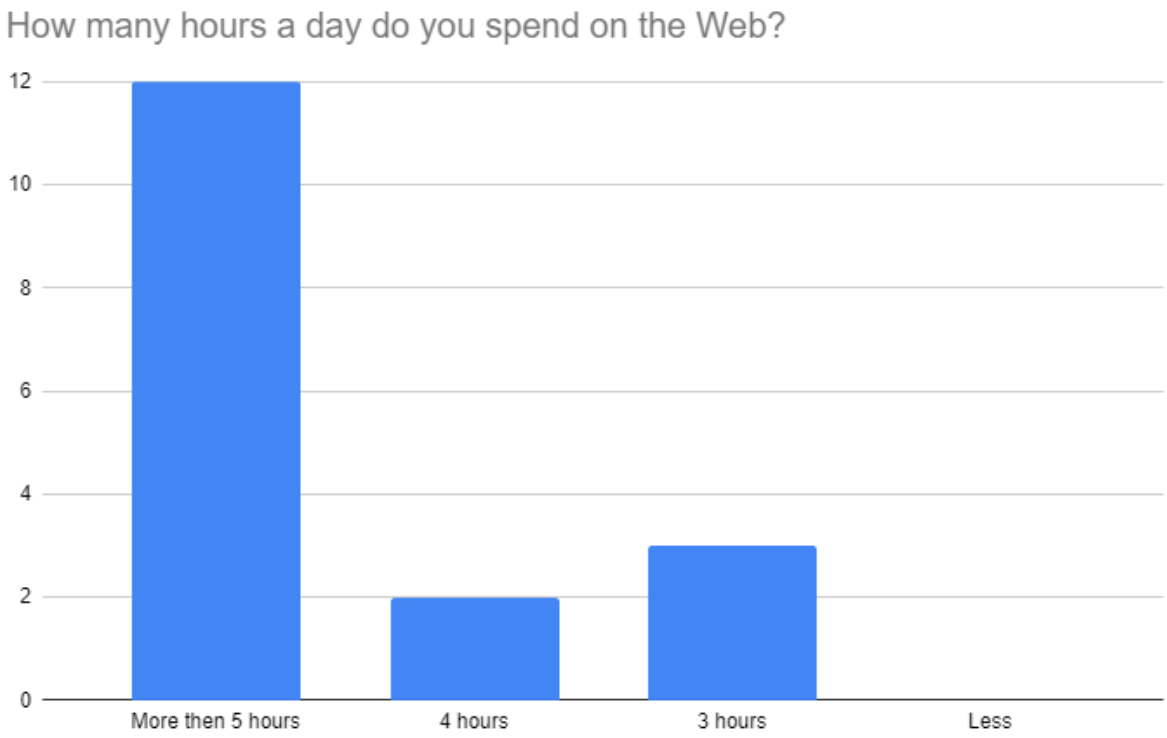

Figure 11: Survey answers: Time spent on the web.

Most of the user base was on desktop pc and laptops. The next best was on the mobile phone. It is not a surprise that the laptop and desktop have as many user bases because it was the first to be used. The interesting thing is that the mobile phone is the second most popular user base. This can also mean usability on the phone should take more into account because many people are using mobile phones. Usability on the phone and desktop is more like the same but with a little twist. The twisted part is the part of the usability catalogue about screen size and ratio. Most of the top 50 pages as before had no problem with this, but some had like Yahoo after a look at the mobile screen size of it. Even when a website follows the web's usability, those rules will change if the screen size ratio is not fixed when transitioning to mobile phones. This is just one of the usability that is important and will be more critical as time goes and more people have access to smartphones. This is why a usability catalogue might be essential.

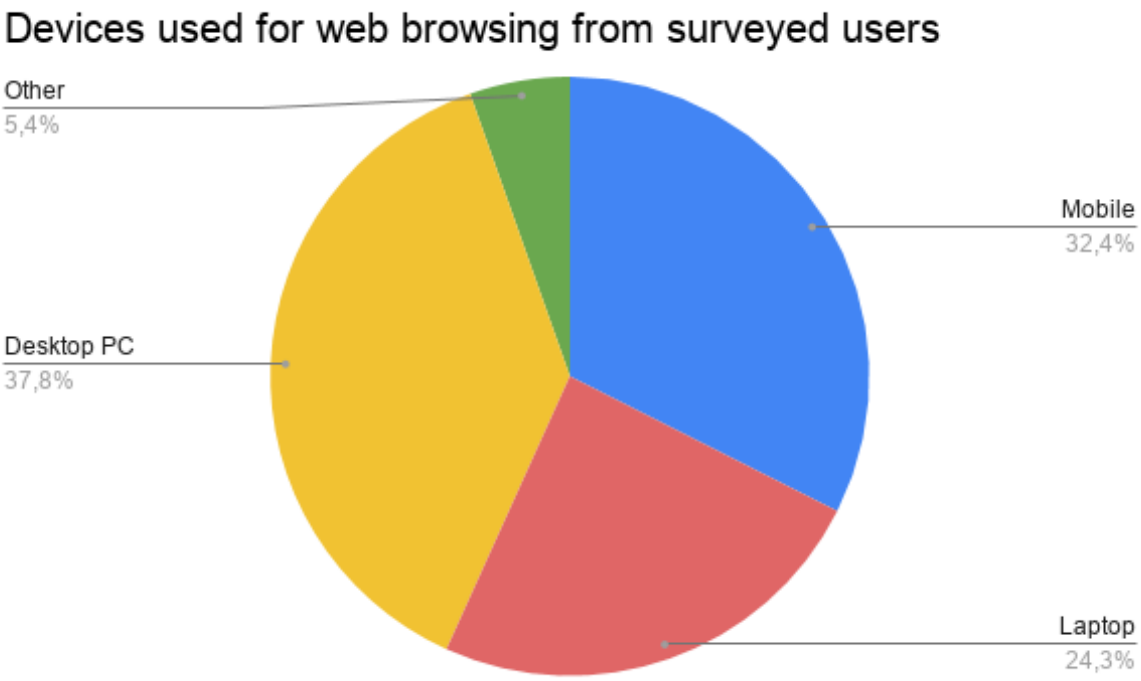

Figure 12: Survey answers: Devices used while browsing the web.

The most used website was YouTube. Since most people are using YouTube, as stated in this graph, does it mean that YouTube has good usability built on their website? This graph answered a little bit of the question because the second most reason people were using websites was entertainment.

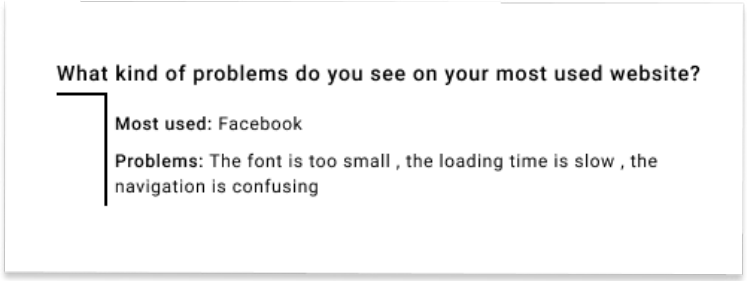

Figure 13: Example 1 from the survey answers usability problems on Facebook

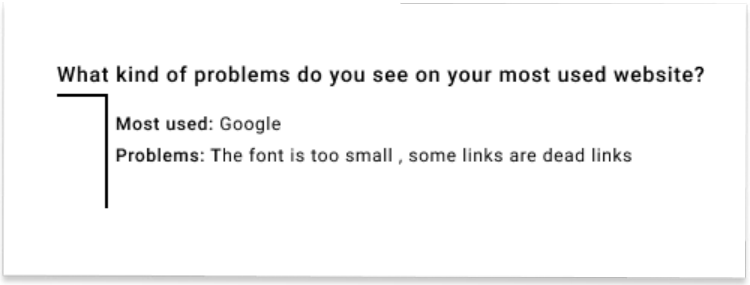

Figure 14: Example 2 from the survey answers usability problems on Google

Result of State-of-art reviews

Introduction on our State-of-art review

This is where we look at solutions that have been done previously on the problems of classifying usability problems and putting them into sections. Here we present some examples of how simple definitions and classifications on the web's usability problems can look through State-of-art review.

Sections of problems

How are usability problems classified? In the research paper about "Eye Tracking in Retrospective Think-Aloud Usability Testing: Is There Added Value?" by Fatma Elbabour Obead Alhadreti P.J. Mayhew. they classify all usability problems under 5 different types that give these 5 types 4 different severity levels, this being: suggestive, minor problem, major problem, and critical problem. The descriptions of the sections can be in some instances somewhat arbitrary. Altho this grants us insight into the state of the art of usability problems.

Type of problem
Layout problems (Difficulty to spot an item on a webpage)
Navigation problems* (Difficulty to navigate around the website
Terminology problems (Difficulty to understand a terminology)
Feedback problems (Unexpected feedback from the website)
Comprehension problems* (Difficulty to understand instructions)

Figure 15: "Is There Added Value?" by Fatma Elbabour Obead Alhadreti P.J. Mayhew. (2017) Classifying usability problems

Sections and Usability testing

	Usability Problems						
	Layout	Terminology	Data Entry	Comprehension	Feedback	Navigation	Overall

Figure 16 :Classification of Usability problems according to Eger, Nicola & Ball, Linden & Stevens, Rob & Dodd, Jon. (2007). Cueing Retrospective Verbal Reports in Usability Testing Through Eye-Movement Replay.

How are usability problems classified? In the research paper about "Eye Tracking in Retrospective Think-Aloud Usability Testing: Is There Added Value?" by Fatma Elbabour Obead Alhadreti P.J. Mayhew. they classify all usability problems under 5 different types that give these 5 types 4 different severity levels, this being: suggestive, minor problem, major problem, and critical problem. The descriptions of the sections can be in some instances somewhat arbitrary. Altho this grants us insight into the state of the art of usability problems.

Jon Dodd classifies the usability problems into 6 different types.

Layout: Visibility issues; failure to spot on-screen items; failure to absorb information; cluttering; irrelevant information/items; aesthetic problems.

Terminology: Failure to comprehend terminology of site.

Feedback: Application does not provide relevant feedback on actions or error messages; feedback not consistent with expectations; time issues of feedback.

Comprehension: The user does not understand the instructions, dialogue, or actions of the site.

Data Entry: The user does not know how to conduct a search (enter a search term, use the drop-down menu, start the search, etc.)

Navigation: Difficulty/failure to navigate around the page logically, or as desired.

Other ways on how to categorize

	The participant has trouble finding the advanced search button on the catalogue's homepage
	The participant cannot locate the names of co-authors in the catalogue's result list
ogy	The participant does not understand the meaning of the term 'limits'
	The participant does not understand the meaning of the term 'truncation'
y	The participant has trouble using the boolean operators
	The participant does not know how to enter dates in the 'year' box
ensiveness	Authors' names are missing in the result list
	The help function offers information only in English, not in Dutch
	The catalogue fails to provide an error notice when the participant makes a mistake
	The catalogue fails to indicate how its results are sorted (by year, author, etc.)

Figure 17: Usability classifications according to Van den Haak, M. J., de Jong, M. D. T., and Jan Schellens, (2003) P. Retrospective vs. concurrent think-aloud protocols: testing the usability of an online library catalog.

A research paper on Retrospective vs. concurrent think-aloud protocols: testing the usability of an online library catalogue by MAAIKE J. VAN DEN HAAK, MENNO D. T. DE JONG and PETER JAN SCHELLING. were the problems get split into 5 categories.

Layout problems: The participant fails to spot a particular element within a screen of the catalogue;

Terminology problems: The participant does not comprehend part(s) of the terminology used in the catalogue;

Data entry problems: The participant does not know how to conduct a search (i.e. enter a search term, use drop-down windows, or start the actual searching);

Comprehensiveness problems: The catalogue lacks the information necessary to use it effectively;

Feedback problems: The catalogue fails to give relevant feedback on searches conducted.

The Usability catalog

Introduction

This is where we come to the heart of our project. Here we present the usability catalog. This is where you will find both the definitions of the problems and the definitions of the sections the problem is in. This is where we also present more information about the catalog and analyze the 50 most visited sites on the internet using our catalog. Which we both used to test and to reiterate and populate our catalog. There will also be information on why it is very important to fix these issues.

What did we do

The usability catalogue section is a classification of usability problems. The information in the usability catalogue is either from websites or other sources like literature. We tested the comprehensibility of the finished catalogue on a small group of web designers and practitioners. The feedback was positive. The catalogue is presented with unique classifications and every classification in the catalogue is explained. It is structured this way because it was an easy way to provide information for people interested in reading it.

THE USABILITY CATALOG

Layout problems

Usability problems that affect the way a website looks to the point that it causes problems with how the user would interact with the website, often by making things hard to see or find by the users. Example: Contrast issue, Small font size, cluttering the page

Contrast issue: This appears when the background of an element that can be of graphical nature or text has a lower contrast ratio of 7/1 for text or 3/1 for graphics. A lower contrast ratio means that something is harder to decipher for a user. This is especially the case for users with some kind of visual disability like most users in the older spectrum.

Small font size: This is when the font size is so small that it affects the readability of the presented information. This usually happens when the font size is smaller than 10px(CSS pixels). This problem is exaggerated for people that have trouble reading or that are visually impaired in some way, like children or seniors users.

Typography problems: If text or text elements have underlying typography issues that make the text hard or not possible to read. One of these problems is Poor kerning: Kerning refers to space in between two characters. The closer together these are, the harder it is for people on the website to read and understand what you're trying to say. The problem with kerning, tracking, leading, and other typography mistakes are that they make clarity difficult or impossible.

Information density: The site should have a clear layout. If the page is cluttered, it becomes hard to navigate, causing visitors to leave. Other than cluttering the page with a hodgepodge of links, some sites are cluttered with pop-ups, floating ads, auto-loading videos, and other elements that distract visitors can lead to too high information density. This can also occur in the opposite direction if there is not enough content on the page, the user gets bored, and space is wasted.

Navigation problems

A type of usability problem that makes it harder for the user to navigate the website in general or harder to find a specific page on the website. This is often on points where several pages within a website connect with each other, but it can also be when it's hard for the user to navigate to specific information on a standalone website. Example: Dead links, Dropdown menu issues.

Dead links: Dead links are links that are on the website that look just like normal links but when clicked, do not lead anywhere or to a broken sight. This will make navigating the website harder and confuse the user.

Dropdown menu issues: On some of the tested pages, it's hard to use the dropdown menus because once they are opened they cover almost the entire page, which defeats the purpose if you want to cover the entire page just take the user to a site map or a different page used for navigation. Another common problem with dropdown menus is that they use different conventions on how to close them after they have been opened. Some have an X button, and some need to be closed in the same way of opening them. The most common form of closing them is also, in our opinion, the best way of doing it: just close it when the user hovers a different area on the page.

Terminology problems

A Terminology problem is a problem where things on the website don't follow the norms of the internet that a user is used to or when something on a page seemingly randomly change. This is hard to achieve and usually only possible with careful planning of several iterations of a page. Example: cultural problems, Not changing the color on visited links, Inconsistent communication, or Inconsistent design.

Cultural problems: Issues may arise from differences between cultural references, such as names of food, festivals, and cultural connotations, in general. This means that information on the website can be confusing for some and informative for others.

Not changing the color on visited links: Visitors use links to figure out where they are and where they've been. This is important because your visitors use the color of visited links to exclude pages that didn't give them what they were looking for. This is also helpful because it keeps visitors from visiting the wrong page over and over again.

Inconsistent communication: This is when different icons and conventions are used over the entirety of the page. When the same thing is signaled in many ways, this can create confusion for the user. Like the "save" icon is a cd one place and a disc in another place.

Inconsistent design: This can be for instance if different pages use different fonts for seemingly no reason at all and some pages have a different navigation menu without giving the user a reason why. This is easily avoidable by following a designated design manual.

Feedback problems

Feedback problems are problems where the user is not given proper feedback by either getting any Feedback, slow Feedback, or misleading Feedback. This can also be problems where the user expects Feedback, but there will either be no Feedback or slow Feedback. Example: bad loading time, misleading notification.

Long loading times: Long loading times make the use of a page very frustrating and punish users in lower skill groups because if they click the wrong thing, they will need to use a lot of time to get back to the starting point. Loading times that exceed 1 second are considered a problem.

Misleading notifications: Notifications that are designed to mislead, trick, or force users into allowing notifications. Examples include requests that require users to allow notifications in order to gain access to site content or that are preceded by misleading pre-prompts.

Technology problems

Problems caused by not correctly implementing web technologies. This can be cost by code/website and browser incompatibility. The usability problem might also be classified as a Teknologi problem if a web technology is used in a way that will affect the usability of the website. Example: screen resolutions, browser issues.

Bad scripts: Occurs when the user experience is affected by too many or bad scripts like for example. Too many or too big scripts on the web page so that the loading time of the web page gets noticeably affected so that the user will have to wait on the scripts before the sight is fully usable.

Improper use of HTML: This problem occurs when HTML is not used for its intended porous as a mockup language. When the HTML on the page is used for styling or all of it is generated in Javascript on the fly. This can break screenwriters completely and make the page incompatible with other programs that are aimed to help users.

Uncommon Screen Ratio/size: Occurs when the layout is not dynamic and only supports some of the many screen sizes on the web. The most common screen resolution size in recent years has been: 1366x768 pixels for desktops 360x640 pixels for mobile screens 768x1024 pixels for tablets Higher resolutions, such as 1920x1080 pixels for desktops and 375x667 for mobiles, are becoming more popular. It's essential to consider these sizes carefully. When designing websites for higher resolutions, some low-resolution screens and older devices may not be able to display all of your content.

Browser compatibility problem: This is when some features of a webpage are locked behind a specific browser or the content changes depending on the browser. Web pages should be able to display across different browsers, including Internet Explorer, Firefox, Safari, and Chrome. When building your site, the site has to go through browser compatibility issues. This means testing your site in as many browsers and operating systems as possible before deploying it. Remember to test on most recent browser versions, as well as the older ones - not all of your visitors may be using up-to-date software.

Results of the Top 50 web page analysis using our catalog

While testing our catalog on these 50 pages we found problems that match our catalogs definition on all the tested web pages. We present some of these findings here and we also go into the important issues and how to potentially resolve those. We also shortly present and discuss limitations and methods of the problem finding at the end of every usability problem.

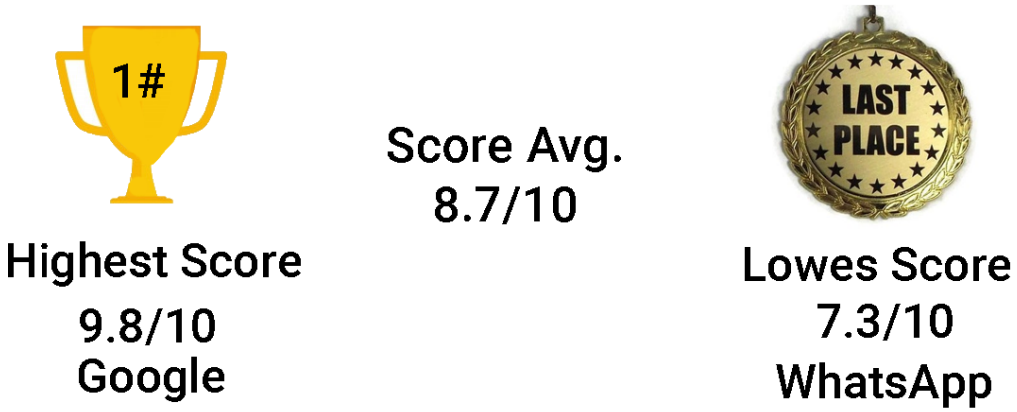

Figure 18: Webpage with best usability score vs worst usability score

Layout problems

A type of usability problem that makes it harder for the user to navigate the website in general or harder to find a specific page on the website. This is often on points where several pages within a website connect with each other, but it can also be when it's hard for the user to navigate to specific information on a standalone website.

Example: Dead links, Dropdown menu issues.

Contrast issue

It appears when the background of an element that can be of graphical nature or text has a lower contrast ratio of 7/1 for text or 3/1 for graphics. A lower contrast ratio means that something is harder to decipher for a user. This is especially the case for users with some kind of visual disability like most users in the older spectrum.

Why is this important

Good contrast is important for many reasons like visibility and readability. At the same time, poor contrast can be more like a nuisance for most of us. For some users having good contrast is essential. Users with poor or reduced vision need to have good contrast to even read and discover the content. For the more typical user, poor contrast can also increase the time it takes to read or discover something or even increase the chance of the users missing it entirely.

Contrast issue on Instagram

Text that is present has a contrast ratio less than 4.5:1, or large text (larger than 18 point or 14 point bold) has a contrast ratio less than 3:1. WCAG requires that page elements have both foreground AND background colors defined (or inherited) that provide sufficient contrast. When text is presented over a background image, the text must have a background color defined (typically in CSS) that provides adequate text contrast when the background image is disabled or unavailable. WAVE does not identify contrast issues in text with CSS transparency, gradients, or filters.

Figure 19: Example of bad contrast on Instagram

How to do it right

To increase the contrast and mitigate contrast problems, the website design needs to choose colors that stand more in contrast to each other or future apart on the color spectrum. The same goes for light and dark tones on the page. The design should try to minimize light on light or dark on dark when selecting colors for elements. This can simply be done by putting light backgrounds under dark elements and light elements on dark backgrounds.

Retrospectively about contrast issue

Contact issues were one of the most common and most straightforward problems to find. This is because having good contrast everywhere on the web page and still following the page's layout can be really hard. To identify the contrast problems, we followed the WCAG rules for contrast on websites.

Small font size

It is when the font size is so small that it affects the readability of the presented information. This usually happens when the font size is smaller than 10px (CSS pixels). This problem is exaggerated for people that have trouble reading or that are visually impaired in some way, like children or seniors users.

Why is this important

While a small font size is not affecting everyone equally, it can still impact all of us. Small font size can make it harder for some users to read the given information. While for other users, for users with weak or impaired vision, small font size can make it not only harder to read but close to impossible to read.

The small font size on amazon

The text in the footer is 7px. This may be too low and hard to read for some users. In-text it's not easy to find guidelines or rules. The WCAG recommends a text size of 16 px for good all-around font size. Many places do not recommend going lower than 10 px but finding good sources is hard here. This offense is not too problematic because the information that suffers from this problem is not essential to most users.

Figure 20 Example of small font size on Amazon

How to do it right

Doing this right is, in most cases, relatively simple. By just making the font size bigger, this issue can often be resolved. just make the font size bigger is also not always the problem because making the font size bigger will lead to space constraints and will need further adjustment son the layout

Retrospectively about small font size

The small font size was often the problem on secondary information like the footer and information that is not as critical for the user. Small font size in these circumstances can still cause a problem here if the user needs this secondary information. We define a small font size by the WCAG guidelines.

Information density

The site should have a clear layout. If the page is cluttered, it becomes hard to navigate, causing visitors to leave. Other than cluttering the page with an assortment of links, some sites are cluttered with pop-ups, floating ads, auto-loading videos, and other elements that distract visitors can lead to too high information density. This can also occur in the opposite direction if there is not enough content on the page, the user gets bored, and space is wasted.

Why is this important

The Information density dictates how much information the user gets at a certain time. Too late and the user will need more time or give up on finding information too much, and the user can feel overwhelmed and not see the important Information. Information density can also be used to make something impotent more visible or to hide something less important.

Information density on yahoo

This website does not have an evident layout. It can already be determined by in the front where the ads are and where the main content is and the navigation is hard to see since everything is smashed together.

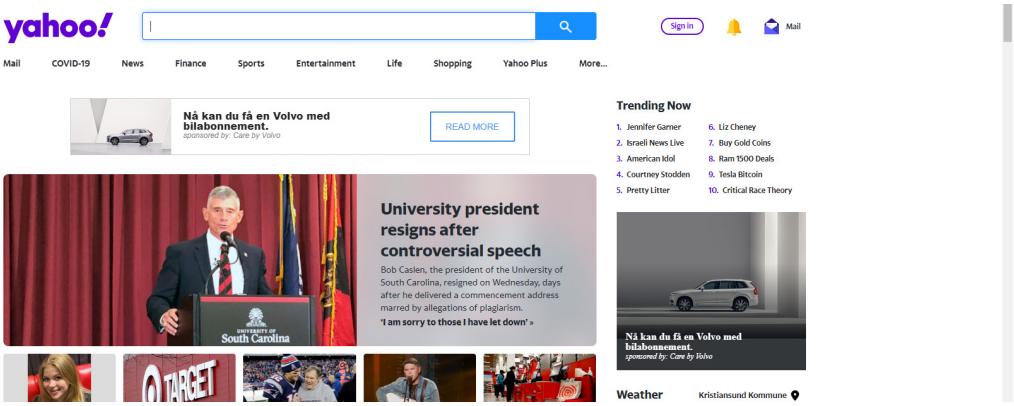

Figure 21: Example of low information density on Yahoo

How to do it right

Balancing Information density can be a hard task, too low Information density and space doesn't get used or too high Information density and the user will find it hard to see the important information. Most of the tested websites were more on the side of the Information density being too low and having too much white space. Getting this right is hard but is most achievable by minimizing the white space on the web page and at the same time, not over-cluttering it with too many small things.

Retrospectively about Information density

Judging web pages on Information density is a hard task. Low or high information density can often be perceived differently from user to user. There allows are no guidelines on this so we find it one of the hardest things to judge fairly.

Terminology problems

A Terminology problem is a problem where things on the website don't follow the norms of the internet that a user is used to or when things on a page seemingly randomly change. This is hard to achieve and normally only possible with careful planning of several iterations of a page. Example: cultural problems, not changing the color on visited links, Inconsistent communication, or Inconsistent design

Cultural problems

Cultural problems: Issues may arise from differences between cultural references, such as names of food, festivals, and cultural connotations, in general. This means that information on the website can be confusing for some and informative for others.
most users in the older spectrum.

Why is this important

Cultural problems are often overlooked and not perceived as significant. Cultural problems can be really hard to spot for there are many cultures with different rules and customs, and it is often impossible to keep in mind all of them. But when one of the cultural norms is not followed this can impact a specific isolated group of people. What will make it so some people will have a harder time using the web page.

Cultural problems on Twitter

While some of the navigation being on the far left of the website, it can seem like it's more for the wester marked since wester people look there first because of the reading direction. This will not just as well for culture with the opposite reading direction.

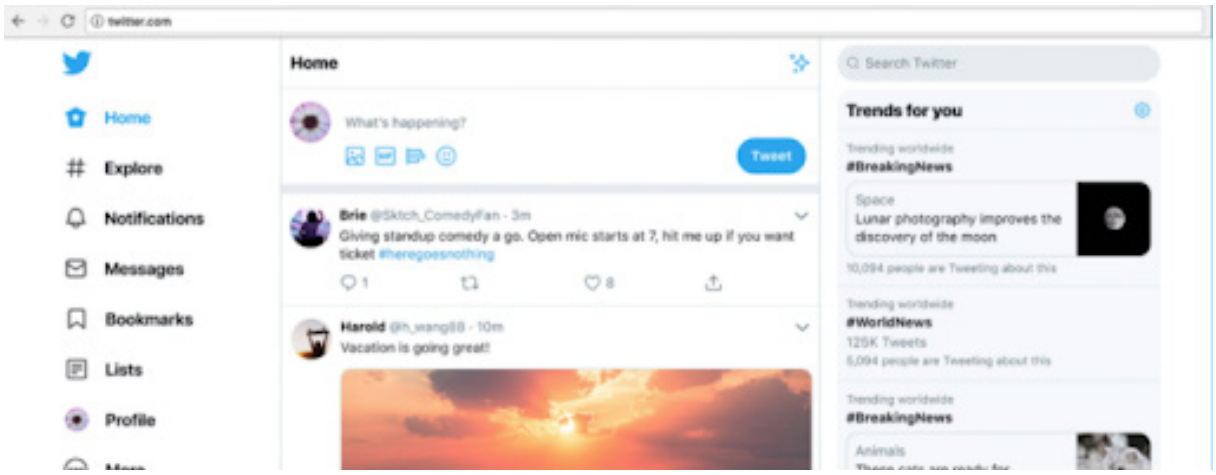

Figure 22: Example of cultural problems on Twitter

How to do it right

As stated previously, it can be really hard or almost impossible to consider or know all the cultural rules when designing a website. To do this right and to consider most of this rule is easiest done by user testing. This user testing needs to be done on as many different people and cultures as possible. The feedback from the testers from different cultures can then be used to adjust the website and to eliminate cultural problems.

Retrospectively about cultural problems

It is hard or almost impossible for us to find and test all the cultural differences on all of these web-sites. This is because it is impossible to know all the different cultural norms and customs. Because of this, we were only able to look for cultural problems that we were aware of, which in the grand scheme of things are not many.

Not changing the color on visited links on yahoo

This is when different icons and conventions are used over the entirety of the page. When the same thing is signaled there are many ways this can create confusion for the user. Like the “save” icon is a cd one place and a disc another place.

Why is this important

This is important because your visitors use the color of visited links to exclude pages that didn’t give them what they were looking for. This is also helpful because it keeps visitors from visiting the wrong page over and over again.

Inconsistent communication on yahoo

Inconsistent communication: This is when different icons and conventions are used over the entirety of the page. When the same thing is signaled in many ways this can create confusion for the user. Like the “save” icon is a cd one place and a disc another place.

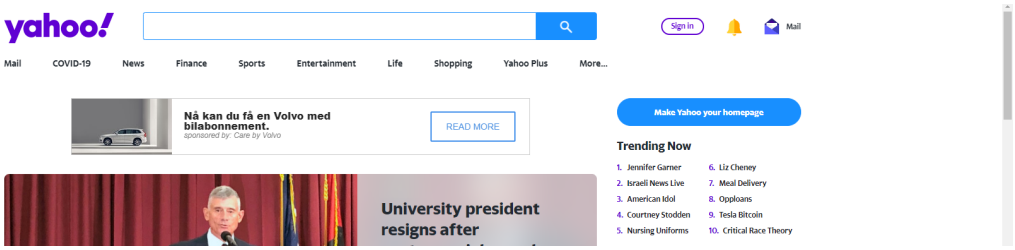

Figure 23: Example of inconsistent communication on Yahoo

Why is this important

As an example of yahoo the search bar is in the middle of the page this makes the design itself unusual. Most likely today’s design expects the search bar to be either left, top, middle or right, but not the sent because it takes a lot of attention to most people and can confuse them a little bit. To fix this try to follow the design guideline and the WCAG rules. It has to be a good reason to break the design guidelines that are out there!

Inconsistent design

Inconsistent design: This can be for instance if different pages use different fonts for seemingly no reason at all and some pages have a different navigation menu without giving the user a reason why. This is easily avoidable by following a designated design manual

Why is this important

This is very important because it can make the user interact with the webpage and so it is more user friendly for many people. If done right, it can confuse what the web page is about to go away and show clear information about what this webpage is about. This is easily avoidable by following a designated design manual.

Navigation problems

Dead links

Dead links are links that are one of the websites that look just like normal links but, when clicked, do not lead anywhere or to a broken sight. This will make navigating the website harder and confuse the user.

Figure 24: 404 figure caption not found

Why is this important

When links don’t work the user experience suffers dramatically because content that should be accessible for reasons unknown to the user suddenly not. On web pages that constantly evolve and change it is important to make sure that the small things like links don’t break over time.

Retrospectively about dead links

The reason why there is no example of dead links here is that the times we found dead links while analyzing the top 50 pages were not a problem. This is because these are the most visited pages of the web and almost all of them are extremely well maintained. This was to be expected. The reason why we still have this in our catalogue is that this is a problem on the web just not on the most visited pages. We are sure that if we had the time to analyze more average pages where the traffic is less we would have found a log of examples.

Dropdown menu issues

On some of the tested pages, it’s hard to use the dropdown menus because once they are opened they cover almost the entire page which defeats the purpose if you want to cover the entire page just take the user to a site map or a different page used for navigation. Another common problem with dropdown menus is that they use different conventions on how to close them after they have been opened. Some have an X button and some need to be closed in the same way of opening them. The most common way of closing them is also in our opinion the best way of doing it: just close it when the user hovers a different area on the page.

Why is this important

Dropdowns are an essential thing in today's web where a domain can have thousands of different pages with millions of users. Therefore are great tools for giving an individual user a lot of options on where to go next.

Dropdowns on Microsoft

Dropdowns on some pages like here the support page are not opened by hover but with a click action this breaks some conventions but ist just a minor thing the problem is that to close it the user needs to click somewhere else where the dropdown is not and when the drop-down almost covers the entire screen and most things on a page are clickable links this action becomes non-trivial for users with low dexterity.

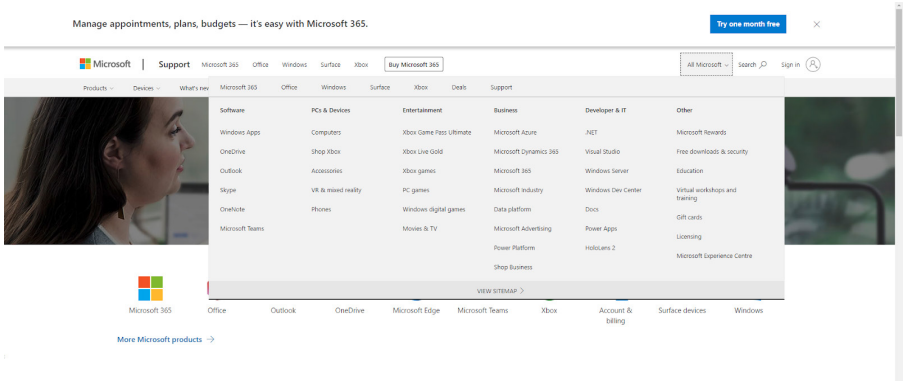

Figure 25: Example of drop-down menu issues Microsoft

How to do it right

Whenever a dropdown is appropriate, it should be somehow communicated to the user that there is a prop gown like an arrow. Dropdowns need to follow conventions that users are used to from other encounters, like they need to disappear whenever the user hovers somewhere else on the screen and they need to have an appropriate size they should not cover more than half the screen, but they also can't have too little content. (example from eBay)

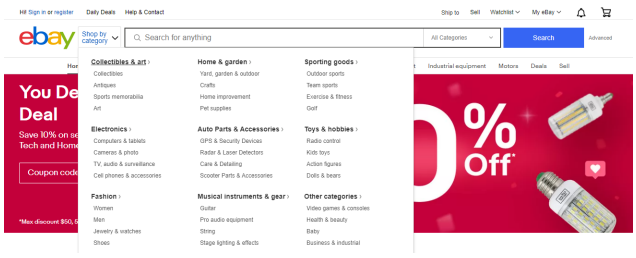

Figure 26: Example of how to do drop-downs right on eBay

Retrospectively about dropdowns

This is a problem that affected more pages than we anticipated. The reason for this may be that there are no agreed-upon rules on how a dropdown needs to work but we all know that something is off if we use them. User Interfaces are never easy to do and it will never be perfect but user testing is the best tool in the toolbelt of a UX designer if dropdown issues arise.

Feedback problems

Feedback problems are problems where the user is not given proper feedback by either getting any Feedback, slow Feedback, or misleading Feedback. This can also be problems where the user expects Feedback but there will either be no Feedback or slow Feedback. Example: bad loading time, misleading notification

Long loading times

Long loading times make the use of a page very frustrating and punish users in lower skill groups because if they click the wrong thing, they will need to use a lot of time to get back to the starting point. Loading times that exceed 1 second are considered a problem.

Why is this important

Whenever a page is loading there is usually no feedback given to the user about what is happening or what the progress is. This is because internet connections differ and loading times are different for different users.

How was this tested?

The landing times were tested on multiple different networks multiple different times. This ensures that the loading times that are measured are not just some of the things that occur because there was a problem in the connection this one time.

Long loading time retrospectively

The testing of this problem took a lot of time and energy and the results for the top 50 pages are quite underwhelming. Only two of the tested pages sometimes had a loading of more than one second. As a group, we predict that pages that are less sophisticated and with more traffic suffer more from issues with loading time, and testing different pages would help this section evolve.

Misleading notifications

Notifications that are designed to mislead, trick, or force users into allowing notifications. Examples include requests that require users to allow notifications in order to gain access to site content or that are preceded by misleading pre-prompts.

Why is this a problem

Whenever a user clicks the allow button on this gives the page's scripts the option to run on the pc or browser. This had in some instances huge malicious potential. A user does always have to be made clear of what exactly the page wants to get an allowance for.

Misleading notifications retrospectively

If there were millions of misleading notifications on the most visited web pages we would have a big problem on our hands. Thankfully we did not find much. We are sure that this is a problem but just not on the pages we tested. Since this is a problem with massive potential for a poor outcome, we wanted to include it in the catalog.

Technology Problems

Problems caused by not correctly implementing web technologies. This can be cost by code/website and browser incompatibility. The usability problem might also be classified as a Teknologi problem if a web technology is used in a way that will affect the usability of the website. Example: screen resolutions, browser issues.

Bad scripts

Occurs when the user experience is affected by too many or bad scripts like for example.

Too many or too big scripts on the web page so that the loading time of the web page gets noticeably affected so that the user will have to wait on the scripts before the site is fully usable.

Is this a Usability problem?

Most of the time the answer to this question is no because scripts are just executing whatever they are programmed to do in the background and the beast scripts are invisible for the average user. But in the most extreme cases, like in the following example, bad scripts do in fact make a site harder to

Example from MSN analysis

Earlier was the landing page for most people that had windows machines but today its popularity fades. This page is very poorly maintained and many content areas are just empty because of errors in the code. In addition, some of the images do not work because of missing files. This is for a page with this amount of use absolutely unacceptable.

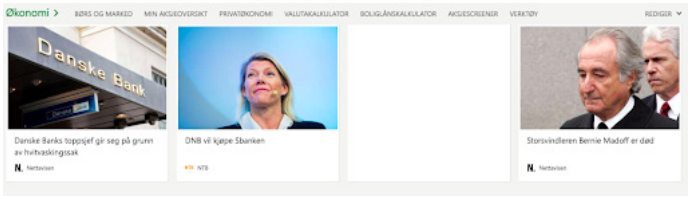

Figure 27: MSN not displaying content correctly because of bad script 1

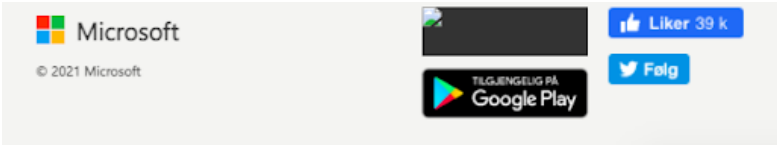

Figure 28: MSN not displaying content correctly because of bad script 2

Bad scripts retrospectively

This was a usability problem that was extremely challenging to document. The reason for this is that most scripts are hidden from us when we visit pages. This problem might also be a lot more prevalent on pages that are less well maintained than the 50 most visited pages worldwide.

Improper use of HTML

This problem occurs when HTML is not used for its intended purpose as a mockup language. When the HTML on the page is used for styling or all of it is generated in Javascript on the fly. This can break screenwriters entirely and make the page incompatible with other programs that are aimed to

Why is this a problem

Similar to bad code this is often not a real problem but in extreme cases, Improper use of HTML can make it so elements don't get displayed in ways not intended by the creator. In addition, many external programs use HTML to add extra features to web pages like screen readers do not work if the HTML is broken.

Example form Walmart

Sometimes seemingly basic things are overlooked like how to set up a list in HTML. Here the biggest employer in the USA with the 41st worldwide most visited web page struggles with exactly that. Code should be used in the way it was intended for and the best-recommended practices should be followed.

```
<div class="VideoEditorialBase-paragraph VideoEditorialBase-desktop"
 "Step 1: Order coffee on Walmart.com

 Step 2: We'll roast the beans to your preference

 Step 3: Freshly roasted coffee is bagged & shipped within 4 days

 Step 4: Unpack & enjoy fresh, home-brewed coffee"
</div>
```

Figure 29: Result improper use of HTML Walmart

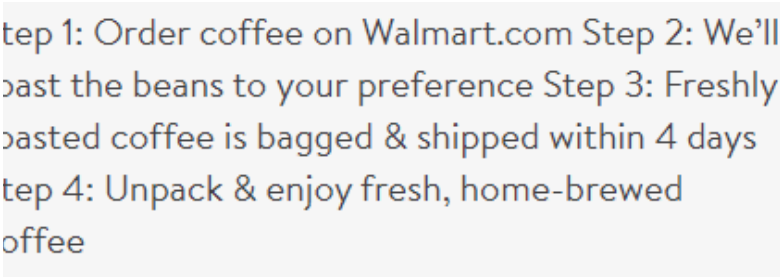

Figure 30: Example of improper use of HTML Walmart

Improper use of HTML retrospectively.

This was a highly debated section of the usability catalogue. The reason for this was that it was hard to find problems that were actual usability problems. We ultimately decided on this being in the usability catalogue because HTML is such a fundamental element of the internet as we know it today.

Uncommon Screen Ratio/size

Occurs when the layout is not dynamic and only supports some of the many screen sizes on the web. In recent years, the most common screen resolution size has been: 1366x768 pixels for desktops 360x640 pixels for mobile screens 768x1024 pixels for tablets Higher resolutions, such as 1920x1080 pixels for desktops and 375x667 for mobiles, are becoming more popular. It's important to consider these sizes carefully. When designing websites for higher resolutions, some low-resolution screens and older devices may not be able to display all of your content.

The solution to a seemingly endless amount of available screen sizes is making a dynamic design that individualizes the user experience for each individual screen size with some parameters. This is possible on the internet with CSS values that change depending on what screen the webpage gets displayed on.

Example form eBay

eBay is one of the tested pages that had the most trouble with screen sizes. The seller personalizes one section of a product page and the rest is made on my eBay. Where these two parts meet the transition is everything else then seamless and this creates big gaps in the content and much of the content is only accessible by a side-scrolling bar.

Figure 31: Example of uncommon screen ratio size in eBay

Browser compatibility problems

This is when some features of a webpage are locked behind a specific browser or the content changes depending on the browser. Web pages should be able to display across different browsers, including Internet Explorer, Firefox, Safari, and Chrome.

Why is this a problem

When building your site the site has to go through browser compatibility issues. This means testing your site in as many browsers and operating systems as possible before deploying it. Remember to test on most recent browser versions, as well as the older ones. The reason is that not all people are using up-to-date software. It is imperative to make sure the website is compatible with as many browsers as possible, which basically widens the reach for more people to read the content. This also consequently increases the more people can enter the website.

The lack of problems identified.

We had a lot of problems with the testing of this section. Yes, there are tools that are supposed to measure if things on the page are compatible with all browsers but the reality of the situation was that all the things those tools found were almost never notable by the end-user and therefore not raly usability problems. We still have the opinion that this is a valuable section because browsers are essential for the experience on the web like mentioned in the Web Development part of the theory section.

Figure 32: Example of browser compatibility problem

Results of the Top 50 web page analysis using our catalog

Introduction

To test our usability catalog to see if it worked we tested it on the 50 most visited websites. We analyzed a few web pages and graded them by using our score system that we have developed. The higher the score the better grades they got. Most of the pages did receive good scores, but not as good as one would expect from such famous websites. In this section we give an overview of the results. The whole analysis is available in the Appendices section.

Why we analyzed the top most visited 50 web pages

At the start of the usability catalogue, we needed to find common usability problems to populate the catalog. We analyzed the web pages because we wanted to test if the usability catalog was working as a guideline. We also used this website analysis to test and fine-tune the catalog's definition and test the relevance of the catalogs section and the relevancy of the usability problems. We choose the top 50 pages of the web because the majority of the web traffic is concentrated, and usability problems affect many users.

What is the analysis of the top 50 pages?

The first step in this process was to find the websites that are most visited. The information on this we found in an article in visual capitalist by Dorothy Neufeld in 2021. To then test our temporary catalog using these websites we tried applying its problems and section definitions to those top 50 websites. We did this by analyzing and grading the websites using our catalog. We also found examples of the problems we defined in our catalog and saw how the definitions fit by applying them to the problems. In the end, we scored the websites on a score from 1 to 10 where 10 is the best on how useful the website is according to our catalog.

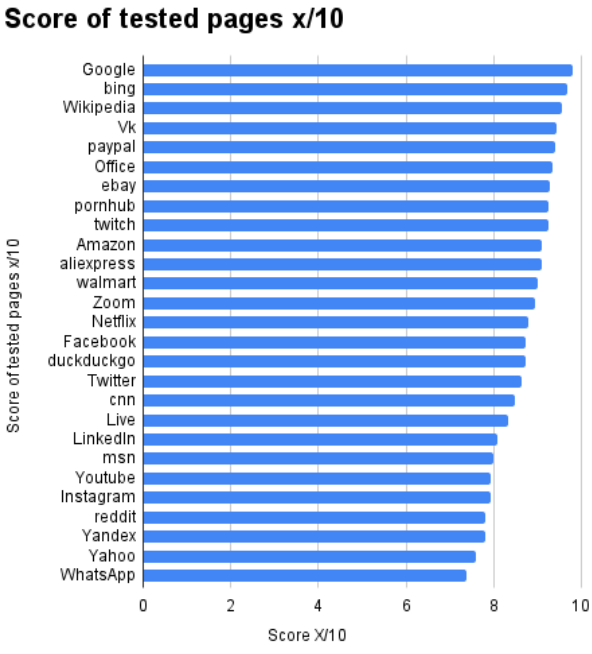

Figure 33: Score distribution of tested Pages

Evolution of the analysis of the top 50 pages

The making of the usability catalogue for the web was an iterative process Therefore there are differences in the catalogue and the web page analysis most of those differences are minor like changing the name of a section but some are also more major like the detention of the removal of the poor kerning problem and would benefit from another round of analysis. This was on the list of things that need to be done but the only problem here was time. It takes a lot of time to reanalyze 50 pages. One option we had was just to change the small things we changed but we felt like this would hurt the integrity of the earlier work.

Why did were not all pages analyzed

There were two types of pages that we did not analyze. The first one is duplicated pages like amazon.co.jp which is the same page as Amazon.com just in a different language. Some of these "duplicates" had minor differences but we ultimately decided that analyzing them won't be where we want to spend our valuable time. The second type of page that we did not analyze are pages that originate in other countries that are without an English language option like naver.com. We did and still do not feel like we understand the web usability conventions of other cultures enough to judge them. We would probably find some usability problems but there are just too many things we would be unsure about.

What other websites could we analyze?

While we focused on the top 50 web pages on this project because that is where the majority of the web traffic is concentrated. We would have analyzed more and different kinds of web pages for several reasons. Which we did not do because of the time constraints of this project. The main advantage of analyzing different pages would have been to see what the most common problem in a random batch of web pages would be. This would bring a good contrast to what we did now because it would focus on problems that affect most websites instead of problems that affect the most users.

What other websites could we analyze?

We found that at the start we needed to work a lot on the definitions of the catalog for it to make sense when applying it to an actual website. We went through several iterations of the catalog where we charged, discarded, and added both problems and the section definitions to make them more grounded in reality render than theory. We found as predicted that the most visited websites are overall very usable which is also reflected in that most websites got a grade between A and B according to their testing with our usability catalog. None of the tested pages were given D or E as a final grade; this is because even the worst of the most haveli visited pages are decently usable. When looking at the massive traffic these pages generate it is questionable that not all of them have a score of A.

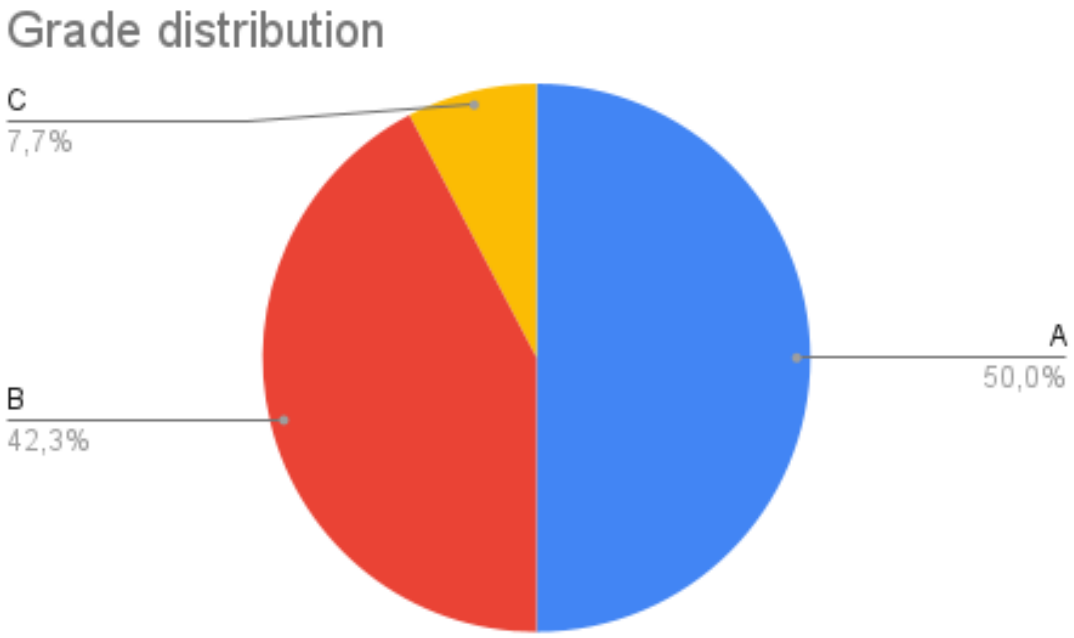

Figure 34: Grade distribution of tested Pages

Results of the Top 50 web page analysis using our catalog

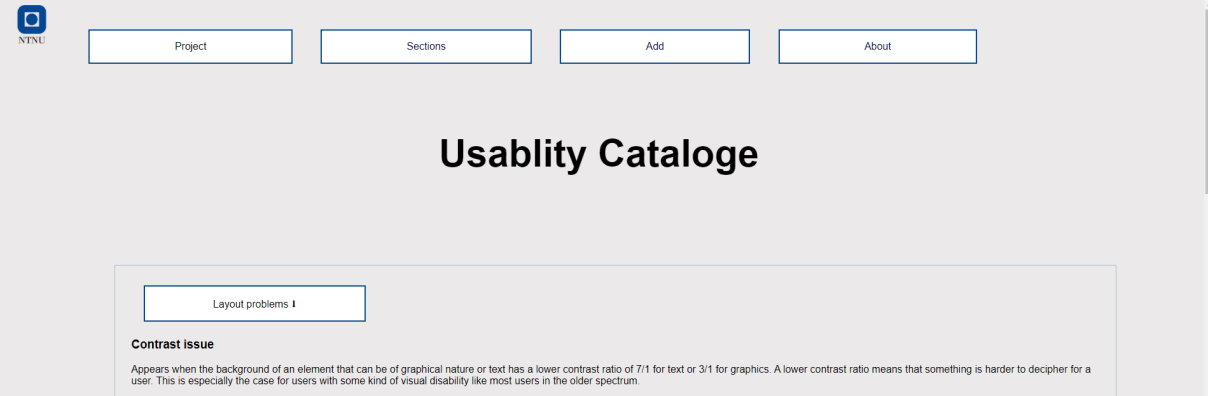

Figure 35: The companion website of the catalogue

Introduction

This section will be brief about the webpage that we created as an online companion for the usability catalogue. We will describe how it was made and the reason why it was set up the way it is. This website is a tool for testing our research question on if there is a possibility to set up a usability catalogue.

Structure of the website

Project

This is the main page where we display the usability catalogue. This is the focus of the done work lies and the landing page for the website. This site is also a good introduction to new visitors to understand better what this project is about and navigate through the website.

Sections

This webpage shows what the sections of the catalogue are about. These section definitions tell a potential user of the page what type of category a problem he encounters may lie in so he can state this when sending in a problem.

Project

This part of the usability catalog is where people can add more information about the existing usability problems or maybe something new that has never been thought about before.

This functionality is made using mailJs which is a service that enables the use of email functionality using true simple javascript. Things sent through this channel are sent via email to us where we can review and see if the proposed problem is a problem after our given documentation.

About

The about page is where the website's explanation is and how to use it properly. Here a user can also find the names and emails of all the group members in case there are questions or other reasons to establish contact.

Why

The purpose of this web page is to make it possible for the project to evolve because something like a bachelor thesis is never "done" there is always more to look into and do. This is achieved through the Add functionality that gives random users the ability to send in problems. One key pillar of all research done is that it is reproducibility. This makes sure that a set of tests is correct by giving others the options of doing the same analysis/test to see if they can get to the same outcome so confirm the findings to get to a different outcome, thereby debunking the done research.

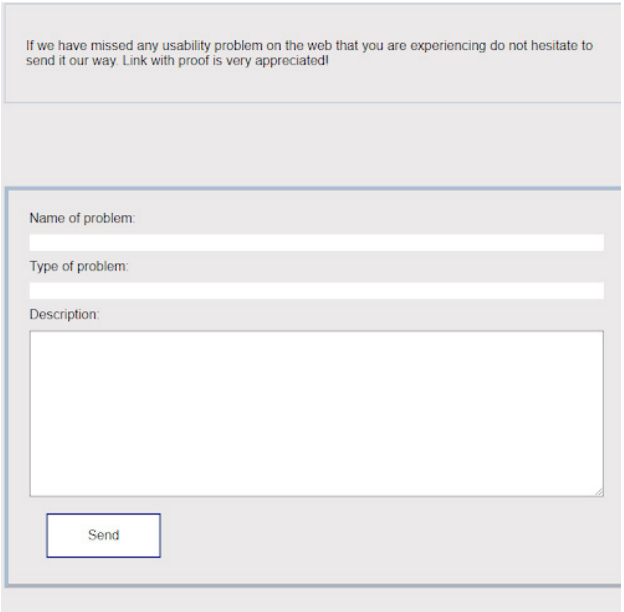

Figure 36: Suggestion of usability problem form

Testing the webpage

One thing that would have been helpful with the website would be to collect data on how users navigate the page before releasing it to the public. We planned to do this by setting up screen share software and then guide users through a present scenario. This did not happen because of time constraints and is for sure a missed opportunity.

Conclusion

In this bachelor project, we found out how hard it is to categorize findings into categories and that four months is not as long as we were thinking. The contributions we made in the field of design were minor, but that's fine. The contribution we did was to explain the design and why we did make the catalogue. We only did the qualitative studies of the findings because of the short time period. Since there were a lot of usability problems to categorize and we wanted to write them all in the catalogue. The thing is that we could not just write it down on the catalogue even if we wanted it. The information of the usability catalogue had to be checked for sources to make it more reliable and present in an easy way for other people to understand it. To see if the catalog was a good guideline, we use it to analyze the top 50 most visited web pages. The result was interesting because it did find some usability problems that were big enough to be addressed. Another thing was that the survey targeted most of the younger generation and not the older generation. The older generation might have other opinions and needs that the younger have. Therefore the older generation needs another design approach, one with more help since they do have problems adapting when new things come. We did also make a webpage to show how the catalog is supposed to look like instead of just making it part of the thesis. The reason to present it on a webpage is that it can reach many more people and it is better to design it to look better too. The webpage is also very easy to change and modify.

Thesis statement

Let's get back to the question that started this journey.

Can you make a cataloage of usability problems of the web?

We think their clear answer to this is yes although we see that there are some shortcomings because of the short timeframe we had to work with. In that time, we also looked at other similar studies to extract some information from them. The information we did take was the usability problems they had in their studies. The survey did help us a little bit to make the catalogue because some of the information was useful enough to make the catalogue. The usability problem catalog was a combination of information from the survey and another research thesis. They do make it more reliable since it has been taken from previous research. We also tested the catalog on the top 50 most visited and it did work as a guideline since we found some usability problems. The downside is that the catalogue cannot always be a guideline on all web pages. Because the catalogue just acts like a general guideline, not a specific guideline. What we mean by this is that all web pages have many different needs and purposes and it will be unfair to use a general guideline vs a specific one. Then again what is a specific guideline? We did answer our research question yes, but that raises another question, as you can see. The question about a specific guideline should be addressed because this means the usability guidelines are not done yet.

Implementation

Some research topics are purely theoretical and some are more practical. One can hope someone will find this research in some form or another. So the question arises: How can people benefit from the research we have done? We think that whenever someone is designing a webpage one can use this usability catalog test if the page has some pitfalls or extract tested guidelines for use in the design process.

Summary of arguments

The research information that has been collected from the results. The information concluded that the research question had not been fully answered. One of the reasons for this is that the thesis only touches the surface of the usability problem on the web. This bachelor thesis does provide a good start to map usability problems that are on the web. The usability catalogue that was made can act as a guide on how to fix these problems, and why it is very important to fix them. The thesis can also help to improve the usability of the web pages out there but the catalogue must be improved to a better shape before that can happen. Another method like observation on how people react when they are encountering a usability problem could improve the thesis. With more time it would be used as guidance for web usability. Also a specific usability catalog should be taken into consideration.

Suggestion of further research

The research information that has been collected from the results. The information concluded that the research question had not been fully answered. One of the reasons for this is that the thesis only touches the surface of the usability problem on the web. This bachelor thesis does provide a good start to map usability problems that are on the web. The usability catalogue that was made can act as a guide on how to fix these problems, and why it is very important to fix them. The thesis can also help to improve the usability of the web pages out there but the catalogue must be improved to a better shape before that can happen. Another method like observation on how people react when they are encountering a usability problem could improve the thesis. With more time it would be used as guidance for web usability. Also a specific usability catalog should be taken into consideration.

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Appendices

In PDF

In external folder

THE USABILITY CATALOG

Layout problems

Usability problems that affect the way a website looks to the point that it causes problems with how the user would interact with the website, often by making things hard to see or find by the users. Example: Contrast issue, Small font size, cluttering the page

Contrast issue: This appears when the background of an element that can be of graphical nature or text has a lower contrast ratio of 7/1 for text or 3/1 for graphics. A lower contrast ratio means that something is harder to decipher for a user. This is especially the case for users with some kind of visual disability like most users in the older spectrum.

Small font size: This is when the font size is so small that it affects the readability of the presented information. This usually happens when the font size is smaller than 10px(CSS pixels). This problem is exaggerated for people that have trouble reading or that are visually impaired in some way, like children or seniors users.

Typography problems: If text or text elements have underlying typography issues that make the text hard or not possible to read. One of these problems is Poor kerning: Kerning refers to space in between two characters. The closer together these are, the harder it is for people on the website to read and understand what you're trying to say. The problem with kerning, tracking, leading, and other typography mistakes are that they make clarity difficult or impossible.

Information density: The site should have a clear layout. If the page is cluttered, it becomes hard to navigate, causing visitors to leave. Other than cluttering the page with a hodgepodge of links, some sites are cluttered with pop-ups, floating ads, auto-loading videos, and other elements that distract visitors can lead to too high information density. This can also occur in the opposite direction if there is not enough content on the page, the user gets bored, and space is wasted.

Navigation problems

A type of usability problem that makes it harder for the user to navigate the website in general or harder to find a specific page on the website. This is often on points where several pages within a website connect with each other, but it can also be when it's hard for the user to navigate to specific information on a standalone website. Example: Dead links, Dropdown menu issues.

Dead links: Dead links are links that are on the website that look just like normal links but when clicked, do not lead anywhere or to a broken sight. This will make navigating the website harder and confuse the user.

Dropdown menu issues: On some of the tested pages, it's hard to use the dropdown menus because once they are opened they cover almost the entire page, which defeats the purpose if you want to cover the entire page just take the user to a site map or a different page used for navigation. Another common problem with dropdown menus is that they use different conventions on how to close them after they have been opened. Some have an X button, and some need to be closed in the same way of opening them. The most common form of closing them is also, in our opinion, the best way of doing it: just close it when the user hovers a different area on the page.

Terminology problems

A Terminology problem is a problem where things on the website don't follow the norms of the internet that a user is used to or when something on a page seemingly randomly change. This is hard to achieve and usually only possible with careful planning of several iterations of a page. Example: cultural problems, Not changing the color on visited links, Inconsistent communication, or Inconsistent design.

Cultural problems: Issues may arise from differences between cultural references, such as names of food, festivals, and cultural connotations, in general. This means that information on the website can be confusing for some and informative for others.

Not changing the color on visited links: Visitors use links to figure out where they are and where they've been. This is important because your visitors use the color of visited links to exclude pages that didn't give them what they were looking for. This is also helpful because it keeps visitors from visiting the wrong page over and over again.

Inconsistent communication: This is when different icons and conventions are used over the entirety of the page. When the same thing is signaled in many ways, this can create confusion for the user. Like the "save" icon is a cd one place and a disc in another place.

Inconsistent design: This can be for instance if different pages use different fonts for seemingly no reason at all and some pages have a different navigation menu without giving the user a reason why. This is easily avoidable by following a designated design manual.

Feedback problems

Feedback problems are problems where the user is not given proper feedback by either getting any Feedback, slow Feedback, or misleading Feedback. This can also be problems where the user expects Feedback, but there will either be no Feedback or slow Feedback. Example: bad loading time, misleading notification.

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Problems caused by not correctly implementing web technologies. This can be cost by code/website and browser incompatibility. The usability problem might also be classified as a Teknologi problem if a web technology is used in a way that will affect the usability of the website. Example: screen resolutions, browser issues.

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Improper use of HTML: This problem occurs when HTML is not used for its intended porous as a mockup language. When the HTML on the page is used for styling or all of it is generated in Javascript on the fly. This can break screenwriters completely and make the page incompatible with other programs that are aimed to help users.

Uncommon Screen Ratio/size: Occurs when the layout is not dynamic and only supports some of the many screen sizes on the web. The most common screen resolution size in recent years has been: 1366x768 pixels for desktops 360x640 pixels for mobile screens 768x1024 pixels for tablets Higher resolutions, such as 1920x1080 pixels for desktops and 375x667 for mobiles, are becoming more popular. It's essential to consider these sizes carefully. When designing websites for higher resolutions, some low-resolution screens and older devices may not be able to display all of your content.

Browser compatibility problem: This is when some features of a webpage are locked behind a specific browser or the content changes depending on the browser. Web pages should be able to display across different browsers, including Internet Explorer, Firefox, Safari, and Chrome. When building your site, the site has to go through browser compatibility issues. This means testing your site in as many browsers and operating systems as possible before deploying it. Remember to test on most recent browser versions, as well as the older ones - not all of your visitors may be using up-to-date software.

Most visited pages world wide

To test our usability catalog to see if it worked we tested it on the 50 most visited websites. We analyzed a few web pages and graded them by using our score system that we have developed. The higher the score the better grades they got. Most of the pages did receive good scores, but not as good as one would expect from such famous websites.

Here is the in depth look of the analysis. Read the “Analysis of the 50 most visited web pages” section for an explanation of what this is and why we did this.

Pages that are not in english and were therefore not analysed.

Baidu.com
Yandex.ru
Naver.com
Mail.ru
Globo.com
QQ.com
News.yahoo.co.jp
Ok.ru
Bilibili.com

Pages that were duplicates and were therefore not analysed.

Yahoo.co.jp
Google.com.br
Microsoft.com
Microsoftonline.com
Google.de
Amazon.co.jp
Amazon.de
Amazon.co.uk

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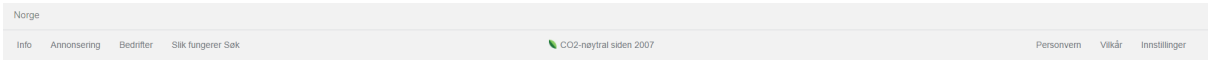
Google Usability catalog test https://www.google.com/

Grade A 9.8/10
Layout problems
9/10

Contrast issue:



There is a gray on gray contrast problem here where both the letters and the background have a gray colour.
6/10

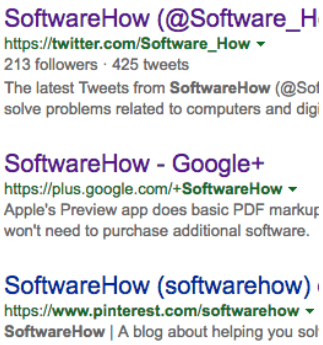
Small font size: Even the smaller fonts here are not too small to comfortably read or to cause any readability problems.
10/10

Poor kerning: We did not discover any kerning problems while testing this website.
10/10

Information density: There is no Information density problem here the tested website always shows the available information in the comfortabel density.
10/10
Terminology problems
10/10

Cultural problems: white the primary content center on the page there are no reading direction or other Cultural problems
10/10

Not changing the color on visited links:



On this web site links change color after the result was visited or after the link got clickt.
10/10

Inconsistent communication: The communication on the tested website is consistent.
10/10

Inconsistent design: The design on the tested website is consistent.
10/10

Navigation problems
10/10

Dead links: There are no dead links here since the tested web site has a system that tests links and does not show links who were identified as “dead”
10/10

Dropdown menu issues: There is a lack of drop down menus to test on this web site.
10/10
Feedback problems
10/10

Long loading times: We did not experience and slow loading times while testing this web site.
10/10

Misleading notifications: We did not encounter any notifications while testing this website.
10/10
Teknologi problems
10/10

To many scripts: Scripts did not slow the loading of this website.
10/10

Improper use of html: On our testing we did not reveal any Improper use of html.
10/10

Uncommon Screen Ratio/size: According to our testing this website works on all common screen sizes.
10/10

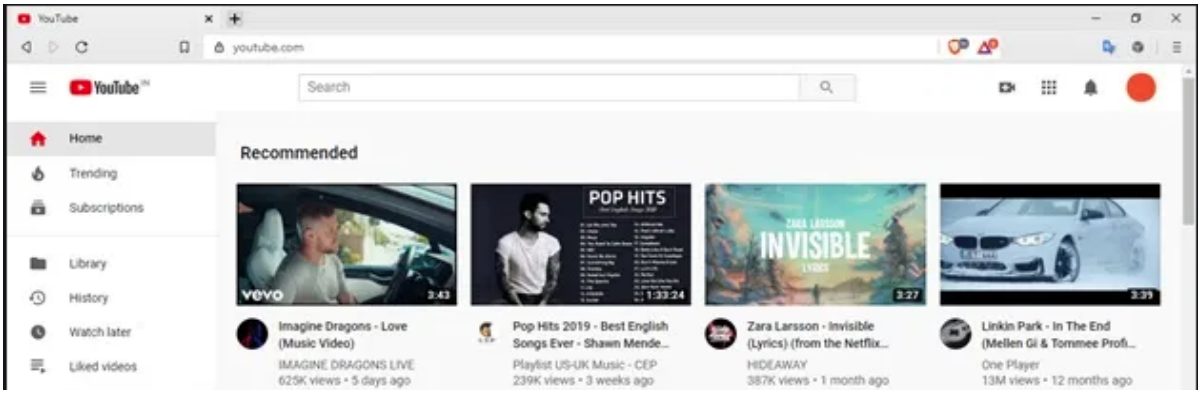
Browser compatibility problem: This website works in all tested and common browsers.
10/10

Wisarut Mortensen, Andre Neubauer and Nico Neubauer

Youtube Usability catalog test https://www.youtube.com/

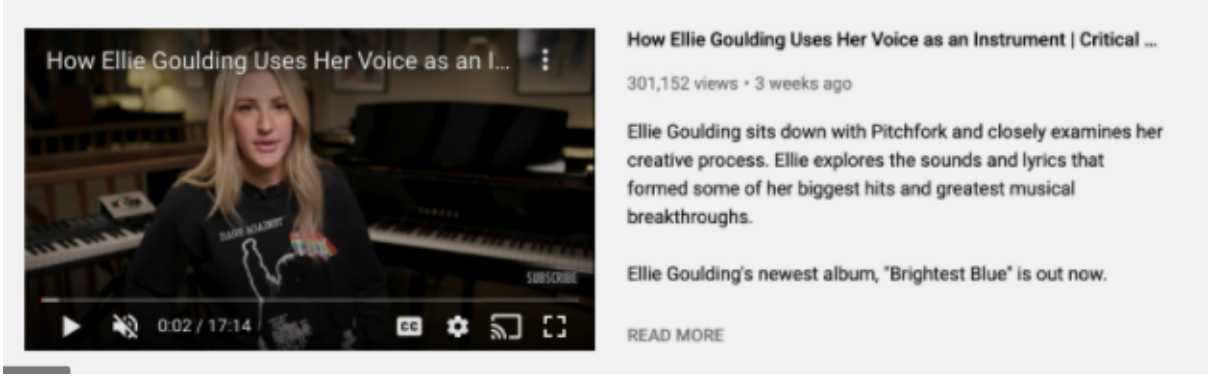
Grade B **7.95/10**
Layout problems
9.75/10

Contrast issue: There are no contrast issues on the main design of this website since it consists of red white and black.



10/10

Small font size: The smolsers fonts on this web site are the one who show secondary informasjons search views and they are still in the acceptable range.



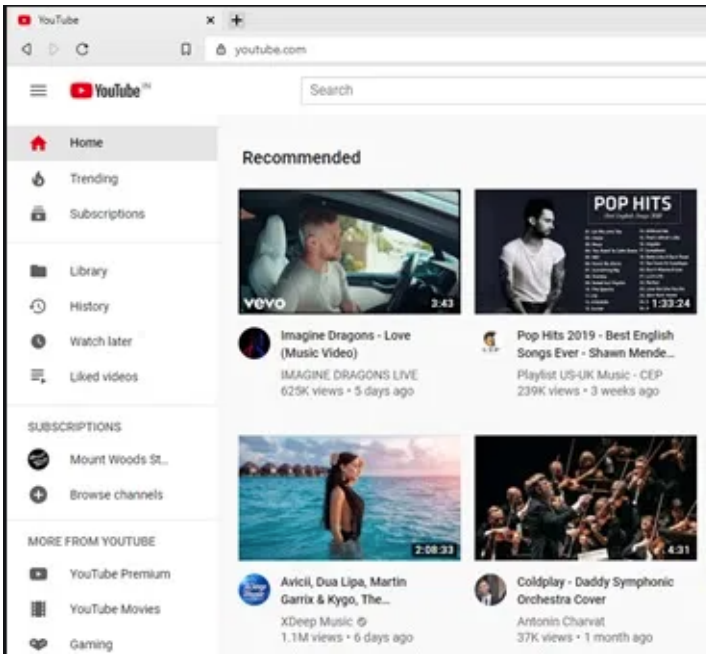
10/10

Poor kerning: There are no kerning problems in the default font of youtube but in some instances the ouer can decide its own kerning which can cause problems.
9/10

Information density: There is no information density problem on this web site since the design of the website shows the user generated content really good.
10/10

Terminology problems
6.25/10

Cultural problems: White some of the navigation being on the far left of the web site it can seem like its more for the wester marked since wester people look there first because of the reading direction this will not work for culture with the opposite reading direction.



5/10

Not changing the color on visited links: The links on this web site do not have a visited state and the videos do not always show if you have seen them.
0/10

Inconsistent communication: The communication on this web site is consistent and it all feels like it fits together.
10/10

Inconsistent design: the design on this web site is consistent and it has a consistent design and looks throw out the hole website
10/10
Navigation problems
7.75/10

Dead links: Alltow there can be links to deleted videos that are not shown for the user if he doesn't specifically go out to find them. it is not possible to find a deleted video on the homepage or search for it with the search feacher.
9/10

Dropdown menu issues: We did not find any dropdown menu issues here because there is a lack of dropdown menu in general here because they decide to not use this for navigasjon.
10/10
Feedback problems

6/10

Long loading times: There was no loading time issue here on the website and the loading time on the videos is dependent on quality and the users internett.
10/10

Misleading notifications: The notification system of youtube is not always consistent and its sometimes not clear if the notification is because of a community post or because of a new video. it is also not clear how the user can decide with notification he receives.
2/10
Teknologi problems
10/10

To many scripts: We did not notice any problems or a slow down because of the number of the scripts.
10/10

Improper use of html: There was little to no improper use of html here.
10/10

Uncommon Screen Ratio/size: This website works on all common screen sizes.
10/10

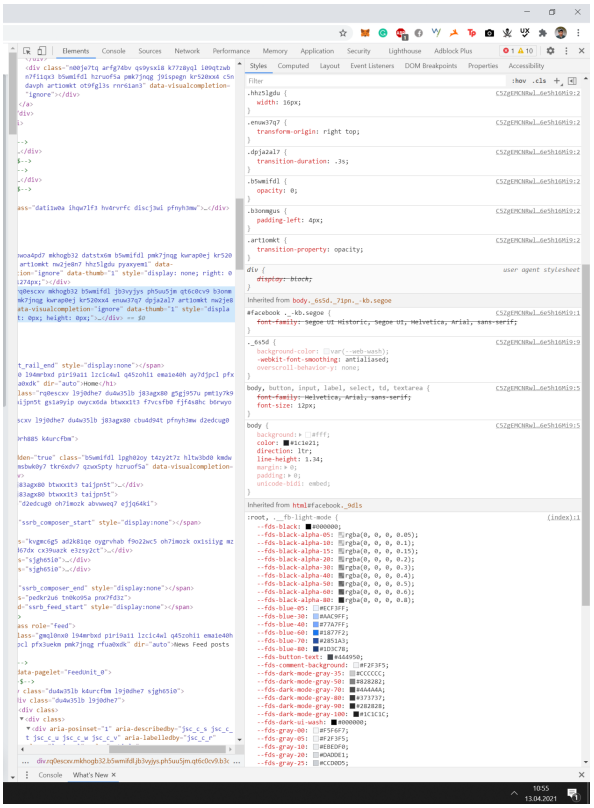
Browser compatibility problem: This website works on all common browsers.
10/10

Facebook Usability catalog test link https://www.facebook.com/

Grade A **9/10**
Layout problems
7.5/10

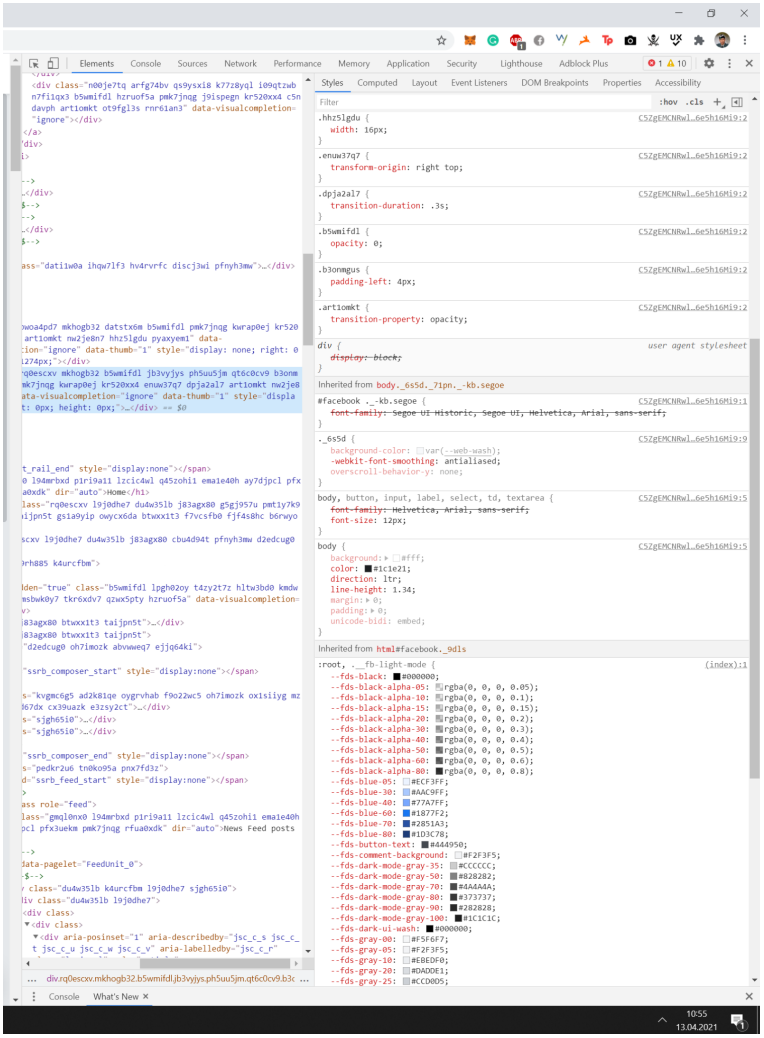
Contrast issue:
8/10

Small font size: The font size in this webpage was okay since it followed the standard, but it should have been 2 pixel higher. The test in the website, especially in the navigation site, is very small. Text that is small is very difficult to read and can be hard for some to see and might misunderstand the information in the website.



9/10

Poor kerning: There are actually no or little kerning in the website. This matters because it is very hard to read and understand what is on the website: this again makes clarity hard or impossible for some people.



5/10

Information density: The website does not have density information, but it can still be improved by spacing the boxes of the pages more from each other.

Bachelor 2021 **Usability Catalogue**

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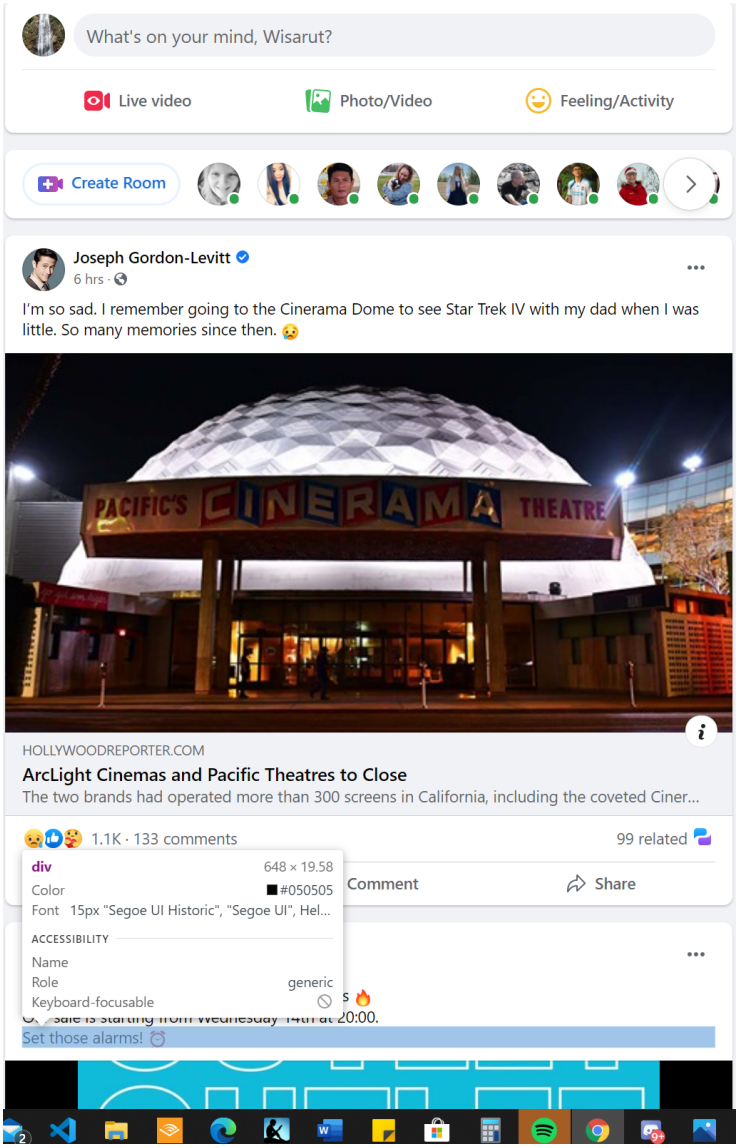

8/10

Terminology problems
7.5/10

Cultural problems:I have found the issue for the problem since the website has a enlings as the main our second language, and many people do speak english.
10/10

Not changing the color on visited links: For some reason there is no color changing after I visited the section of the menu I have clicked. This is very concerning because this can make it harder for the user to know if they have visited the site or not. This can misguide people to think they have not visited the section but in reality they have and that can make some people
1/10

Inconsistent communication: There was none inconsistent communication on the page.
10/10

Inconsistent design: the design The design was okay overall.
9/10
Navigation problems
10/10

Dead links:I have found non dead links.
10/10

Dropdown menu issues: Found no Issues regarding this.
10/10
Feedback problems
10/10

Long loading times: The loading time was good.
10/10

Misleading notifications:there were no misleading notifications
10/10
Teknologi problems
10/10

To many scripts: There were none issues with this.
10/10

Improper use of html: There was proper use of html.
10/10

Uncommon Screen Ratio/size: The screen ratio size was okay overall.
10/10

Browser compatibility problem: There was none.
10/10

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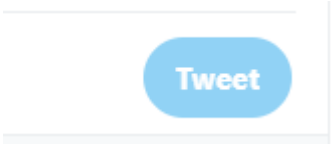
TwitterUsability catalog test https://twitter.com/

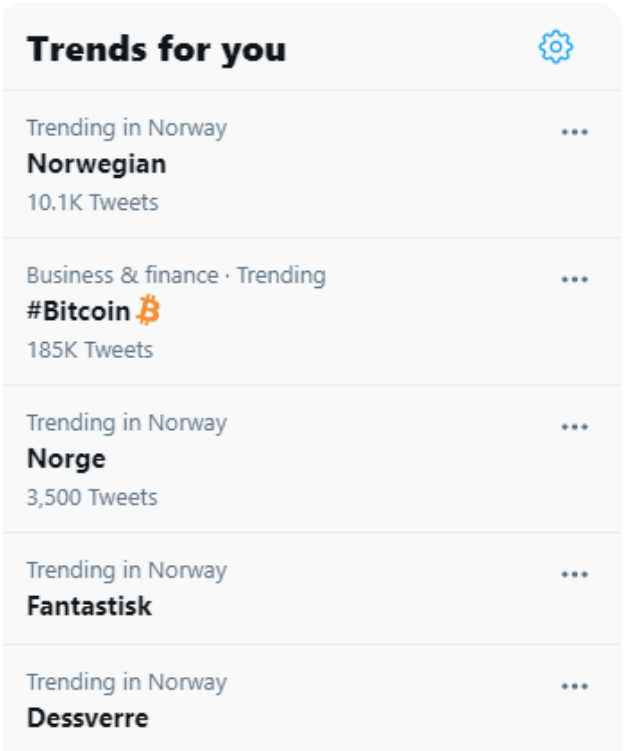
Grade B 8,65/10
Layout problems
7/10

Contrast issue: Whit twitter using a light blue and white graphic profile contrast ischuse can occur when the light blue is on whit and is made partly transparent.



7/10

Small font size: Some of the information on the poste can be a bit small but still within accepted font size range.



8/10

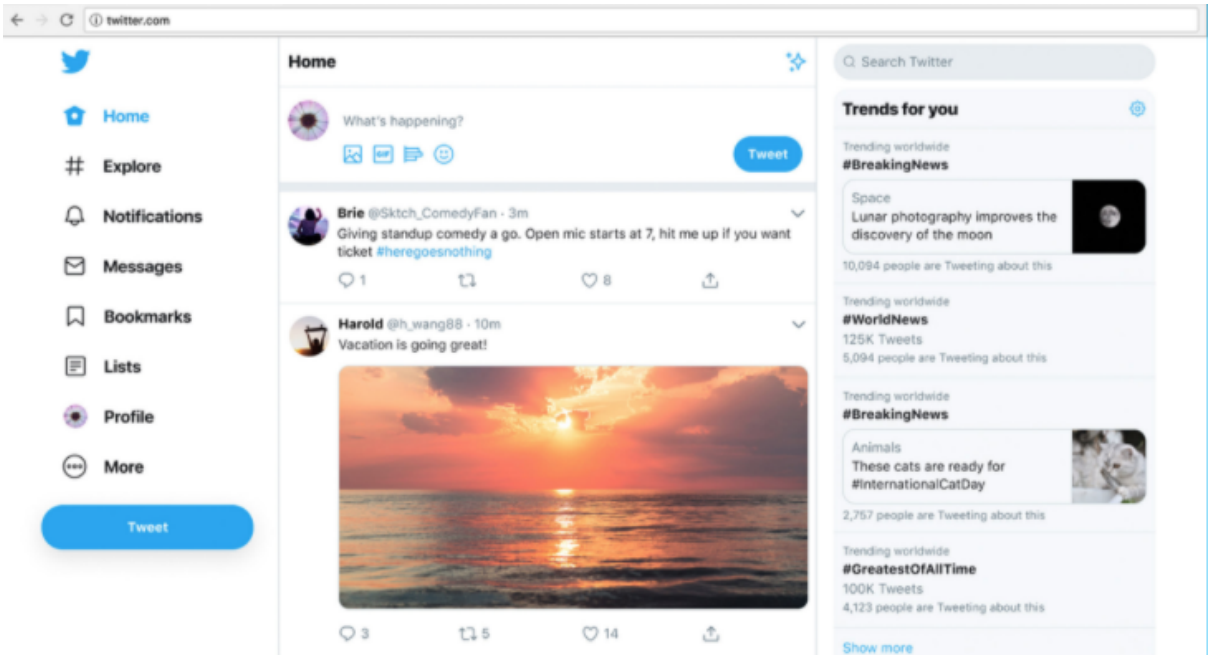
Poor kerning: There can be some poor kerning on some of the user generated names and titles but on the website in geral kerning is not a problem.
9/10

Information density: There is quite a bit of dead space on the right and the left of the center wasting a lot of space and making it look like it is made mostly for mobile users.
4/10

Terminology problems

6.25/10

Cultural problems: White some of the navigation being on the far left of the web site it can seem like its more for the wester marked since wester people look there first because of the reading direction this will not just as well for culture with the opposite reading direction.



5/10

Not changing the color on visited links: The links on the website do not change color after they are clicked and the main content on the page the tweets do not give an indicator if there were clickt eider.
0/10

Inconsistent communication: The communication on this website is consistent there is no place where it feels like the communication changes completely.
10/10

Inconsistent design: The same design profile and the same visual profiler is used consistently on the whole website.
10/10
Navigation problems
10/10

Dead links : We did not encounter any dead links while testing this website.
10/10

Dropdown menu issues: We did not find any dropdown menu issues here because there is a lack of dropdown menu in general here because the website decided to use other navigation options.
10/10
Feedback problems

10/10

Long loading times: The loading time of this website is not noticeable.
10/10

Misleading notifications: We did not encounter any missliden notifications on the testing of this web site and the notifications in general was not convoluted and did its job.
10/10
Teknologi problems

To many scripts: The scripts no this website did not impact usability or loading times.
10/10

Improper use of html: On our testing we did not see any Improper use of html.
10/10

Uncommon Screen Ratio/size: According to our testing this website works on all common screen sizes.
10/10

Browser compatibility problem: This website works in all tested and common browsers.
10/10

Bachelor 2021 **Usability Catalogue**

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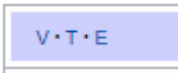
Wikipedia Usability catalog test https://www.wikipedia.org/

Grade A 9.55/10

Layout problems

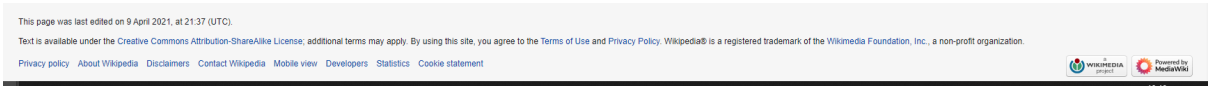
9/10

Contrast issue: The contrast on this website is mostly perfect since it is mostly using black letters on a white background one of the own exceptions is on the bottom of the page where there is a blue on blue contrast that is not setiscattory.



8/10

Small font size: Most of the font size on this website are consistent although the font size on the sources gets to small in comparison to the rest of the website



8/10

Poor kerning: We did not discover any kerning problems while testing this website.

10/10

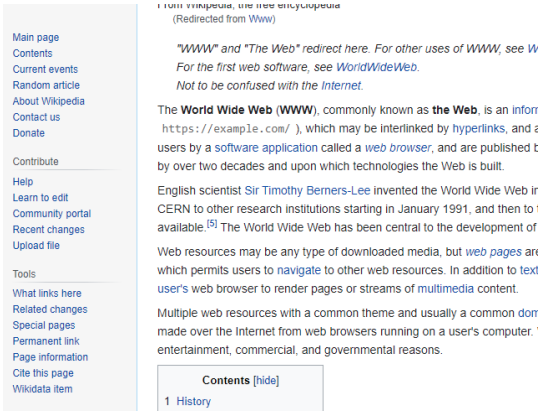
Information density: the information density is greater on this web site and liter to no spaces is wasted.

10/10

Terminology problems

8.75/10

Cultural problems: White some of the navigation being on the far left of the web site it can seem like its more for the wester marked since wester people look there first because of the reading direction this will not just as well for culture with the opposite reading direction.



5/10

Not changing the color on visited links: After visiting a link on this website the color of the link that were klickt charges to give feedback on where the user has been.
10/10

Inconsistent communication: The communication on this website is consistent.
10/10

Inconsistent design: The communication on this website is consistent.
10/10
Navigation problems
10/10

Dead links: On our testing on this website we did not encounter any unlabeled dead links, on the tested website a dead links are colored red to signal to the user that they are not available**.**
10/10

Dropdown menu issues: There is a lack of drop down menus to test on this web site.
10/10
Feedback problems
10/10

Long loading times: The loading times on this website are constantly fast.
10/10

Misleading notifications: We did not encounter any notifications while testing this website.
10/10
Teknologi problems
10/10

To many scripts: There was no issue with scripts on this website.
10/10

Improper use of html: On our testing we did not see any Improper use of html.
10/10

Uncommon Screen Ratio/size: According to our testing this website works on all common screen sizes.
10/10

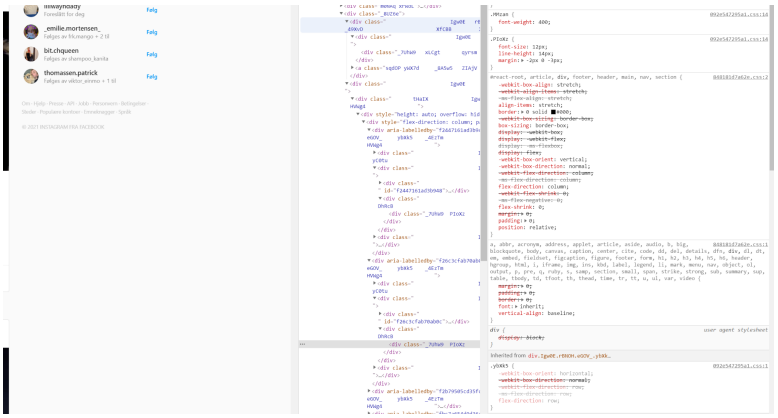
Browser compatibility problem: This website works in all tested and common browsers.
10/10

Wisarut Mortensen, Andre Neubauer and Nico Neubauer

instagram Usability catalog test https://www.instagram.com/

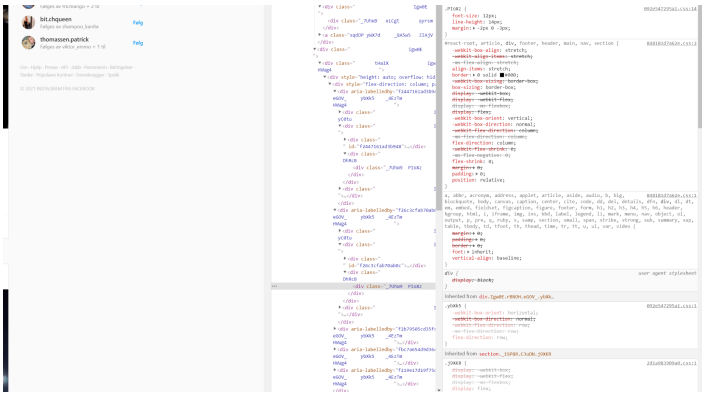
Grade A **8.95/10**
Layout problems
7.25/10

Contrast issue: Text that is present has a contrast ratio less than 4.5:1, or large text (larger than 18 point or 14 point bold) has a contrast ratio less than 3:1. WCAG requires that page elements have both foreground AND background colors defined (or inherited) that provide sufficient contrast. When text is presented over a background image, the text must have a background color defined (typically in CSS) that provides adequate text contrast when the background image is disabled or unavailable. WAVE does not identify contrast issues in text with CSS transparency, gradients, or filters.



8/10

Small font size: The font size in this webpage was okay since it followed the standard, but it should have been 2 pixel higher.



8/10

Poor kerning: There are actually no or little kerning in the website. This matters because it is very hard to read and understand what is on the website: this again makes clarity hard or impossible for some people

Bachelor 2021 **Usability Catalogue**

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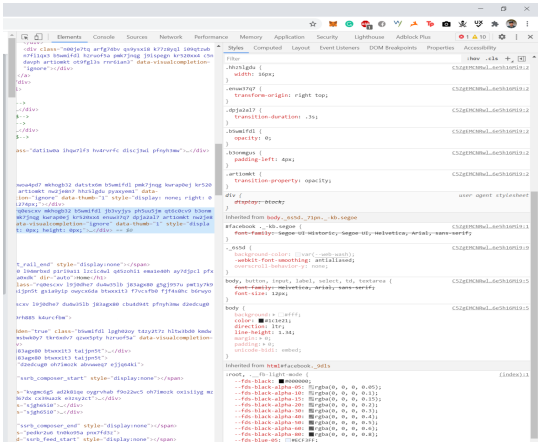
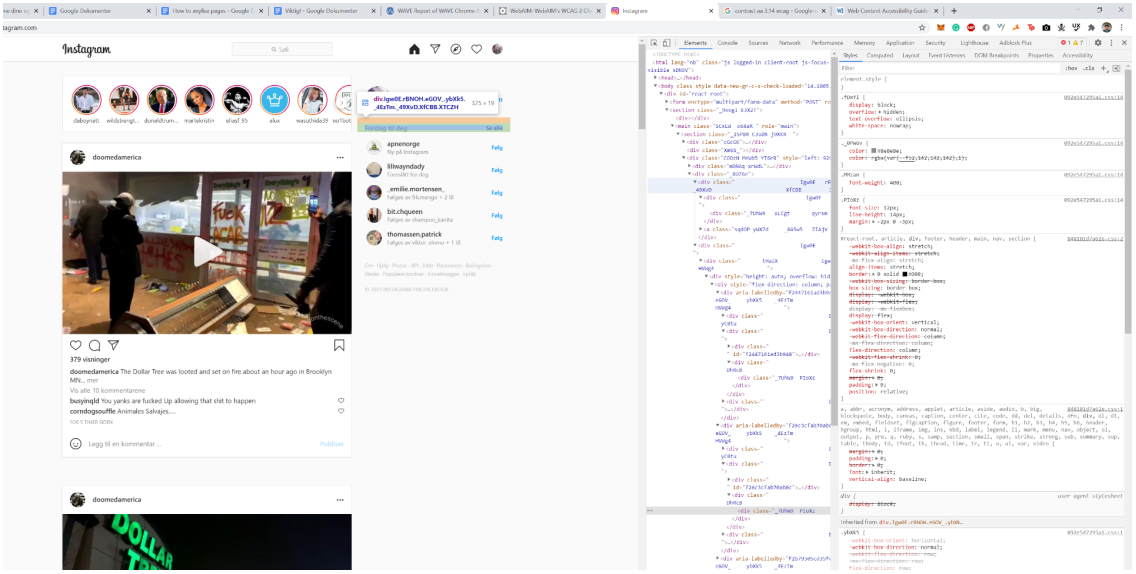


5/10

Information density: The website does not have density information, but it can still be improved by spacing the boxes of the pages more from each other.



8/10

Terminology problems
7.5/10

Cultural problems:I have found the issue for the problem since the website has a enlings as the main our second language, and many people do speak english.
10/10

Not changing the color on visited links: For some reason there is no color changing after I visited the section of the menu I have clicked. This is very concerning because this can make it harder for the user to know if they have visited the site or not. This can misguide people to think they have not visited the section but in reality they have and that can make some people.
10/10

Inconsistent communication: There was none inconsistent communication on the page.
10/10

Inconsistent design: the design The design was okay overall.
9/10
Navigation problems
10/10

Dead links:I have found non dead links.
10/10

Dropdown menu issues:found no Issues regarding this.
10/10
Feedback problems
10/10

Long loading times: The loading time was good.
10/10

Misleading notifications: There were no misleading notifications.
10/10
Teknologi problems
10/10

To many scripts: There were none issues with this.
10/10

Improper use of html: There was proper use of html.
10/10

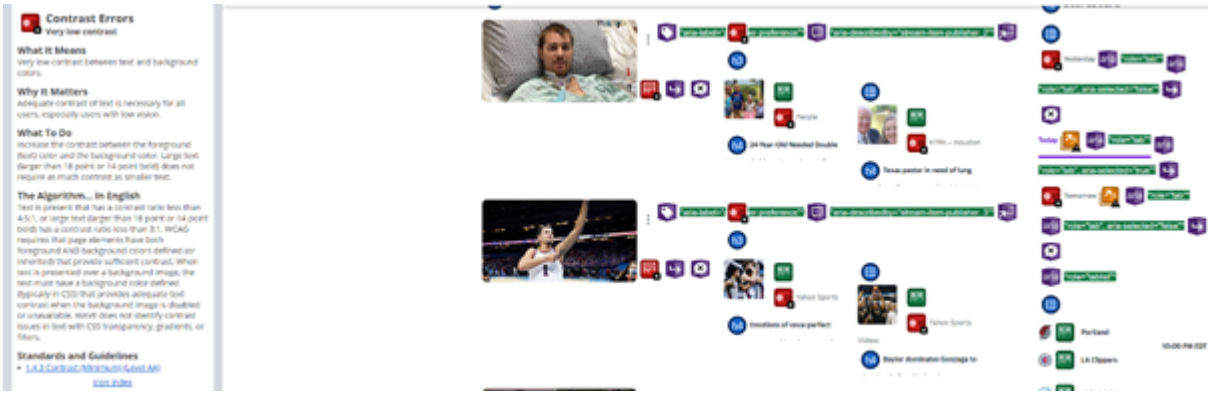
Uncommon Screen Ratio/size: The screen ratio size was okay overall.
10/10

Browser compatibility problem: There was none.
10/10

Yahoo Usability catalog test https://www.yahoo.com/

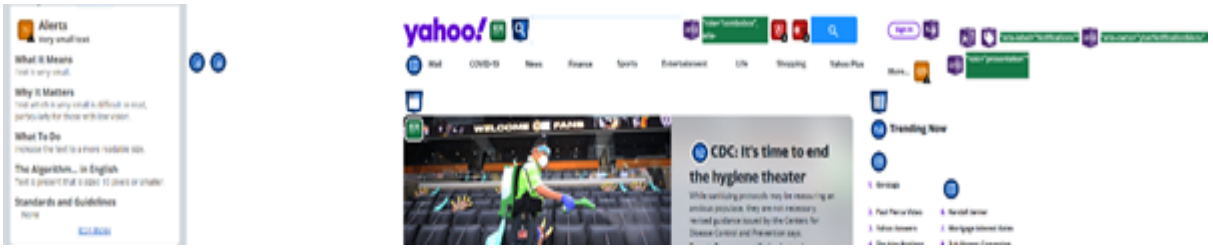
Grade B **7.9/10**
Layout problems
4.5/10

Contrast issue: There was some low contrast between text and background all over places. This matters because it is not user friendly for users with low vision.



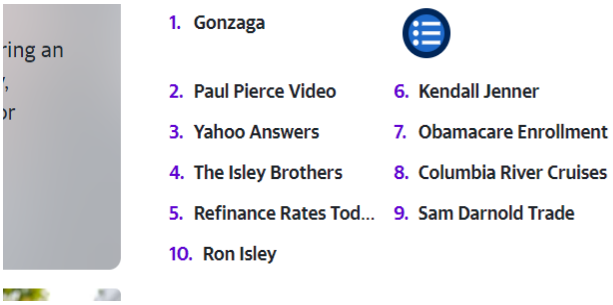
6/10

Small font size: The test in the website, especially in the navigation site, is very small. Text that is small is very difficult to read and can be hard for some to see and might misunderstand the information in the website.



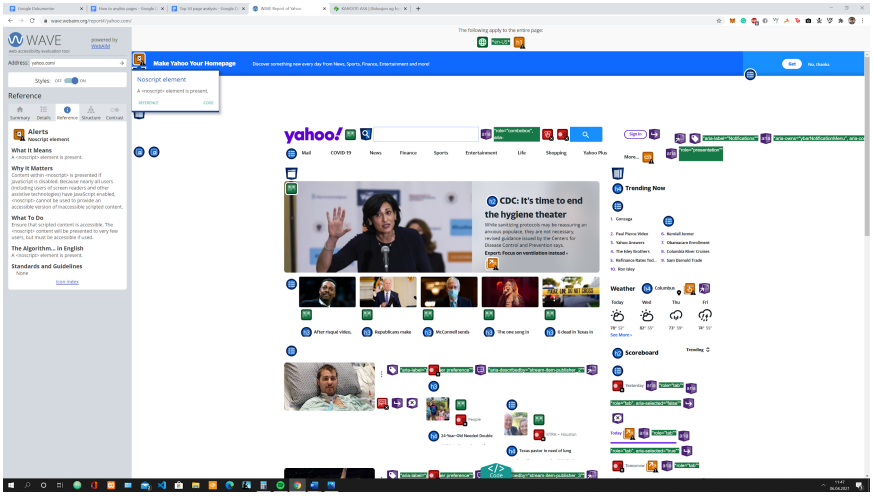
5/10

Poor kerning: There are actually no or little kerning in the website. This matters because it is very hard to read and understand what is on the website: this again makes clarity hard or impossible for some people.



2/10

Information density: This website does not have a very clear layout. it can already be determined by in the front where the ads are and where the main content is and the navigation is hard to see since everything is smashed together.



5/10

Terminology problems
7/10

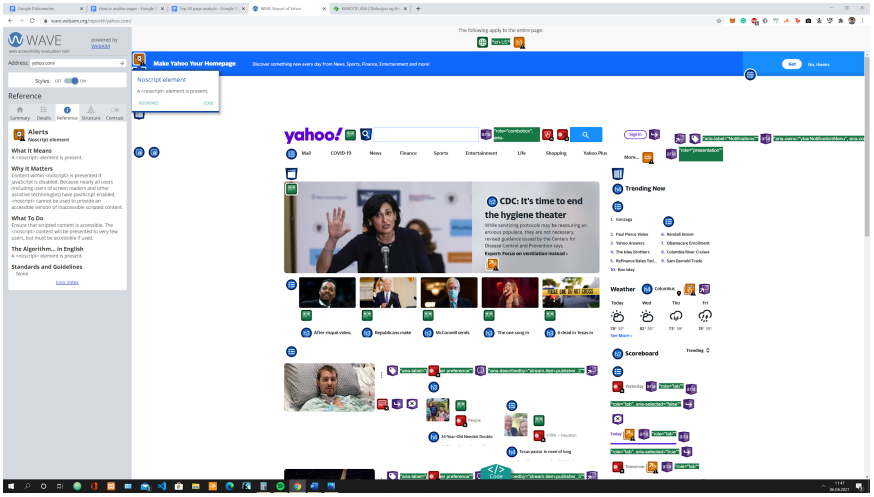
Cultural problems:I have found the issue for the problem since the website has a enlings as the main our second language, and many people do speak english.
10/10

Not changing the color on visited links: For some reason there is no color changing after I visited the section of the menu I have clicked. This is very concerning because this can make it harder for the user to know if they have visited the site or not. This can misguide people to think they have not visited the section but in reality they have and that can make some people.
1/10

Inconsistent communication: There was none inconsistent communication on the page.
10/10

Inconsistent design: the design: The navigation menu should have been a hamburger menu instead since there are a lot of sections in the site people can choose to navigate. the

search bar should have been more to the side and not in the middle of the site.



7/10
Navigation problems
8/10

Dead links:I have found non dead links.
10/10

Dropdown menu issues:

6/10
Feedback problems
10/10

Long loading times: The loading time was good.
10/10

Misleading notifications:there were no misleading notifications.
10/10
Teknologi problems
10/10

To many scripts: There were none issues with this.
10/10

Improper use of html: There was proper use of html.
10/10

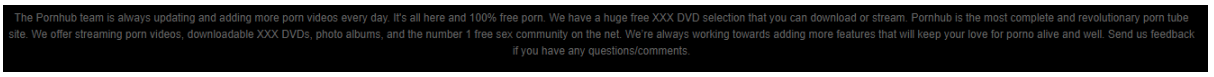
Uncommon Screen Ratio/size: The screen ratio size was okay overall.
10/10

Browser compatibility problem: There was none.
10/10

pornhub Usability catalog test https://www.pornhub.com/

Grade A **9.25/10**
Layout problems
9.75/10

Contrast issue: The text on this page has a contrast ratio of 3.8/1 this is in almost all cases plenty but in some cases where the text size goes to 15px or below this might be a problem for some users.



9/10

Small font size: The text size always remains at readable levels
10/10

Typografi problem: No typography problems were identified
10/10

Information density: There are no identified problems with information density
10/10

Terminology problems
8.25/10

Cultural problems: In many Countries this type of page is not ok at all. In the middle east there is even legal pussishemtent for being on such a page.
5/10

Not changing the color on visited links:https://www.pornhub.com/insights/category/stats
This is not a problem on the main page but in the blog pages changing color on visited links would help users with page navigation.
8/10

Inconsistent communication: The communication is mostly consistent
10/10

Inconsistent design: the design: The design in consistent
10/10
Navigation problems
8/10

Dead links: No Dead links were identified
10/10

Dropdown menu issues: Most propdowns work as intended until a scroll is needed to house the content within it then whenever a user scrolls in the dropdown he scrolls on the page at the same time resulting in borderline unable dropdowns. This only affects a small number off dropdowns.
8/10
Feedback problems
10/10

Long loading times: All loading times were in acceptable areas
10/10

Misleading notifications: No misleading notifications found
10/10
Teknologi problems
9/10

Improper use of code: No Improper use of code identified
10/10

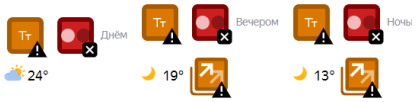
Uncommon Screen Ratio/size: On some screen sizes a lot of space is wasted because all screen sizes that are not the normal desktop sizes are seen as mobile even though they clearly can't be mobile sizes.
7/10

Browser compatibility problem: No browser compatibility problems found.
10/10

yandex.ru Usability catalog test https://yandex.ru/

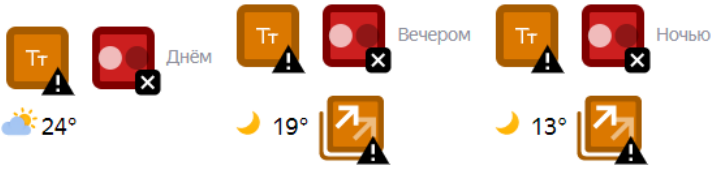
Grade **7,8/10**
Layout problems
/10

Contrast issue: The text that is present has a contrast ratio less than 4.5:1, or large text (larger than 18 point or 14 point bold) has a contrast ratio less than 3:1. WCAG requires that page elements have both foreground AND background colors defined (or inherited) that provide sufficient contrast. When text is presented over a background image, the text must have a background color defined (typically in CSS) that provides adequate text contrast when the background image is disabled or unavailable. WAVE does not identify contrast issues in text with CSS transparency, gradients, or filters.



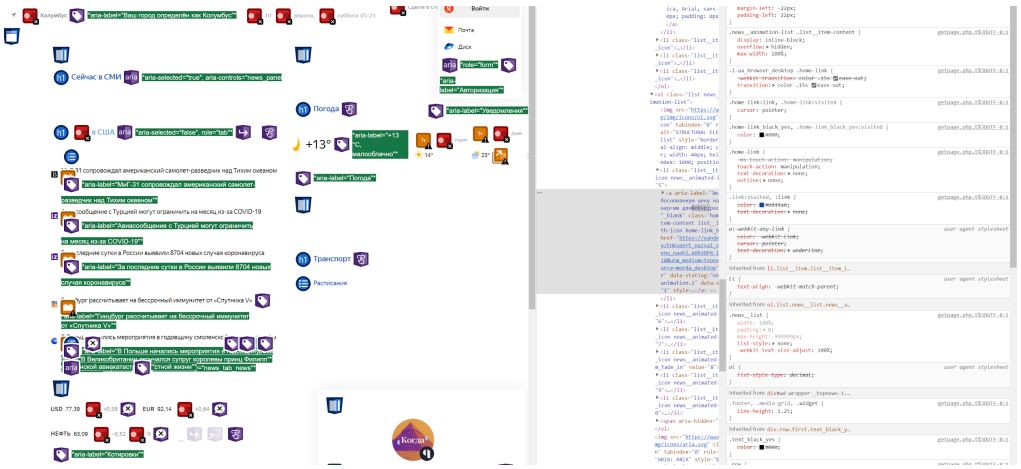
1/10

Small font size: Text which is very small is difficult to read, particularly for those with low vision. The font size in this webpage has 16 px. But this page has 10px that is not good.



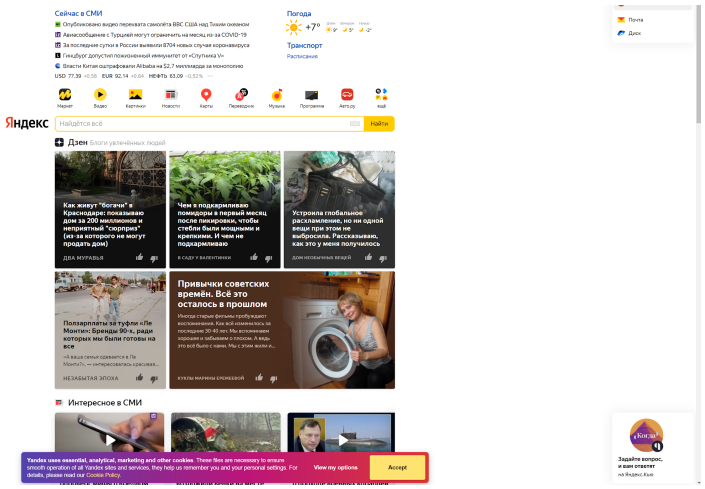
5/10

Poor kerning: There are actually zero kerning on the website. This matters because it is very hard to read and understand what is on the website: this again makes clarity hard or impossible for some people.



2/10

Information density: The density in this page was okay, but it can be improved like for example take serbar top the top left and make headline bigger and more close to middle.



8/10

Terminology problems
7.25/10

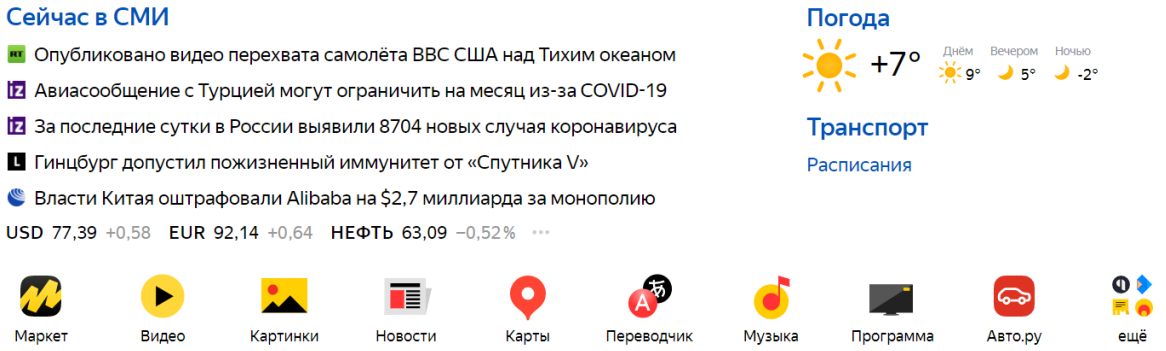
Cultural problems:I have found the issue for the problem since the website has the navtive language in the webpage, too bad you cannot choose other languages.
9/10

Not changing the color on visited links: For some reason there is no color changing after I visited the section of the menu I have clicked. This is very concerning because this can make it harder for the user to know if they have visited the site or not. This can misguide people to think they have not visited the section but in reality they have and that can make some people.

1/10

Inconsistent communication: There was none inconsistent communication on the page.
10/10

Inconsistent design: the design: The design was good overall but there was are something that can be improved like the weather information could have been longer down since it cer relevant to have it with the navigation section.



9/10
Navigation problems
10/10

Dead links:I have found no dead links.
10/10

Dropdown menu issues: There was none.
10/10
Feedback problems
10/10

Long loading times: The loading time was good.
10/10

Misleading notifications:there were no misleading notifications.
10/10
Teknologi problems
10/10

To many scripts:there were none issues with this.
10/10

Improper use of html:there were proper use of html
10/10

Uncommon Screen Ratio/size: The screen ratio size was okay overall.
10/10

Browser compatibility problem: There was none.
10/10

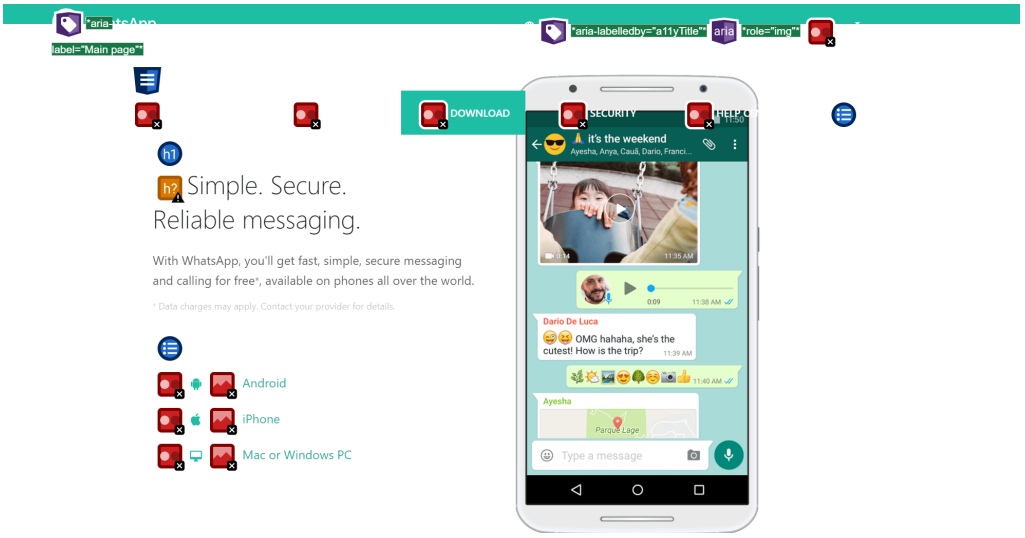
Whatsapp Usability catalog test link www.whatsapp.com

Grade **7,37/10**
Layout problems
8.75/10

Contrast issue: Text that is present has a contrast ratio less than 4.5:1, or large text (larger than 18 point or 14 point bold) has a contrast ratio less than 3:1. WCAG requires that page elements have both foreground AND background colors defined (or inherited) that provide sufficient contrast. When text is presented over a background image, the text must have a background color defined (typically in CSS) that provides adequate text contrast when the background image is disabled or unavailable. WAVE does not identify contrast issues in text with CSS transparency, gradients, or filter

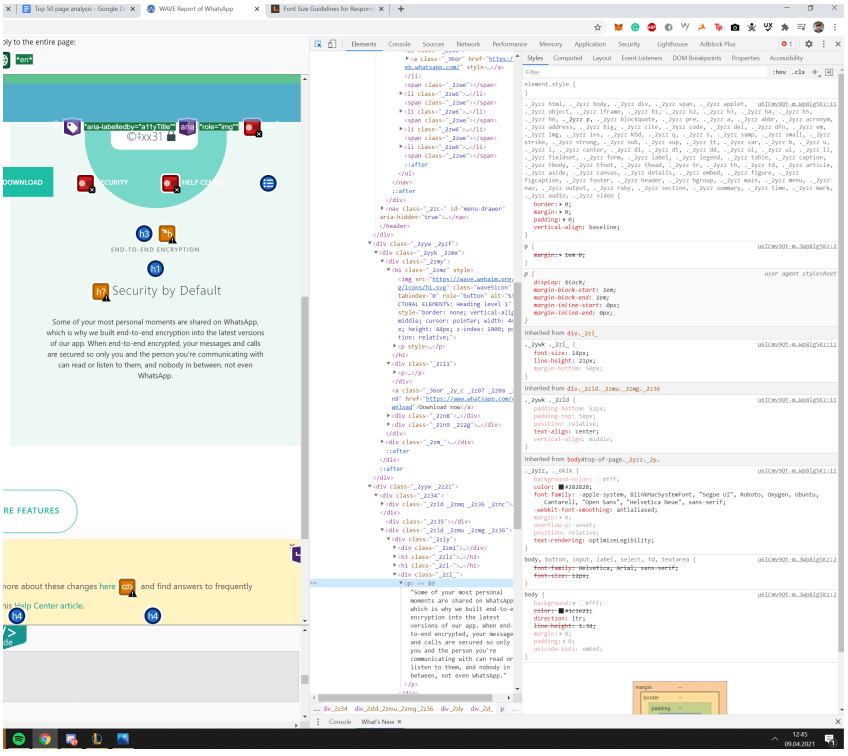
Bachelor 2021 **Usability Catalogue**

Wisarut Mortensen, Andre Neubauer and Nico Neubauer



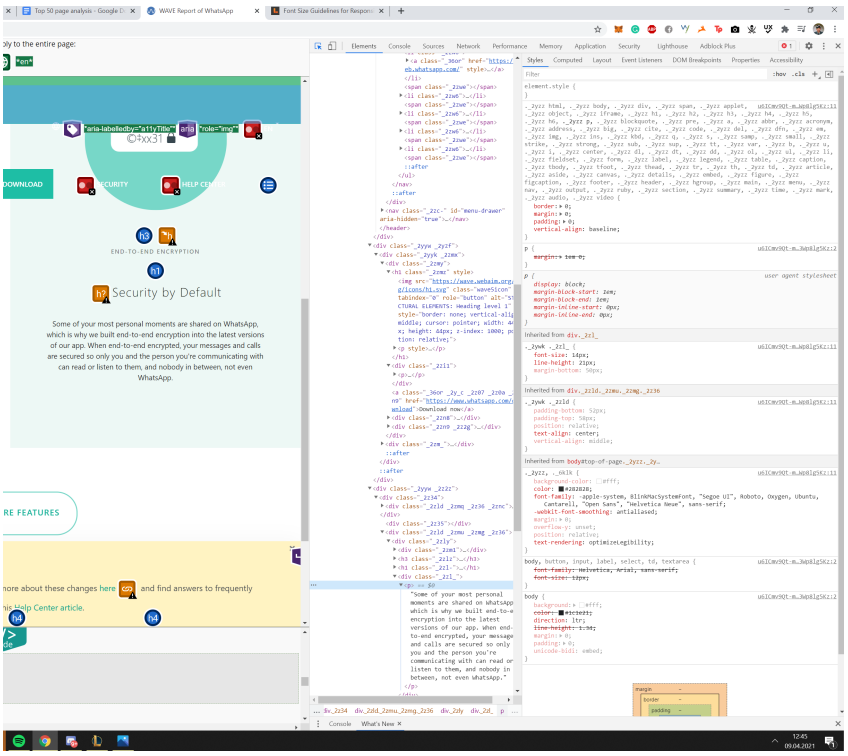
8/10

Small font size: The font size in this webpage has 16 px. The minimum standard is 16 px which is good.



10/10

Poor kerning: There are kering in the headlines that are very good, but not so much in the main content. This makes it harder for some people to read and understand the content.



7/10

Information density: This website has a very clear content of information from part to part.
10/10

Terminology problems
7.75/10

Cultural problems:I have found the issue for the problem since the website has a enlings as the main our second language, and many people do speak english. and You can also change to another language if you like.
10/10

Not changing the color on visited links: For some reason there is no color changing after I visited the section of the menu I have clicked. This is very concerning because this can make it harder for the user to know if they have visited the site or not. This can misguide people to think they have not visited the section but in reality they have and that can make some people
1/10

Inconsistent communication: There was none inconsistent communication on the page.
10/10

Inconsistent design: the design: The design was good overall on this web page.
10/10
Navigation problems

10/10

Dead links:I have found non dead links.
10/10

Dropdown menu issues: There was none
10/10
Feedback problems
10/10

Long loading times: The loading time was good.
10/10

Misleading notifications:there were no misleading notifications.
10/10
Teknologi problems
10/10

To many scripts:there were none issues with this.
10/10

Improper use of html:there were proper use of html
10/10

Uncommon Screen Ratio/size: The screen ratio size was okay overall.
10/10

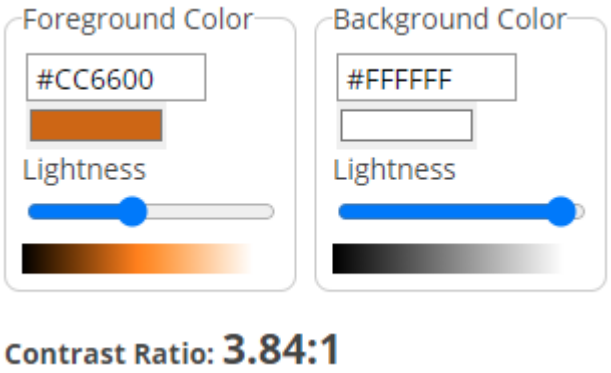
Browser compatibility problem: There was none.
10/10

Bachelor 2021 **Usability Catalogue**
Wisarut Mortensen, Andre Neubauer and Nico Neubauer

Amazon Usability catalog test https://www.amazon.com/

Grade A 9.1/10
Layout problems
9/10

Contrast issue: Some elements on the page would fail in the wcag tests for contrast like the “Best seller” label on some of the products. We alltho recommend that the contrast between text and background should be at least 3/1 allto in this instance the theoretical contract differs from the preserved contrast.



9/10

Small font size:the text in the footer is 7px this may be too low and had to read for some users. In text it's not easy to find guidelines or rules. Wcag recommends a text size of 16 px for a good all around font size. Many places do not recommend going lower than 10 px but finding good sources is hard here. This offence is not too problematic because the information that suffers from this problem is not important to most users.

8/10

Poor kerning: No kerning issues found
10/10

Information density: On the recent items of the recommended items there is too much information at the same time. Almost no air is in between each element

Bachelor 2021 **Usability Catalogue**

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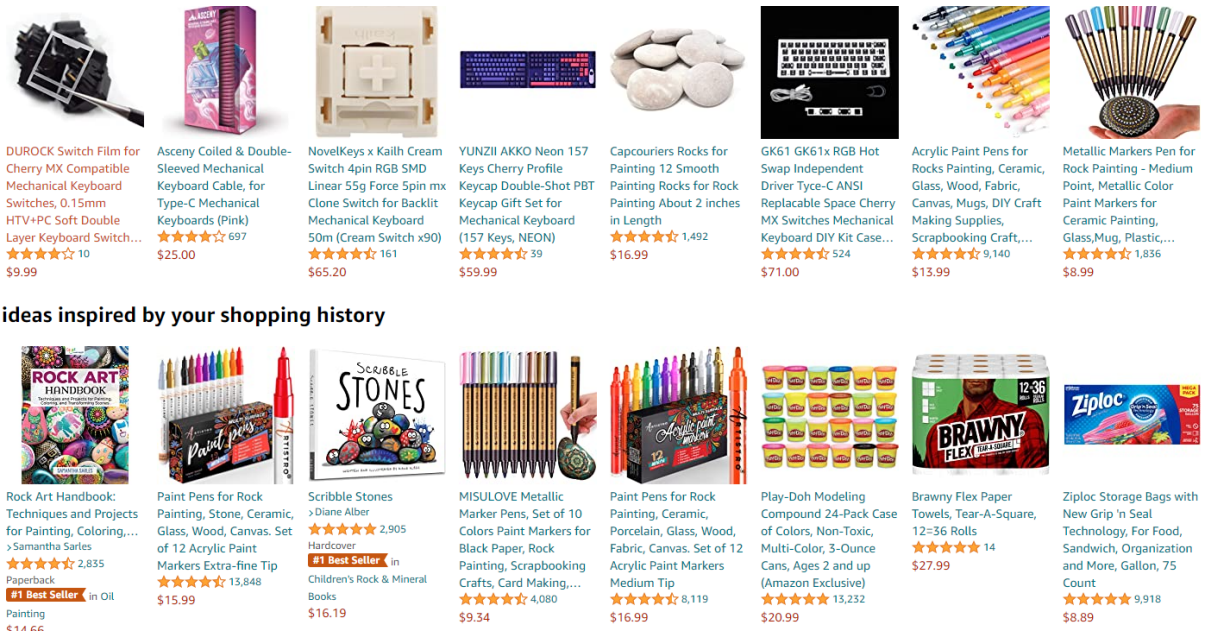


9/10

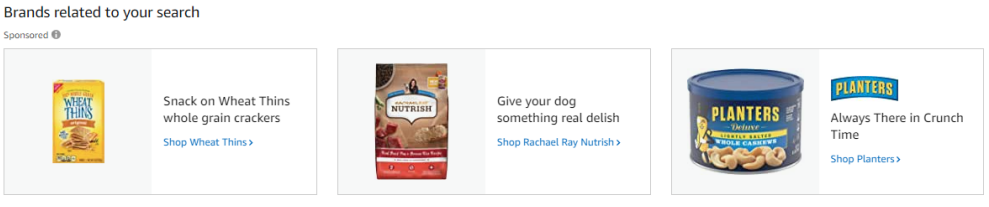
Terminology problems
7.75/10

Cultural problems: There are no cultural problems found on this page. The page is slightly different if you change the language of the region.
10/10

Not changing the color on visited links: The links on this page only change colour is thay are hovered. The only way to identify if you have visited a page if the user checks the “Your Browsing History” page/section.
3/10

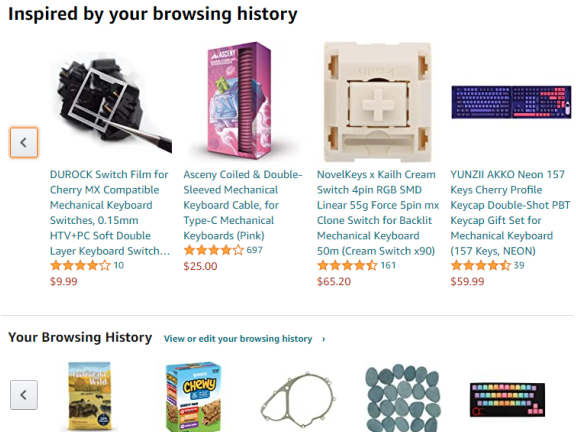
Inconsistent communication:communication is consistent
10/10

Inconsistent design: the design: There are many ways on how products get shown to users. The different way items are shown often whow what is secale with the item.



Bachelor 2021 **Usability Catalogue**

Wisarut Mortensen, Andre Neubauer and Nico Neubauer



8/10

Navigation problems

9.5/10

Dead links: No dead links found

10/10

Dropdown menu issues: There are several types of dropdowns used they all work ho it's expected of them.

9/10

Feedback problems

10/10

Long loading times: No issues with long loading times

10/10

Misleading notifications: No issues with misleading notifications

10/10

Teknologi problems

10/10

To many scripts: No script issues found

10/10

Improper use of html: HTML is used properly

10/10

Uncommon Screen Ratio/size: The page works with all or most screen sizes

10/10

Browser compatibility problem: No Browser compatibility problems found

10/10

Live Usability catalog test www.live.com

Grade A 8.4375/10
Layout problems
9.25/10

Contrast issue: There was some low contrast between text and background all over places. This matters because it is not user friendly for users with low vision. but overall the contrast on this website is fine.

7/10

Small font size: The font size was great and was not too small.
10/10

Poor kerning: The kerning in this webti is very good and this marks the visitor to see a clear message what the content in the website is trying to say.
10/10

Information density: There was a clear structure in this website.
10/10

Terminology problems
7.75/10

Cultural problems:I have found the issue for the problem since the website has a enlings as the main our second language, and many people do speak english.
10/10

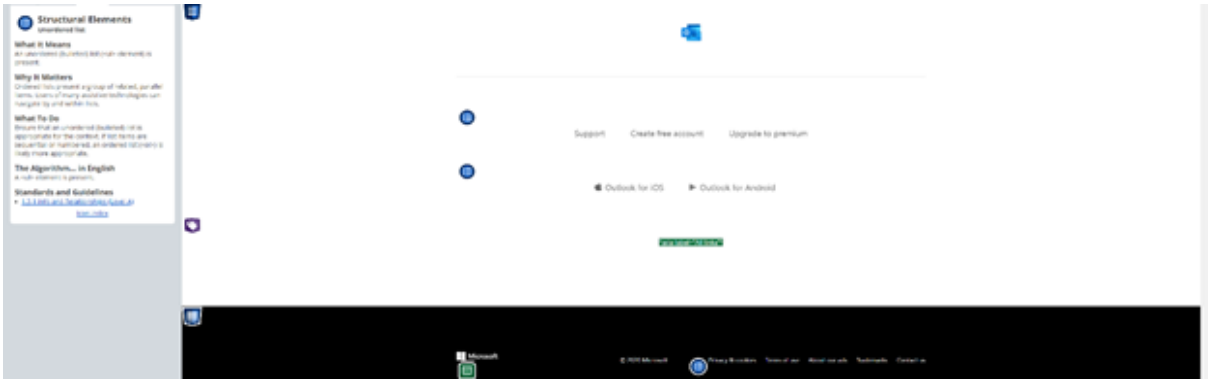
Not changing the color on visited links: For some reason there is no color changing after I visited the section of the menu I have clicked. This is very concerning because this can make it harder for the user to know if they have visited the site or not. This can misguide people to think they have not visited the section but in reality they have and that can make some people
1/10

Inconsistent communication: There was no inconsistent communication.
10/10

Inconsistent design: the design: The design was great.
10/10
Navigation problems
8.5/10

Dead links:
10/10

Dropdown menu issues:



7/10
Feedback problems
10/10

Long loading times: The loading time was good.
10/10

Misleading notifications:there were no misleading notifications.
10/10
Teknologi problems
10/10

To many scripts:there were none issues with this.
10/10

Improper use of html:there were proper use of html
10/10

Uncommon Screen Ratio/size: The screen ratio size was okay overall.
10/10

Browser compatibility problem: There was none.
10/10

Zoom usability catalog test https://zoom.us/

Grade A 8.95/10
Layout problems

9.25/10

Contrast issue: We did not encounter any contrast issue while testing this website.
10/10

Small font size:

The font size for the footer would cause problems on users with reduced visuals.
7/10

Poor kerning: We did not discover any kerning problems while testing this website.
10/10

Information density: There is no Information density problem on the tested website, the website always shows the available information in the comfortabel density.
10/10
Terminology problems
7.5/10

Cultural problems: We did not discover any culture specific problems while testing this website
10/10

Not changing the color on visited links: The links on the website do not change color after they are clicked
0/10

Inconsistent communication: The communication on the tested website is consistent.
10/10

Inconsistent design: The design on the tested website is consistent.
10/10

Navigation problems
8.5/10

Dead links : We did not encounter any dead links while testing this website.
10/10

Dropdown menu issues: The main dropdown menus on this website works but reacts slow to change this can confuse user while using it-
7/10
Feedback problems
10/10

Long loading times: We did not experience and slow loading times while testing this web site.
10/10

Misleading notifications: We did not encounter any misleading notifications and not many notifications in general while testing this website.
10/10
Teknologi problems
9.5/10

To many scripts: Scripts did not slow the loading of this website.
10/10

Improper use of html: Not all title levels were used on this website skipping the <h2> element completely.
8/10

Uncommon Screen Ratio/size: According to our testing this website works on all common screen sizes.
10/10

Browser compatibility problem: This website works in all tested and common browsers.
10/10

Live usability catalogue test https://outlook.live.com/owa/

Score: 8.4375

Layout problems

- Contrast issue 7/10

- There was some low contrast between text and background all over places. This matters because it is not user friendly for users with low vision. but overall the contrast on this website is fine.

- Small font size 10/10
- The font size was great and was not too small.

- Poor kerning 10/10
- The kerning in this webti is very good and this marks the visitor to see a clear message what the content in the website is trying to say.

- Information density 10/10
- There was a clear structure in this website.

Terminology problems

- Cultural problems 10/10
- I have found the issue for the problem since the website has a enlings as the main our second language, and many people do speak english.

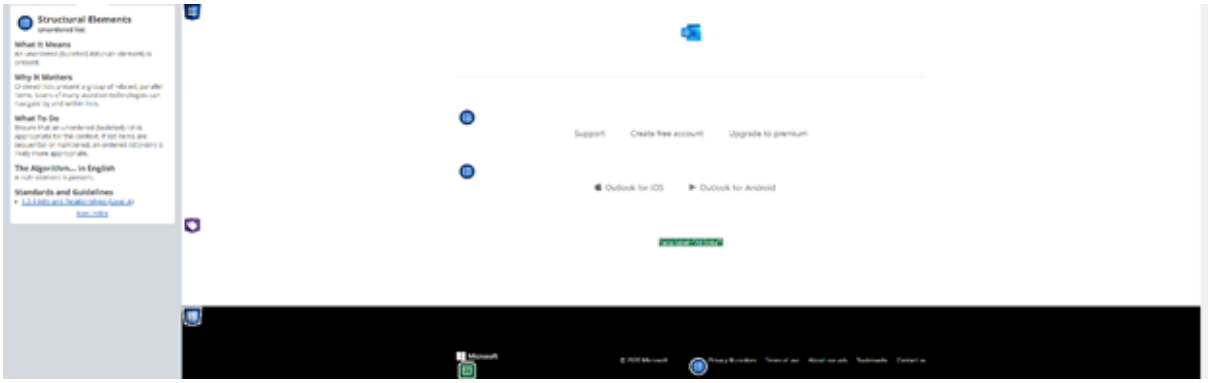
- Not changing the color on visited links 1/10
- For some reason there is no color changing after I visited the section of the menu I have clicked. This is very concerning because this can make it harder for the user to know if they have visited the site or not. This can misguide people to think they have not visited the section but in reality they have and that can make some people

- Inconsistent communication 10/10
- There was no inconsistent communication.

- Inconsistent design 10/10
- The design was great.

Navigation problems

- Dead links 10/10

- Dropdown menu issues 7/10
- 

Feedback problems

- Long loading times 10/10
- The loading time was good.

- Misleading notifications 10/10
- there were no misleading notifications.

Teknologi problems

- To many scripts 10/10
- there were none issues with this.

- Improper use of html 10/10
- there were proper use of html

- Uncommon Screen Ratio/size 10/10
- The screen ratio size was okay overall.

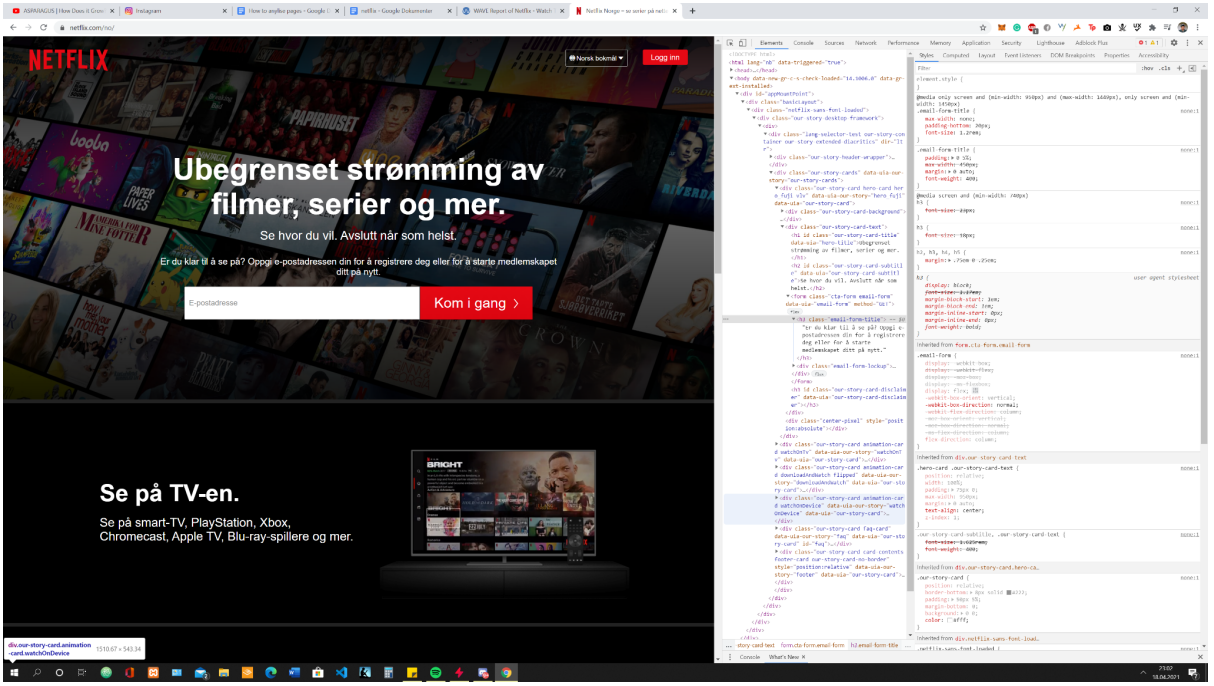
- Browser compatibility problem 10/10
- There was none.

Netflix usability catalogue test https://www.netflix.com/

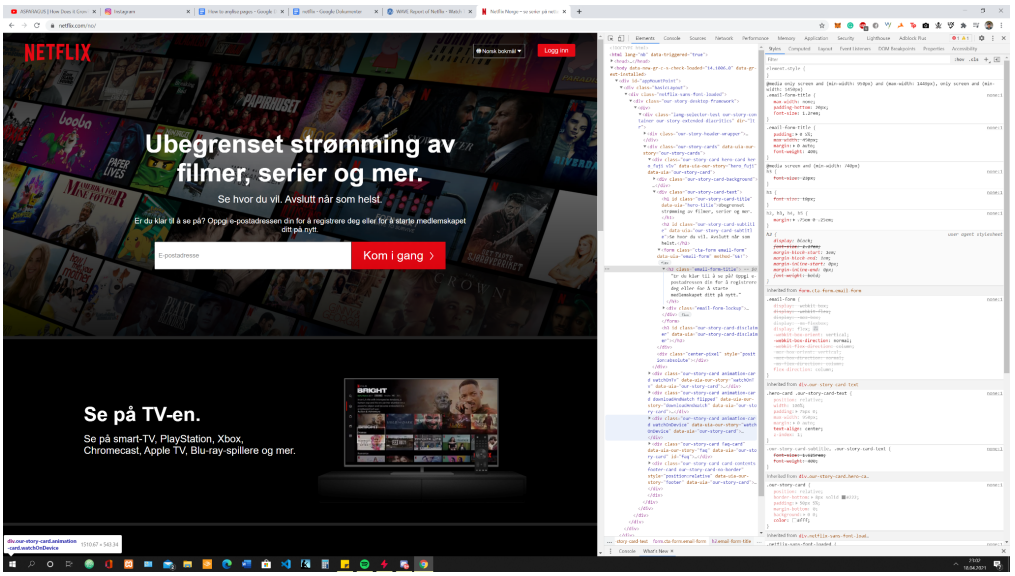
Layout problems

- Contrast issue 10/10
- There were no contrast issues in the website!

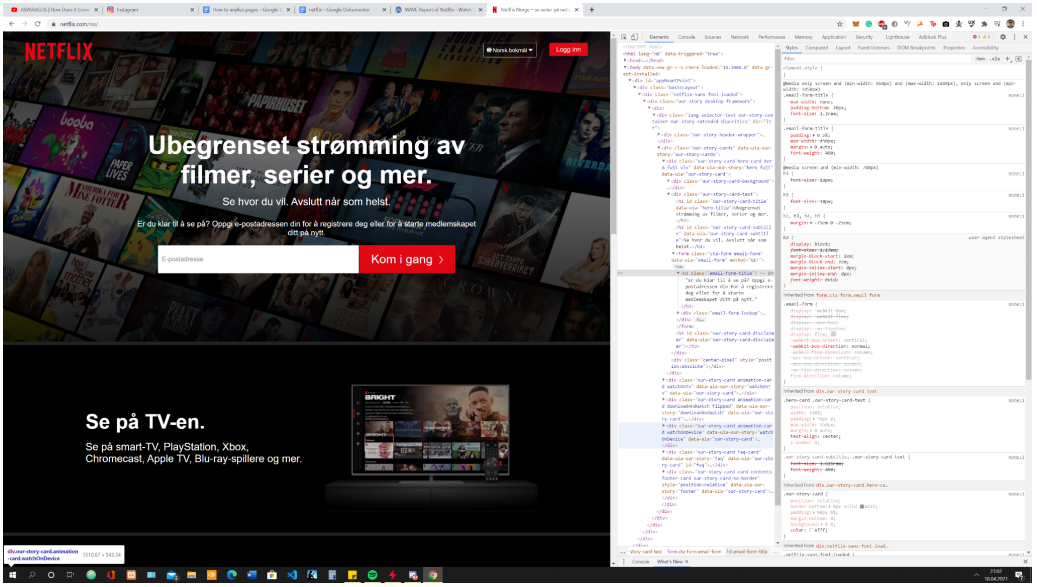
- Small font size 10/10

- 

The site has 16 px of font meaning the website is following the standard and the font size is very good. The reason it is good is because you can see what the message of this website will be about.

- Poor kerning 1/10
- 

- There is no kerning in this webpage that is unfortunate. Because for some people it is hard to read the content of the website, but a good kerning can prevent that from happening.

- Information density 9/10
- 

- This website has a clear what kind of section is what. the space between them is very good. It will make it a lot easier to navigate and see what the website is trying to say.

Terminology problems

- Cultural problems 9/10
-
- I have found no issue for the cultural problem since the website has a english as the main language and many people do speak english, but I did not find any options where I can change to other languages. That is too sad because not everybody can understand english.

- Not changing the color on visited links 2/10
- The links of teh website do not change color when I have clicked on them. This is a problem because it can make people repeat to navigate through the same page without them even knowing it.

- Inconsistent communication 10/10
- There was none inconsistent communication on the page.

- Inconsistent design 10/10

- The website had very good design and was very user friendly.

Navigation problems

- Dead links 10/10
- I have found non dead links.

- Dropdown menu issues 10/10
- there was no issue to be taken on this website.

Feedback problems

- Long loading times 10/10
- The loading time was good.

- Misleading notifications 10/10
- there were no misleading notifications.

Technology problems

- To many scripts 10/10
- there were none issues with this.

- Improper use of html 10/10
- there were proper use of html

- Uncommon Screen Ratio/size 10/10
- The screen ratio size was okay overall.

- Browser compatibility problem 10/10
- There was none.

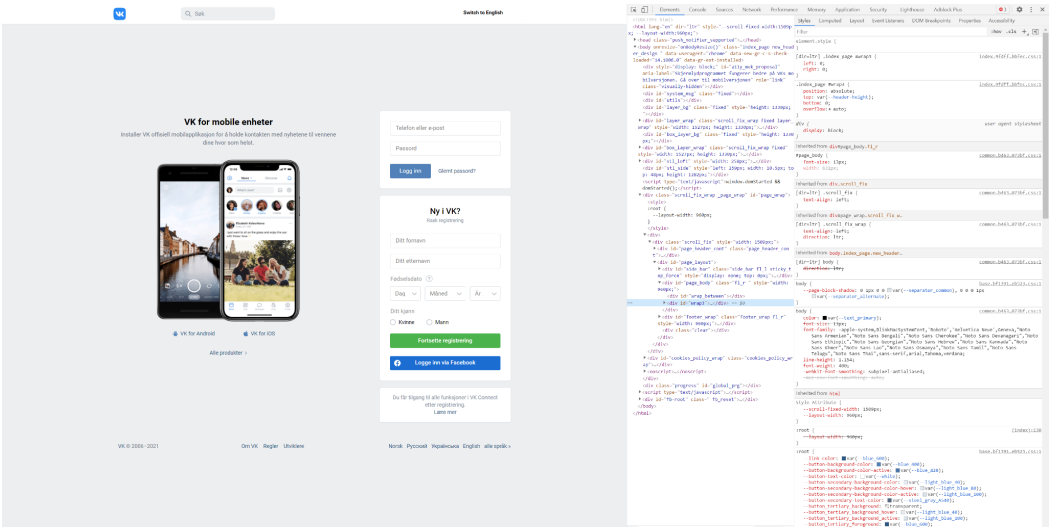
Bachelor 2021 **Usability Catalogue**

Wisarut Mortensen, Andre Neubauer and Nico Neubauer

VK usability catalogue test https://vk.com/

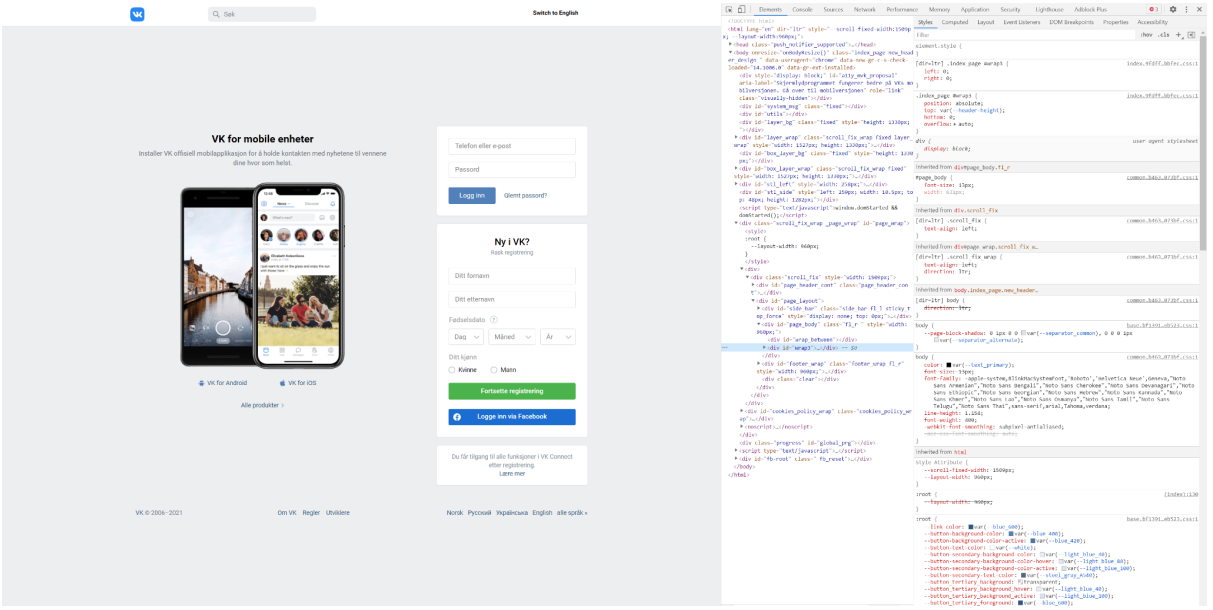
Layout problems

- Contrast issue 10/10
- There were no contrast issues in the website!

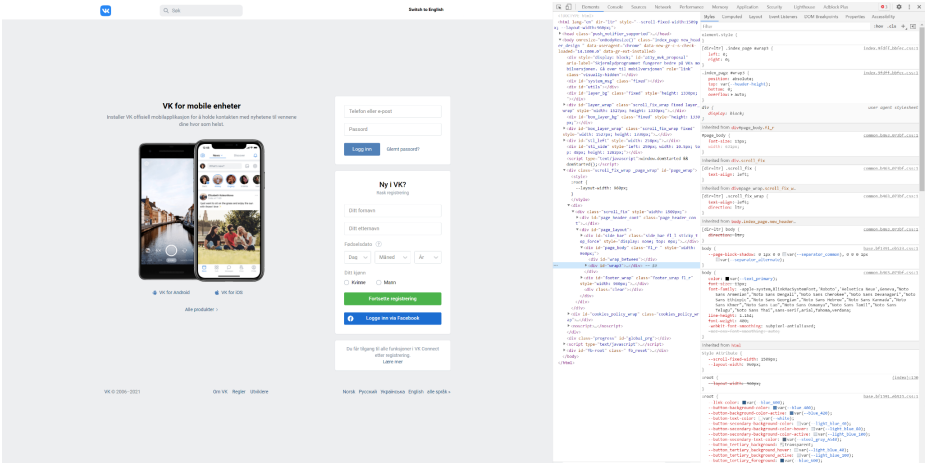
- Small font size 10/10
- 

  The site has 13 px of font meaning the website is following the standard and the font size is very good. The reason it is good is because you can see what the message of this website will be about.

- Poor kerning 10/10

- 

- There is some kerning in this webpage. It is good because for some people it is hard to read the content of the website, but a good kerning can prevent that from happening.

- Information density 10/10
- 
- This website has a clear what kind of section is what. the space between them is very good. It will make it a lot easier to navigate and see what the website is trying to say.

Terminology problems

- Cultural problems 9/10

-
- I have found no issue for the cultural problem since the website has a english as the main language and many people do speak english, but I did not find any options where I can change to other languages. That is too sad because not everybody can understand english.

- Not changing the color on visited links 2/10
- The links of teh website do not change color when I have clicked on them. This is a problem because it can make people repeat to navigate through the same page without them even knowing it.

- Inconsistent communication 10/10
- There was none inconsistent communication on the page.

- Inconsistent design 10/10
- The website had very good design and was very user friendly.

Navigation problems

- Dead links 10/10
- I have found non dead links.

- Dropdown menu issues 10/10
- there was no issue to be taken on this website.

Feedback problems

- Long loading times 10/10
- The loading time was good.

- Misleading notifications 10/10
- there were no misleading notifications.

Technology problems

- To many scripts 10/10
- There were no issues with this.

- Improper use of html 10/10
- there were proper use of html

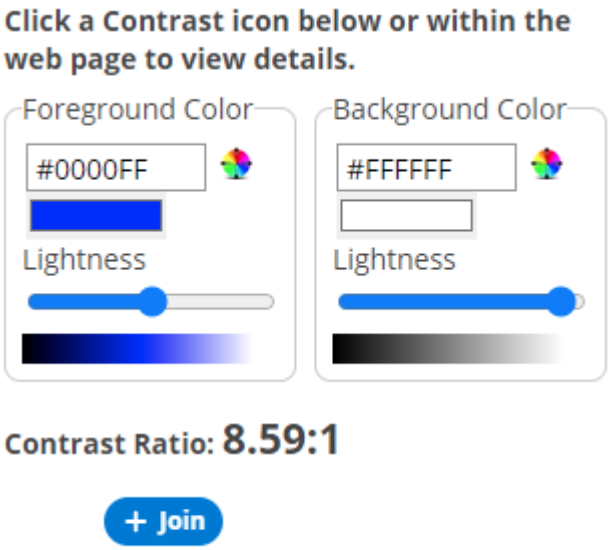
- Uncommon Screen Ratio/size 10/10
- The screen ratio size was okay overall.

- Browser compatibility problem 10/10
- There was none.

Reddit Usability catalog test https://www.reddit.com/

Grade B **7.8125/10**
Layout problems
7,5/10

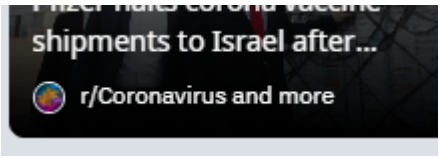
Contrast issue:



There are some contrast issue here but mostly the page has good contrasts and none of the existing contrast issues are super severe

4/10

Small font size:



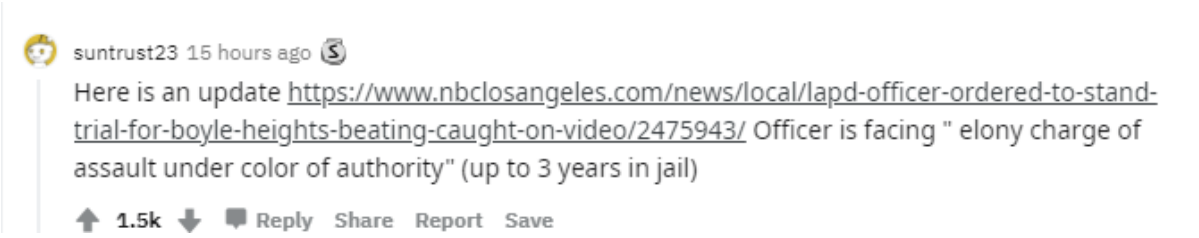
There are not many font size issues. Some of the text is a bit small but the difference is not too big to the font size. but font size can in some instances be changed buy used so it can be inconsistent
7/10

Poor kerning:
There are no kerning problems here but the problem here too is the user generated content which is the main content can have bad kerning.
9/10

Information density:
I did not notice any Information density problems here even though it can be influenced by the user generated content
9/10

Terminology problems
6/10

Cultural problems:
Not changing the color on visited links:



Clicking a link doesn't change its color whit makes it hard to see where u have ben and were not.
0/10

Inconsistent communication:
I did not notice any Information Inconsistent communication here even though it can be influenced by the user generated content.
9/10

Inconsistent design:
I did not notice any InformationInconsistent design here even though it can be influenced by the user generated content.
9/10
Navigation problems

Dead links:
Whenever content is linkt that got deleted the a link to it in a post or a comment will be dead. It also does not show on the link if it is dead or not.
5/10

Dropdown menu issues:
All the drop down menus on this website are working as intended and are fully funktional.
10/10
Feedback problems
8,5/10

Long loading times:
The loading time on these websites are good . I did not experience any problem here.
10/10

Misleading notifications:
The website shows some notifications to the user that are common like cookies and a login prompt, they are not out of pace or Misleading. The only problem here is on mobile the notification of going to the app instead of the website notification can be Misleading since it will just direct you to the play store.
7/10
Teknologi problems
9,25/10

To many scripts:
I did not notice any problems or slow loading because of any of the scripts.
10/10

Improper use of html:
Some <a> elements sometimes do not contain a link and should be rapact with a button insten then.
8/10

Uncommon Screen Ratio/size:
There is never a real Screen Ratio/size issue here but sometimes the page does feel like it is made more for mobile users.
9/10

Browser compatibility problem:
The contents of the page does work in all the browsers I tested.
10/10

Bachelor 2021 **Usability Catalogue**

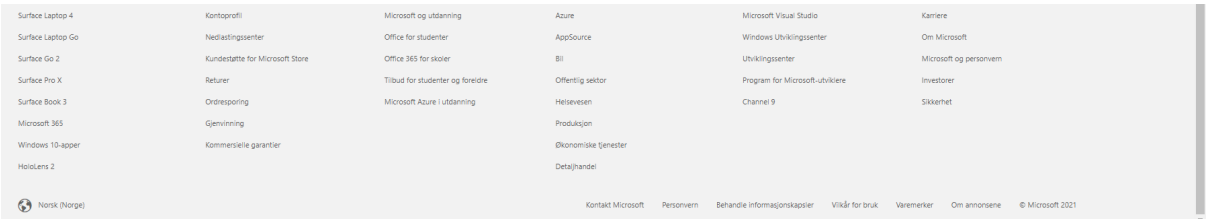
Wisarut Mortensen, Andre Neubauer and Nico Neubauer

Office usability catalog test https://www.office.com/

Grade A 9.35/10
Layout problems
9.25/10

Contrast issue: We did not encounter any contrast issue while testing this website.
10/10

Small font size:



The font size for the footer would cause problems on users with reduced visuals.
7/10

Poor kerning: We did not discover any kerning problems while testing this website.
10/10

Information density: There is no Information density problem on the tested website, the website always shows the available information in the comfortabel density.
10/10
Terminology problems
7.5/10

Cultural problems: We did not discover any culture specific problems while testing this website
10/10

Not changing the color on visited links: The links on the website do not change color after they are clicked
0/10

Inconsistent communication: The communication on the tested website is consistent.
10/10

Inconsistent design: The design on the tested website is consistent.
10/10
Navigation problems
10/10

Dead links : We did not encounter any dead links while testing this website.

10/10

Dropdown menu issues: The dropdown menus on this website do all work well and as intended there were no dropdown menu issues here.
10/10
Feedback problems
10/10

Long loading times: We did not experience and slow loading times while testing this web site.
10/10

Misleading notifications: We did not encounter any misleading notifications and not many notifications in general while testing this website.
10/10
Teknologi problems
10/10

To many scripts: Scripts did not slow the loading of this website.
10/10

Improper use of html: Our testing did not reveal any Improper use of html.
10/10

Uncommon Screen Ratio/size: According to our testing this website works on all common screen sizes.
10/10

Browser compatibility problem: This website works in all tested and common browsers.
10/10

pinterest usability catalogue test

https://no.pinterest.com/

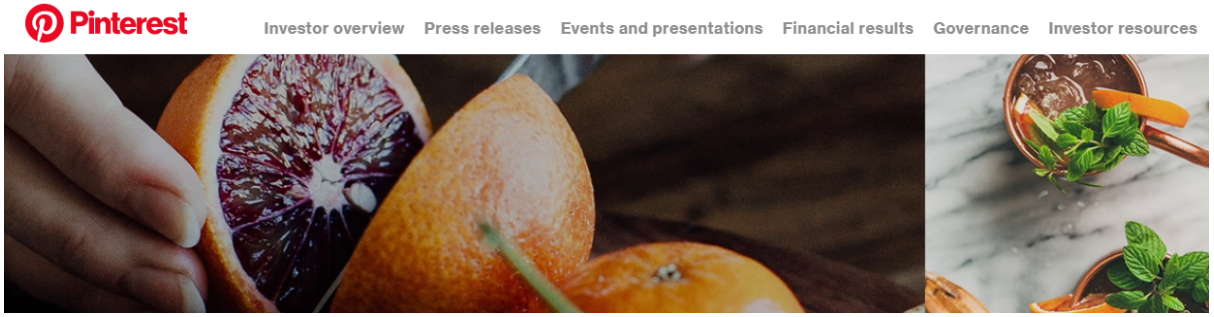
https://investor.pinterestinc.com/investor-overview/default.aspx

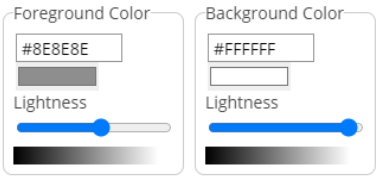
picture sharing page based in usa.

Note: The homepage and most of the pages on this page consist of user generated content and user generated content is random by nature therefore the pages with mostly user generated content will not be analysed.

Layout problems

- Contrast issue





Contrast Ratio: 3.27:1

On the investor pages the Navigation menu does not meet the recommended contrast ratio altho the text is big this can have negative implications for some users.

- Small font size
- Poor kerning
- Information density

Terminology problems

- Cultural problems
- Not changing the color on visited links
- Inconsistent communication
- Inconsistent design

Navigation problems

- Dead links
- Dropdown menu issues

Feedback problems

- Long loading times
- Misleading notifications

Teknologi problems

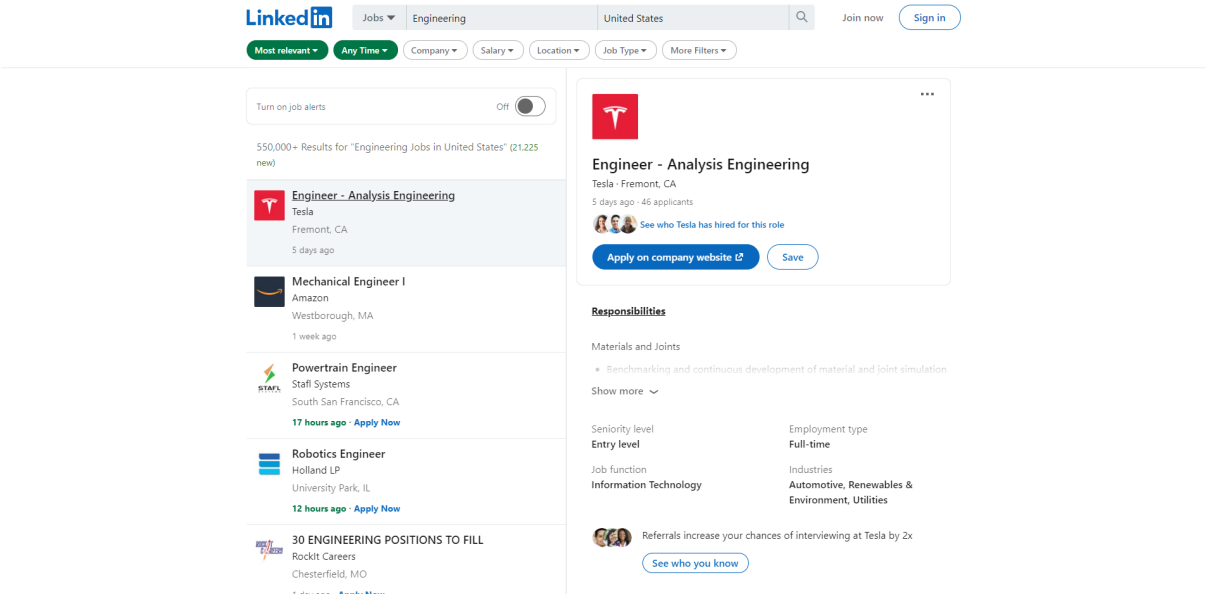
- To many scripts
- Improper use of html
- Uncommon Screen Ratio/size
- Browser compatibility problem

Linkedin usability catalogue test

https://www.linkedin.com/jobs/search?keywords=Engineering&location=&geoId=&trk=homepage-jobseeker_recent-search&position=1&pageNum=0

Overall score 8.1

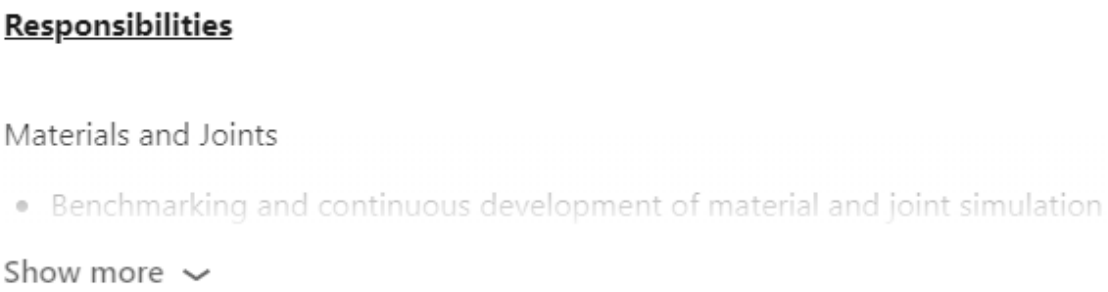
Final Grade B (7.7–8.8 points)



Description
Linkin is a platform that is supposed to connect professionals around the world. It is also a place where a user can look for jobs or people within a specific profession. It is a social platform so mont content is user generated.

Layout problems

- Contrast issue Score 9/10

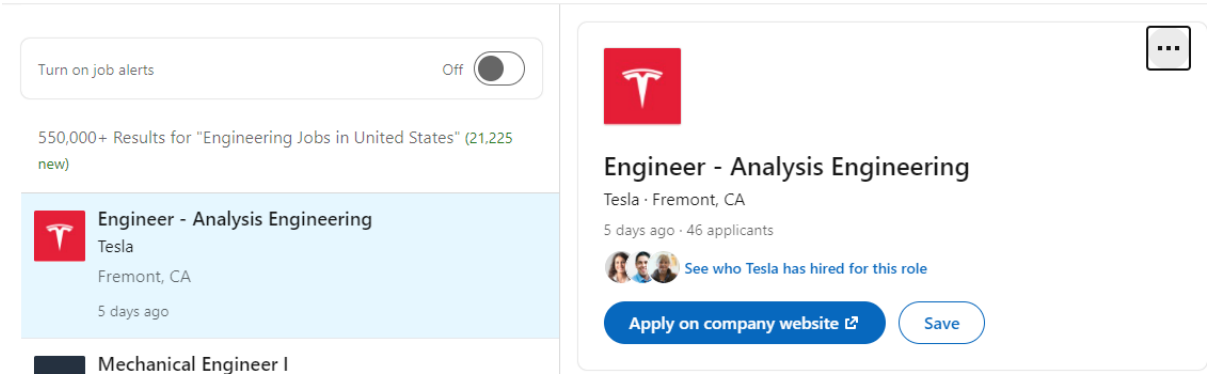


The page has overall very good contrast all tho there is one place were the readability really falls apart. Everytime a “Show more” dropdown is used some text that is hidden is very transparent. This is a design choice but it may be a usability problem for inexperienced users.

- Small font size Score 9/10
The only time small fonts are used is in text that is irrelevant for most users. The page uses mostly 12px font size which is fine in almost all cases.

- Poor kerning score 10/10
No kerning problems found

- Information density 7/10



The information density of the pages might be a little low because some content is shown more then one time like the information on the company the user had

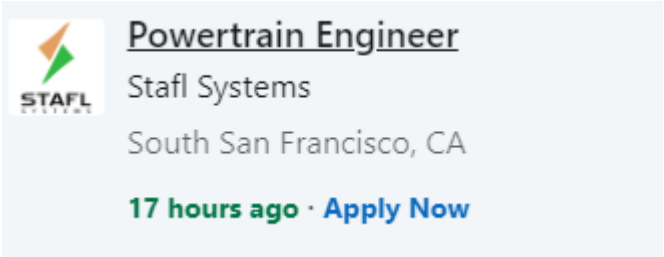
selected. Company logos tend to be very recognizable therefore it might be smarter to show more than 5-7 commpies at once.

Terminology problems

- Cultural problems 10/10

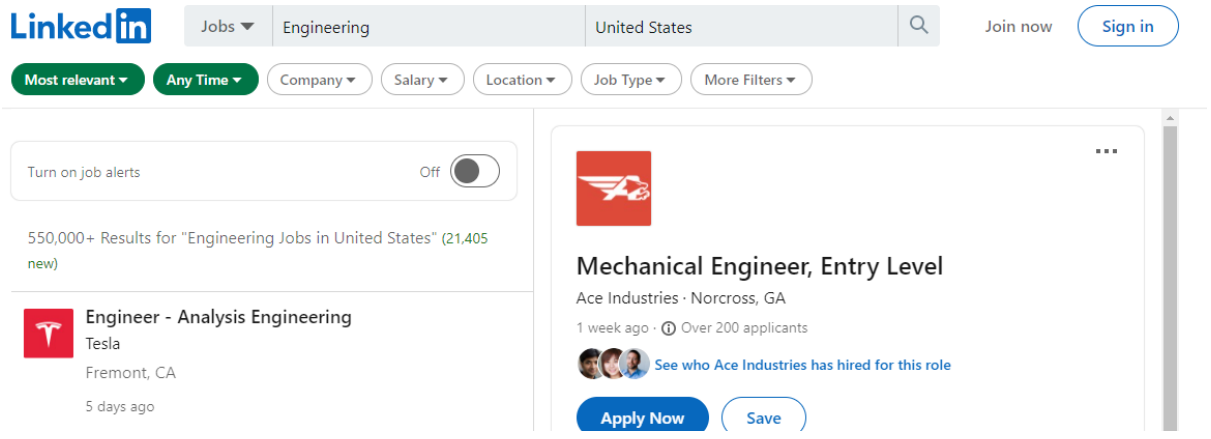
- Not changing the color on visited links 10/10
  Links are not often used inside of text so this is not a problem on this page.

- Inconsistent communication 7/10



The “Apply Now” text on companies looks like a seperate link and what is even more confusing about that is there is a link that is separate for the rest which is the name of the parent company.It only reveals that its a link to the user if that users decides to hover over it. This might not be a problem if this type of element would not be used all the time.

- Inconsistent design 9/10

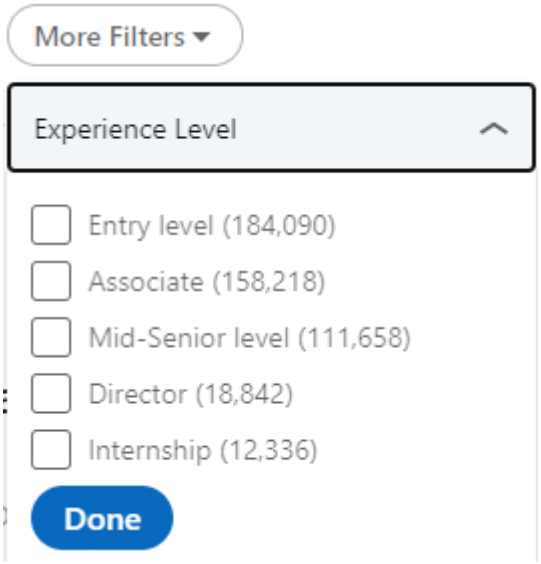


On some places on the page blue is used to highlight something that is important and on some other seemingly random places green is used to highlight something important.

Navigation problems

- Dead links 10/10
  No dead links found

- Dropdown menu issues 6/10

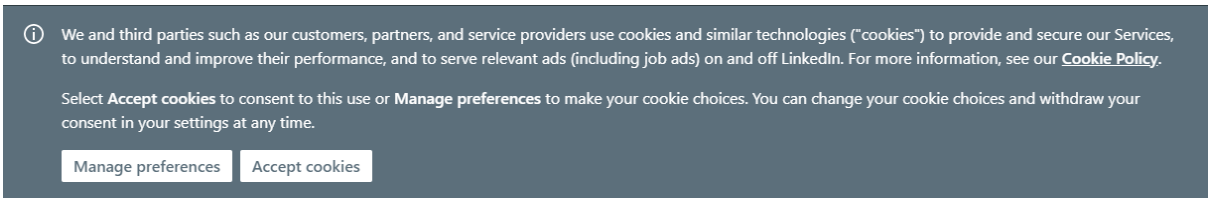


  In some of the dropdowns there is another dropdown nested inside of it. This is extremely pointless and only confuses and wastes the users time.

Feedback problems

- Long loading times 10/10
  Loading times are not a problem on this page.

- Misleading notifications 9/10

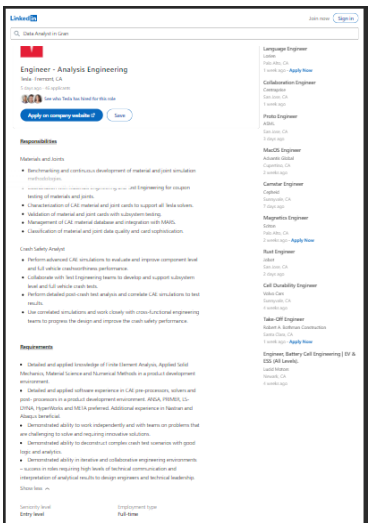


  There are only two Notifications on this page one is about the cookies policy and the other is a login prompt. The cookie thing has a problem where it is really hard to opt out of cookies but the information given is very good and relevant.

Teknologi problems

- To many scripts 10/10
  No script problems

- Uncommon Screen Ratio/size 5/10



All of the things on the page scale linearly with screen size this is a problem for text on mobile and sizes close to mobile. The text is really small here and hard to read.

- Browser compatibility problem 10/10

  No real Browser compatibility problems found

131/16

Cnn usability catalogue test https://edition.cnn.com/

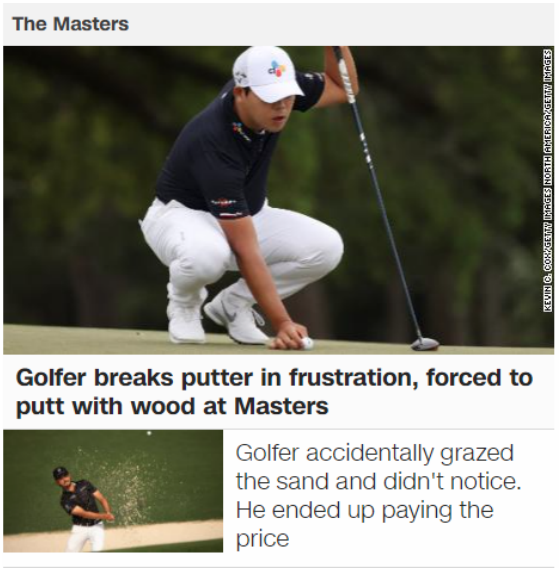
News page form the USA

score 8.5
Grade B

Layout problems

- Contrast issue 10/10
  Contrast on this page follows recommendations

- Small font size 9/10



On some pictures the name of the photographer or the owner of the picture is found. This text falls far below the recommended 10px limit and even users with relatively good eyesight will find it challenging to decipher.

- Poor kerning 10/10
  No kerning issues found.

- Information density 9/10
  The information density of this page is very carefully planned because this is one of the most important things about any relevant news webpage today. On some pages there is autoplay of videos allto this is not common it can be disturbing for some users.

Terminology problems

- Cultural problems 10/10
  No cultural problems found. This page is even available in other languages even to it is a news page for the USA

- Not changing the color on visited links 1/10

Links on this page do change the color after they have been visited by a user. Allto almost no user is gonna see the difference in colour of visited and not visited links.

- Inconsistent communication 10/10
  The communication on this page is consistent with its role as a news page.

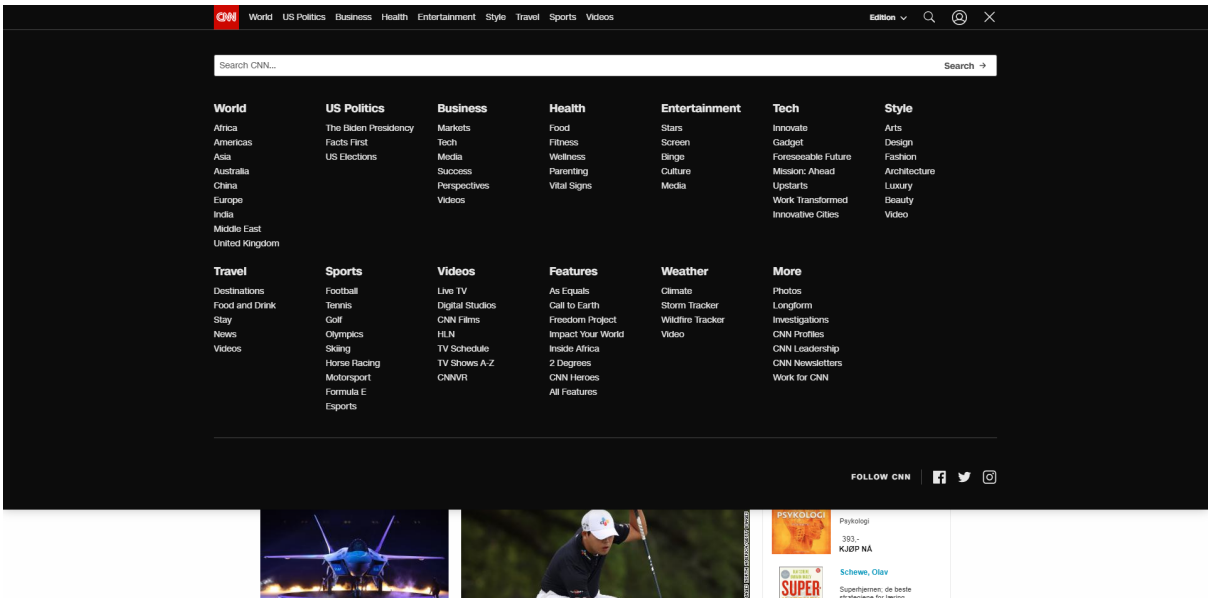
- Inconsistent design 10/10

The design on this page follows one consistent vision.

Navigation problems

- Dead links 10/10
  Not even were no dead links found but many links were redundant not too many to create a problem but enough to notice.

- Dropdown menu issues 3/10



The dropdown menus on this page does not follow some of the basic conventions and this makes it frustrating in some instances. One of these things is that it does not close itself when the user clicks somewhere else on the page and to close it the user has to click the X on the right top corner. While the dropdown is active only actions within the dropdown are permitted so a user can not go to an article before closing it. Going to an article while the dropdown is open would prove calling anyway because the size of the dropdown is much larger then on most pages it covers almost the entire page.

Feedback problems

- Long loading times 6/10
  https://edition.cnn.com/interactive/2020/health/coronavirus-maps-and-cases/

  Pages with complex animation and lots of information have bad loading times in some instances even exceeding 3 seconds. This is Bad because in this time no information is given to a possible confused user.

- Misleading notifications 10/10
  A user can only get notifications if he is logged on to an account so there are no misleading notifications.

Teknologi problems

- To many scripts 8/10
  Some of the pages have long loading times we think this is because of too much complicated javascript look:
  https://edition.cnn.com/interactive/2020/health/coronavirus-maps-and-cases/

- Improper use of html 10/10
  No Improper use of html found

- Uncommon Screen Ratio/size 10/10
  The page supports all given screen sizes and no Ratio/size problems were identified

- Browser compatibility problem 10/10
  No compatibility problems found

  136/16

Bing usability catalogue test

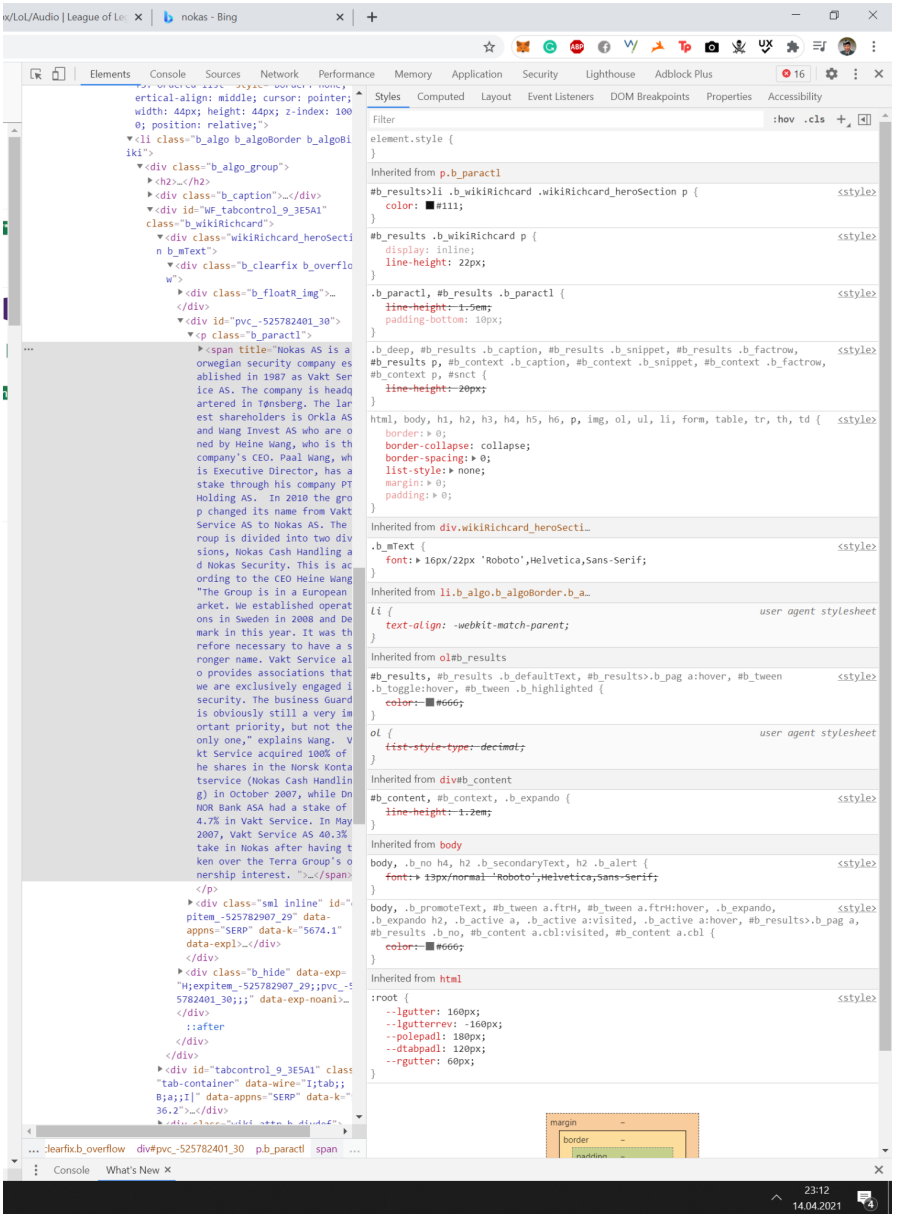
https://www.bing.com/?toWww=1&redig=0D447A7C5C724085A8EA70A1BC3E3D30

Score: 9.7

Layout problems

- Contrast issue 9/10
- There were no contrast issues in the website!

- Small font size 10/10

- 

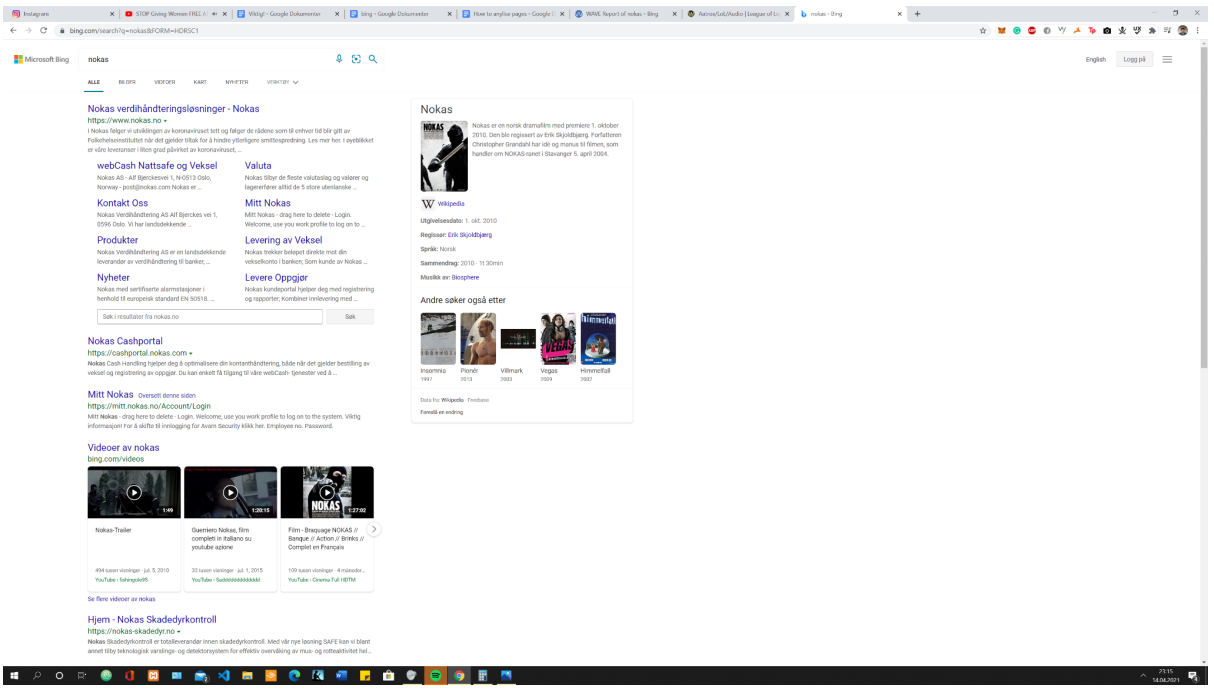
The site has 13 px of font meaning the years following the standard, but even though it should have been much bigger.

- Poor kerning 10/10
- The kering on the site was good and on 1.2 rem.

- Information density 8/10
-

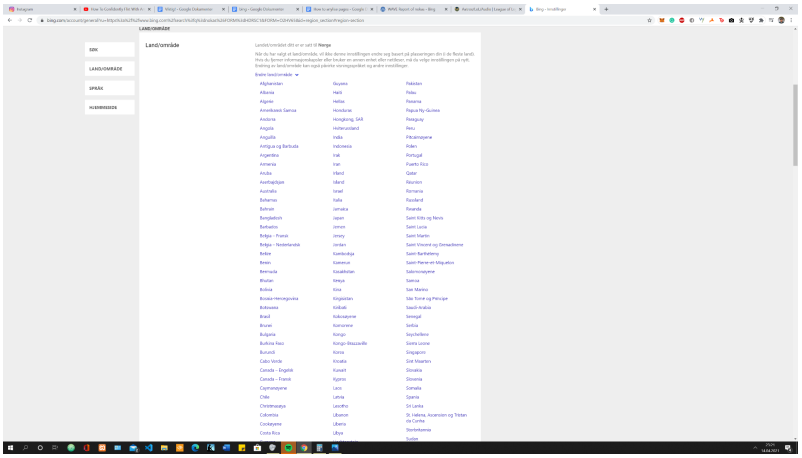
Bachelor 2021 **Usability Catalogue**

Wisarut Mortensen, Andre Neubauer and Nico Neubauer

- 

  This website has a clear what kind of section is what. The density in this website is actually good.

Terminology problems

- Cultural problems 10/10
- 

- I have found no issue for the cultural problem since the website has a english as the main language and many people do speak english but the good part is that you can change to other languages based on your country.

- Not changing the color on visited links 10/10

- The links on the website do change color when it has been visited. The good part is that people will have better hold on where they have been visited and make navigation much better.

- Inconsistent communication 10/10
- There was none inconsistent communication on the page.

- Inconsistent design 10/10
-
- The website had very good design and was very user friendly.

Navigation problems

- Dead links 10/10
- I have found non dead links.

- Dropdown menu issues 10/10
- there was no issue to be taken on this website.

Feedback problems

- Long loading times 10/10
- The loading time was good.

- Misleading notifications 10/10
- there were no misleading notifications.

Technology problems

- To many scripts 10/10

- there were none issues with this.

- Improper use of html 10/10
- there were proper use of html

- Uncommon Screen Ratio/size 10/10
- The screen ratio size was okay overall.

- Browser compatibility problem 10/10
- There was none.

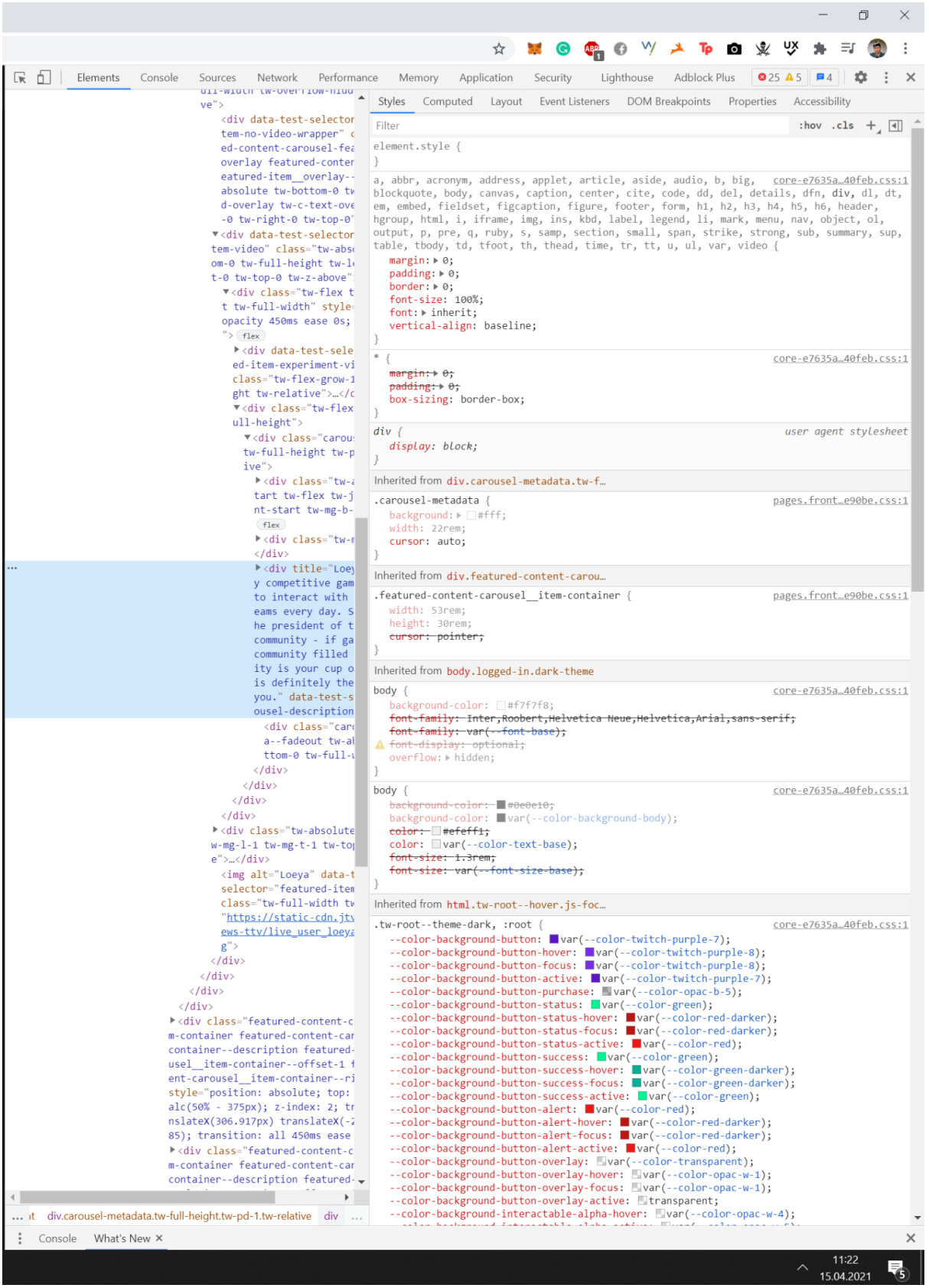
twitch usability catalogue test https://www.twitch.tv/

Layout problems

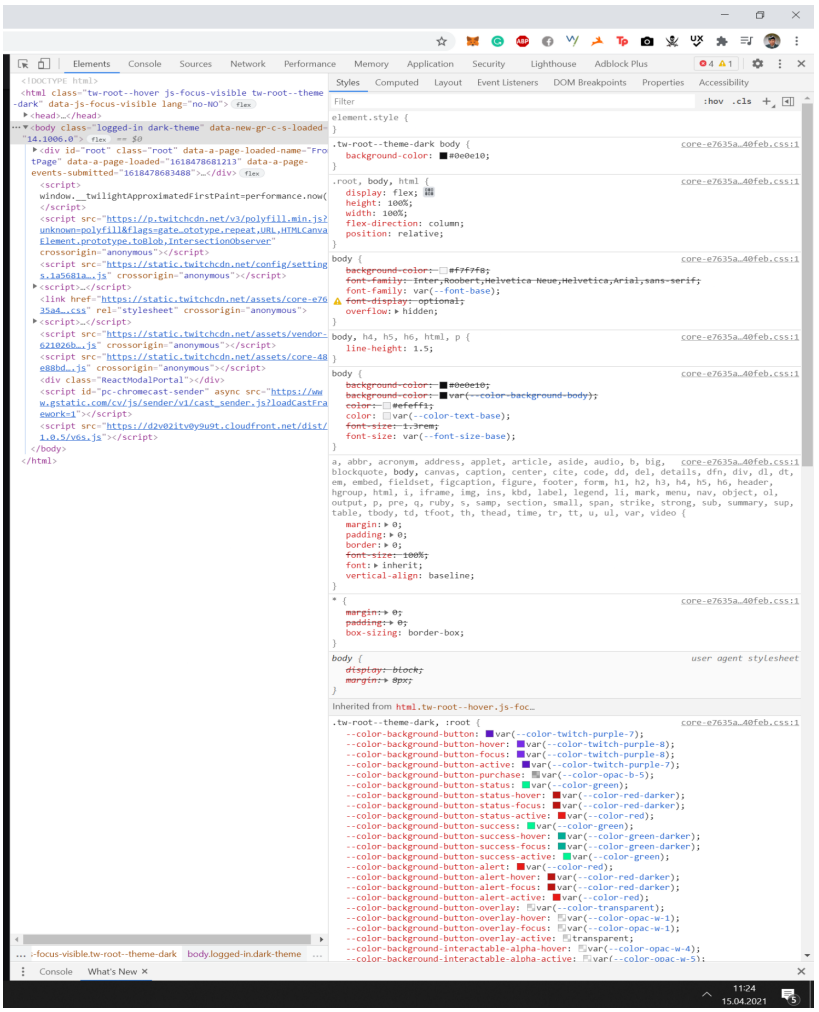
- Contrast issue 10/10
- There were no contrast issues in the website!

- Small font size 10/10
-

The si



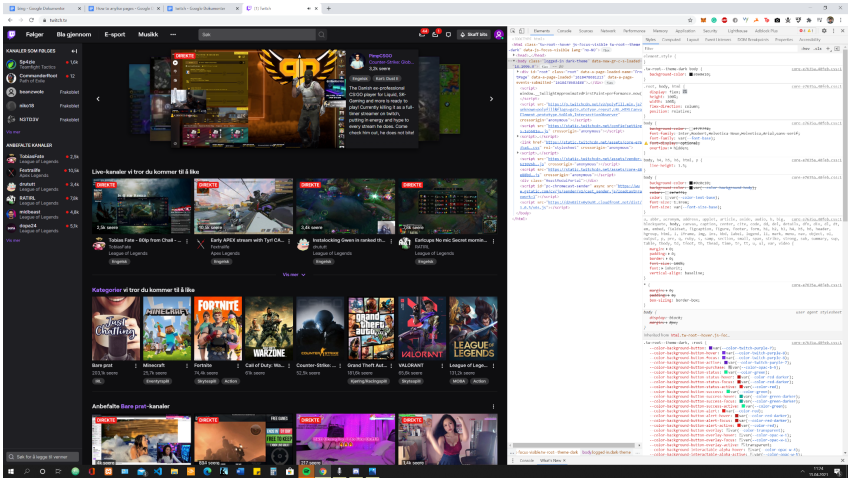
te has 13 px of font meaning the years following the standard, but even though it should have been much bigger.

- Poor kerning 10/10
- 
- The kering on the site was good and on 1.5 rem for the line heights. This good kerning makes it more clear to read and identify information on the webpage.

- Information density 7/10

Bachelor 2021 **Usability Catalogue**

Wisarut Mortensen, Andre Neubauer and Nico Neubauer

- 
- This website has a clear what kind of section is what.But the sections should have been more from each other since it makes it a little hard to to navigate.

Terminology problems

- Cultural problems 9/10
-
- I have found no issue for the cultural problem since the website has a english as the main language and many people do speak english, but I did not find any options where I can change to other languages. That is too sad because not everybody can understand english.

- Not changing the color on visited links 2/10
- The links of teh website do not change color when I have clicked on them. This is a problem because it can make people repeat to navigate through the same page without them even knowing it.

- Inconsistent communication 10/10
- There was none inconsistent communication on the page.

- Inconsistent design 10/10
- The website had very good design and was very user friendly.

Navigation problems

- Dead links 10/10
- I have found non dead links.

- Dropdown menu issues 10/10
- there was no issue to be taken on this website.

Feedback problems

- Long loading times 10/10
- The loading time was good.

- Misleading notifications 10/10
- there were no misleading notifications.

Technology problems

- To many scripts 10/10
- there were none issues with this.

- Improper use of html 10/10
- there were proper use of html

- Uncommon Screen Ratio/size 10/10
- The screen ratio size was okay overall.

- Browser compatibility problem 10/10
- There was none.

ebay usability catalog test https://www.ebay.com/

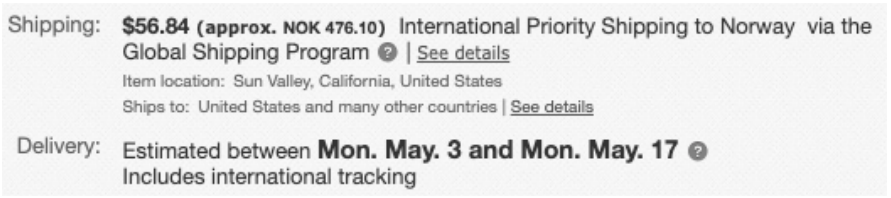
150/16 = 9,3

Grade A

Layout problems

- Contrast issue 10/10
  No problematic contrast errors are found. Some elements do not have the theoretical 3/1 contrast that is recommended for graphical elements but their big size makes this not a problem in terms of usability.

- Small font size 8/10



  On some of the product info the location and the deliver info is to small to read for some users and is far below the recommended 10px

- Typography problems 10/10
  No Typography problems identified

- Information density 9/10
  The information density is accessible but in some instances there is too much technical information on the screen at once.

Terminology problems

- Cultural problems 10/10
  No cultural problems found

- Not changing the color on visited links 8/10
  The links on this page no not change colour but there is a detailed history on recently visited items

- Inconsistent communication 10/10
  Communication is mostly consistent

- Inconsistent design 8/10
  The only instance where the design on this page is inconsistent is on hav product information is shown. The reason for this is that the vendors can insert graphics and

images onto their own product pages and user generated content has in many senses a type of randomness for the user experience.

Navigation problems

- Dead links 10/10
  No dead link found

- Dropdown menu issues 10/10
  Dropdown on this page worked as expected and no problems were identified.

Feedback problems

- Long loading times 10/10
  All loading times were acceptable

- Misleading notifications 10/10
  There were no misleading notification found

Teknologi problems

- Bad use of code 10/10
  No cose issues identified

- Uncommon Screen Ratio/size 7/10
  Most elements on this page are not dynamic in nature and the user experience deteriorates on screens with uncommun sizes.

- Browser compatibility problems 10/10
  No browser compatibility issues found

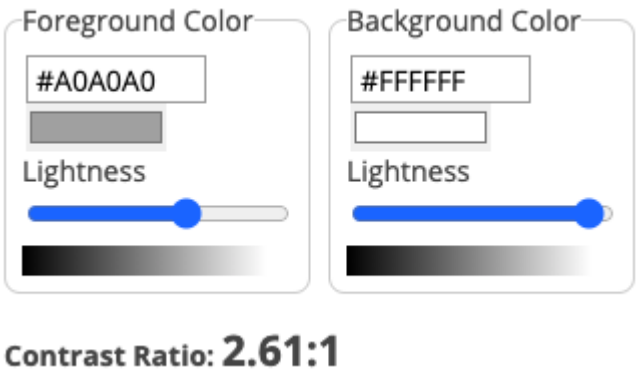
msn usability catalogue analysis https://www.msn.com/nb-no/

Microsoft news and start page

128/16 score 8 Grade B

Layout problems

- Contrast issue 7/10



  The text contrast on the sections and on some of the other elements is very poor and it's basically gray on gray or gray on white. In the given example the contrast ratio is 2.6/1 this is far from the given recommendation of 7/1 for text and 3/1 for bigger elements or graphical elements.

- Small font size 9/10
  The text sizes tend to be a little smaller than average allto they are acceptable in almost all cases the only place where the text is under the minimum of 10px is on the publisher of the presented news articles.

- Bad typography 10/10
  No major typography errors found

- Information density 10/10
  The information density on this page is fine.

Terminology problems

- Cultural problems 10/10
  No cultural problems found

- Not changing the color on visited links 6/10
  The links in articles are supposed to change color and sometimes they do but most often the colour of a visited link does not change colour

- Inconsistent communication 10/10
  The communication in consistent

- Inconsistent design 10/10
  The design is consistent

Navigation problems

- Dead links 10/10
  No dead or problematic links identefied

- Dropdown menu issues 0/10
  The dropdown menus on this page are empty.

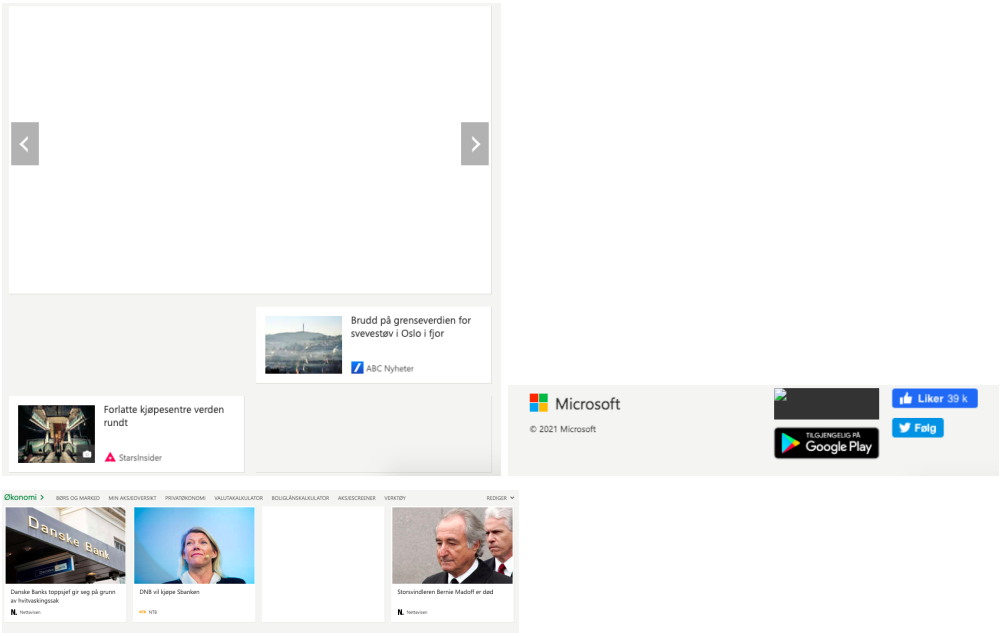
Feedback problems

- Long loading times 7/10
  The loading times on some of the paes are very slow like for instance on the weather page the loading times here sometimes exceed the maximum acceptable amount of 2 seconds

- Misleading notifications 10/10
  No misleading notifications found

Teknologi problems

- Code problems 3/10
  This page is very poor maintained and many content areas are just empty because of errors in the code. In addition do some of the images not work because of missing files



- Uncommon Screen Ratio/size 10/10
  The page works with many screen sizes.

- Browser compatibility problem 6/10
  Elements are sometimes not showing up like shown in the code problems section but this problem is exaggerated for safari users

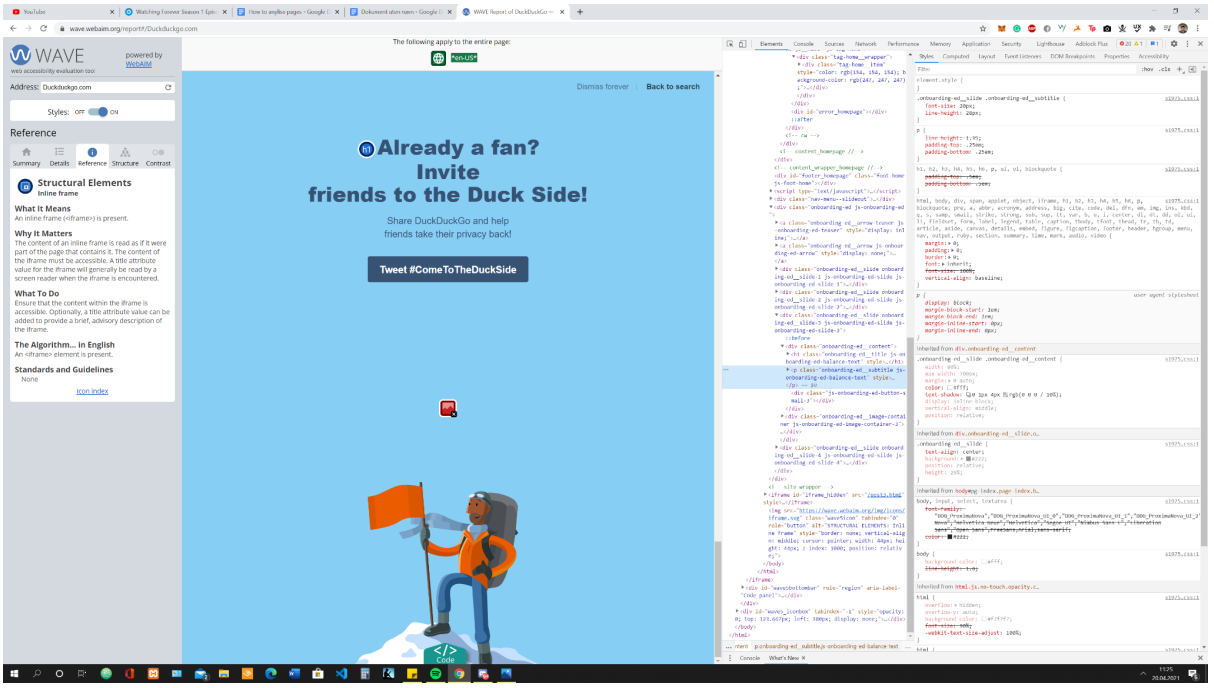
Duckduckgo usability catalog test
https://duckduckgo.com/?atb=v248-1&atb=v248-1

score: 8.75

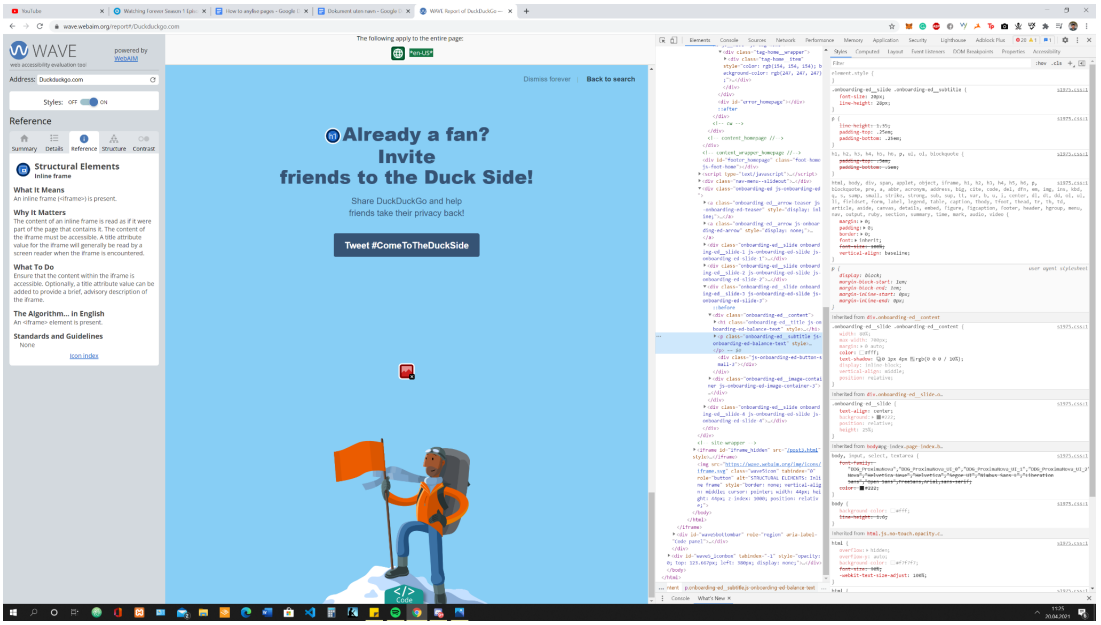
Layout problems

- Contrast issue 5/10

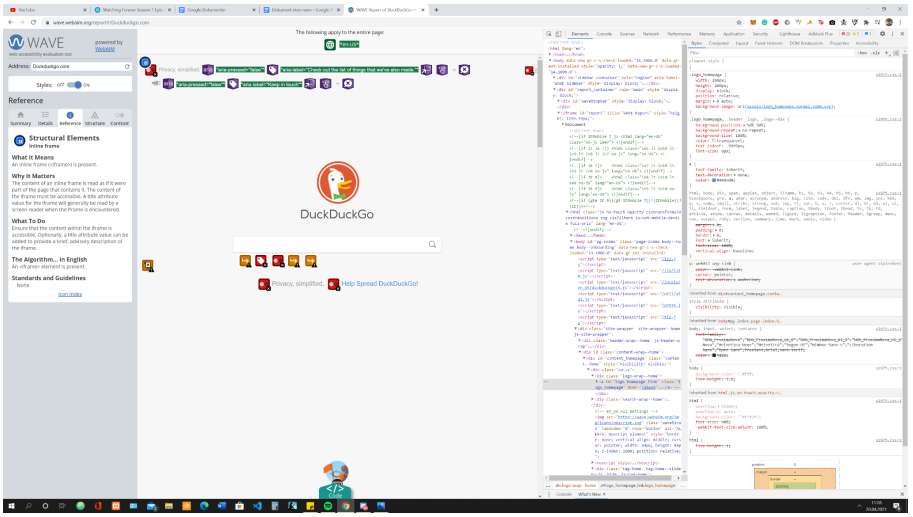
-
- Text that is present in a website has a contrast ratio less than 4.5:1, or large text (larger than 18 point or 14 point bold) has a contrast ratio less than 3:1. WCAG requires that page elements have both foreground AND background colors defined (or inherited) that provide sufficient contrast. When text is presented over a background image, the text must have a background color defined (typically in CSS) that provides adequate text contrast when the background image is disabled or unavailable. WAVE does not identify contrast issues in text with CSS transparency, gradients, or filters.
- Adequate contrast of text is necessary for all users, especially users with low vision.

- Small font size 10/10
- 

  The site has 20 px of font meaning the website is following the standard and the font size is very good. The reason it is good is because you can see what the message of this website will be about.

- Poor kerning 10/10
- 

- The kering on the site was good and on 1.35 rem for the line heights. This good kerning makes it more clear to read and identify information on the webpage.

- Information density 9/10
- 

- This website has a clear what kind of section is what. the space between them is very good. It will make it a lot easier to navigate and see what the website is trying to say.

Terminology problems

- Cultural problems 9/10
-
- I have found no issue for the cultural problem since the website has a english as the main language and many people do speak english, but I did not find any options where I can change to other languages. That is too sad because not everybody can understand english.

- Not changing the color on visited links 2/10
- The links of teh website do not change color when I have clicked on them. This is a problem because it can make people repeat to navigate through the same page without them even knowing it.

- Inconsistent communication 10/10
- There was none inconsistent communication on the page.

- Inconsistent design 10/10
- The website had very good design and was very user friendly.

Navigation problems

- Dead links 10/10
- I have found non dead links.

- Dropdown menu issues 10/10
- there was no issue to be taken on this website.

Feedback problems

- Long loading times 10/10
- The loading time was good.

- Misleading notifications 10/10
- there were no misleading notifications.

Technology problems

- To many scripts 10/10
- there were none issues with this.

- Improper use of html 10/10
- there were proper use of html

- Uncommon Screen Ratio/size 10/10
- The screen ratio size was okay overall.

- Browser compatibility problem 10/10
- There was none.

Bachelor 2021 **Usability Catalogue**
Wisarut Mortensen, Andre Neubauer and Nico Neubauer

Walmart usability catalogue test https://www.walmart.com/

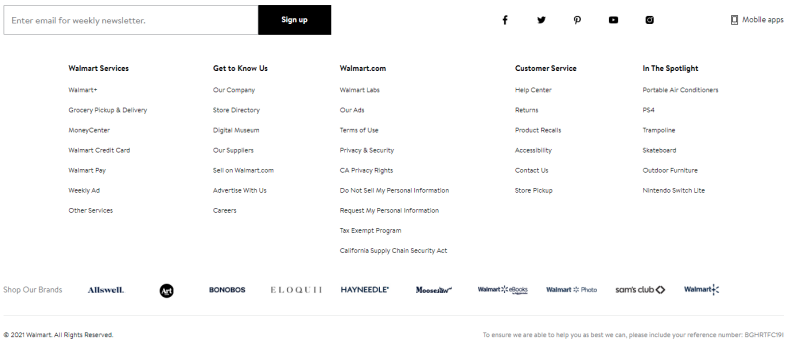
US retail store.

145/16=9.06
Grade A

Layout problems

- Contrast issue
  No contrast issues found 10/10

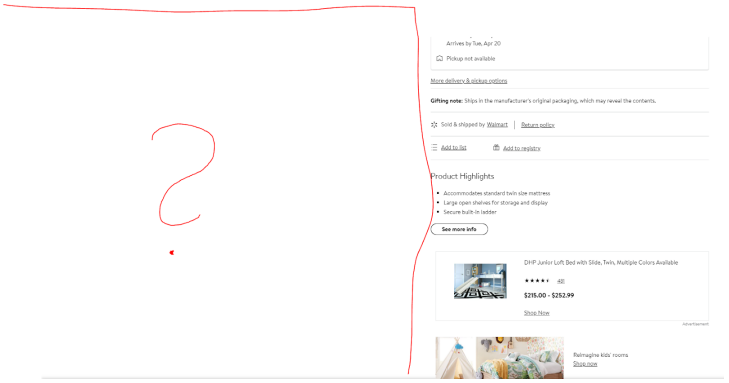
- Small font size 8/10



  The smallest font used is in the footer. Some of this text is smaller than the recommended 9px but this is not a problem in text that is not important to most users.

- Poor kerning 10/10
  No kerning issues found

- Information density 8/10



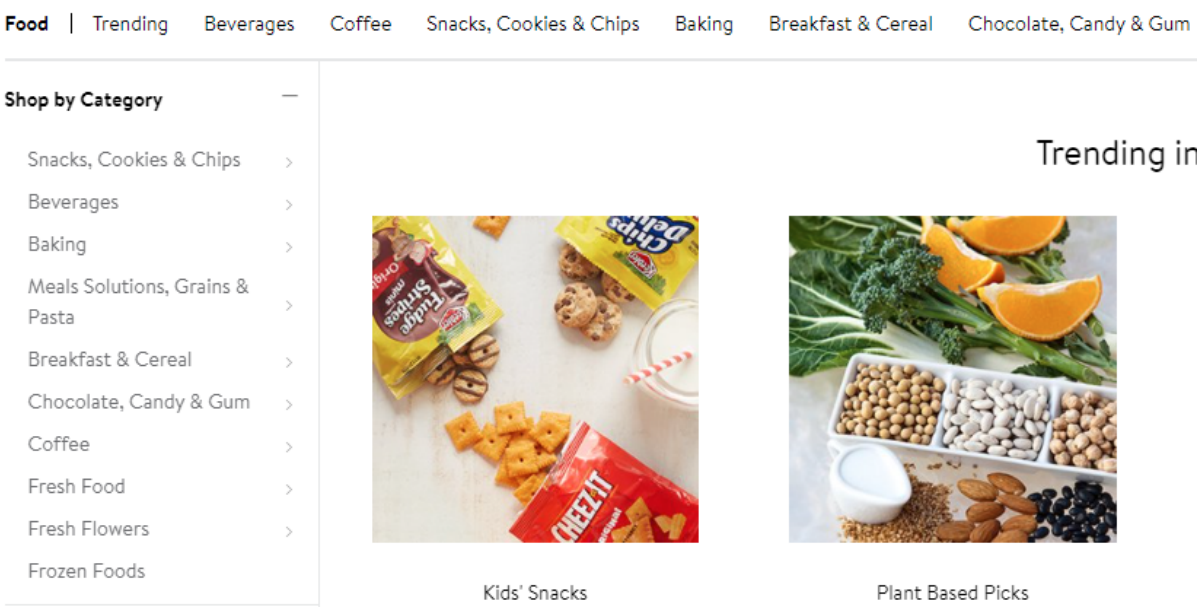
  Below listings of items there is a section where all information is on the right part of the side. How much tends to depend on some factors but sometimes it gets out of hand and a lot of a page is just empty.

Terminology problems

- Cultural problems 10/10
  No cultural problems found

- Not changing the color on visited links 7/10
  Links on this page are not often used in text and therefore it's not that important to change the colour on them. But no link on this page changes colour if visited.

- Inconsistent communication 9/10



  On the homepage there is only a search bar and the sections dropdowns and the advanced filter is not available like on other pages. This sometimes makes it hard to use because advanced search is a helpful tool.

- Inconsistent design 10/10
  The design massage is consistent.

Navigation problems

- Dead links 10/10
  No dead links found

- Dropdown menu issues 9/10
  Dropdowns work like they are supposed to allto some pages that need dropdowns not to have them.

Feedback problems

- Long loading times 9/10
  Loading times are reasonable

- Misleading notifications 10/10
  No misleading notification found

Teknologi problems

- To many scripts 10/10
  No script issues found.

- Improper use of html 5/10

  There are several intenses where they just forgot some html tag like in this example a list is needed but the text is in a div.

- Uncommon Screen Ratio/size 10/10
  No Screen ratio problems found.

- Browser compatibility problem 10/10
  No browser compatibility problems found.

Paypal usability catalogue test
https://www.paypal.com/no/home

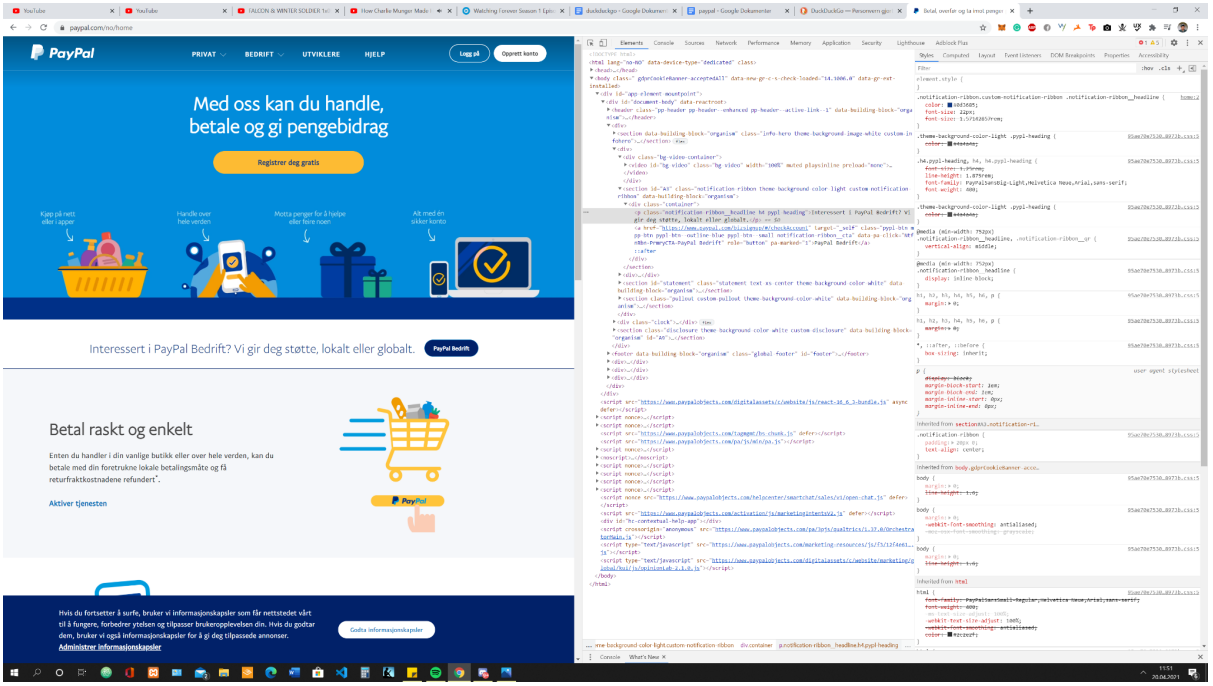
score: 9.4

Layout problems

- Contrast issue 10/10
- There was no contrast issue on this website!

Bachelor 2021 **Usability Catalogue**

Wisarut Mortensen, Andre Neubauer and Nico Neubauer

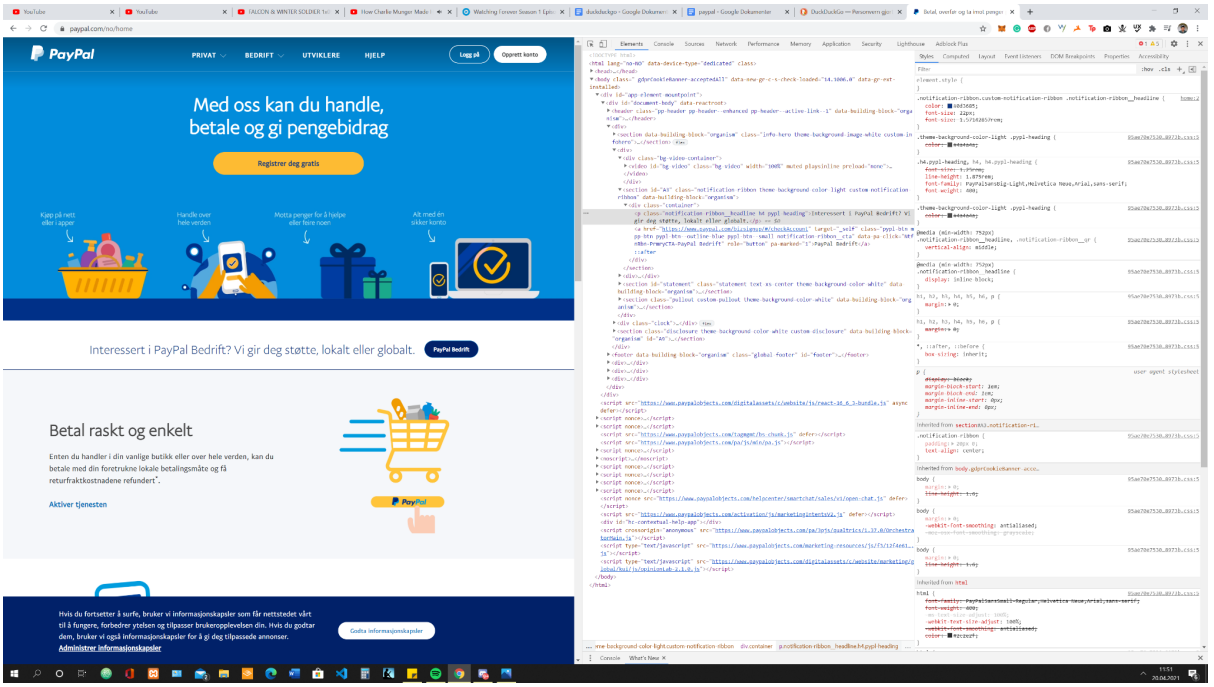


- Adequate contrast of text is necessary for all users, especially users with low vision.

- Small font size 10/10
-

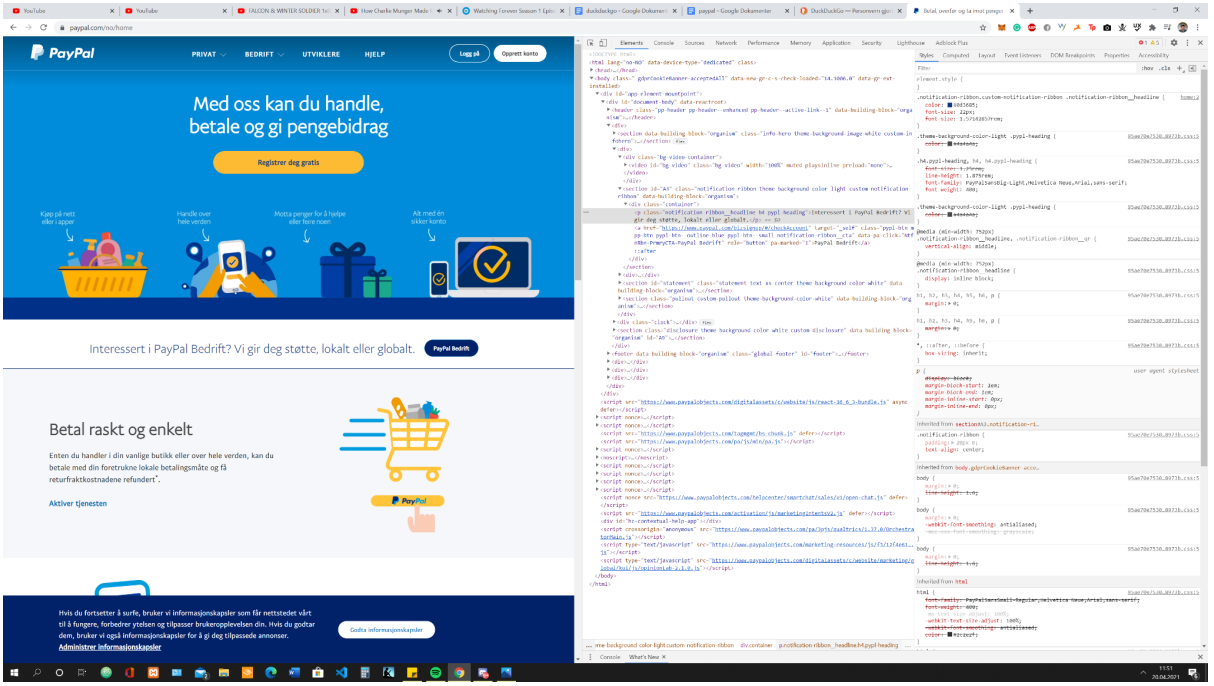
The site has 20 px of font meaning the website is following the standard and the font size is very good. The reason it is good is because you can see what the message of this website will be about.

- Poor kerning 10/10
-



- The kering on the site was good and on 1.875 rem for the line heights. This good kerning makes it more clear to read and identify information on the webpage.

- Information density 10/10



- This website has a clear what kind of section is what. the space between them is very good. It will make it a lot easier to navigate and see what the website is trying to say.

Terminology problems

- Cultural problems 9/10
-
- I have found no issue for the cultural problem since the website has a english as the main language and many people do speak english, but I did not find any options where I can change to other languages. That is too sad because not everybody can understand english.

- Not changing the color on visited links 2/10
- The links of teh website do not change color when I have clicked on them. This is a problem because it can make people repeat to navigate through the same page without them even knowing it.

- Inconsistent communication 10/10
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- Inconsistent design 10/10
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Navigation problems

- Dead links 10/10
- I have found non dead links.

- Dropdown menu issues 10/10
- there was no issue to be taken on this website.

Feedback problems

- Long loading times 10/10
- The loading time was good.

- Misleading notifications 10/10
- there were no misleading notifications.

Technology problems

- To many scripts 10/10
- there were none issues with this.

- Improper use of html 10/10
- there were proper use of html

- Uncommon Screen Ratio/size 10/10
- The screen ratio size was okay overall.

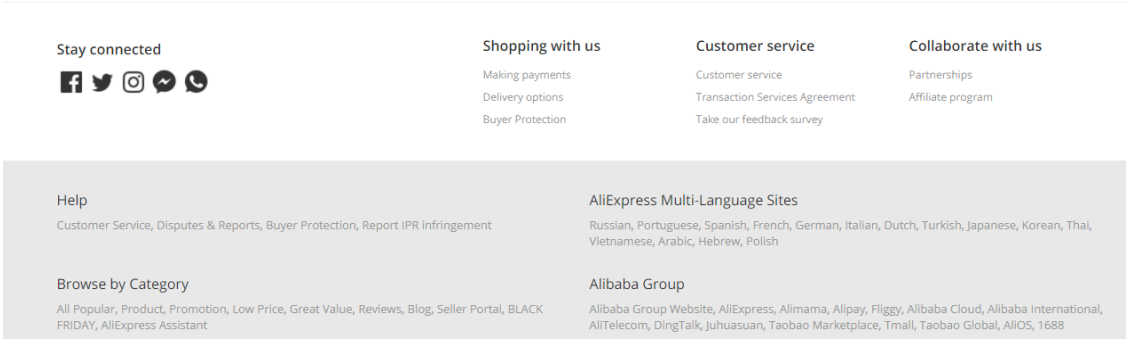
- Browser compatibility problem 10/10
- There was none.

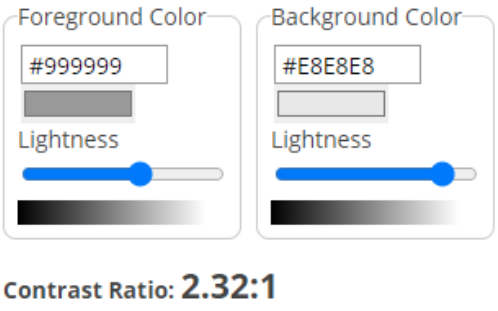
Aliexpress Usability catalogue test https://www.aliexpress.com/

147/16
9.1 avg
Grade A

Layout problems

- Contrast issue 5/10





On the frontpage alone there are more than 100 contrast errors. The reason for this is that gray text on almost white background is used all over the page. The contrast between light gray and white is just not strong enough to be readable in many situations

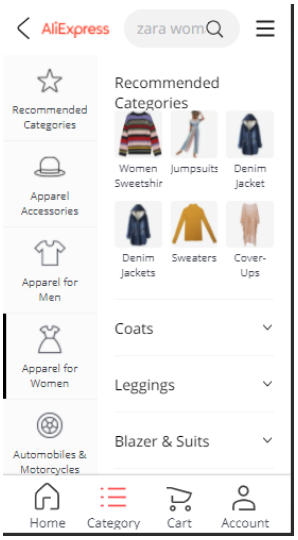
- Small font size 10/10

The font size on this page is consistently above 10px and therefore not a problem

- Poor kerning 10/10

No kerning issues found

- Information density 9/10



The information density on the desktop version of this page is mostly good but the information density on the mobile version sometimes can get a little much.

Terminology problems

- Cultural problems 10/10

No cultural problems found.

- Not changing the color on visited links 10/10

Links on this page are not changing colour on visited and there is on way to see what items were looked at without loginginn or checking the browser history

- Inconsistent communication 10/10

the communication of this page is consistent

- Inconsistent design 10/10

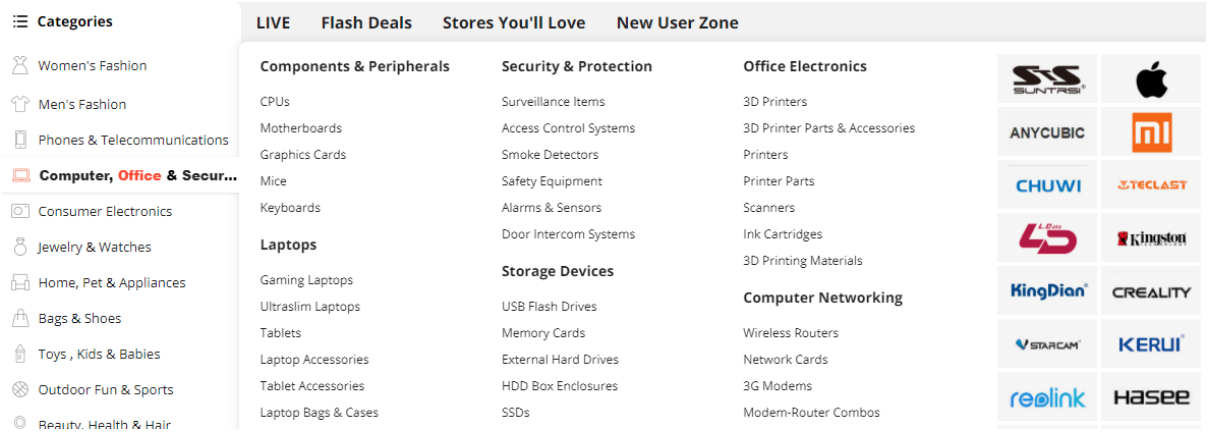
The design message of this page is consistent.

Navigation problems

- Dead links 10/10

Allto there are some dead links on the page they are hidden from the user so there are no usability problem with dead links

- Dropdown menu issues 9/10



Dropdowns mostly work like they need and like they are expected to on this page. One potential problem can be that the categories dropdown do not have an indicator that they are dropdowns

Feedback problems

- Long loading times 10/10

No loading time issues on this page.

- Misleading notifications 8/10

When first opening the page a user is faced with a lot of popups and other screen clutter allto they are not misleading they are also is the way of a flawless user experience.

Teknologi problems

- To many scripts 10/10

No script problem identified

- Improper use of html 7/10

```
<li class="sup-brand-item">
  <a href="//www.aliexpress.com/store/4925112">
    <img data-src="//ae01.alicdn.com/kf/H21d12965bf4940bea5089ab628a0ac29H.png" src="//ae01.alicdn.com/kf/H21d12965bf4940bea5089ab628a0ac29H.png"
  </a>
</li>
```

Many img on this page do not use an alt text that is bad for screen readers that help some users.
In addition there is no separation of file types. There are long scripts and css parts in the main html.

- Uncommon Screen Ratio/size 10/10

The page work on many screen sizes

- Browser compatibility problem 10/10

No browser compatibility problems found

The process report

Andre N. Nico N. and Wisarut M. Usability catalouge Bachelor 2021

Intro

The group was chosen by picking all the students who wanted to do similar or the same projects and had the same goals and ambitions in mind. After the first meetings in the fall, we chose the project we wanted to work with as our bachelor back on decisions and a voting process. After that, we crafted a group agreement that specifies our roles in the group, rules, and expectations. In this group agreement, our roles are specified as Andre: Designer, Researcher Wisarut: Web designer, Researcher Nico: Communication, Researcher, Group leader. In this group agreement, there is also a list of rules the members agreed to follow.

Disclaimer about Corona

One of the special challenges this and last year was the current pandemic. Because of this, there were no physical meetings this year. Online meetings with the group and product owner were just the more logical and safer option. Some of the work was also affected by this like when it comes to the target group and user research. Here the experiences gathered from the last year of the pandemic helped us greatly. These problems were expected from the start because of earlier made predictions and we did not get caught off guard.

Structure and Tools

- Communication with groups
  Most of the time communicated through discord. Unfortunately, we could not meet up because of the risk of covid-19.

- communication with the product owner
  Most of the time we talked with Gioele through teams and email. If there were something we wanted to ask we did most of the time when there was a meeting. The group also sends the half-finished product to get feedback from the product owner on what can be improved.

- Tools for writing collaboration
  The project was written in docs for most of the time, but tools like excel and docs also contributed a little bit. Later we used Indesign to make the finished bachelor thesis.

The contributions of the members

- Nico: analyzing web pages, state of the art review, writing: process report, bachelor thesis, The website backend, and HTML

- Andre: analyzing web pages, state of the art review, writing: process report, bachelor thesis, user surveys

- Wisarut: analyzing web pages, state of the art review, writing: process report, bachelor thesis, The website CSS

Retrospective thoughts

Almost everything did go as planned till we got to the end part where more things had to be added to the outline. Another unexpected thing came when it turned out the usability problems on the project were not even close to the problem that was supposed to be there. That made us redefine what usability problems are and write them down.

Many things in this project could be better, one thing, in particular, would be to add more problems into the catalog. There are some problems that are very common like contract issues and some that are not so common like typography problems. Finding better balances and more problems would improve the catalog as a whole.

One of the things we learned is how great planning is the precursor to a great project. In hindsight, we can see the many of the problems we faced would have shown themself earlier if the group had a more thought true plan from the beginning.

Project description

Andre Neubauer, Nico Neubauer and Wisarut Mortensen

Bachelor 2021

Background

As today's society there millions of websites out on the internet that either have more or less usability problems. And as there are many solutions to these problems out on the internet most of them are either linked to other websites or sources. This means that some of the sources are not well scientific.

Problem description

Usability problems of Web pages and Web applications are not as well studied as physical objects and one missing component is a catalogue that names and enumerates the common problems and their solutions, with examples and links to scientific literature. There are many sources out there on the internet when people usually encounter or see problems in the usability of web pages. Most of them have either been proven to be a good source of solutions or either has been proven to be good to use, that itself can result in more bad usability and misinformation. So to solve this, what about a place with a good and sources that has been proven to be good to use. But then again what is a good usability? Just because many people are satisfied with the solution of web usability does not it mean some are dissatisfied with it.

Goals

The goal of the project is to document and compare the problems about the usability problems and make a cataloage for it. The cataloage will contain links of solutions from multiple sources to the specific problems and the links are also from existing scientific research. This catalogue will be a website with a list of usability problems and all of them are documented. The catalogue might be useful for other web designers and other people that are generally interested in design.

Research question:

Can you make a cataloage of usability problems of the web?

Can the archive be a good source of documented usability problems of webpages and if so how?

Methods

To gather some information the google questionnaire will be sent to people about usability problems they might have encountered for the catalogue. There will be user testing to try out our catalogue since it might be something to improve. The links of scientific sources in the website will come from google scholar and NTNU Oria where the studies about web usability has already either been tested or documented to work. The group will use discord for communications and google sheets for time management. The project thesis itself will be written in overleaf.

Usability Catalogue Bachelor Log

Week 1
This was the start of the project and we had two meetings that week. In the first meeting, we talked about how we write the Project plan and Project description. The second meeting was spent on writing on those documents. One of the other things we were working on this week was the group agreement for this project.

Week 2
We had two meetings with Gioele. The first meeting was about how we could write a good report and set a good structure. After a while when the report was about to be finished the group gave good feedback on what needed to be changed before delivering it. There were two reports we had to deliver were the project plan and project description.
On Friday we delivered the project plan and the project description for the project.

Week 3
Meeting on Monday for how to start the project.
After the meeting, we discussed when the next meeting was and what to do before that. The group decided to write and do some research about the usability problems and wrote it all down in a document before the next meeting. When the group meeting was on Sunday we presented what each of the members has found and written everything in one google docs document. After a while, we wrote questions to ask Gioele before the meeting with him.

Week 4
This week we had a meeting with Gioele and talked about how to structure our bachelor thesis. After the meeting, the group structured the bachelor thesis together and gave each of one assignment before our next meeting with each other.

Week 5
When we met Gioele and showed us our bachelor outline and there was a lot to change but there was not much to expect since this is our first time. He mentioned that we have to be more specific about the outline structure since other people are going to read the outline.
On Friday we had a meeting with all group members where we worked on the second version of the project outline and did some more research.
Sunday we had our usual end-of-week meeting where we talked about what we did and some minor strategy things.

Week 6
On Tuesday we had a short meeting with Gioele that lasted 10 minutes. We talked shortly about what we had done and sent him the outline. We had a meeting in the group where we distributed some homework.
We sent the outline to Gioele and he wrote some comments on how we could make it better and what needs to be added.

Week 7
The meeting was scheduled for Tuesday where we talked about the structure of the report and discussed what we have been doing lately. He told us that we should structure what we have already done and present it to him so he can evaluate it and add to something.

week 8
We made future plans on what to do and where the project. We made a list of websites to analyze and get usability problems from. We grouped usability problems into the first draft of the catalogue.

Week 9
This week our meeting with Gioele was about which website we were going to analyze and what questions we were going to set in our google survey.

Week 10
This week we had 3 meetings and one of them was with Gioele. We talked to him about how to analyze a web page and write more reasonable arguments about why the webpage lacks good usability. We also talked about the survey that we have sent out.

Week 11
This week was spent analyzing pages from the 50 most visited pages list.
Each member analyzed 10-12 pages each. We had a meeting with Gioele where we talked about how to write the final thesis and that we need to get more done each week.

Week 12
In our meetings, we talked about being more specific about when we analyze websites for usability problems. Gioele told us that we need to have more proof and the reason why some usability problems are a problem at all and not only write some random text.

Week 13
The meeting was about our usability catalogue for our webpage. We adjusted the sections in the catalogue and made it better and more clear about what usability problems are. We also made our webpage from scratch with CSS and HTML. We planned for another card doing for next week.

Week 14
This week was all about the analysis of the different wd pages in the top 50 list. We also worked on the backend of the web page. We showed the page to Gioele and he said it was more important that we focused our work on the analysis of the top 50 pages. We promised him to analyze at least 21 of the 50 top pages till next week's meeting.

Week 15
This week we talked with Gioele about how, to begin with, the bachelor thesis and what to write in it. We also showed him analysis about websites we did analyze with help of our own usability catalog. Also, we talked a little bit about the website, how to structure it and what to do after we finished our catalog and website analysis.

Week 16
This week we worked on the web page and on getting some kind of report out the door. We are still writing in google docs which scare us just a little bit. We had our meeting one with Gioele and three with the rest of the group.

Week 17
We had three meetings this week, one with Gioele and two with the rest of the group where we were focused on writing.

Week 18
We had a meeting at the start of the week about how we need to write more and what we did.

Week 19
This week we delivered the project. We worked on some final touches and had a meeting with the product owner about if this is what was expected of us in this project. This will be the last entry into the log.

NTNU

Norges teknisk-naturvitenskapelige universitet

mellom NTNU Institutt for design (ID)
(utdanningsinstitusjon), og

Vår dato Vår referanse

Prosjektavtale

Gioele Baraibucci (oppdragsgiver), og

Andre Neubauer, Nico Neubauer

Wisarut Mortensen

(student(er))

Avtalen angir avtalepartenes plikter vedrørende gjennomføring av prosjektet og rettigheter til anvendelse av de resultater som prosjektet frembringer:

1. Studenten(e) skal gjennomføre prosjektet i perioden fra 10.01.21 til 14.05.21.

Studentene skal i denne perioden følge en oppsatt fremdriftsplan der NTNU ID yter veiledning. Oppdragsgiver yter avtalt prosjektbistand til fastsatte tider. Oppdragsgiver stiller til rådighet kunnskap og materiale som er nødvendig for å få gjennomført prosjektet. Det forutsettes at de gitte problemstillinger det arbeides med er aktuelle og på et nivå tilpasset studentenes faglige kunnskaper. Oppdragsgiver plikter på forespørsel fra NTNU å gi en vurdering av prosjektet vederlagsfritt.

2. Kostnadene ved gjennomføringen av prosjektet dekkes på følgende måte:
   - Oppdragsgiver dekker selv gjennomføring av prosjektet når det gjelder f.eks. materiell, telefon/fax, reiser og nødvendig overnatting på steder langt fra NTNU på Gjøvik. Studentene dekker utgifter for ferdigstillelse av prosjektmateriell.
   - Eiendomsretten til eventuell prototyp tilfaller den som har betalt komponenter og materiell mv. som er brukt til prototypen. Dersom det er nødvendig med større og/eller spesielle investeringer for å få gjennomført prosjektet, må det gjøres en egen avtale mellom partene om eventuell kostnadsfordeling og eiendomsrett.

3. NTNU ID står ikke som garantist for at det oppdragsgiver har bestilt fungerer etter hensikten, ei heller at prosjektet blir fullført. Prosjektet må anses som en eksamensrelatert oppgave som blir bedømt av intern og ekstern sensor. Likevel er det en forpliktelse for utøverne av prosjektet å fullføre dette til avtalte spesifikasjoner, funksjonsnivå og tider.

4. Alle bacheloroppgaver som ikke er klausulert og hvor forfatteren(e) har gitt sitt samtykke til publisering, kan gjøres tilgjengelig via NTNUs institusjonelle arkiv hvis de har skriftlig karakter A, B eller C.

Tilgjengeliggjøring i det åpne arkivet forutsetter avtale om delvis overdragelse av opphavsrett, se «avtale om publisering» (jfr Lov om opphavsrett). Oppdragsgiver og veileder godtar slik offentliggjøring når de signerer denne prosjektavtalen, og må evt. gi skriftlig melding til studenter og instituttleder/fagenhetsleder om de i løpet av prosjektet endrer syn på slik offentliggjøring.

Den totale besvarelsen med tegninger, modeller og apparatur så vel som programlisting, kildekode mv. som inngår som del av eller vedlegg til besvarelsen, kan vederlagsfritt benyttes til undervisnings- og forskningsformål. Besvarelsen, eller vedlegg til den, må ikke nyttes av NTNU til andre formål, og ikke overlates til utenforstående uten etter avtale med de øvrige parter i denne avtalen. Dette gjelder også firmaer hvor ansatte ved NTNU og/eller studenter har interesser.

5. Besvarelsens spesifikasjoner og resultat kan anvendes i oppdragsgivers egen virksomhet. Gjør studenten(e) i sin besvarelse, eller under arbeidet med den, en patentbar oppfinnelse, gjelder i forholdet mellom oppdragsgiver og student(er) bestemmelsene i Lov om retten til oppfinnelser av 17. april 1970, §§ 4-10.

6. Ut over den offentliggjøring som er nevnt i punkt 4 har studenten(e) ikke rett til å publisere sin besvarelse, det være seg helt eller delvis eller som del i annet arbeide, uten samtykke fra oppdragsgiver. Tilsvarende samtykke må foreligge i forholdet mellom student(er) og faglærer/veileder for det materialet som faglærer/veileder stiller til disposisjon.

7. Studenten(e) leverer oppgavebesvarelsen med vedlegg (pdf) i NTNUs elektroniske eksamenssystem. I tillegg leveres ett eksemplar til oppdragsgiver.

8. Denne avtalen utferdiges med ett eksemplar til hver av partene. På vegne av NTNU, ID er det instituttleder/faggruppeleder som godkjenner avtalen.

9. I det enkelte tilfelle kan det inngås egen avtale mellom oppdragsgiver, student(er) og NTNU som regulerer nærmere forhold vedrørende bl.a. eiendomsrett, videre bruk, konfidensialitet, kostnadsdekning og økonomisk utnyttelse av resultatene. Dersom oppdragsgiver og student(er) ønsker en videre eller ny avtale med oppdragsgiver, skjer dette uten NTNU som partner.

10. Når NTNU også opptrer som oppdragsgiver, trer NTNU inn i kontrakten både som utdanningsinstitusjon og som oppdragsgiver.

11. Eventuell uenighet vedrørende forståelse av denne avtale løses ved forhandlinger avtalepartene imellom. Dersom det ikke oppnås enighet, er partene enige om at tvisten løses av voldgift, etter bestemmelsene i tvistemålsloven av 13.8.1915 nr. 6, kapittel 32.

Norges teknisk-naturvitenskapelige universitet
Institutt for design

12. Deltakende personer ved prosjektgjennomføringen:

NTNUs veileder (navn): Gioele Baraboschi

Oppdragsgivers kontaktperson (navn): Gioele Baraboschi

Student(er) (signatur):

Wigand Mathisen
10/12/20

_____ dato _____

_____ dato 11.12.20

_____ dato 11.12.20

_____ dato _____

Oppdragsgiver (signatur): _____ dato 14.12.2020

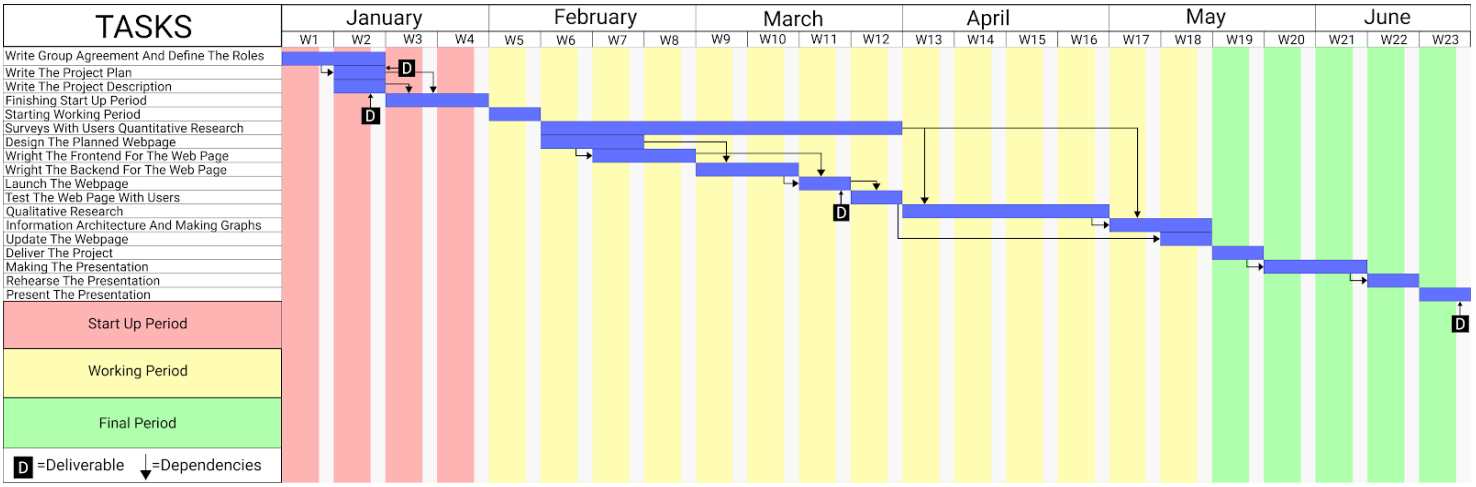
Signert avtale leveres digitalt i Blackboard, rom for bacheloroppgaven.
Godkjennes digitalt av instituttleder/faggruppeleder.

Om papirversjon med signatur er ønskelig, må papirversjon leveres til instituttet i tillegg.
Plass for evt sign:

Instituttleder/faggruppeleder (signatur): _____ dato _____

Project plan

Andre Neubauer, Nico Neubauer and Wisarut



Start up period

This is the planning period where the group is making long term goals and plans for the project. The group agreement will make sure some rules to be followed and what kind of responsibility each off group has. So to make sure the project will be done properly there must be a project plan and project description. The project plan describes what to expect from the project while the description will be used to tell how and why the group will be doing this project.

Working period

The working period is where all the information gathering and design process are beginning. Design process will help to come up with ideas for the project, while the prototyping is making sure to implement those ideas into the website. Before the process of making the website there will be qualitative research and quantitative research. The survey will be used for quantitative research where observation, interview and usertesting will be used for qualitative research. After that is done, the information from the design process will be a stepping stone for making a website full of lists with usability problems. There has to be some time to make a website since the frontend and backend must work properly together. When the website has been launched the website will be tested by random users. After some user testing the group will be organizing the list so the list will be more like architecture structure. As time goes there will always be updating the webpage.

Final period

The final period is when the project has been done the thesis has been written and delivered. After we have delivered the group will be making a presentation and rehearsing it so it looks good. After when the group is done making the presentation it will be presented.

How do we document the project progression?

At the end of every week we will have a short group meeting that we use to discuss what happened that week. Here we will write a log to document how far we are at this point and what we have done.

How do you solve disagreements in the group?

If there are disagreements in the group we will look to the previously agreed on group contract. Which states that All decisions will be voted by all the members, if split results occur then the leader of the group will make the last call.
If a disagreement cant be resolved in this way we will as a group talk with the advisor to and together try to find a compromise that will allow us to finnish the project.

Meetings

The group will have two meetings every week one towards the start of the week where we talk about what has to be done this week and to talk about any other things we will have to do this week. The second meeting will be towards the end of the meeting where we write a log and reflect how far we are and what we have done this week.
Other meetings will be scheduled throughout the process and will be used to work on the project. The frequency of those meetings will depend on the given workload and stages of the project.

Risk Assessment

Risk 1
A corona lockdown that lasts for 2 month or longer.
Probability: High
Impact: Low
Preventive actions: Use online tools that allow collaboration for all or almost all parts of the workflow.
Corrective actions: Replace the planned physical meetings with digitale meetings.
Outcome: Very little to no change.

Risk 2
A group member getting corona or going in quarantine.
Probability: Medium
Impact: Medium-Low
Preventive actions: follow give safety regulation of the local government
Corrective actions: Replace the planned physical meetings with digitale meetings, if needed give sick people less work.
Outcome: One group member may work less during the sick periode.

Risk 3
One of our tools stops working
Probability: Medium
Impact: Low
Preventive actions: Use popular and stable tools from big low risk companies.
Corrective actions: Find a replacement tool that has the same function, learning the new tool
Outcome: loss of time finding and learning a new tool

Risk 4
We do not do expected work in time
Probability: Medium
Impact: Medium
Preventive actions: Giving the group members a realistic amount of work within the given time frame.
Corrective actions: reevaluate the given work.
Outcome: the other group members need to do some of the work so that one of them can catch up, loss of time .

Risk 5
Major disagreements in the group.
Probability: medium
Impact: may vary
Preventive actions: Wright a groupe agreement where we state clear rules and what to do if groupe members do not agree on some issues.
Corrective actions: Talk about it as a group and with the advisor.
Outcome: Better work environment and possible rule changes.

Risk 6
Too many web pages that need to be looked through.
Probability: low
Impact: medium
Preventive actions: Before starting to analyse webpages make a plan about how many and what pages we need to look at.
Corrective actions: Lower the amount of pages we look at or sorten time spent on an individual page.
Outcome: We analysed less webpages that expected or we have less data to show per webpage.

Risk 7
Too few web pages to look at.
Probability: low
Impact: medium
Preventive actions: Before starting to analyse webpages make a plan about how many and what pages we need to look at.
Corrective actions: Increase the number of looked thru pages or the quality of the analyses.
Outcome: We analyse the once we have chosen more thurley and/or choose more pages to look at.

Risk 8
No physical user testing because of corona.
Probability: high
Impact: low
Preventive actions: Develop a framework for how to do user testing online. With online screen recording and screen sharing tools.
Corrective actions: Swap from physical to online usertesting.
Outcome: We won't be able to read the body language of the tested users therefore some clues users give when they struggle with the tested page might be missed.

Tools

For coding: Visual studio code.
For Data storage and backend: Google firebase.
For writing: Google docs, overleaf.
For Communication and task distributions: Discord,mail and teams
For time management: Google sheets.

Group agreement

Bachelor 2021

Members:
Nico Neubauer
Andre Neubauer
Wisarut Mortensen

Roles:
Andre is the designer, he sets the style and direction for the project and ensures that we have a consistent design throughout the process.

Wisarut is the head web developer this means he will be coding most of the website that is aligned with the groups design vision and making sure everything works smooth.

Nico has the role of upholding communication with the product owner and the advisor and he is the leader of the group.

All group members have responsibility for researching and document the usability problems.Also everyone must contribute to the bachelor thesis.

Rules:

- All members have to meet at least once a week.
- All members have to say whenever they can attend the meeting at least 24 hour before the meeting.
- If a member is too late for 3 meetings in a row the other group members will decide about their future in the group.
- If members need some help please ask.
- All decisions will be voted by all the members, if split results occur then the leader of the group will make the last call
- All rules can be edited/modified in case of need. This decision has to be voted by the majority of the group.