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Design system as a tool for digital brand design

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<p>The aim of this thesis is to study how a company's brand identity can be extended comprehensively to a digital platform and how a design system method and Atomic Design principles can support the process.</p> <p>The thesis is produced as a functional thesis that consists of a theoretical and a production parts. The chapters two and three introduce the methods and tools utilized in the theoretical framework of this thesis. In the fourth chapter the theory is applied to practice in a form of project case where a website is designed for an architecture company based in Helsinki. The chapter five summaries the design process and how the methods and tools corresponded with the goals of the project.</p> <p>The thesis contemplates recent topics related to the challenges that the fast-paced development of technological industry will bring to the field of digital product design. The thesis introduces how to develop company's brand identity using these modern tools and how to adapt effectively to the requirements of today's digital product development.</p>	
Keywords	Digital branding, brand design, brand management, design system, Atomic Design, web design, user interface design

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<p>Tämän opinnäytetyön tavoitteena on tutkia, kuinka yrityksen brändi-identiteetin voi laajentaa kattavasti digitaaliselle alustalle ja kuinka design system -metodi ja Atomic Design -periaatteet voivat tukea tätä suunnitteluprosessia.</p> <p>Opinnäytetyö on luonteeltaan toiminnallinen, ja se koostuu teoreettisesta sekä tuotannollisesta osuudesta. Luvut kaksi ja kolme esittelevät menetelmiä ja työkaluja, joita hyödynnetään opinnäytetyön teoreettisessa viitekehyksessä. Neljännessä luvussa teoriaa sovelletaan käytäntöön asiakasprojektin muodossa, jona toteutetaan verkkosivusto helsinkiläiselle arkkitehtitoimistolle. Viides luku on yhteenveto design-projektin kulusta ja siinä peilataan, kuinka teoriaosuuden menetelmät ja työkalut todellisuudessa vastasivat projektille asetettuja tavoitteita.</p> <p>Opinnäytetyö pohtii ajankohtaisia aiheita nopean teknologiakehityksen tuomiin haasteisiin digitaalisten tuotteiden suunnittelussa. Opinnäytetyössä esitetään, kuinka yrityksen brändi-identiteettiä voidaan kehittää hyödyntämällä moderneja suunnittelumenetelmiä ja -työkaluja sekä kuinka näihin haasteisiin voidaan vastata sopeutumalla tehokkaasti nykyaikaisen digitaalisen tuotekehityksen vaatimuksiin.</p>	
Avainsanat	Digital branding, brand design, brand management, design system, Atomic Design, web design, user interface design

Table of content

1	Preface	1
2	The fundamentals of digital brand design	2
2.1	The Brand Identity	3
2.2	The Brand BIOS™ Model by Marco Spies	5
2.3	The Brand experience is User experience	6
2.4	Touchpoints: Where an audience meets a brand?	9
3	Design System as a tool for brand's consistent visual appearance	10
3.1	Creating a strong foundation for the design system with the brand's assets	12
3.2	The pages versus modularity – the requirements of the modern design standards	14
3.3	Atomic Design methodology as a core for the Design System	15
3.3.1	The Atoms as the fundamental building blocks	16
3.3.2	The Molecules as the components	17
3.3.3	The Organisms representing the functional components combined	17
3.3.4	The Templates	17
3.3.5	The Pages	17
3.4	A well-constructed design system stands time	18
3.5	Good design is good business – The ROI in Design Systems	19
4	Implementing the brand's visual language to a digital platform – Case: Ark-byroo	20
4.1	The introduction of Ark-byroo	21
4.2	Extending the brand identity to a digital environment	21
4.3	Conducting the visual audit	23
4.4	Creating the style guide	24
4.5	Creating and branding the design system for the company's website	27
4.6	The design system – UI Kit & Documentation of use	27
4.7	Conclusion of the design process	36
5	Summary	37
	References	39

1 Preface

The fast-paced development of technology and the increasing number of different mediums and touchpoints have set new requirements for the digital product design. The design has to be more flexible than before and it has to scale in order to be fully consistent in every environment. This has an immediate influence to brands – companies have to adapt and extend their brand identities to cover the different digital fields in order to serve their customers' needs and expectations effectively. On the other hand, the multitude of different devices available today and how fast the amount is still growing have also presented more options for brands to represent themselves online and to interact with their customers. The following questions arose: how is it possible to portray brand identity through a digital platform? What kind of elements are needed to build a digital product that represents its brand effectively?

This thesis is produced as a functional thesis and it consists of the theoretical and the production parts. The scope of the thesis includes the theoretical angle of incidence that studies the methods and tools of digital branding from the perspective of digital product design. The thesis approaches the subjects mainly from the designer's perspective to showcase the means available today for design processes. Other members of the digital product team e.g. developers' and the client's perspective are also included briefly to explain the subject in full context.

The main objective of the thesis is to analyze different factors in digital brand design and how they can be taken in consideration while designing a digital product, in this case a company's website. The subject for this thesis was selected as the subject has become relevant among designers and comes up frequently in the field of digital product design.

The theoretical part of the thesis concentrates on the different aspects of digital brand design and tools currently available for its development during the design process. The concepts of brand design, brand development and brand maintenance together with the digital design process terminologies such as web design, user interface design, usability, user experience, digital product design, design system and Atomic Design are the main themes that the theoretical part of the thesis dives into. The theory introduces briefly other methods of digital branding, e.g. social media, but the main focus is on the digital product design and development. The theoretical angle of the incidence is based on

exploring the design system method as a tool and the utilization of Atomic Design principles in design process and in digital brand design.

To gain a deeper understanding how these methods and tools can be applied in reality, they are put into practice. The production part of the thesis showcases how a website for an architecture company Ark-byroo was designed step-by-step according to the methods and tools presented on the theoretical part of the thesis. The functional part of the thesis was conducted as a freelance commission: the project's main purpose was to design a website for the client that represent the company's brand identity cohesively, is effortless and fast to develop and for the client easy to maintain in a long term. The design system method was therefore an ideal solution for the design approach in this case.

The thesis is aimed mainly for professionals working on the field of digital design or to a person that already has a basic knowledge about the subject or otherwise shares an interest related to digital brand design and digital product design.

2 The fundamentals of digital brand design

The increasing number of different mediums, channels and touchpoints have led companies to the point where the brand identity and online presence needs to be managed and adjusted according to the new digital requirements of today. It is also a matter of brand's credibility: if the importance of the digital presence is overlooked and customers cannot find the brand online or the digital brand design is poorly executed, it can give a negative impression of the brand itself and the chances of future success can become narrow.

The primary goal of branding is to establish a name that is recognizable, symbol, design and appearance that represents the company's unique brand identity and their product or service. Nowadays, brands do not rely only on offline mediums to develop and spread the awareness of the brand, but the digital mediums are taking a more significant role in brand positioning. Social media, mobile apps, digital advertising and email newsletters are all examples of digital methods that help the brands to strive for more a wholesome brand experience. (Tan 2016) A sustainable digital brand management strategy is mainly focused on social media, web content and mobile apps to leverage the brand awareness, interact with customers and to guide the market reach. (Templafy 2018.)

2.1 The Brand Identity

A brand identity serves to provide direction, purpose and meaning for the brand. Brand identity is a unique set of brand associations that represents what the brand stands for and what kind of promise it is implying to customers from the organization members. It helps to create a relationship between the brand and the customer by presenting a value proposition that includes functional, emotional or self-expressive benefits. (Aaker 1995, 68.) A brand identity is tangible and it appeals to the human senses: you can see it, feel it, touch it, hold it and watch it move. The brand identity increases recognition, amplifies differentiation from other competitors and ideas and meaning more accessible. A compelling brand identity presents the company with an immediately recognizable, distinctive professional image that positions it for success. The brand identity unifies disparate elements into whole systems that conveys the respect for the customer, but also by making it easy to understand its features and benefits. A strategically created brand identity works across different audiences and cultures and builds awareness and understanding of a company and its strengths. (Wheeler 2009, 4, 11.)

A brand is considered to be one of the most valuable assets of the company and therefore a strong brand identity can help to build brand equity by increased recognition, awareness and customer loyalty. This in turn is in direct correlation on the company's successfulness. By understanding the importance of communicating the company's brand value and what it stands for is extremely necessary and by acknowledging that a company can build a precious asset. (Wheeler 2009, 11.)

A brand identity system is a structurally and visually unified system that is built upon cohesive brand architecture. The system includes specially designed colors, typefaces and formats that entail an immediate recognition of the company and supports the brand's attributes across various media. (Wheeler 2009, 42) Nike is well known for its sports equipment, especially for its branded sports shoes. The company was founded in 1964 and to up this day, it has maintained its unique and distinctive brand identity in all different environments. The brand identity is presented seamlessly on every platform and the company has successfully extended its brand identity to online. The brand's key elements are the dynamic imagery and big bold sans serif typography that catches the viewer's attention immediately and makes it so recognizable and unforgettable.

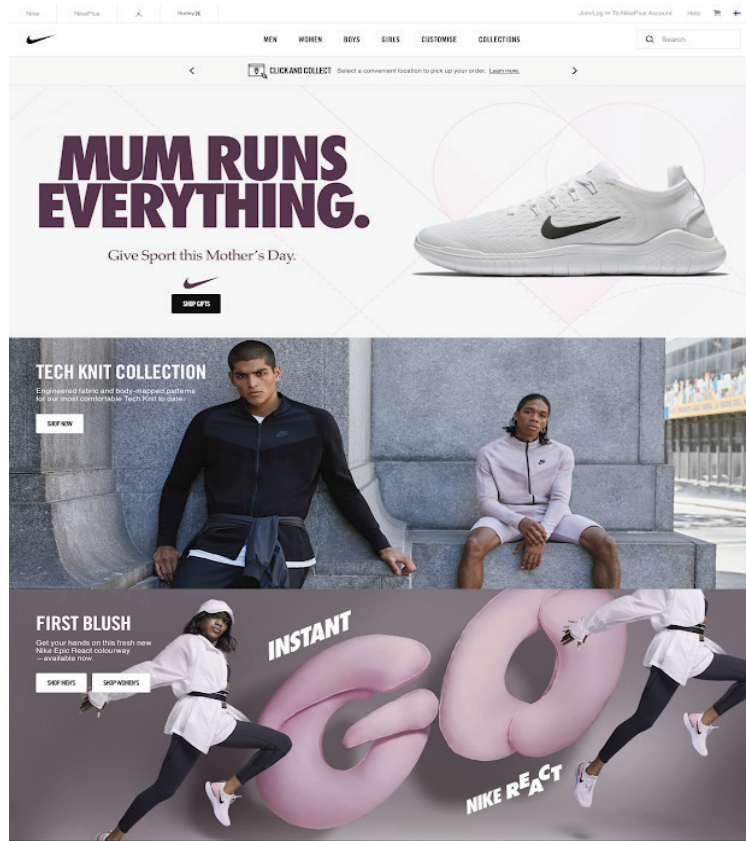


Figure 1. The landing page of Nike's website with the recognizable brand typography and imagery (Nike 2018).



Figure 2. Nike print advertising with Michael Jordan from 1984 with the distinctive brand characteristics that are still evident in the brand's visual appearance (Newsweek 2014).

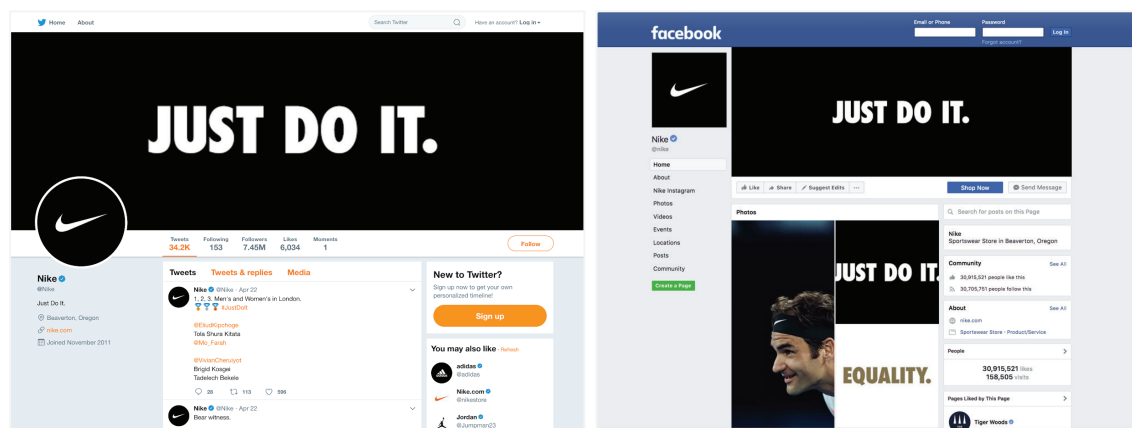


Figure 3. Nike brand's online presence on Twitter and Facebook and how the brand's identity translates to different mediums (Twitter and Facebook 2018).

2.2 The Brand BIOS™ Model by Marco Spies

The Brand BIOS™ model consists of four areas that together form the meaning of a brand and what it means to people. In order to make people feel connected with the brand, the brands need a meaning: a unique, tangible, relevant and credible core that communicates with the people. Spies (2015) describes the meaning of the brand to be tangible in the brand behavior, visible in the brand image, told in the brand story and available in the brand offering. These four areas define the direction of the digital product design and how the branded interactions are created. The four areas include the emotional (behavior and image) and rational (offering and story) aspects of a brand and all of these together must have a positive influence on the brand meaning in order to construct a stable core for the brand. (Spies 2015, 128–130.)

1. **Brand behavior** – Behavior, values and attributes
2. **Brand image** – Corporate design and iconography
3. **Brand story** – Myths and messages
4. **Brand offering** – The brand's promises

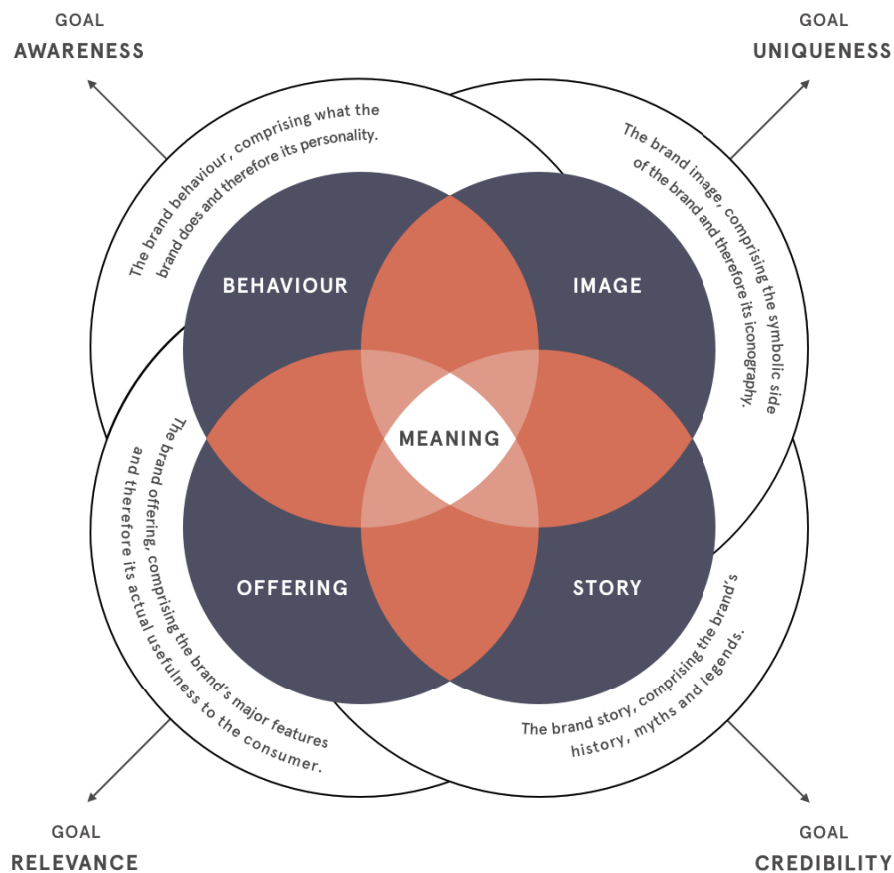


Figure 4. The Brand BIOS™ Model adaptation according to Marco Spies (Spies 2015, 131).

To understand these factors and applying the model to a digital product development, it is essential that these factors are clearly defined before starting constructing a design system and extending all of the brand's assets and identity to the digital product. These four factors define not only the brand development, but also the direction of the digital product development.

2.3 The Brand experience is User experience

When consumers are looking for products and services they are also exposed to various specific brand-related stimuli, such as colors, typefaces, shapes, design elements, slogans and other characteristics. These elements appear as a part of a brand's design and identity, their marketing communications and in the environments where the brand is

marketed or sold to the consumers. These brand-related stimuli and images are the major source of subjective and internal consumer responses, that is commonly called “brand experience”. (Brakus, Josko, Schmitt, & Zarantonello 2009. 53.)

Brand coherence is the key quality in a brand experience that ensures all of the brand’s aspects and assets are holding together, so that it feels seamless and consistent to the customer. It can be considered as a baseline – when it is well-designed, it builds trust, fosters loyalty and delights the customer. Coherence starts with understanding the preferences and the needs of the target customer thoroughly and designing a brand experience that results the desired perception. Every touchpoint can be considered as a brand experience. (Wheeler 2009, 42.)

The brand experience can be compared and applied to Abraham Maslow’s hierarchy of needs. The five steps of the Maslow’s pyramid explain the basic human needs that are psychological (food, sleep and health), security (legal security, shelter and livelihood), love / belongings (friendship, family and intimacy), esteem (respect, affluence and influence) and self (self-actualization, creativity and individuality). These five stages can be divided similarly and visualized with the five stages of brand experience. Starting from the bottom a brand should serve a basic need, such as to offer a specific function that helps the user to perform a certain task online. The second stage represents how the brand should communicate these benefits in a way that it draws the user’s attention towards itself. The third and fourth stages are the joy of use demonstrates how the content and functions should be customized in a way of an interactive offer that causes emotion that forms a personal bond with the brand so that occasional users become loyal users. (Spies 2015. 140–141.)

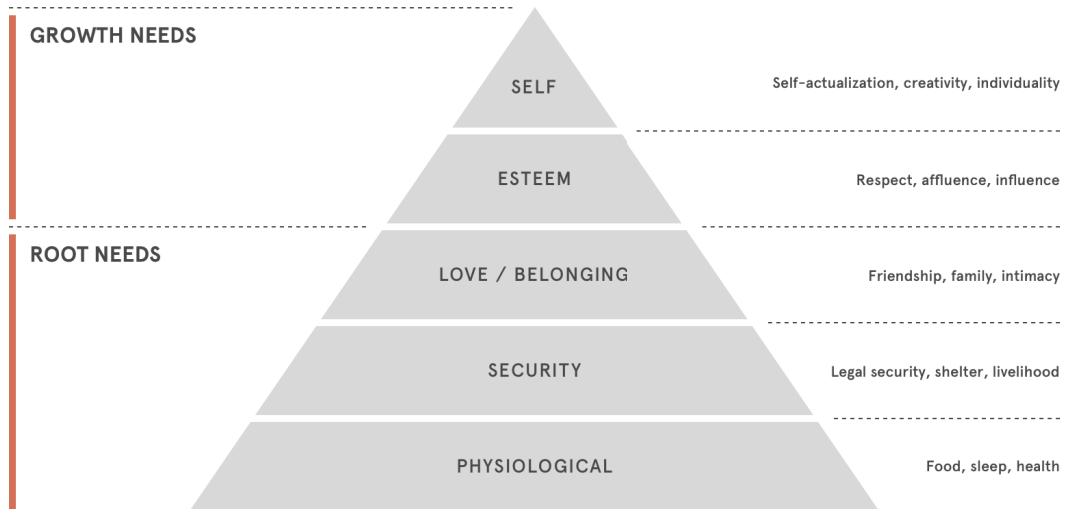


Figure 5. The Maslow's hierarchy of needs (Spies 2015, 141).

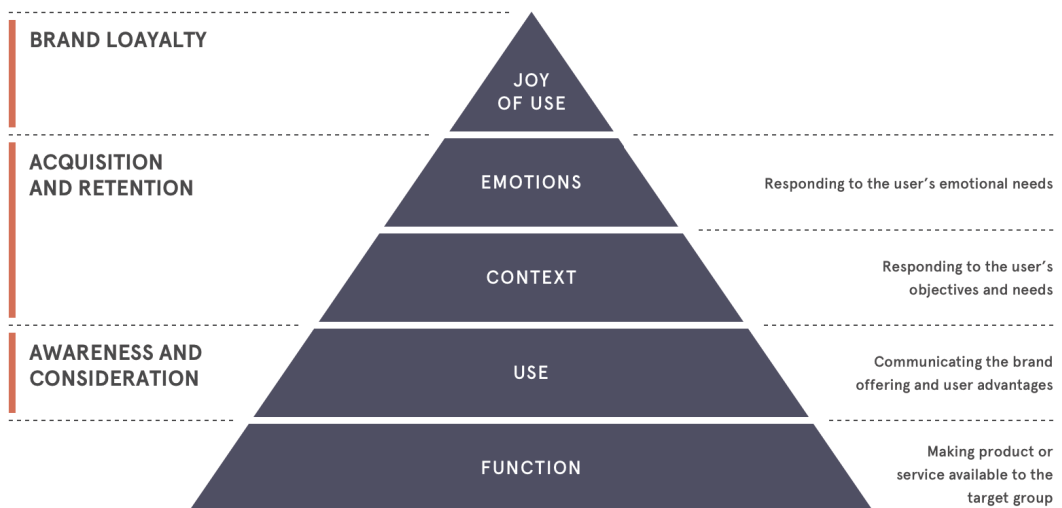


Figure 6. The brand experience pyramid (joy of use) adaptation according to Marco Spies (Spies 2015, 141).

The figures 5 and 6 demonstrate how the typical flow from brand awareness to brand loyalty happens: if steps in between are skipped it may not provide the desired results. If the stage "Use" that being the communication of the brand offering and user advantages are not presented and communicated well enough, the customers path to brand loyalty might be impossible to obtain later on.

2.4 Touchpoints: Where an audience meets a brand?

A touchpoint is anywhere that a potential customer contacts the brand or the company and as the number of different devices and mediums grows, so does the number of these touchpoints. The structure of the mediums have become more complex from the golden age of printed advertisements, TV ads and billboards and all of these still exists and are available, but in addition there are now also websites, apps, email newsletters and much more. The major difference from the past is that now the new touchpoints don't work in a single direction which means that now with the development of social media, a customer cannot only contact the company, but also its other customers. This means that the customer can challenge, ask questions and develop a more truthful picture of the brand. This can be a terrifying for many more traditional brands, but it can also be considered as a huge opportunity. (Spies 2015, 116.; Rowles 2014, 8.)

Identifying the brand's digital touchpoints starts with defining how and where the users come into contact with the brand. The brand's digital touchpoints can be in the following examples:

- Websites
- Email
- Social media
- Desktop apps
- Mobile apps
- Augmented reality
- Interactive installations
- Interactive environments
- Interactive out-of-home media
- Interactive architecture
- Objects and hardware (Internet of Things) (Spies 2015, 117.)

It's crucial for the company to recognize its customers' needs and behavior to direct and optimize their online presence, services and content in a most profitable and effective way. By including these aspects to brand's strategy, it helps to utilize its assets and planning for the future development of the brand communication.

Brad Frost explains in the Future-Friendly Manifesto how the fast-paced development has led to us in a situation where not all of the already built systems cannot catch up the technology. He emphasizes the fact that development of different kinds of devices is affecting on the way how we are and how we should design digital products.

“Disruption will only accelerate. The quantity and diversity of connected devices – many of which we haven’t imagined yet – will explode, as will the quantity and diversity of the people around the world who use them. Our existing standards, work ows, and infrastructure won’t hold up. Today’s onslaught of devices is already pushing them to the breaking point. They can’t withstand what’s ahead.”

– The Future-Friendly Manifesto, n.d.

The problem is that design does not scale that easily, in a large concept it requires a preset rules and guidelines in order to be consistent on every touchpoint. Now that there are so many factors that can affect to the overall result for example new additions to design teams, it is crucially important commit to a design system process. Otherwise it can create inconsistencies and slow down the speed of the development process. Design will scale, but to be effective it requires a well-built design system. (Treder 2017. 6–7.)

In the project case the main target audience is the desktop users and therefore the most important touchpoint is the company’s website. The user experience was designed to go hand-in-hand with the brand experience and optimized so that the website serves the audience efficiently in desktop environment and scales seamlessly to other viewport sizes when accessed on other devices. By recognizing the needs and the behavior of the main target audience, it helps to direct the design in a way that benefit both the client company and the end-user. The design process concentrated only on developing the brand’s image on the company’s website and the brand’s online presence on other digital platforms such as social media was not included when designing the consistency of the brand in digital environment.

3 Design System as a tool for brand’s consistent visual appearance

A design system is all that makes up the digital product. From colors, typography, layouts and grids, images, icons to components, coding conventions, brand’s voice and tone, guidelines and style guide and documentation. A design system is combined from all of

these elements and it is a method that helps the whole design team to learn, build and grow alongside of the product. (Abcarians 2014.)

Nathan Curtis, a founder of a UX company EightShapes, has specialized in design system consulting and he is a well-known writer and speaker. Curtis describes a design system as a library of visual style, components and other digital product related concerns documented and released by an individual, team or community as tools for design and code that help the adopting of the product to be more efficient and cohesive. (Eight-Shapes n.d., Curtis 2017.)

The design system method is based on core elements that together forms the digital product, for example a website. When the structure and the functionalities of the website are viewed closer, we can see that these core elements are a combination of typography, colors, margins, paddings, coordinated positions of the elements and imagery (photos, icons, illustrations and infographics). Other elements that can be seen are visual shapes and effects such as depth, height, shadows, textures, sound and motion effects. (Treder, Cao 2017, 9.) Many large companies such as IBM and BBC have created their own design systems to control better and maintain their own digital product and service development.

IBM has created a design system for the company and the brand that extends all areas of functionalities in different touchpoints and viewport sizes while maintaining the brand's distinctive characteristics throughout the system. Carbon Design System is built for IBM Cloud products and it is a collection of different individual styles, components and guidelines for creating a unified user interface and experience. (Carbon Design System, IBM 2018.) The Carbon Design System is an excellent example of a large-scale design system that covers all the aspects of digital product design and development.

BBC (British Broadcasting Corporation) has created a design system GEL (Global Experience Language) that works as a framework for BBC UX Designers to create consistent and delightful experiences across all of their digital services. (Kinsey n.d.) Much like IBM Carbon Design System, BBC GEL is a comprehensive system that contains all of the information for designers to develop the digital products and services further.

Design System method is not an untested hypothesis: when the design has to scale to respond to the fast-paced development of technology, a component-based designing

method is a proven and credible solution for digital product development. (Suarez et al. n.d.) Nowadays many of the leading brands have made their design systems public to contribute their ideas and processes to the design community at large. These open source design systems are very detailed examples that provide guidelines to designers and developers how an extensive and powerful design system works and what it should include. They are also setting a standard and requirements for modern digital product design.

3.1 Creating a strong foundation for the design system with the brand's assets

The design system is a combined library of the visual and functional user interface elements and components – a single source of truth. (Fanguy 2017). Developing a design system for a digital product is essential in order to implement the brand's image and distinctive characteristics effectively to a digital product. An efficient design system unites team members from different areas of expertise around a common visual language of the digital product. At its best it can reduce design and development debt, accelerate the design process and enhance the collaboration between the teams. (Suarez, Anne, Saylor-Miller, Mounter & Stanfield n.d.) These arguments about the benefits of developing a design system were the main motive to apply the method to the production of the website.

Airbnb has built its services entirely on an online platform, so the brand has to express itself in a consistent and cohesive manner through a multitude of platforms and devices. Karri Saarinen, the Principal Designer at Airbnb, explains that the goal with Airbnb's Design Language System (DLS) was to create a beautiful and accessible design language so that designs could be unified platforms that aims to better efficiency through well-defined and reusable components. Airbnb's design system is based on four core principles:

Unified:

Every element is a part of a greater whole and has to contribute positively to the system at scale without any isolated features.

Universal:

The Airbnb brand is known around the world and their services are used by a wide global community and therefore the products and services need to be welcoming and accessible.

Iconic:

The design and functionality are both in key role that the company is focused.

Conversational:

The company's way of using motion brings their products to life; it allows to communicate with the users in an easily understandable way. (Saarinen n.d.)

Audi has also developed their own design system and it is an excellent example how the brand has been embraced to all of the aspects of the design system's user interface elements and user experience design. The Audi user interfaces are based on the principles of the Audi look: variety, honesty and balance, which can be recognized in all of their products and services from the app to the vehicle. (Audi CI, UI Introduction 2018.)

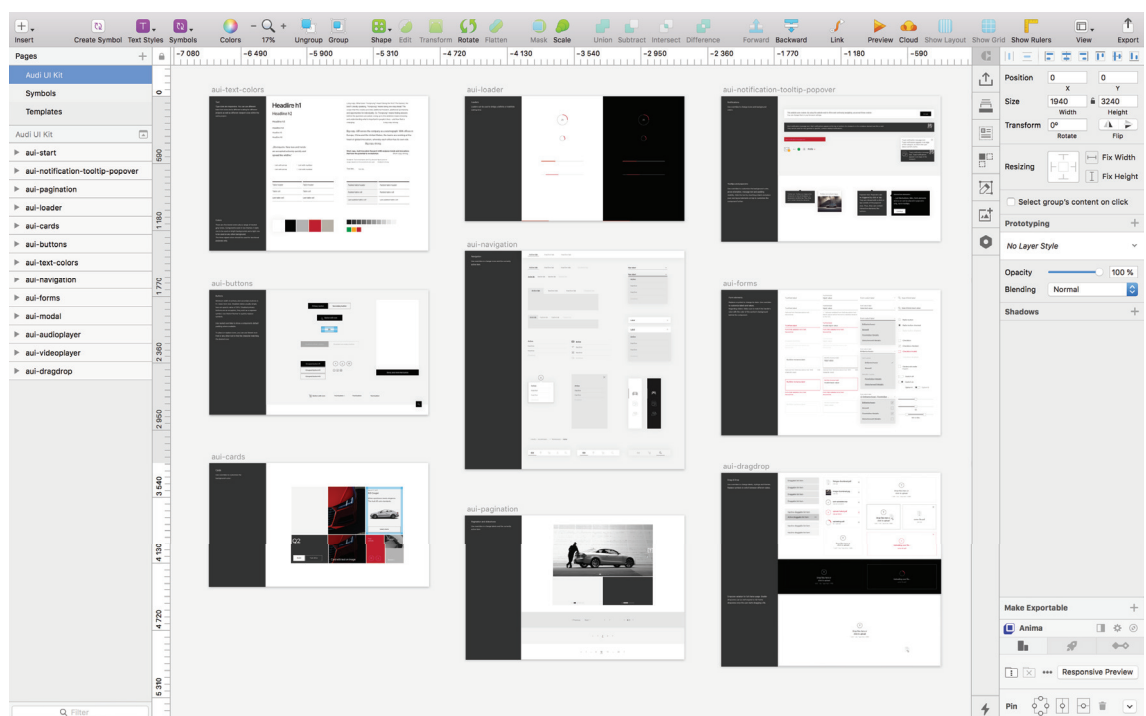


Figure 7. An example of Audi Design System's user interface elements and components (Audi CI 2018).

3.2 The pages versus modularity – the requirements of the modern design standards

The modular design approach is the fundamental idea behind the design system. The design process in modular design varies from a more traditional way of designing digital products such as a website page-by-page. The affirmation that a page is a uniform, isolated, quantifiable object is rather misleading because the development has come to the point where the web is a fluid, interactive and independent medium. The term ‘page’, when referred to a website is nowadays serving more as a metaphor for helping users to familiarize themselves with the web; a transitional language for a new medium that supports the vast variety of connected devices. That is why it is crucial to evolve the design methods beyond only the page level. (Frost 2016, 10–11.)

The concept of modular design has already been used in many industries such as manufacturing and construction. For example, Volkswagen is one of the most profitable car manufacturers because they have successfully utilized different components across brands and car models that are based on the reusability of the parts. (Czech, n.d.) Similarly, by changing the focus from the ‘page-by-page’ mindset and concentrating more on the smaller parts that form the whole page, it allows creating more combinations of content and design. When designing digital products in a modular way it enables the design language to scale and it provides more control over the whole system.

The main idea in modular design is to ensure that every component or pattern follows specific criteria that is set to them. All of the components have to be clearly defined, have specific functions and named according to the function, standardized, reusable and detached from specific viewport widths. The modular design criteria will ensure a cohesive library of components and patterns that can be combined to build interfaces that work seamlessly across a multitude of screen sizes, devices, browsers and environments. (Yablonski 2017.)

As a result of the availability of different devices with their different viewport sizes and online environments, it is encouraged more than ever to use modularity when designing a digital product. From digital brand design perspective modular design is an extremely useful method and tool to ensure the coherence of the brand on every touchpoint and it provides a flexible platform for brand’s future development.

1. **Atoms**
2. **Molecules**
3. **Organisms**
4. **Templates**
5. **Pages** (Frost 2016, 42.)

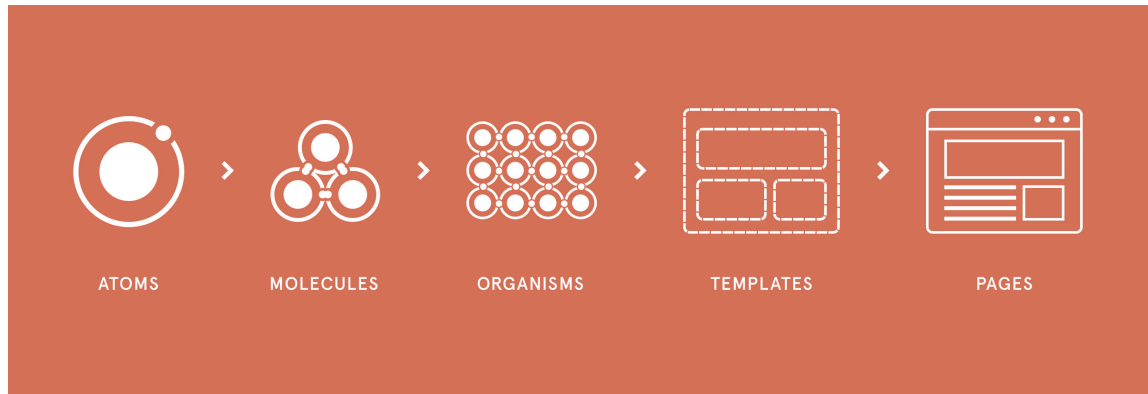


Figure 9. The five stages of Atomic Design methodology, adaptation according to Frost (Frost 2016, 42).

Atomic Design is an excellent example of a detailed and a holistic approach of creating a design system. It covers all the areas of the design process from the design workflow to the technical development of the design system. This thesis is concentrating on the five stages of the Atomic Design methodology that supports the design system that was created for the Ark-byroo's website. The details related, for example, the technical development of the website such as pattern naming conventions according to the Atomic Design principles are not included in this thesis.

3.3.1 The Atoms as the fundamental building blocks

The core elements of the digital product's Design System, *the atoms*, when combined together they form the overall visual user interface of the product. The atoms are the fundamental functionalities of HTML-elements that cannot be detached into smaller independently working functions without losing the ability function on its own. These elements can be for example buttons, form labels and input fields. (Frost 2016, 42–44.)

3.3.2 The Molecules as the components

The components (or modules) of *the molecules*, are formed when the smaller simple user interface elements are combined and creating an individual function. The combination of the atoms provides them a meaning: an individual input field together with button form a functional search field. These molecules accelerate the testing phase of the function and make it more effortless, encourages for the reusability of the elements and components and ensures the overall consistent look and feel of digital product. (Frost 2016, 45.)

3.3.3 The Organisms representing the functional components combined

When moving on to more advanced functionalities, *the organisms* open up a focused context for the designers and developers. They demonstrate how the smaller building blocks are behaving together as a whole, how they stand out in the user interface and how they can be utilized continuously on the other needed functionalities of the digital product. After defining the required organisms in the Design System documentation, the more complex templates can be built. (Frost 2016, 46–47.)

3.3.4 The Templates

The user interface templates are objects on a page level; they demonstrate the structure of the layout and content when also the atoms, molecules and organisms can be presented in a correct context. The templates do not define the definitive amount of content, but they serve as the blueprint for the final output that is the visual layout and structure of the pages. (Frost 2016, 50–51)

3.3.5 The Pages

The final pages are more advanced versions of the templates therefore representing the final output with the real content and functions. The pages visualize how the step-by-step created components together form a coherent user interface that is visually pleasing and also intuitive to use. Besides to demonstrating the final visual appearance of the digital product, the visualization of the digital product also helps further to test the efficiency of the entire Design System. The evaluation how well the Design System is

corresponding to the goals that has been set to it, can be evaluated by how it supports the content and how well the functionalities are working together in reality. (Frost 2016, 52–56; Hacq 2017.)

3.4 A well-constructed design system stands time

The design system of a digital product is a collected database that provides tested and proved solutions for problems that tend to appear during design processes. When these solutions, a unified visual language and the fundamental principles of user experience design are brought together, these represent what a well-made design should look like for the organization and for the user interface. (Clark 2017.)

Once the design system is built, its actual business value has not been realized yet. A company realizes this value when other members of the production teams pick it up and implement it to the digital product – then the actual cohesive experiences and realized efficiencies in development can be seen. (Curtis 2016.)

Creating a design system for a digital product requires investment in time and expenses at the early stage of the project, but when it is done well and efficiently it benefits the development of the product in a long-term. Once the design system is built it is not finished, but it needs constant maintenance and development. Although the designers and developers have to put extra effort to it, it is easier to update the changes to the digital product from one single library that contains all the necessary information for digital product design.

As Brad Frost explains Atomic Design is not a linear process, but it is to be considered more as a mental model to help designers perceive the user interface designs that they have created as both cohesive whole and a collection of parts simultaneously. (Frost 2016. 42.) Atomic design methodology plays more like a guideline in a design process workflow and when it is one solution for maintainability and consistency, it can be also quite challenging. Working between these mental models requires a technological shift and also a fundamental change on how we approach user interface design. It can also be very tempting to reuse already created patterns even when they might not be the best fit for the purpose because it is easier form a solution from existing patterns rather than start to ideate something more appropriate from the beginning. When creating the user

interface component library according to Atomic Design principles, it can be challenging to design all of the components in a way that they maintain their flexibility, so that their reutilization could be maximized efficiently – especially in a larger concept. Where it can offer a quicker way to iterate and faster to develop, the final outcome could end up being a compromise.

It is worth the trouble however. The long-term value in creating modular and reusable collection of elements and components allows faster prototyping and effortless scaling. A consistent design library results in higher quality digital products, but most of all a better overall user and brand experience.

3.5 Good design is good business – The ROI in Design Systems

A design system functions as a blueprint for the development of a digital product. The design system is clearly documented and includes all of the design principles, visual elements, forms and interactive functionalities, therefore resulting into a digital product that adapts and scales according to the development. (Treder, Cao 2017, 9–10.) The return of investment (ROI) is a measurement for performance that can be used to evaluate the efficiency of an investment or to compare the efficiency of different investments. ROI measures the ratio between the amount of return of investment and the cost of the investment. (Investopedia n.d.)

The ROI in design systems for designers and for the company can be measured as follows:

Growing velocity and time to market

A tool that is based on components, allows agile processes in design and development. This speed up the product launch without sacrificing the quality of the product.

Growing value of the digital product

Reusable and compatible components provide a consistent look and with the consistent design process, also the efficiency of use is growing.

Growing collaboration and sharing the knowledge

Predefined design system allows designers and developers to work more autonomically when the margin for errors reduces which leaves more time for design work.

Less time and money wasted

With the utilization of a design system, it reduces the amount of irrelevant and unnecessary repetition and questions related to the design and development, therefore saving more time and bringing more value to the company. (Treder, Cao 2017, 9–10.)

Needless to say, a well-built design system is one solution to ensure that efforts invested in branding will quantify the value with relation to the investment. It can provide key insights that help to enhance the creativity of the designers and developers to produce more functional and deliberate user interface design systems. This also enables the implementation of the company's brand identity comprehensively to the digital product.

4 Implementing the brand's visual language to a digital platform – Case: Ark-byroo

The functional part of the thesis applies the methods and tools presented on the theoretical part in practice. The digital brand development, management and methods and design system as tool serve as a foundation when creating an online platform for a company. The theoretical part of this thesis provides a deeper understanding and perspective of the modern methods and tools for companies to succeed with their own digital presence, in this particular case unifying the brand identity and creating an efficient design system for the company's website. This will provide the means for the client to manage the company's brand on online and to produce content that corresponds to the brand identity on every touchpoint.

In this project case the digital branding concentrates mainly on the company's web content and to improve and to offer various ways to present it online in a more flexible manner while still maintaining the unique brand visual appearance. The online presence in social media or the development and maintenance strategy for marketing in social network was not covered in this case.

4.1 The introduction of Ark-byroo

Ark-byroo is a forward-thinking architecture office that operates the built environment at large. The company was founded in 1998 and its office based in Helsinki. The company's multidisciplinary office ensures an expert touch on even the most challenging building projects. The company provides expert services for city planning, architectural consultation and real estate development. They specialize in architectural and cultural history studies, archaeological studies and conservation planning.

The company needed to update their website to match the current state of the company. The company's new services and various kinds of contents needed to be presented by utilizing modern web design solutions, so the website had to be designed to support fully content management and to be flexible enough to able represent different kinds of media and contents dynamically.

4.2 Extending the brand identity to a digital environment

The company's brand was developed further in this project with a more up-to-date visual appearance that served the company's current state and services better. The company's current website was serving well their previous needs, but it was not flexible enough to support the company's increasing amount of different kinds of content such as video and GIFs. The website could not match the current state of the company by representing the brand and the company's services in an efficient way or did not leave enough room for future development.

The design process started with a 'kick-off' meeting with the client where a brief of the project's scope, timeline, process methods and goals were decided. The timeline for the project was estimated to be 1,5 months that included four status meetings for every 1,5 weeks. The design process was divided into parts according to the agendas for the project status meetings:

6. Benchmarking, research and the visual style
7. Information architecture and Wireframes of the website
8. The Visual style guide and Layouts for landing page, project category page and single project page
9. Visual layouts of the final product and interactive prototype

During the first phase the visual guidelines for the website were designed. The process included benchmarking to evaluate how the closest competitors have presented their brand online and how they have adapted to the modern web design techniques and trends. The research for suitable options to design the website was conducted according to the theories and methods of digital brand development and design system tools presented in the theoretical part of the thesis. The visual style was updated to be unified through the whole website and to support the user interface elements and interactions, so the color palette and the typographical hierarchy needed to be extended among other things.

In the design process the Brand BIOS™ Model by Marco Spies was an essential tool that helped to define how to present Ark-byroo's brand on the website. The four areas (brand behavior, brand image, brand story and brand offering) were implemented to the design so that together they form a coherent and harmonious wholeness – the meaning of the brand that translates the accordingly to the people and serves the company by reaching its goals. The brand story and offering were designed to be their own distinctive sections on the website (the company introduction and the service), but also, they served as themes that could be recognized in all of the content. The brand image and behavior were more global themes that represented the brand throughout the website.

Ark-byroo has a long history on working with various kinds of projects for different clients from small to large scale. The number of different kinds of content was vast and needed to be presented by respecting the brand's visual appearance, but also intuitively and effectively in all screen sizes. Building a clear structured information architecture for the website was one most important tasks during the design process. The wireframes were designed to demonstrate the structure, functional elements and the information architecture of the website.

The Brand Experience pyramid served as a tool when designing the user experience and therefore also the brand experience on the website. It helped to define the possible focus areas on the website that are in an essential role when striving for user's brand loyalty, for example, the brief sections on the landing place that introduces the contents of the website to the users. These two methods served as a foundation and a starting point for the design process.

The style guide was created to have all of the information of the user interface element styles including colors, typography and icons and how they appear and function on the website. The pattern library and the style guide form the design system where all of the elements and components are documented according to Atomic Design principles. After the rebranded visual style was implemented on the first visual layouts and confirmed, the rest of the layouts were created.

The solution was to create a new information architecture for the new website that supports the content in a more suitable and flexible manner. It also brings more structured presentation of the content on responsive screen sizes.

4.3 Conducting the visual audit

The visual audit was conducted to gain a deeper understanding of the issues with the current website. The company's current website was serving well their previous status and needs, but they wanted to bring out more the content that they have for different projects and services. The website did not support video content efficiently nor different ways of presenting different image sizes responsively. Also, the readability in a two-column project page template was not flexible enough for different kinds of contents.

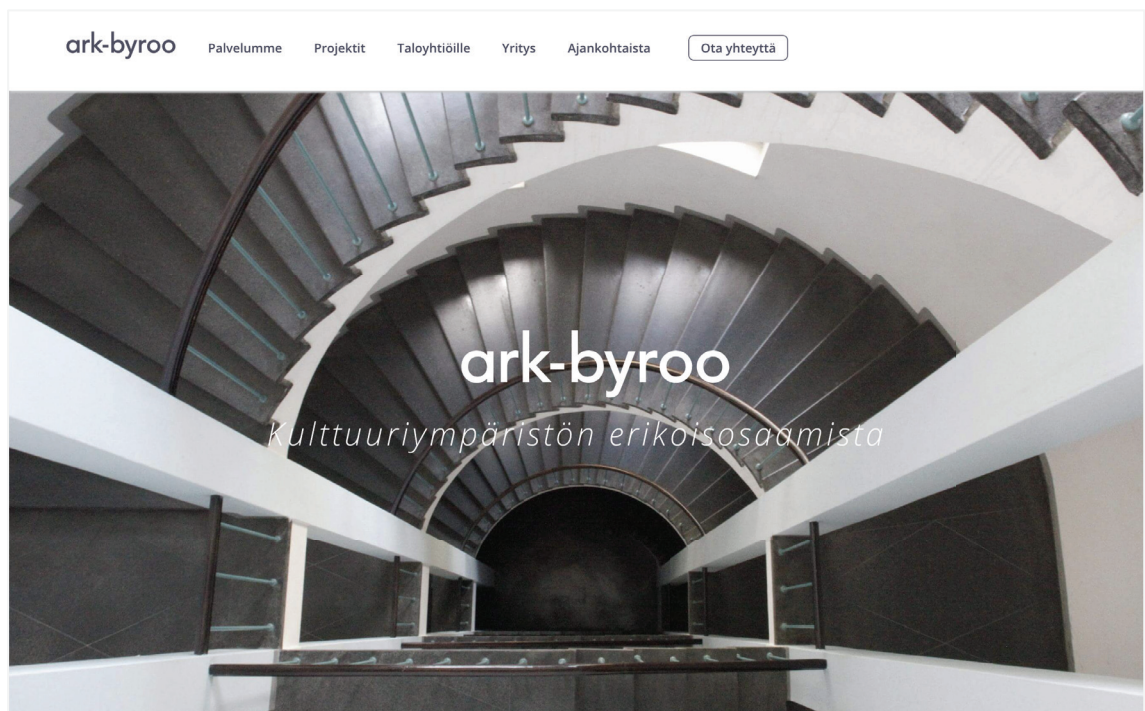


Figure 10. The current landing page of the company's website.

4.4 Creating the style guide

The company's brand style guide was updated to be more flexible for the web environment. In this case the brand color palette was extended with secondary colors that supported the interactive elements on the website, such as buttons. The typography was chosen to ensure that readability stays clear and easily understandable regardless the device the content is read from.

The company's brand assets were extended more to the online environment: additional accent colors were added to the color palette to support more the interactions and the typography was updated to travel effortlessly from web to print to ensure a coherent and a whole image of the brand. The style guide contains all of the necessary information from font families, typefaces to sizing and line heights for the designers and developers to use accordingly (see figures 11.,12. and 13.). Its main purpose is to ensure that all of the style elements are presented on the website correctly giving a coherent and consistent impression of the brand.



Figure 11. The style guide – The brand color palette in digital environment.

The new typeface selected for the Ark-byroo's brand is Aperçu that is a grotesque sans-serif typeface. The font was ideal for its clean, modern and minimalistic look, yet it is full

of character and it is clearly distinguishable from other grotesque fonts. The clear structure and the flexible font family that comes in four weights (light, regular, medium and bold with matching italics) ensure excellent readability on both web and print environments. Aperçu typeface is also providing variation and contrast for the vast amount of text content that is going to be presented in different contexts on the company's website. The typeface is not an open source font, such as Google Fonts that are free to use both privately and commercially, so the font is not likely to be associated with any other brands – this gives the Ark-byroo's brand a distinctive sense of uniqueness.

The type scale is formed to give more consistency for the brand by carefully defined values for the font size, weight and line-height. The figure 12 demonstrates the documentation of the main information about the typography and how the typography scales in use.

Typography

TYPEFACE	TYPE STYLES		
Aperçu	Bold	<i>Italic</i>	Regular
abcdefghijklmnopqrstuvwxyzäö			Light
ABCDEFGHIJKLMNOPQRSTUVWXYZÄÖ			
1234567890#"%&/'01234567890!.,*~			
DISPLAY HEADING SIZES			
64 px / 78	Hero	Hero	Hero
48 px / 60	H1	H1	H1
42 px / 52	H2	H2	H2
36 px / 46	H3	H3	H3
28 px / 38	H4	H4	H4
24 px / 36	H5	H5	H5
20 px / 30	H6	H6	H6
DISPLAY PARAGRAPH SIZES			
36 px / 42	<i>Lead text XL</i>		
22 px / 34	<i>Lead text</i>		
18 px / 28	Body		
16 px / 28	Paragraph		

Figure 12. The style guide – The brand typography scale.

Typography

DISPLAY HEADING SIZES

Hero Heading

This is placed only once per page.

H1 – 1st Level Headline

This introduces the major sections of a page

H2 – 2nd Level Headline

This is related to more important parts of a section

H3 – 3rd Level Headline

This is a subtitle under an article

H4 – 4th Level Headline

This is a 4th level headline

H5 – 5th Level Headline

This is a 5th level headline at the same size of paragraphs and other copy texts

H6 – 6th Level Headline

This is a 6th level headline at the same size of the footnotes and other connotations

DISPLAY PARAGRAPH SIZES

Hero Intro

This is used with the Hero title

Intro

This is used with paragraph

Paragraph

This is the regular copy text

TYPEFACES IN-USE

Title of the article

40 px

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Quisque finibus tortor sed nunc pulvinar, a hendrerit nisi varius. Nunc tristique lectus vel nulla semper lobortis.

30 px

Proin mattis efficitur dictum. Curabitur ac commodo leo, eu eleifend leo. Etiam auctor ornare est non dapibus. Morbi ultricies quam urna, a rhoncus ligula posuere vitae. Morbi tempor, risus efficitur varius euismod, sem nulla efficitur est, ut viverra mauris libero eget felis. Nam ut ex fringilla, malesuada diam at, posuere massa. Praesent metus ex, cursus a leo non, malesuada interdum augue. Duis vestibulum odio at ligula porta, eget euismod mi tempus. Ut in neque eget nisl dignissim viverra. Orci varius natoque penatibus et magnis

Figure 13. The style guide – The typography in-use.

4.5 Creating and branding the design system for the company's website

The design system method was selected as a tool for the design process and it was constructed according to Atomic Design principles. The construction of the design system begun by defining the all of needed functions and patterns for the website's user interface inventory. This included different interface element categories that are standardized in web design: global elements like header and footer that appear across the entire website, navigation (primary, secondary and footer navigation), different image types (logo, hero images, image thumbnails and image modules for the article pages), form elements with their different active states, buttons, interactive components like tabs and image parallax features and also the style guide elements. Since the very beginning of the design system's building process it was extremely important to name all of the elements and components according to their specific functions. This way the structure of the system documentation remained organized and the necessary information was easy to be found and use. All of the design system components and elements were designed to function together while still representing the brand's visual identity seamlessly down to the tiniest detail.

The design system's main purpose was to create a single source of truth where all of the components and assets used on the website could be found easily. This carefully documented user interface pattern library made the design process immensely smoother when the needed pieces for design were already available, easy to combine and reuse. Obviously when the design progressed, also the design system was evolving along with it and when necessary the components were modified and updated to the design system library.

4.6 The design system – UI Kit & Documentation of use

The user interface pattern inventory, the UI Kit, is the core of the design system. It is a collection of all the patterns, components and elements that form the blueprint of the website. Laying out all of the element next to each other on the same canvas helps to get the idea of the whole picture: seeing all the similarly composed pieces drives the need to create a consistent, cohesive user experience, but most importantly points out the possible inconsistencies between them.

The following images show how the design system was constructed for Ark-byroo's website by following the principles of atomic design for organizing the patterns. The patterns are formed from the different elements and components.

The Atoms

The atoms were constructed from the basic web design elements, buttons, forms and input fields. The design of all these elements and the interactions have been given the brand's distinctive style and they repeat through the website always in an identical manner. The atoms function in a universal manner, so that they can be combined and applied easily to any needed function.

Atoms – Buttons













PRIMARY	Default	Focus	Active
			
SECONDARY	Default	Focus	Active
			
TEXT & ICON	Default	Focus	Active
			
LINKS	Default	Focus	Active
			

Figure 14. The Atoms – The interactive states of the buttons on the website.

Atoms – Forms & Input fields

FORM STATES

Default	<input type="text" value="Email"/>
Active	<input type="text" value="Email"/>
Error	<input type="text" value="Wrong email"/> ❗
Success	<input type="text" value="Email@email.com"/> ✔

Message Box

Message

Atoms – Functional elements & Icons

RADIO BUTTONS & CHECKBOXES

- Unselected
 Selected
 Unselected & disabled
 Selected & disabled
- Unselected
 Selected
 Unselected & disabled
 Selected & disabled

DROPDOWNS

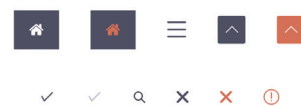
▾

▾

▾

- Option 1
- Option 2
- Option 3

ICONS



TOOL TIPS

Below

Some helpful text that is not crucial for the use

Above

Some helpful text that is not crucial for the use

Figure 15. The Atoms – The elements demonstrate the different options and their interactive states.

The Molecules

The molecules, or the components, are formed from the fundamental elements according to the style guide and the basic elements, the atoms. They form small functions and interactions, for example a search field. The user interface molecules were formed as the following figure shows.



Figure 16. The Molecules – The three combined images show the sizes of the images and the different combinations of the image modules.

The image modules can be included with an optional cation or additional information that appears when hovering over with the mouse on picture. The caption is used on article pages to provide additional information about the photo or picture. The additional

information that appears on mouse hover on the picture is for the service pages to add e.g. information about image copyrights.

Image Modules

Padding in between text: 45 px

In articles, if chapter ends with an image module, the padding between chapters is 75 px

If the image modules are combined, the padding between the image modules is 35 px.

Caption is **optional**.

CAPTION & ADDITIONAL INFORMATION

Caption is used on the article pages and it is **optional**. The length of the caption line varies according to the width of the image.



This is caption.

An additional information e.g. Image copyrights are used on service pages. The information is optional.

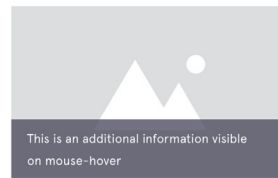


Figure 17. The Molecules – The use of captions and additional information with the image module images.

The Organisms

The organisms include more complex functions and their goal in terms of functionality is more specified to a specific functionality, when the atoms and molecules function in more universally. The organisms include for example the main navigation of the website and other combinations of different atoms and molecules.

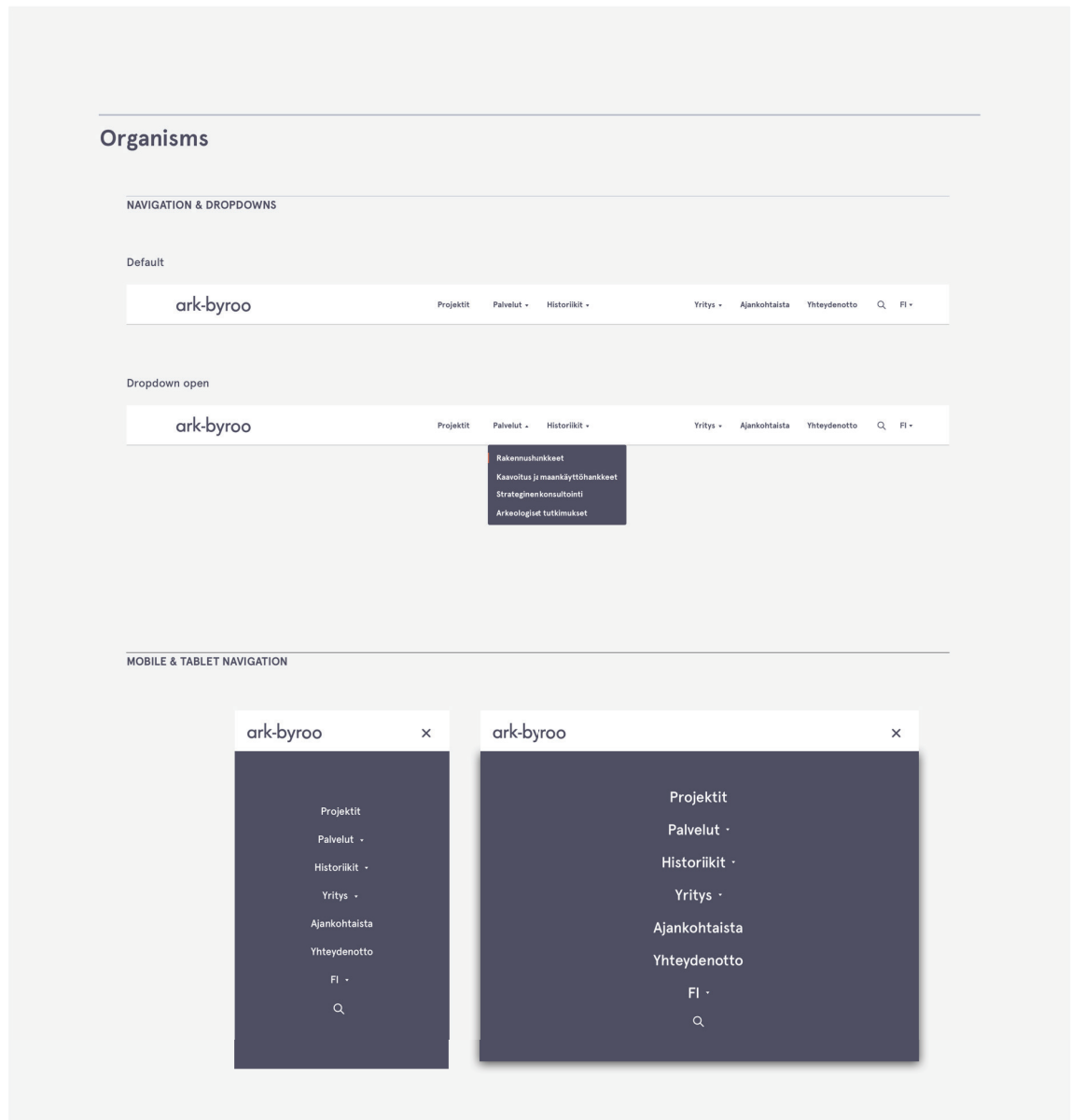


Figure 18. The Organisms – The main navigation of the website and how it scales.

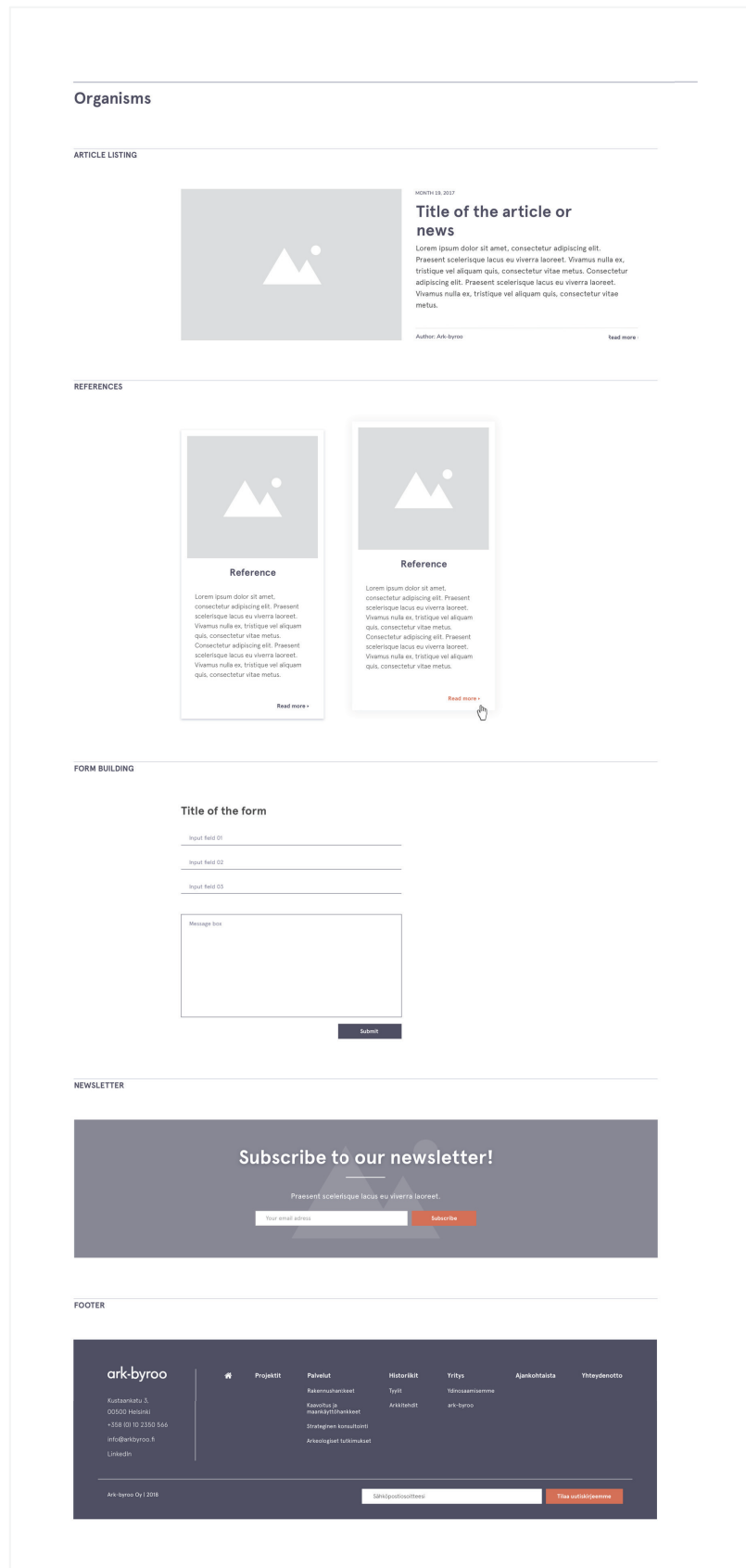


Figure 19. The Organisms – The organisms show how a specific functionality can be assembled.

The Templates

The article page was designed as a template page, because it will serve as a content management page for the different individual project showcases. Unlike the other more static pages, the platform for the articles needed to be more dynamic and flexible enough to be able support different kinds of web contents. The article page template is used to present more information about an individual project and its main purpose is to demonstrate to the client an ideal way of adding the content to the page.

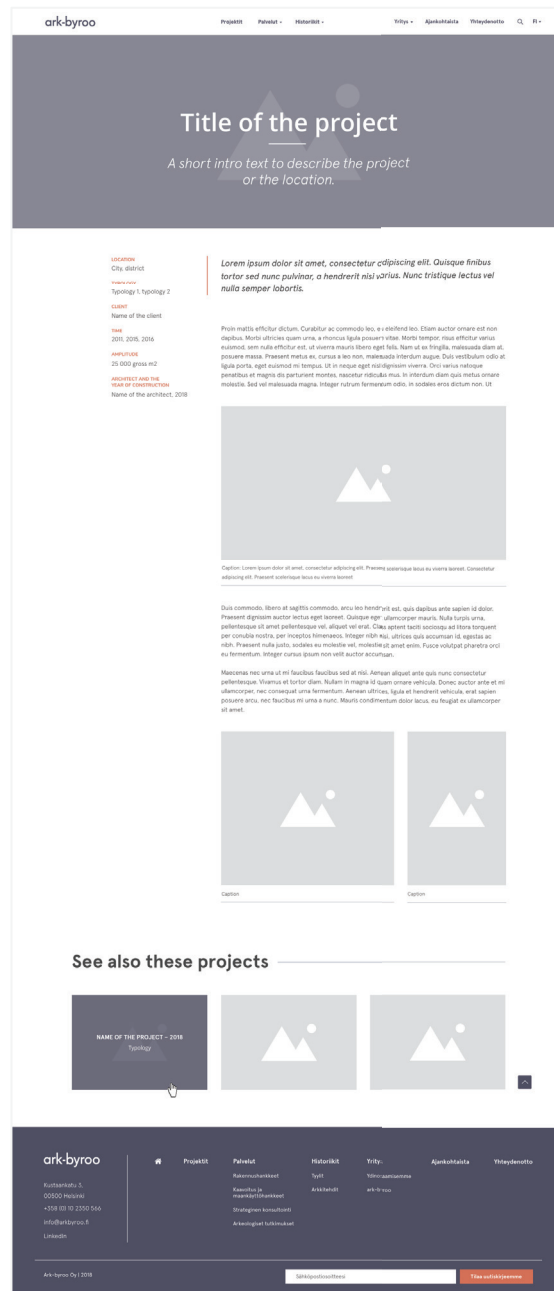


Figure 20. The Templates – The project page template shows how the structure of the page can be formed.

The Pages

The final visual layouts of the pages are combined with of all of the design system and style guide elements. The figure 21. shows the layouts of the current project introduction page and the new design of the same page. The new design adapts flexibly to its content, so projects with small and large amount of text and pictures can be presented with a consistent visual appearance of the page. The new layout of the page shows also how the design system components, for example, the image modules (see figures 16. and 17.) can be used on the project introduction page.



Figure 21. The Pages – The current project introduction page (left) compared to the new design of the page (right).

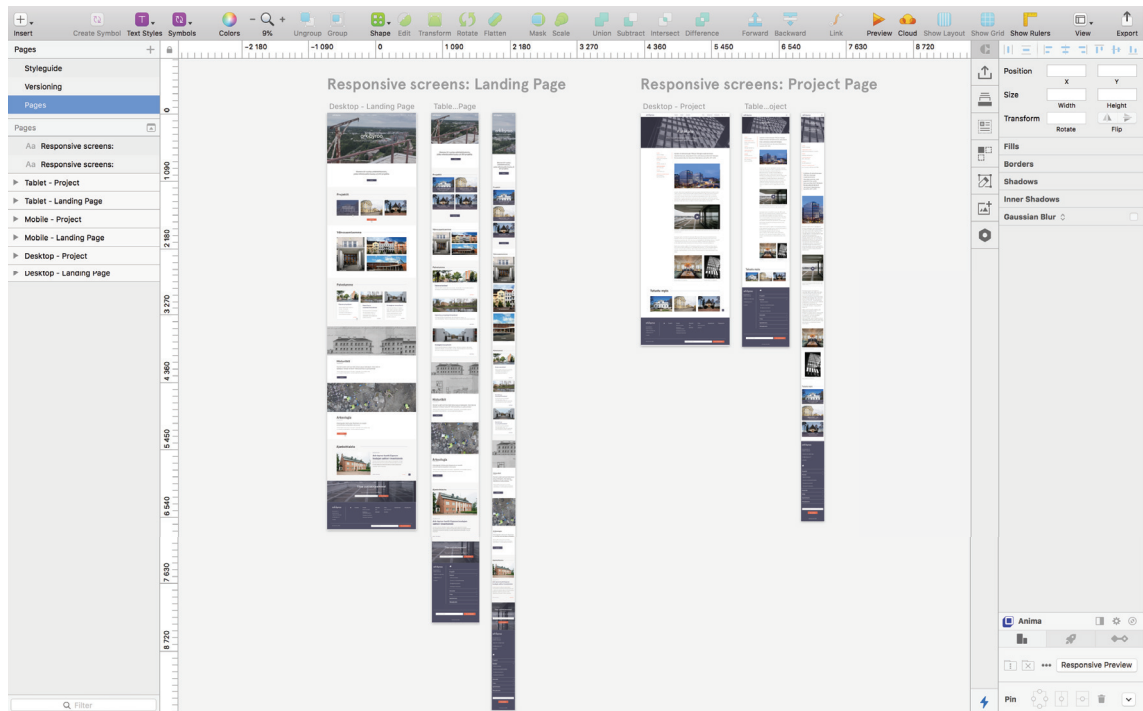


Figure 22. The Pages – The figure demonstrates how the end product will look like, how it scales and how the elements will function together.

The pages demonstrate how all of the individual elements function together as a whole and how it scales responsively to the other screen sizes. With all of the available design system elements and components, this is only one of the multiple ways of constructing the website.

4.7 Conclusion of the design process

The purpose of the project was to design a new website for a Finnish architecture company that corresponds to modern web design standards and serves as a flexible platform for various types of content. The company's visual brand appearance was extended as well to give all the elements and interactions on the website the brand's distinctive look.

Since the design process was conducted as freelance project separately from the technical development of the website, creating a well-documented design system was mandatory. It eased the design hand over to the technical development team because all the needed information could be found and checked easily from one documented pattern library. This reduces the chances of unnecessary debate about revisiting design decisions for the same components, which in return saves time and expenses. Also, after

the website is coded and the technical development is finished, it enables the development team to perform the quality assurance control more independently.

The development of the website was still on-going process during the time of thesis and therefore the data of users' behavior on the website could not be collected, analyzed and compared to measure the efficiency of the new constructed design system. In this case, the main priority was to unify the brand image throughout the website by creating a functional and well-supporting design system that makes the development process more effortless and benefits the company in the long-term. Since the timeline of the development of the website did not fit within the frame of the design process, the design system laid a foundation for maintaining the company's brand image on a digital platform and it serves as a tool for its future development.

5 Summary

The research question and the main objective of the thesis was to study how digital brand design and brand development can be improved by utilizing the design system method and Atomic Design principles during the design process of the digital product.

The challenge that the design teams face today is that the tools available for us might not communicate between each other well enough, details can get lost in the process, and therefore causing a gap between design and engineering. Managing these challenges, it requires a huge amount of manual work to ensure that the teams can stay in control of the entire development process. An efficient design system can provide a solution that helps to bridge this gap, but in order to be efficient it needs contribution from members from a different area of expertise that are involved with the digital product design. This way all of the aspects of the design system can be covered and implemented correctly from the design process to the technical development of the product.

As it mentioned in chapter three, the viability of the design system method is not an untested hypothesis and many of the largest brands have adopted it as a foundation of their digital product and brand development. The strength of design system method is that it is not only serving the designers, developers and the client companies, but always the end user as well. Nowadays when digital products such as websites, apps and online

services can be found everywhere, with consistent design system behind the digital product, even smaller businesses can stand out and succeed among their larger competitors. Modern digital brand design methods together with thoughtfully constructed design systems can be a crucial key factor that may lead to the vital success of the brand and provide long-term value.

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