

# Design and develop a usable prototype solution for Blaze Digital Oy online store

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This thesis is a product oriented thesis for a starting business, Blaze Digital Oy. Blaze Digital Oy is a company that has an online store. The thesis uses user centered approach and the agile workflow to design and develop the solution. The solution has four phases: requirement analysis, development, user testing and feedback.

In the requirement analysis phase, the deliverables are the requirement features and scenario. In the development phase, the deliverables are a prototype of the website, a cost structure break breakdown of the platform, features and services and the step-by-step instruction of the platform. In the user testing phase, five users were tested, and a recommendation of the solution was provided. In the feedback phase, the stakeholders provided instruction and feedback during each phase: requirement analysis, development and user testing.

Due to the issues with registration of the company paperwork and bank account, a full prototype of a working solution was unable to be achieved. This meant that the stakeholders cannot purchase the platform, plugin or services. The deliverable solution is a test of the platform with documented instruction on how to setup, cost of domain name purchase, hosting, a prototype design of the user interface, and usability testing of the user interface are given as the deliverable solutions.

In the project thesis, user-centred approach was implemented. Research, data gathering qualitative questionnaires and data analysis were used to map the concept and develop the requirement features. The research and data gathering sources came from research papers, newsletter, online statistical data, and online blogs of individuals and companies. Qualitative survey was conducted with the stakeholders. The stakeholders were given twelve open-ended questionnaires as part of the design process. The responses were analysed using QDA Lite software to determine the features and mapping of the requirements.

User-centred approach was used to help design the wireframe. The prototype was a non-coding prototype with semi-finished features and functionalities on the Shopify platform. The prototype user interface was tested with five users as part of the usability test. The usability test was to determine the validity of the concept and the usability of the design. Normally, the usability test and recommendation are separated documentations.

#### Keywords

User-centred approach, agile workflow, requirement analysis, development, prototype, usability test, feedback, plugin, platform, user interface, user-centered design, ux and design theme.

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#### 1 Introduction

Blaze Digital Oy is a newly formed company. The company business is to provide an online store or ecommerce market place for consumers. This project is to develop the ecommerce first version solution for Blaze Digital Oy. The ecommerce solution is a website commissioned by Blaze Digital Oy. As of September 27, 2019, the company has not yet completed the registration and currently marked as unregistered. Therefore, the website will not be published during the thesis project as the business bank account has not yet been established. The chosen platform for the ecommerce solution is Shopify.

#### The background

Ecommerce is a growing market in the retail industry. According to Andrew Lipsman, a blogger on eMarketer, in 2019 global retail sales are estimated to reach 25 trillion dollars or 4.5% growth and will reach 29 trillion dollars by 2023 (Lipsman, 2019). However, the retail market for ecommerce has been growing in double digits. According to Statista, a research company providing market and consumer data online, stated that retail ecommerce sales worldwide will reach 3.5 trillion dollars in 2019 and will grow to \$6.5 trillion dollars or an estimated 14.9% growth by 2023 (Clement, 2019). Retail sales and the ecommerce sales are growing year-over-year.

Ecommerce is an online store. According to the Ecommerce Guide, a website blog reviewing ecommerce platforms, defined ecommerce as an online transaction where goods and services are bought and sold (Ecommerce Guide, 2019). On the contrary, according to Larry Ullman, e-commerce is any website intended to make money as a business (Ullman, 2014). There are different types of ecommerce business models such as: business to consumer, business to business, consumer to business, consumer to consumer, government to business, business to government, and consumer to government (Ecommerce Guide, 2019). For example, a business to consumer or B2C business model has retail stores with physical products and selling the products online. Sears, Best Buy, Gigantti, Swappie and many other chain stores fall into this type of business model. Another type of ecommerce is having an online storefront and it only sells products online without having any physical retail stores. For example, Alibaba and Amazon, two of the world's biggest ecommerce retailers, does not have physical stores but hold inventories in their warehouses (Ecommerce Guide, 2019). Digital service is also defined as an ecommerce. For instance, Udemy, TeamTreeHouse, Netflix and many others that are selling services online as digital products (Ecommerce Guide 2019). eBay is an example of a C2C, B2B and B2C business models (Ecommerce Guide 2019).

On the eBay ecommerce platform, regular business merchants or any person can sell a product online to consumers.

There are very few barriers to entry for starting an ecommerce. According to Ajeet Khurana, author of Barriers to Entry in the Ecommerce Business, stated that someone with experience can setup an online store in a day or within an hour as supposed to setting up a retail store which would take much longer (Khurana 2018). The author further stated that an ecommerce has the following characteristics: customers, returning customers, and is profitable (Khurana 2018). Therefore, there is very little barriers to entry for new businesses.

There are many reasons consumers are shopping more online. According to Bom Gamer, author of 7 Reasons Why Online Shopping is Better Than Offline, described these reasons as: time saving, save in transportation expenses, shopping convenience, cheaper products, no waiting in line for the cashier, avoiding crowds or traffic, and easy to search (Gamer 2017). In addition, the increase in the number of smartphone users has propelled the increase consumption for online shopping. According to Justin Smith, author of Mobile eCommerce Stats in 2018 and the Future Online Shopping Trends of mCommerce, stated that a successful ecommerce website must cater to mobile users (Smith 2019). Furthermore, according to Justin Smith, the author stated that in America over 230 million users owned a smartphone and 79% of the smartphone users purchased online (Smith 2019). Online stores are growing globally. According to the International Post Corporation, a service provider company in the mail industry, stated that ecommerce will grow most in China and North America (International Post Corporation 2017). The company further stated that the growth was the result of the increase usage of smartphones (International Post Corporation 2017).

However, this thesis focuses only on the B2C business model. According to Larry Ullman, to be a successful e-commerce platform customer must be respected, questions answered, fear mitigated for customers to shop and provide personal information such as: name, address, and credit card information (Ullman, 2014). Furthermore, Larry Ullman indicated that a successful website with the intention to make money depends on usability reliability and performance (Ullman, 2014). This thesis is divided into four phases using the agile workflow: getting the requirements, development, testing and feedback. The requirement is based on research using UX design principle and the need of the stakeholders. Development is a prototype first version with a user interface as the company has not yet established a bank account or product line. Research is done to provide a cost structure for the platform such as IP address or domain name, database, hosting and payment

system as a readymade plugin. The research and development are to confirm the reliability and performance of the website. Testing includes user testing of the user interface using user experience design principle. User testing is to determine the usability of the website. Feedbacks are given by the stakeholders during each phases of the implementation.

#### 1.1 Objectives and deliverables of the project

#### **Objective**

This is a product solution for the company Blaze Digital Oy. The objective is to provide the requirements, research, and first version prototype necessary to setup the online store. The company needs the online storefront platform to conduct the business. The chosen platform is Shopify. This is a non-programming solution.

#### Deliverables to the stakeholders

Here is a list of the product logs to be considered as done by the stakeholders.

- Requirement features
- User scenario
- Development of a prototype user interface and database
- Provide research documentation on performance and cost structure of payment system, IP address or domain name, SEO, security and hosting.
- User testing report

#### 1.2 Work Done

The work of the thesis began with the project plan dated September 23, 2019. One third of the work was completed on November 6, 2019. Two-third of the work was completed on November 19, 2019. The project completed on November 26, 2019.

#### 1.3 Methodologies

The methodologies of the project thesis include User-Centred Approach and the agile workflow. According to Smartsheet blog, an enterprise platform service company, stated that the agile method of iteration workflow is to deliver a working software that is adaptable (Smartsheet). Since the company bank account cannot be setup, a minimal viable product solution with semi-functional features prototype can be delivered instead. This meant that features such as payment systems, domain name purchase and setup, and

shipping and logistics cannot be tested. The prototype as a deliverable solution will be validated with the usability test. User-Centred Approach was used to help develop the requirement features, design the wireframe, design the UI and test the concept with the usability test. The agile workflow is used during each phase of the iteration a minimal viable product. Here is the following picture of the agile lifecycle.



#### Learning objectives

Here is a list of the learning objectives.

- Applying UX design to an ecommerce platform
- User testing
- Understanding the cost of starting an online business

#### 1.4 Out of scope

The project does not have information about other closed sourced platforms such as Wix, BigCommerce, SquareSpace or Weebly (Sutton, 2019). The project prototype did not include the payment system. Since the business bank account was not registered and setup, the Shopify payment system would not allow for testing.

#### 1.5 Theoretical Background

#### The requirement analysis process

The requirement analysis is broken into the following parts: research, questionnaires for the stakeholders, transcript coding, requirement features and storyboard. Research behaviours of shoppers are used for data collection and information gathering. It is used to determine the need of the shoppers and their shopping behaviours. The data provides an overview of how shoppers react while shopping online, their mindset, reasons for shopping and reasons to continue shopping. Questionnaires for the stakeholders are used to gather information and for transcript coding. Transcript coding is used to develop the concept and storyboard.

#### Research Behaviours of Shoppers: Behaviour, Habits and Gender

Users shopping habits and behaviour are measurable. According to Khalid Saleh, author of the blog Online Consumer Shopping Habits and Behaviour, said that consumer satisfaction depends upon the following: ease of checkout, variety of brands and products, number of options to shop, number of payment options, discounted shipping, ease of returns, able to purchase with a tablet, contacting customer service, and purchasing with a smartphone (Saleh). Ease of checkout received the highest customer satisfaction level while purchasing with a smartphone received the lowest satisfaction score. Furthermore, Kalid Saleh described that 80% of shoppers shop if there is free delivery and 64% of consumers shop if the return and exchange is free (Saleh). Furthermore, the author mentioned that more shoppers shop directly from advertisements from their social media networks such as Facebook, Twitter and LinkedIn (Saleh).

There is gender disparity when it comes to shopping online. According to a study in 2017 by five researchers, females tend to be impulsive buyers on products such as books, clothing jewellery and toys (Acar, E. & Ofluoglu, P. & Kanat S. & Unal, Z. B. & Atilgan, T. 2017). On the contrary, the study further states that men tend to shop for electronics and computers (Acar, E. & Ofluoglu, P. & Kanat S. & Unal, Z. B. & Atilgan, T. 2017). In short, the study indicates that clothing lines are considered as high-risk items as buyers want to touch the fabric, trying on the clothing, and checking on the design brand. However, consumers will purchase if the product is a known name brand and basic products that are similar or familiar to the consumers based on experience (Acar, E. & Ofluoglu, P. & Kanat S. & Unal, Z. B. & Atilgan, T. 2017).

#### Objective versus subjective information searches

Shopping behaviour on objective and subjective information. According to an article in the Journal of Marketing Management, the authors described that shoppers tend to search more for objective information or filter by price, product type and so on (Grant, R. & Clarke, R. J. & Kyraizis, E. 2007). On the contrary, shoppers also search subjectively on information that are personal, consumer opinions, for hobby or for leisure (Grant, R. & Clarke, R. J. & Kyraizis, E. 2007). For instance, the authors example of these subjective searches was wine, restaurants and travel experiences. In addition to subjective and objective searches, the authors described that most consumers end their searches if they do not know the exact word to search or the name of the product (Grant, R. & Clarke, R. J. & Kyraizis, E. 2007). The authors further stated according to the study that consumers will

avoid searching online altogether if the consumer feels there is risk in security or financial loss (Grant, R. & Clarke, R. J. & Kyraizis, E. 2007).

#### **Understanding A/B Testing**

Designing a website with A/B testing can help increase the return on investment. A/B testing is defined as a random experiment with two variants or models (Wikipedia 2019). For example, the facial image of a person is deemed more trustworthy and received 95% conversion rate than art images according to Ayat Shukairy, blogger of 31 E-Commerce Conversion Rate Optimization Ideas You Must Try (Shukairy). In addition, the author further stated that eye tracking studies showed users will focus their attention more to the attention of the person in the image (Shukairy). The author concluded that designing for a high conversion rate website, the user must know where he or she is on the webpage, the next step to take and expectation of the result (Shukairy).

#### 1.6 Project stakeholders

Here is a list of the following stakeholders:

- Dinh Hoai Phu Nam, board member of Blaze Digital Oy
- Yoeuth Danny Yen, chairman and board member of Blaze Digital Oy
- Kiseri Armand, deputy and board member of Blaze Digital Oy
- Balaj Lis, board member of Blaze Digital Oy

Each of the board members are co-founders and listed as the stakeholder. However, Dinh Hoai Phu Nam is the sponsor representative for the project.

#### 2 The Project Structure

The project structure was broken into four phases: requirement analysis, development, testing and feedback. In the requirement analysis, the features and scenario were developed. In the development phase, a paper prototype was developed. The user interface and databased developed and approved by the stakeholders. User testing conducted and testing report written for recommendation. Feedback are given by the stakeholders during each phase as part of the approval.

The requirement analysis was used for gathering data, features of the website, and specifications of the platform. The requirement analysis provided a user scenario. In addition, the requirement analysis helped in the development of the prototype and user interface. The requirement analysis used UX design principle with the agile workflow as part of the learning process. The requirement analysis was important and necessary for the next phase of the workflow.

Development was on the user interface and database as a deliverable solution. The development was limited to just a free-trial prototype. Screenshots of the user interface were provided to the stakeholders as well as step-by-step documentation to help the stakeholders setup the account. In addition, the development provided specifications on the platform, cost structure of other features such as domain name, hosting, SEO and security.

The next phase is testing and feedback. Testing was the last part of the deliverable solution and feedback was given and approved during each phase. Testing was done using UX design principle of user testing. The report is included in this project. The report included recommendation for the user interface.

#### 3 Getting the requirements for the analysis

#### 3.1 Questionnaires for the stakeholders

Questionnaires were sent to all four stakeholders for information gathering and for transcript coding. Here is the list of questions:

- Who is the target audience or group for the website?
- What is/are your main product(s)?
- How much should a consumer spend?
- What are example websites you like and why?
- What are example websites you do not like and why?
- What devices are you targeting?
- What is your colour scheme?
- What methods will be used to drive traffic?
- How can someone find the website?
- How do you want to send emails?
- What user information is needed?
- What payment system do you want to have?

The stakeholders respond varied slightly. However, target audience or group came back the same. On the contrary, main product or products overlaps each other. All stakeholders want the product line to have clothing and prices at £25 per item. Colour choice was white. Methods to drive sales were all on social media networks and mobile was the number one choice for targeting users.

#### 3.2 Transcript coding

Transcript coding produced the following statistics:

Questions	Topic	Description	Yes
Question			
1	Age 15-30	Target Group in Age range	4
Question			
2	Product List	Categories of Products	4
Question			
3	Price	Price range or target revenue per day	4
Question			
4	Website Idea	ecommerce stores that are comparable or competitors	4
Question		ecommerce stores that are not comparable or can shy	
5	Websites Don't	away	1
Question			
6	Screen Size	Devices that are being targeted for ads	4
Question			
7	Colour Scheme	Colour theme for the website	4
Question			
8	Conversion Rate	How to get convert customers to clients	4
Question	A ali . a uti a a usa a ut	have to accord the conductor	1
9	Advertisement Notification	how to search the website	1
Question		when to could avail patification	4
10	Plugin	when to send email notification	4
Question 11	User information	database requirements; what should be stored	1
		database requirements: what should be stored	4
Question 12	Payment System	Third party plugin for setting up payment system	4

Figure 1 - Transcript Coding Results

All members of the board responded to the twelve questions. However, two members were not aware or did not know of websites they do not like or how to create ways to search for the website. All members agreed to the same age group, targeting devices, advertisements to convert customers to clients and agreed payment system was PayPal. On the contrary, all members had different ideas for product categories, website ideas, colour scheme, user information and email notification for the plugin.

#### 3.3 The Requirement Features

All members of the board agreed to the same target group, devices, sources of ads, and payment system. All members have responded to the survey that a product line should at least include clothing line or apparel.

Features	Description	Priority	Voting score
Email No- tification	Sends greeting, promotion and confirmation	High	4
Mobile Friendly	iPhone and Samsung devices	High	4
Social Me- dia Links	FB, Instagram, YouTube links to display ads and announcements	High	4
Colour Theme	Orange and white	Low	4
Payment System	Must have PayPal and can include Apple Pay and Google Pay	High	4
Product List	Gifts, Phone Accessories, Apparels, Pets,	Low	4
User Infor- mation	Email and passwords, shipping address	High	4
Website Don't	overlapping pictures, retro feel,	Low	1
Security	access rights, permissions	Low	0
SEO	search engine optimization for traffic	Low	1
Design Theme	Simple and minimalistic	High	4
Price Range	20-35 range	High	4

Figure 2 – Approved Requirement Features

#### 3.4 Scenario

Here is the approved scenario:

John Smiths sees an advertisement on Facebook for an awesome looking t-shirt on his iPhone. He clicks on the link and it takes him to Blaze Digital Oy website where he sees the t-shirt and price. He chose the size of the t-shirt and clicked on checkout. He provided his shipping address and created an account with just his email and password. He quickly registered by providing his email address and confirming the password. He is now back to the same screen and he hears an alert on his iPhone of a new welcoming message in his email. He continued, it prompted for his name, address, and credit card information. He chose to sign in with his PayPal account. He confirmed the transaction and he

received another alert confirming his purchase. He rated the process and the rating showed up on Blaze Digital Oy announcement and added to the review.

There was one change. The agreement was to change the registration feature and checkout to be uninterrupted and seamless.

#### 4 Development

This is the development phase of the agile workflow. This phase included as a deliverable the prototype design for the user interface with screen sizes for PCs, tablets and mobile devices. In addition, research information about the cost structure of the features, plugins, and other services was provided. Furthermore, instructional information was provided as a source of referenced documentation to help with the ease of setting up the website for future reference. This included initial screen shots and documentation on how to register and use the platform. The instruction is a step-by-step documentation also part of the deliverables.

#### 4.1 The user interface research analysis

Initial research for designing the user interface came from many different resources and references. For example, according to Marina Yalanska, author of the blog 11 Profitable Strategies for E-commerce UI Design, stated designing for an online stores requires the following characteristics: visibility of branding, clear and easy navigation, scannability of the page or screen, minimization of the user's effort to search or to take action, provides landing pages for specific product or purpose, homepage needs to be informative, quality images, advertisements or promotional videos, contact information to be located in the usual area such as the footer, and ways to interact or provide amusement for the users through the use of prizes (Yalanska). On the contrary, designing a website must include certains layouts. According to thesis by Mei Qian, a student that attended Laurea UAS, wrote that header should contain the logo, search bar, login/logout, and slogan (Qian 2014). In addition, the author Mei Qian added that the content should consist of slide shows, feedback form, menu, and Google map and the footer to include social media and other links (Qian 2014). However, Mei Qian design and theme was for a separate company called Aseanic Trading Oy.

The stakeholders provided many websites that had similar characteristics to these themes and ideas. Here are the list of websites and comments provided by the stakeholders that they would like to have in terms of similar characteristics.

What are example websites you do not like and why?	none	Stockmann: https://www.stockmann.com/?gclid=C j0KCQiA2ITuBRDkARIsAMK9Q7Pbvu wgBJraZKoJ2EqjD-uf bFtEtGSVa0a0pR7IWq2_6zf0a1J- caAhVoEALw_wcB The centered layout with overlapping pictures. Feels retro and unappealing Sears: https://www.sears.com/ The banner and the layout of the category tabs as part of the navigation. Too many navigation tabs. Seems boring, advertisements on discounts and not about prices. Feels like you have to search too much for the product you need.	none
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#### 4.2 The wireframe

The design tool used for this thesis project was mockingbird, a free online design tool. Here is the list of images for the user interface.

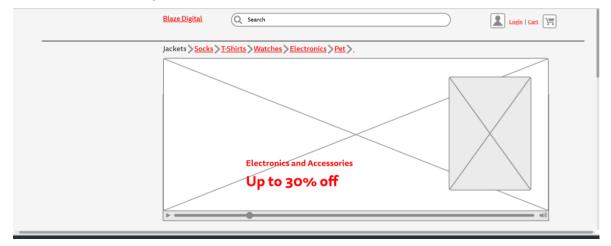


Figure 3 – Home page with navigation and header

On the home page, there is the logo and banner with a big search box. On the navigation, there are three links: Login, About Us, and the shopping cart. Right below the navigation and header, is the Product list and the slide shows of all the advertisements.

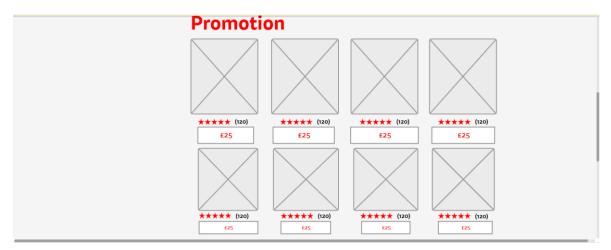


Figure 4 – Home page body with promotional contents

In the body, the content is a slide show that provides a list of promotional products with an image, star rating and price. The user can click on an image and it it takes the user to that product information. The user can add the item to the cart.

On the aside is the review. It is a scrollable slide where the user can read each of the reviews written by other customers. The color is of the header is orange. The text color is black. A default icon image of a person is displayed as the customer.

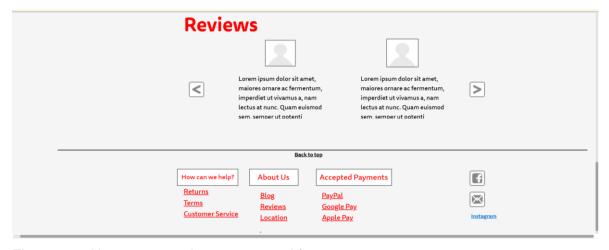


Figure 5 – Home page review content and footer

On the footer, there are three categories. These categories are: How can we help?, About Us, and Accepted Payments. In addition, there are links to our form and email for customer service, facebook link, and instagram. The icon is not currently available.



Figure 6 - User logged in page

When user is signed in, the navigation will change. The user now has the option to logout, see order history, coupons and cart.



Figure 7 – Order history page

In the order history, the user can see a list of items that were purchased, the cost, when it was purchased, total purchased for the day, and the address the item was shipped to.

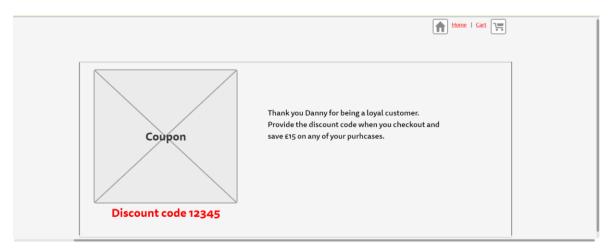


Figure 8 - Coupon page

On the coupon page, the user has two links on the navigation: the home page and shopping cart. The user is provided with a short text on how to save and use the coupon.

Here is the scenario when a user clicks on one of the category, the jacket page.

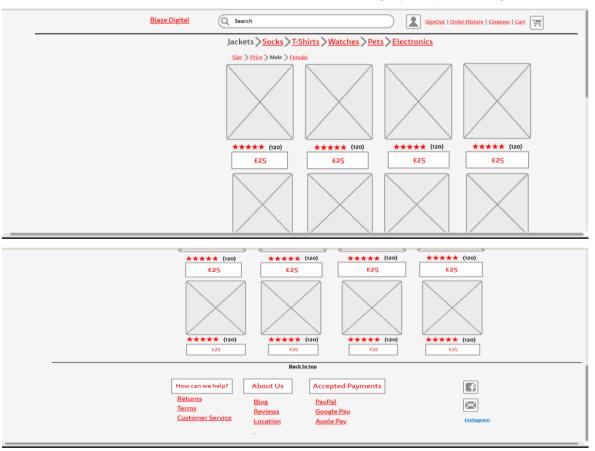


Figure 9 - Jacket page

Here the user can scroll down to find the jacket that is available for sale. In addition, the user can sort by price, gender, and size of the jacket. The jacket link is focused allowing the user to know where he or she is at all time.

Here is the product page when a user clicks on an item the user likes.

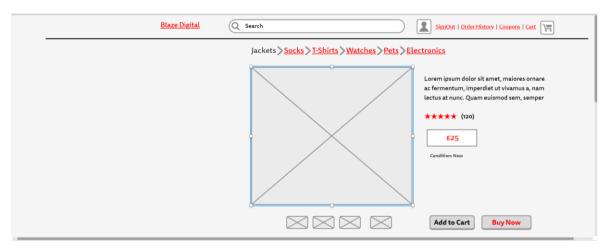


Figure 10 - Product page main content

Here the user can review the item, rating, cost, add it to cart or checkout. In addition, the user will be able to read more comments made by the reviews.

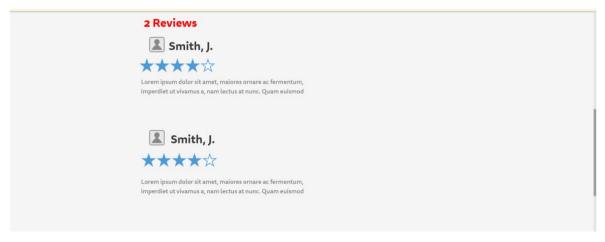


Figure 11 - Product page review comments

Here is the Cart Detail page. When the user clicks on the cart, it will take the user to the cart detail page. Here the user can see what item is in the cart, delete the item from the cart, continue shopping will take the user back to the link where the user finds the product, see the total cost and proceed to pay.

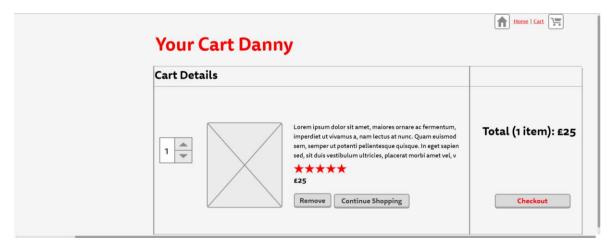


Figure 12 - Cart detail page

Here is the detail for the checkout page. On the checkout page, the user can choose between PayPal, Google Pay, Apple pay, and credit card information. If the user chooses the credit information, the credit card detail will populate and the user can enter the credit card information. If the user chooses PayPal, Google Pay or Apple Pay, the shipping information is not required. The user can enter the discount code before hitting the checkout button. Required fields are the email address and password.

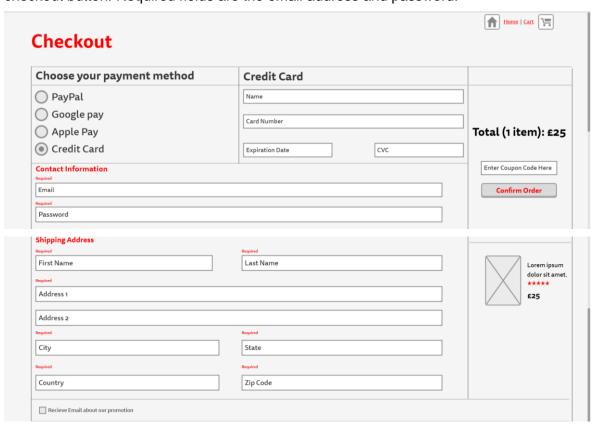


Figure 13 - Checkout page

The Return Policy page provides information about the return policy. Here the user can find out how to return, package and send the item back.

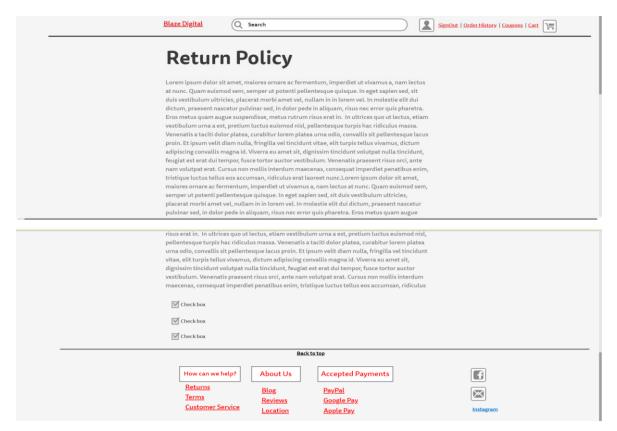


Figure 14 - Return page

On the Terms page, the user can read what information is stored and what information is not stored. In addition, the user is subject to the website terms.



Figure 15 - Cart detail page

Customer service page lets the user write a complaint about the product or issue. The email is sent to Blaze Digital Oy inbox.

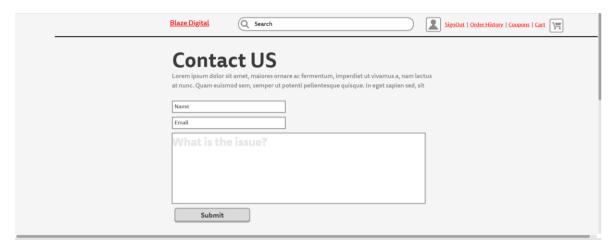


Figure 16 - The Contact Us page

Blog provides an about us page. The page has a landing page. The page includes information about the product. In addition, it provides a few of the advertisements used on social media.

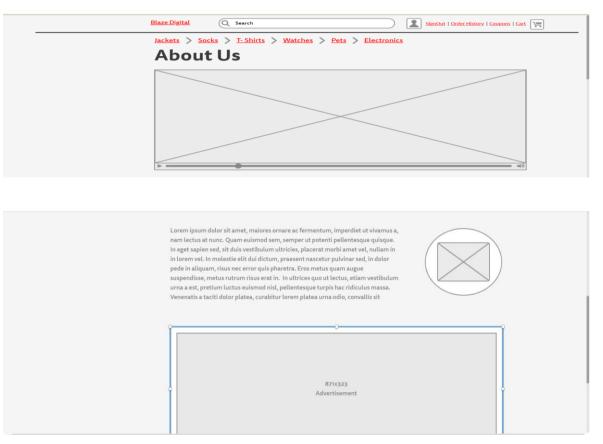


Figure 17 - Blog page

The review page has all the reviews that the website has and all the review and announcements from the social media accounts.

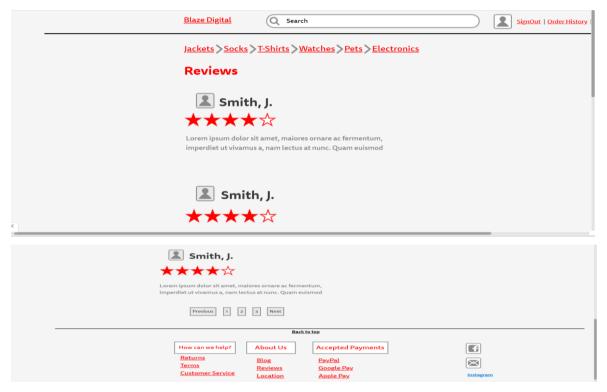


Figure 18 - Reviews Page

The location page is a google map of the address. The current mailing address is Jussilankatu Hyvinkää Finland. Here is a picture of the scene.

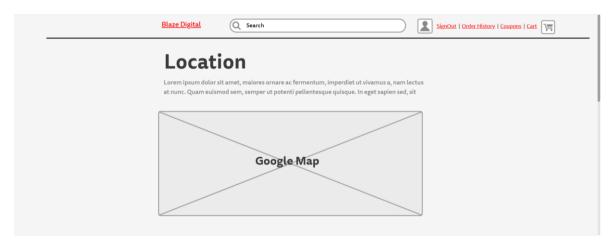


Figure 19 - Location page

Here is the page if a search came back as 401 or 403 unavailable.

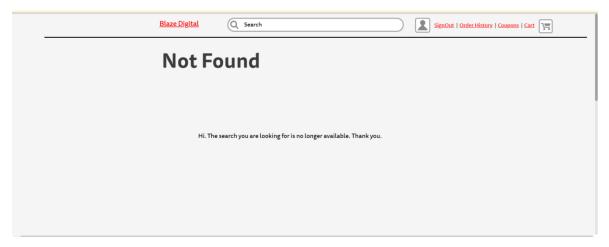


Figure 20 - Not Found Page

#### **Wireframe for Mobile Screens**

The search box on the header will be on every page.

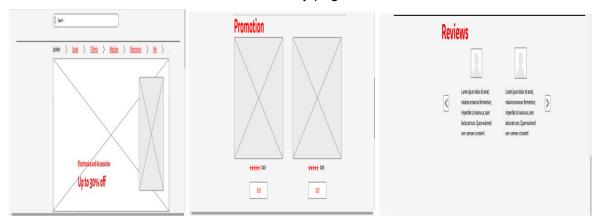


Figure 21 - Home page mobile screen

On the home page, the header will have a promotional advertisement as the landing page and the category. In the body content, promotional products will be side by side. In the body content, reviews remain the same.

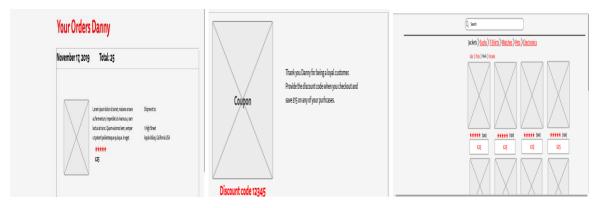


Figure 22 - Order History, Coupon and Jacket pages

The order, discount and jacket pages will be the same content. The difference in the mobile screen is that there will not be any Home icon, login icon and cart on the navigation bar.

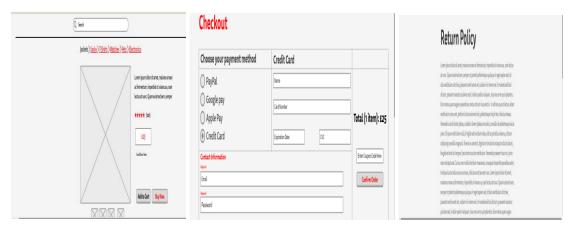


Figure 23 - Product, Checkout, Return Policy Pages

On the product, checkout and return policy pages, the content will be the same. However, there will no longer be any icons on the navigation bar with the home, signout and cart.



Figure 24 Terms Of Use and Contact Us Pages

On the term of use and contact us page, the information content will be the same. There will no longer be any home icon and cart on the navigation.

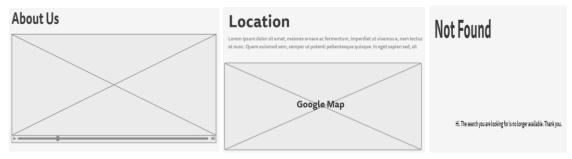


Figure 25 About Us, Location and Not Found Pages

On the About Us, Location and Not Found pages, the information content are the same. There will not be any home icon and cart on the navigation.



Figure 26 - Footer on every mobile view pages

The footer will be the same on all pages in the mobile screen views. There are the home page icon, cart and user icon for users to login.

#### 4.3 Cost Structure of Shopify, Service and Features

Here is the pricing plan according to Shopify, the platform service for Blaze Digital Oy online store (Shopify). The Shopify platform offers with the basic or intermediate level plan the hosting site. The domain name can be purchased from a different online service. According to Shopify, the platform offers an email marketing plugin calls MailerLite, the price is integrated on the Shopify plan (MailerLite). According to the Shopify pricing plan, the basic cost around \$29 per month while the more advanced plan cost \$79 per month (Shopify). Features for the basic plan include: an online store, blog, unlimited products, digital marketing, and discount codes (Shopify). On the contrary, the intermediate plan or more advance plan offers the same plan feature as the basic plan but also include the gift cards as a built-in feature (Shopify). The logistics of the basic plan rates with DHL and other providers in the United States include the shipping and handling of an additional 64% discount and print shipping labels (Shopify). On the other hand, the more advance plan offers a higher discount of up to 72% and include print shipping labels (Shopify). In addition, the basic plan includes in the payments and Shopify rates of payment providers: security, PayPal & third-party credit cards providers with a 2.9% + 30¢ per transaction, and additional fees of 2% that are not with a Shopify payment provider (Shopify). The intermediate plan rate offers security with a 2.6% + 30¢ rate on PayPal & third-party credit cards providers and 1.0% additional fees with non Shopify provider (Shopify). According to the shopify pricing, the basic plan and intermediate plan fits the company budget (Shopify).

According to Stephen Sutton, author of Selection and Implementation of E-commerce platform for a start-up, wrote in his bachelor thesis that Shopify recieved a weighted score of 132 compared to WooCommerce for cost and usability (Sutton 2019). The overall

platform scoreboard according to Stephen Sutton have Shopify scored much higher for start-up companies. For example, the author indicated that shopify recieved high scores on easy to use for end users, easy to manage, fast implementation, reliability, mutli-language support channel, and optimized speed (Sutton 2019).

The cost of the domain name blazeweb.com is priced at £22.63 for a one year plan with privacy and protection plan. In addition, there is an added cost of £32.65 for the first year for an email address with MicroSoft Outlook, a secured platform.

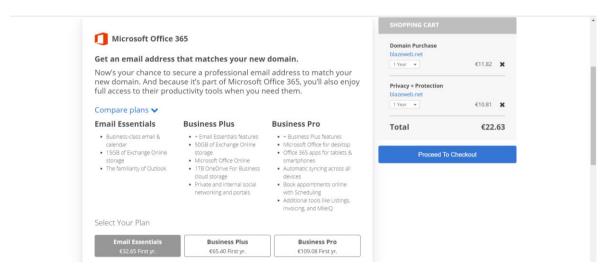


Figure 27 - Domain name

In short, the cost of a domain name for the website is £11.32 and the shopify platform for the basic plan of \$29/per month would provide all the features: payment system, email notification plugin, hosting, payment security, social media marketing channels, mobile friendly, and data security. In addition, the platform offers many design theme for an online store.

#### 4.4 Step-by-Step Instruction to create a Shopify Account

To register for a Shopify account, the user must go to the address at www.shopify.com. Once at the web address, the user must click on, Start free trial, located at the top right corner. A pop-up appears, the user must fill in the information.

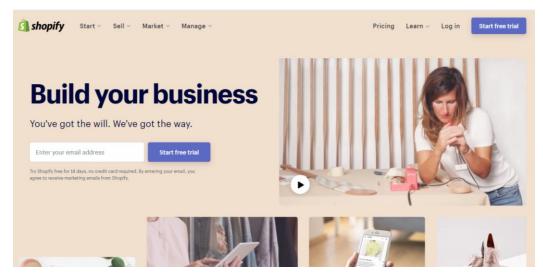


Figure 28 - Shopify Home Page

For the prototype design, the email address used was danny.y.yen@gmail.com. The password will not be disclosed for the project thesis. The store name is Blaze Digital. Once the website is loaded, the user must fill in the information. In addition, the user must fill in the business mailing address and phone to setup the account. A default mailing address for the business was provided in the address for getting paid.

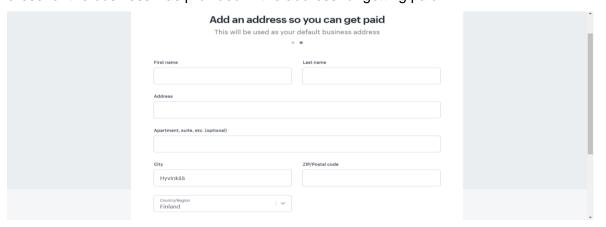


Figure 29 - Business information

Once business information has been completed, the welcome page is displayed showing that the trial period has started.

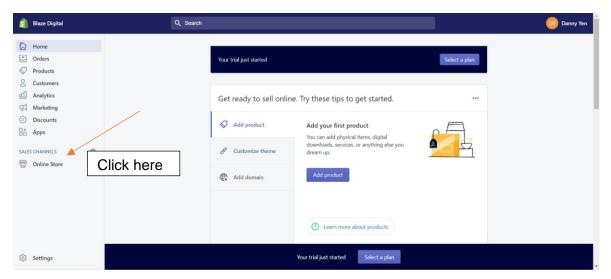


Figure 30 - Welcome page

On the left is the navigation buttons, under sales channel is the online store user interface. After clicking on the button that says online store, the user can choose from the available themes or customization.

The supply theme was chosen as the prototype theme. The supply theme provides the same user interface as the wireframe.



Figure 31 - Supply theme customization

Here, the user can edit the user interface to match the wireframe. In addition, the user can add slideshows, social media links and product lists.

To add the payment systems the user must go back to the Shopify content system. The user must click on the settings and then payment system.

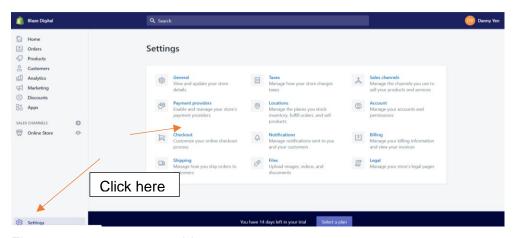


Figure 32 – payment provider setup

In order to setup PayPal account the user must setup an account with PayPal with a business address and phone number. The user must first go to the website address for PayPal worldwide at https://www.paypal.com/en/webapps/mpp/country-worldwide. Once there, the user must click on the country of choice. Once clicked on the country, fill in the required field to setup.



Figure 33 - Setting up PayPal Payment system by country

Once an account is registered with PayPal, according to the instruction, the user must go back to the setting page on the Shopify content system and click on deactivate twice (Shopify). In the PayPal section, the user must click on PayPal account type to activate the account. Finally, the user must enter the email address and continue (Shopify). Adding a third party to the payment system such as Mastercard, visa, Apple Pay requires registration for a stripe account, a third-party account with Shopify. The user fills out the required business information such as: Country of residence, product and website information, tax identification, address, phone number, contact person, and company bank information. Unfortunately, since Blaze Digital Oy does not have any of the information payment system would not be setup.

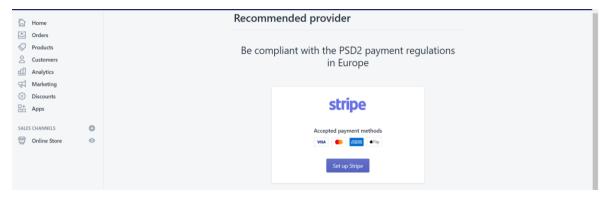


Figure 34 - Setting up third party payment system

In the shopify setting, users can setup their shipping setting. Sales channel, taxes legal and checkout. For example in the checkout section, the user can control the required fields customers must input such as seamless or account setup required. Furthermore, the user can enter a new address or use the previous shipping address. Sales channel such as point of sale, where the user can sell using the shopify application.

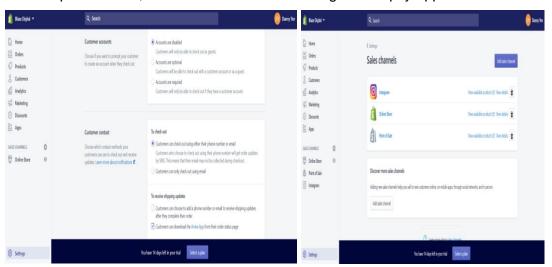


Figure 35 - Shipping, Sales Channel

In addition, the user can manage how the taxes are collected. For example, Finland sales tax of 24% VAT will automatically get collected and a report is available for the user. In addition, the user can write the policy for the terms of the refund, privacy, terms of service, shipping policy and legal notice.

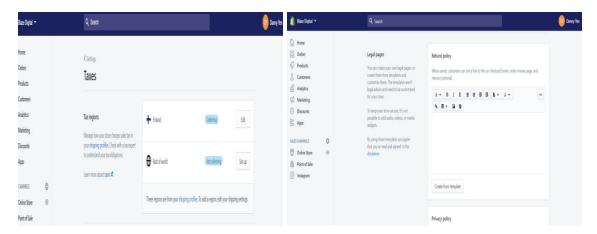


Figure 36 - Taxes and Legal Notices

The platform also offers domain name purchase for \$14.00 per year. Domain name purcase is found on the online store tab above the navigation tab. In addition, business email address can be setup on the general setting tab.

#### **Setting up the Reviews Application**

To setup the review application, the user must go to the app store and choose one of the applications. For this project thesis, the application chosen was Social Testimonial Slider.

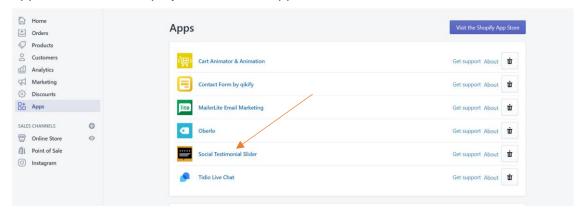


Figure 37 – Review Application

The user must first register to create a Facebook, Google account and Yelp account to link with the application. The account must first be linked with an access code and web address on the Social Testimonial Slider to the Shopify account.

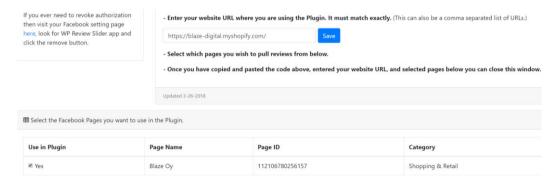


Figure 38 - Linking the review application with Shopify

Second, there must be reviews already existing on Facebook, Google or Yelp account for this to work. Once the Social Testimonial Slider application is linked to the Facebook, Google or Yelp account, the reviews can be downloaded into the Social Testimonial Slider application. Next, the user must create a template and copy the code snippets from the instruction: 1 <div class="srs\_slider" id="srs\_template\_3672"></div>, 2 [srs\_template\_3672]. Here are the following instructions to use the snippet to create a review section.

#### 1. First option

- Go to the Online Store
- Click on the Customize Theme
- Click on Add section
- Choose Advanced Layout -> Custom Content -> Add
- Click on Custom HTML
- Paste <div class="srs\_slider" id="srs\_template\_3672"></div> into HTML
- Change container width to your preference
- Click Save on the custom theme

#### 2. Second option

- Go to the Online Store
- Click on the Customize Theme
- Click on Add section
- Choose Rich text -> Add
- Change the Header text to your preference
- Paste [srs template 3672] into the Text box
- Click Save on the custom theme

The review section will appear on the website once it is saved on the theme.



Figure 39 - Review Section on Home page

#### Review page

To create the review page, the user must install a review application from the Shopify Store. Once the installation is completed, the user must create a title and page. The title must be linked with the section of the Shopify customize theme. For example, for this prototype at the Home Page, the section was added to the Footer. Here is the following instruction to create a link on the footer section and redirect to the review page.

- Choose Footer
- Click on Add content
- Choose Menu
- Select menu
- Choose Create menu
- Fill in the Title, the text appears in the Footer
- Choose Add menu item
- Provide the name of the item, this provides an unordered list in the menu item
- Search for Pages and choose the created Review Page
- Complete it by hitting the Save button

The review page will appear with all the reviews.

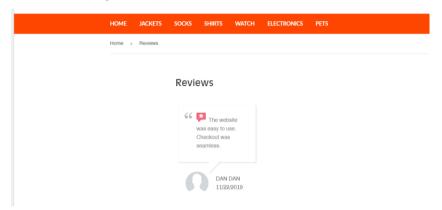


Figure 40 – Link the Review page to the Footer menu

#### 4.5 The Approved Prototype

The prototype was designed based on the wireframe. However, the footer and color typography was edited based on the result of the stakeholder feedback. Text menu items were changed to orange and background menu and footer were changed to black and white text color. The prototype has the following features: Chatbot, Animation, Search box, Filtering, Email promotion, Search Engine Optimization and Reviews. On the contrary, the prototype does not have the following features: Social Media Links, payment system, coupon and order history. In addition, the color of the home page is different.

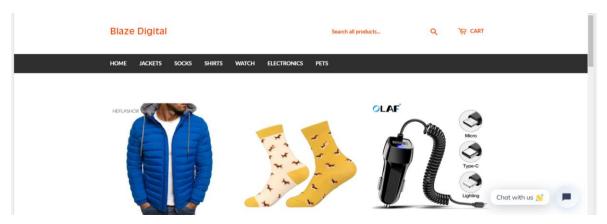


Figure 41 – Home page navigation and header

The home page body no longer has a landing page but just the promotion products, which is different than the wireframe.



Figure 42 – Home page body

A business facebook account was created and a fake review was provided as feedback for testing. The footer is similar to the wireframe except it has a chatbot as an added feature.

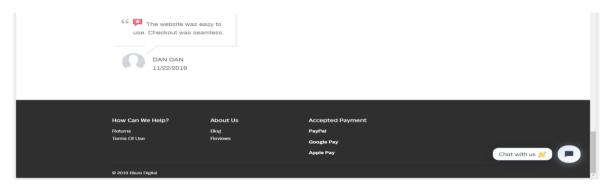


Figure 43 - Footer section

On the jacket page, the features include a built-in sorting and filtering. The jacket page provides a list of product information and price. In addition, the product page is similar to the wireframe. However, the add to cart button is fixed on the page but can be removed in the edit coding.

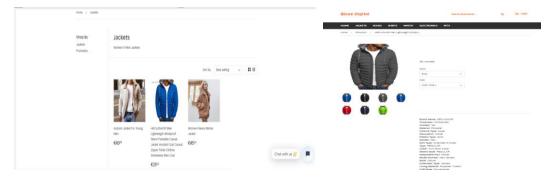


Figure 44 - Jacket Page and Product Detail page

When a user clicks on the add to cart button, a pop-up of the cart items appear. In addition, if the user clicks on the cart icon, the same information is displayed. This feature is different from the wireframe. There is no cart page.

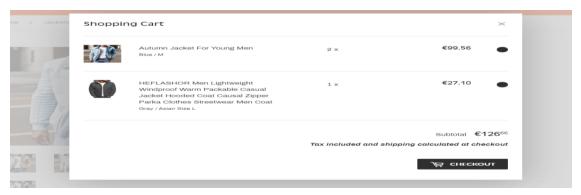


Figure 45 - Cart information

On the contrary, the checkout page will provide a full list of the items in the cart and the total cost. This is similar to the checkout of the wireframe. In addition, the page allows the user to return to the previous page as part of the built in feature.

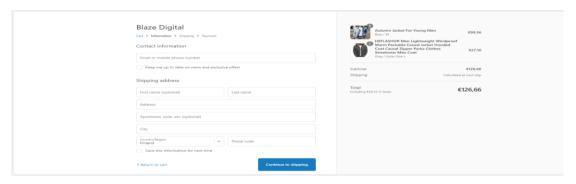


Figure 46 - Checkout page

The required fields such as name and shipping and handling are stored in the PHP database.

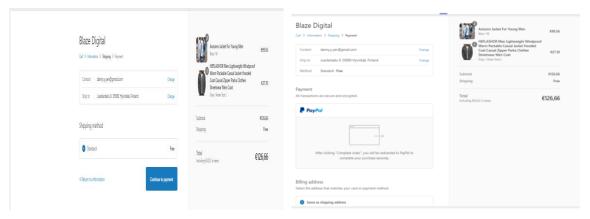


Figure 47 - payment system page

Unfortunately, since the company does not have a business bank account setup, payment process is unable to be tested. The paypal account requires to be setup first and then linked to the Shopify account. Other payment systems such as credit cards are unable to be tested as teh bank information is unavailable.

The review, refund and customer service pages are similar to the wireframe. Legal information can be automatically generated in the setting.

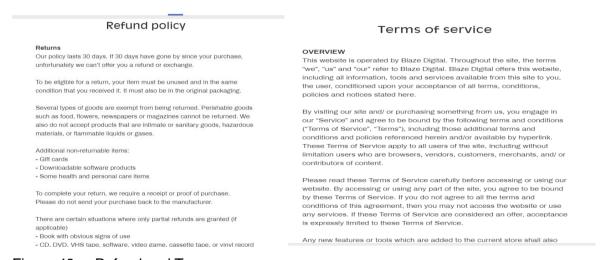


Figure 48 - Refund and Terms pages

The blog and reviews are similar to the wireframe but the location was removed as part of the feedback result.

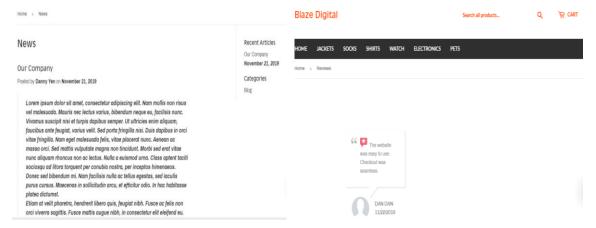
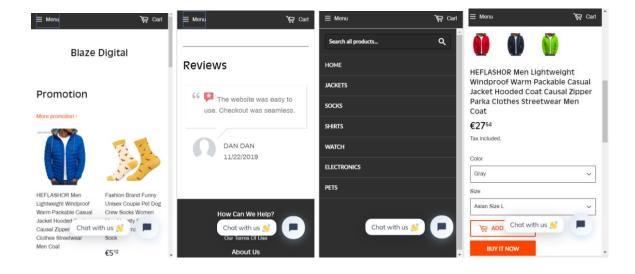


Figure 49 - Blog and Reviews pages

In short, changes were made according to the feedback. For example, the landing page, location and customer service pages were removed. The color text was changed to be black and white, however, the main menu items remained orange. The pop-up cart feature is part of the Shopify platform. This feature will not be edited.

## **Prototype Mobile View**

In the mobile view, the product images are in a column of two, the review takes up one whole section, and the footer is centred. There is no social media links or icons. The menu icon provides a toggle event sliding up and down. All the navigation pages such as Home, Jackets, Socks, Shirts, Watch, Electronics, and Pets are in horizontal columns. The search box is defaulted with the theme. Product page takes up a full view like the wireframe.



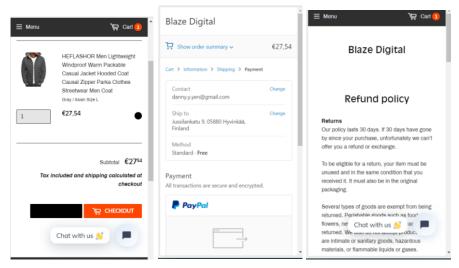


Figure 50 - Blog and Reviews pages

# 5 Usability Test

### 5.1 General

This proposal provides the details of the usability testing for the rapid digital prototype solution for Blaze Digital Oy online store. The test focuses on the requirement features functionalities such as visual content of the UI, familiar icons and symbols of a website, logic, header menu items, navigation menu items, footer menu items, user search pain area, security and trust of the website, and overall satisfaction of the application.

### Location

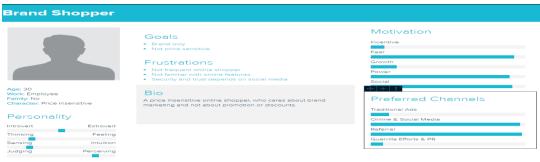
The usability test was executed at two separate areas: Expresso House Kamppi Urho Kekkosen Katu 1, 00100 Helsinki and Ravintola Apsara Etelän Viertotie 1, 11100 Riihimäki.

### **Participants**

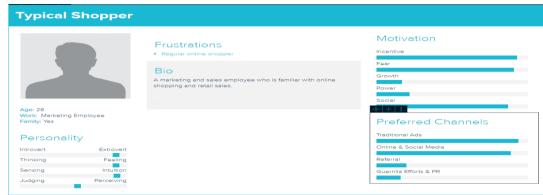
Five participants were selected by the student Danny Yen, project owner of the thesis writer at Haaga-Helia UAS. Three of the test participants were board members of Blaze Digital Oy and two of the participants were employees of the Ravintola Apsara. The test participants were chosen as representatives of target market and as part of preliminary software training for the development application. Factors such as age, computer literacy, online shopping experience, user design experience, buying behaviors, buying power were considered as part of the selection process.

### **User Profile**











### Required training

The tester is expected to have experience with online shopping, social media advertisements, and understanding of online shopping navigation, items and familiar icons.

# Goal and objectives

The goal of the usability test is to understand, verify and validate the usability, concept, design of the UI, usability of the features, color typography and application process checkout.

The objectives are the following:

- Verify the UI consistency and flow, process, visual content and design, navigation menu items and header, and overall satisfaction.
- Validate the concept, design of the UI and approved features of the application.
- To collect data and analyze feedback, find customer pain area and experience.
- To identify improvement, if any and make changes.

### **Tools and methods**

The testing relied on the personal equipment available from the student Danny Yen at Haaga-Helia UAS. Equipment used were audio recording, video recording, mouse, Keyboard, and laptop.

### **Preparation**

The student Danny Yen will test thirty minutes prior to each usability test, the prototype application platform, laptop battery, mouse battery and enough space for seats. In addition, Danny Yen will use a pen and printed a test case report and generic usability test questions for user participant.

### **Procedure**

Tester will be provided a scenario and execute actions. The scenario is that the user sees an advertisement about dogs on social media, clicked on the link and landed on the home page of the online store. The test phases included 5 steps and these actions are in the following order:

- 1. Search for advertised product call pets' towel and add it to the cart
- 2. Find all the jackets and filter by the price

- 3. Remove the pets' towel from the cart
- 4. Find the woman winter fleece jacket and buy it now
- 5. Review the return policy

### **Evaluation metrics**

Tester will receive a mark for each task as pass or fail. Additional comments by the test participant about the customer pain area, time of completion and thinking aloud will be written down.

### **Scenarios**

There are five expected system results. Here are the following expected system results:

- 1. Use the search box or click on the navigation link Pets.
- 2. Click on the jacket link and sort by price.
- 3. Press the x button or the button.
- 4. Search the jackets menu item, click on the product and click on buy now. Or, click on the navigation link jacket. then click on the product and buy now.
- 5. Scroll to the footer and click on Our Return Policy link.

### **Preconditions**

The following are the preconditions before the usability test:

- Participant is informed about the time and location.
- Participant have been briefed about the test, purpose of test and reason for
- recording before testing.
- Participant did not receive printed copy or know of the questions before hand.
- Participant was informed about leaving early at any time during the test.
- Participant was informed to think aloud for recording and testing.
- Participant was informed that this is a usability test for a rapid prototype web store with some complete features and functionalities.
- Participant was informed about additional post questions.

### Completion

The goal of each task is to reach completion either as a pass or fail measurement metric. The action will be considered completed when the test subject stops at the page and the next task is given.

### Results

The result will be given to the stakeholders after the usability test has been completed.

The feedback will be used for more changes to the prototype, as part of the deliverable

and as part of the agile workflow. The information will validate the research data on

shopping behavior, customer pain area, and to provide for data analysis and for further

recommendation for improvement.

Change to the application

Any change to the prototype is for the development of the actual web store solution and

as part of the deliverable and approval received by the stakeholders.

**Post Questionnaires** 

Post general questionnaires will be provided for further data gathering and analysis.

**Application recommendation** 

A recommendation will be given to the stakeholders to kill or develop the application.

5.2

**Usability Test: Result and Thinking out loud** 

Test Result of User 1

Action 1: Search for the advertised product call pets' towel and add it to the cart

Expected Result: Use the search box or click on the navigation link Pets

Tester 1 paused before beginning the task. Tester 1 scrolled up and down the home page

and then clicked on the search box. However, Tester 1 paused again and chose the Pets

link. On the Pets Page, tester 1 scrolled up and down again before clicking on the actual

product, which took tester 1 to the product page. On the product page, tester 1 added the

item to the cart. There was no thinking out loud.

Actual result: The first participant passed.

Thinking out loud: No available comment

Action 2: Find all the jackets and filter by the price

Expected Result: Click on the Jackets link and sorty by price

Tester 1 used the search box and typed in jackets. Tester 1 sees all the jackets but

cannot filter by price. After failing to filter by price, tester 1 clicked on the Jackets link.

Once tester 1 was in the Jackets link, tester 1 moused over on the left hand side to find

the filter option. Filter option is on the right hand side. Tester 1 mouse hovered over the

links and came to the filter option on the right hand side. Tester 1 chose the sort by Price,

low to high.

**Actual result: Passed** 

Thinking out loud: No filter, price.

Action 3: Remove the Pets towel from the cart

**Expected Result: Press the x button or the - button** 

Tester 1 clicked on the cart icon and clicked on the minus button.

**Actual result: Passed** 

Thinking out loud: No available comment

Action 4: Find the woman winter fleece jacket and buy it now

Expected Result: Search the Jackets link then click on the product and choose the

buy it now button

Tester 1 searched by clicking on the Jackets navigation link. Tester 1 quickly clicked the

woman winter fleece jacket. Tester 1 reviewed the size and color of the fleece jacket and

then clicked on the buy button. Tester 1 filled out the shipping address and chose the

method of payment and completed the order. Order came back with message, Payment

gateway: This payment method isn't available on the store right now.

Note: Since the company bank account is not available for setup completion, this feature

is not available for testing.

**Actual result: Passed** 

Thinking out loud: No available comment

Action 5: Review the return policy

Expected Result: Scroll to the Footer and click on the return policy

Tester 1 clicked on the Blaze Digital logo and returned to the home page. At the home

page, tester 1 scrolled down to the footer. Tester 1 did not see a return policy link as the

name was different. The name was refund policy. However, tester 1 clicked on the refund

policy.

**Actual result: Passed** 

Thinking out loud: Where is the Return Policy? Is it the refund policy?

**Test Result of User 2** 

Action 1: Search for the advertised product call pets' towel and add it to the cart

Expected Result: Use the search box or click on the navigation link Pets

Tester 2 inital reaction was scrolling up and down the page. Tester 2 went to the search

box and typed in the Pets towel. Tester 2 mouse was on the other image with a dog towel

but clicked on the correct product images afterward.

Actual result: Passed

Thinking out loud: I see three products, the first one is a big towel and a second

one is a more cuter one. I will check on the color and size. The size S, M, L does not

tell me much. What is good to have here is to have a checkout option and then

continue shopping button.

Action 2: Find all the jackets and filter by the price

Expected Result: Click on the Jackets link and sorty by price

Tester 2 went straight to the search box and typed jackets. Tester 2 could not filter by

price with the search option. Tester 2 clicked on Jackets link on the navigation instead. On

the Jackets Page, tester 2 went to the filter feature and sort by Price, low to high.

Actual result: Passed

Thinking out loud: My instinct is to scroll up to the search box and maybe the

search box should be orange here, a little more visibile. If there is a filter, I want to

see the picture diagonally lowest price increasing but picture size is bigger.

Action 3: Remove the Pets towel from the cart

Expected Result: Press the x button or the - button

Tester 2 scrolled up to the cart icon. Tester 2 chose the – button.

Actual result: Passed

**Thinking out loud:** Is there an x button?

Action 4: Find the woman winter fleece jacket and buy it now

Expected Result: Search the Jackets link then click on the product and choose the

buy it now button

Tester 2 went to the navigation link and clicked on the Jackets link. On the jackets page, tester 2 clicked on the product image. At the product image, tester 2 reviewed the size and color option. Tester 2 clicked on the buy it now button. Tester 2 filled out the shipping address. Tester 2 provided a fake address and email. Tester 2 recieved an error message

saying the email format was incorrect.

**Actual result: Passed** 

Thinking out loud: Thats easy. I have a PayPal account, so I would never need to go through this process of filling out the shipping address information. I want to see the Keep Me Up To Date checkbox to be at the very bottom instead with the other checkbox. I want to see a dropdown for shipping. That was good. Dropdown of the checkout provides all the items in the cart on the right hand. Shipping issues need to be addressed.

Action 5: Review the return policy

Expected Result: Scroll to the Footer and click on the return policy

Tester 2 clicked on the Blaze Digital logo and returned to the home page. Tester 2 scrolled down to the footer and clicked on the link Our Return Policy.

Actual result: Passed

Thinking out loud: The legal notice of the return policy seems like it provides bad

news.

Test Result of User 3:

Action 1: Search for the advertised product call pets' towel and add it to the cart

Expected Result: Use the search box or click on the navigation link Pets

Tester 3 clicked on the Pets navigation link. Tester 3 looked on the right and left of the

screen and chose the correct product. On the product page, tester 3 clicked on the add to

cart button.

**Actual result: Passed** 

Thinking out loud: Quite Ok.

Action 2: Find all the jackets and filter by the price

Expected Result: Click on the Jackets link and sorty by price

Tester 3 quickly clicked on the Jackets navigation link. Tester 2 quickly open the sort by

feature and chose the sorty by Price, low to high.

**Actual result: Passed** 

Thinking out loud: No available comment

Action 3: Remove the Pets towel from the cart

**Expected Result: Press the x button or the - button** 

Tester 3 clicked on the cart icon. Tester 3 chose the minus sign button to remove the

product in the cart.

**Actual result: Passed** 

Thinking out loud:

Action 4: Find the woman winter fleece jacket and buy it now

Expected Result: Search the Jackets link then click on the product and choose the

buy it now button

Tester 3 clicked on the navigation link for the Jackets. On the Jackets Page, tester 3

quickly clicked on the woman fleece jacket. Tester 3 filled out the shipping information and

recieved the error message that the payment will not be processed.

Actual result: Passed

Thinking out loud: How about login to checkout?

Action 5: Review the return policy

Expected Result: Scroll to the Footer and click on the return policy. Quite easy.

Tester 3 quickly just scrolled down to the footer and selected the Our Return Policy.

Actual result: Passed

Thinking out loud: Seems like cannot find or know which is the home page

Test Result of User 4:

Action 1: Search for the advertised product call pets' towel and add it to the cart

Expected Result: Use the search box or click on the navigation link Pets

Tester 4 initial reaction was scrolling up and down to see the website. Tester 4 clicked on search box initially and typed in the Pets Towel but no result show. Tester 4 clicked on the Pets navigation link and reviewed the color and size. Tester 4 clicked on the add to the

cart button. Tester 4 reviewed the cart.

Actual result: Passed

Thinking out loud: I look for the product reliable is save or can be trusted.

Action 2: Find all the jackets and filter by the price

Expected Result: Click on the Jackets link and sorty by price

Tester 4 clicked on the link Jackets. Tester 4 does not see a sort by filter feature. Tester 4 scrolled up and down. Tester 4 gave up.

**Actual result: Failed** 

Thinking out loud: Look for product that is decent and good looking. Price does not

matter. Looks for things other cannot find in a store.

Action 3: Remove the Pets towel from the cart

**Expected Result: Press the x button or the - button** 

Tester 4 clicked cart icon. Tester 4 clicked on the minus sign.

**Actual result: Passed** 

Thinking out loud: Easy.

Action 4: Find the woman winter fleece jacket and buy it now

Expected Result: Search the Jackets link then click on the product and choose the

buy it now button

Tester 4 inital reaction was to use the search box. Tester 4 typed in the woman winter

fleece. The product image came up and tester 4 immediately clicked on the Image. Tester

4 went through the shipping information and hit the complete button quite fast.

**Actual result: Passed** 

Thinking out loud: No comment available

Action 5: Review the return policy

Expected Result: Scroll to the Footer and click on the return policy

Tester 4 scrolled to the bottom of the screen and clicked on the Our Return Policy.

**Actual result: Passed** 

Thinking out loud: No available comment

Test Result of User 5:

Action 1: Search for the advertised product call pets' towel and add it to the cart

Expected Result: Use the search box or click on the navigation link Pets

Tester 5 quickly without looking at the website clicked on the Pets link on the navigation

menu. Tester 5 added the product to the cart icon.

Actual result: Passed

Thinking out loud: No available comment

Action 2: Find all the jackets and filter by the price

Expected Result: Click on the Jackets link and sorty by price

Tester 5 clicked on the Jackets link and quickly sort by Price, low to high.

Actual result: Passed

Thinking out loud: No available comment

Action 3: Remove the Pets towel from the cart

**Expected Result: Press the x button or the - button** 

Tester 5 clicked on the cart icon and quickly hit the X button to remove the item from the

cart.

**Actual result: Passed** 

Thinking out loud: No available comment

Action 4: Find the woman winter fleece jacket and buy it now

Expected Result: Search the Jackets link then click on the product and choose the

buy it now button

Tester 5 clicked on the navigation link to search the product. Tester 5 quickly searched

the product through the sublink. Tester 5 clicked on the buy it now button on the product

page and went through the shipping address.

**Actual result: Passed** 

Thinking out loud: No available comment

Action 5: Review the return policy

Expected Result: Scroll to the Footer and click on the return policy

Tester 5 scrolled to the footer quickly and clicked on the return policy.

Actual result: Passed

Thinking out loud: The return policy is important. It will tell me if the website will

offer refund for the product. If there is no return policy, I will not continue to look

for other products.

# 5.3 Post Review Questions:

# **Understanding the Navigation**

☐ How easy was it to understand the navigation menu items?

Tester	Feedback
1	A little hard to navigate
2	Easy to find and it comes up
3	Was very easy.
4	Menu item was easy to find.
5	It is easy.

☐ How was the navigation links and buttion visibility?

Tester	Feedback
1	Buttons are visible but not clear
2	Easy
3	Everything is clear.
4	Easy but Zolando uses gender to show male products and female products.
5	Color is easy and simple.

☐ How easy was it to go back to the home page?

Tester	Feedback
1	Pretty easy
2	Navigate back is difficult. Hard to find the back button.
3	Easy
4	Not sure. Could not find the back button.
5	Easy

# **Understanding the Controls and Logic**

☐ How easy was it to find the cart icon?

Tester	Feedback
1	Visible
2	Easy
3	Easy
4	Easy to use
5	Easy

☐ How was the checkout process?

Tester	Feedback
1	Pretty easy
2	Easy
3	Easy
4	Easy
5	Easy but may have the buy button before the product page

# **Understandign the Content and Messages**

☐ Did you get an error message or feedback?

Tester	Feedback
1	No message or feedback message
2	Yes. I provided a fake email and it gave me a message saying the email was invalid
3	No message or feedback
4	No comment
5	No

How easy was it to understand the differen
--

Tester	Feedback
1	Not easy
2	Yes but no distinguish between home page and other pages
3	Easy
4	No comment
5	Very easy

# $\hfill \square$ Were there enough information?

Tester	Feedback
1	No
2	Information is ok
3	Yes
4	No comment
5	No comment

# **Understanding the General**

☐ How easy was it use the website?

Tester	Feedback
1	Not easy
2	Straight forward.
3	Super easy
4	Everything was on the Navigation link
5	Very easy

# □ Do you have any additional comments?

Tester	Feedback
1	Simple navigation but confusing for filtering jacket and price. Hard to find the filter. Hard to see the return link or confusing. Hard to add to cart. Want to see an add to cart button at each pages not just the product page. Cannot add quickly to the cart.
2	Need to make change to the Refund policy.
3	l like it. No suggestion.
4	I want to review comments on Facebook first. I look for products I like and interesting. I don't really care much about the cost or price.
5	I check information on how many people make a review, I look at the return policy. If it is easy to return the item back I will look at the product.  Maybe it is easy to have an add to cart button before clicking on the product image so we can continue shopping.

### 5.4 Analysis

Tester 1, tester 2, tester 3, and tester 5 completed and passed all five actions in the scenario. Tester 4 completed and passed action 1, 3, 4 and 5. However, tester 4 failed on action 2, filtering and sort by. Tester 4 completed 4 out of 5 tasks or 80% of the tasks. The success rate for all 5 tasks completed and passed by all users is 4 out of 5 or 80%. Task 1 tests user understanding of the navigation and all five users passed, a 100% success rate. In addition, according to the post questions survey, all five users find it easy to navigate. However, two of the users find it difficult or hard to find the back button. Furthermore, 40% of the users want a distinction between the home page and other pages. Moreover, 60% of the users in the post questions survey mentioned to have an add to cart button before the product and have a continue shopping button to continue shopping. Task 2 tests both navigation and control such as: main menu items, search box, navigation back button, clickable items, sort feature, and functionality. The success rate for all users was 80%. According to the post questions survey, 40% find the task easy to complete, however, 60% of the users find it hard or difficult to complete. Task 3 tests the control and content such as: familiar icons, clickable function, buttons and the related link to the website, and information about the list of products and description. All five users

passed and completed the action, a 100% success rate. Task 4 tests the content, logic, customer pain area, functionalities, checkout feature, and payment system. In the usability test, all five users passed and completed the actions, 100% success rate. However, 80% mentioned about not seeing an error message. The error message was shown after hitting the complete order button. According to the post questions survey, 20% mentioned about the website should have additional option such as login to checkout and add a checkbox for an email notification. Task 5 tests the content, navigation and customer experience and behaviour. According to the usability test, all five users passed and completed the action, a 100% success rate. In the post questions survey, one of the users commented about the requirement and importance of the return policy.

## 5.5 Recommendation to kill or develop the online store

#### Recommendation

The recommendation is to develop and implement the online store based on the prototype. The reasons are the success rate of the five users in the usability test, 80% completed and passed all five of the actions. Overall satisfaction of the prototype navigation, control and content were positive. The consensus of the website usability, design, semi-workable features, functionality was positive. However, there are concerns. The thinking out loud and post questions survey provided additional insights to possible needed improvement in the prototype.

### **Need for improvement**

According to the thinking out loud comments and post questions survey, there are areas in the prototype that need improvement. For example, the home page distinction should be made as suggested by 40% of the testers. The suggestion is to add a banner to the home page to make this distinction. Also, further comments indicated that the back button was not clear or hard to find. Suggestion is to add a back button to take the user back to the same page. In addition, 60% of the users want a continue shopping button when the users are at the cart page. The suggested comments were to add the cart icon for each image displayed at the category page. For example, if the user clicks on the Jackets page, each jacket image and description will have an add to cart icon right below. Therefore, users can continue to shop. The sort feature was described by 60% of the user as either hard to find. The suggestion is to change the location of the feature to the left hand navigation right below the sublinks. Furthermore, 80% of users commented that the error message is unavailable, however, the error message were displayed at completion of the order and required fields of the shipping address. The suggestion is to increase the font

size to 16px and the color to dark yellow or lime green. Finally, the suggestion is to create a login feature for checkout process.

### 6 Stakeholder's Feedback

Feedback is given by the stakeholders at each phase of the agile workflow. Phase 1 of the workflow was to deliver to the stakeholders the requirement analysis and scenario. Data gathering and research were conducted as part of the solution. In addition, a list of twelve open-ended questions were given to all stakeholders. The answers were used to develop the requirement features and scenario.

### 6.1 Phase 1 Feedback Result of the Requirement Features

The stakeholders meeting for the approval of phase 1 was on Saturday November 9, 2019 at 11:00 in Helsinki Finland. The location was at Robert's Coffee. All founders attended the meeting. The discussion was about the requirement analysis and scenario. The goal was to get the approval for phase 1 and continue towards phase 2, development. Each requirement feature was given time for review and response. For instance, the stakeholders agreed that the email notification feature should be of high priority. In addition, the email notification was agreed that it should be in the documentation as part of the feature service, cost and analysis. On another note, mobile friendly meant to the stakeholders as agreed, which the website would be targeting smartphones such as: iPhones and Samsung devices. Next, the stakeholders agreed that social media links are links on the website to their social media network accounts. This meant that the company must register the company name on different social media platforms such as: Facebook, Instagram, and YouTube. The registration of the social network accounts is not part of this thesis project and will not be included. Furthermore, the colour theme was agreed for the purpose of the prototype testing only white and orange. On the contrary, the logo will be designed separately by one of the stakeholders and will also not be part of this thesis project. The payment system was agreed in the following order: must include PayPal in the prototype and is ok to have Google Pay, and Apple Pay as part of the testing. The product list is the content of the website and must include the following categories: Gift, Apparel, Electronics and Accessories, and Pets. User information was agreed to be as part of the registration where only user email and passwords are stored in the database. In addition, the order history of the user profile must link to the user information. However, name, address and personal information are not to be saved in the database. Shipping address is part of the order history and checkout. The stakeholders further agreed that the website must not be retro and not to have overlapping pictures. Security was agreed to be of low priority as the service platform Shopify would manage it. SEO was agreed to be of low priority. There

was change to the design them. It was agreed by all stakeholders that the design should be simple and minimalistic. All stakeholders agreed that the price range would be £20-35 euro. However, the information and product list would be provided by the stakeholder and would not be part of the thesis project research.

# 6.2 Phase 2 Feedback Result of the Prototype

The feedback result of the prototype was on the WhatsApp group communication. All three stakeholders provided an overall positive review of the prototype. However, there were negative feedback on certain design. For instance, the colour orange was viewed as too bright and intense. In addition, request was made to remove both the geolocation feature providing the home address of the physical location and the contact form. Both features were recommended as unnecessary. Furthermore, the landing page, a slideshow of the advertisement received negative comments. For instance, one of the stakeholders mentioned that the images took too much view of the home page and not providing enough information about the products. In addition, negative comments were made about the pop-up cart view. The request was made to change the cart view to a dropdown menu. On the contrary, there were positive comments about the product page and checkout page. The product page provided the necessary information about the product. The checkout page was easy to understand. All the stakeholders enjoyed the added feature of the chatbot, SEO and reviews. The least popular features of the prototype were the animation and contact form.

## 6.3 Phase 3 Feedback Result of the Usability Test

The feedback result of the usability test was on the WhatsApp group communication and Slack general announcement. The analysis and recommendation were sent as pdf document for review. In addition, several suggestions in the usability test need for improvement were mentioned as questions for approval and these are as follow:

- Add a banner with our social media marketing content.
- Add a back button to take the user back to the same page.
- Add the cart icon for each image displayed at the category page.
- Change the location of the feature to the left navigation right below the
- Sub-links.
- Increase the font size to 16px and change the colour to dark yellow or lime green.
- Create a login feature for checkout process.

The overall feedback was positive. However, the add a banner suggestion was changed to a special deal or discount. The banner will not be a social media marketing content. In addition, the feedback was to change the cart delete colour button to be white not black.

## 7 Conclusion

The objective for this project thesis was to provide a minimal viable prototype for the company Blaze Digital Oy online store. Since the company did not finish registering with PRH, the Finnish patent company, a business bank account could not be setup. Thus, testing the checkout feature and payment system were all unavailable. In addition, the domain name purchase could not be completed. Moreover, the prototype has a 14 days trial period. Thus, a how-to-setup documentation was provided instead as deliverable for the company. The documentation would be used once the business bank account is setup to purchase the plan, domain name and to create the user interface again. The reason for the delay was due to the registration filing paperwork has been lost or misplaced. The cause was due to the Posti Strike. Therefore, the objective was changed to a semi-functional prototype with limited functional features.

### 7.1 Reasons the methodologies were chosen

The design and development approach were user-centred and later used user experience design with agile workflow. The deliverables were the requirement features, scenario, prototype, step-by-step documentation on how-to-setup the platform and features, and a usability test to validate the concept and features. The feedback was part of the agile workflow process. User-centred and user experience were used for gathering data about the market trends, competitor's design of the user interface, for research on shopping behaviour, and design of the UI.

The agile workflow approach was used to help iterate through each phase of the development. The agile workflow provided a framework for the prototype development. In addition, the agile workflow was used as a measurement metric for getting the stakeholder's approval. Finally, the agile workflow was used to provide a continuous iteration and improvement on each phase of the project development. The user-centred and user experience approach fit with the agile workflow approach.

### 7.2 Evaluation

The overall project development was consistent. At the start of the project, the progress was slow. Time was heavily spent on the research, data gathering and analysis.

Moreover, much time was also spent on the correspondence and awaiting news about the registration and filing with PRH, the Finnish Patent and Registration company.

The actual learning experience started at the research, data gathering and analysis. During the research, data gathering, and analysis, time was spent on developing the idea and moving to the concept development. Much of the idea came from the analysis of the research and data. The concept was developed using QDA Lite software. Mapping the concept to develop the requirement features and scenario was difficult. However, the QDA Lite software helped map the concept. For instance, using the data gathered from the qualitative data of the Stakeholder questionnaires, helped to map the concept. In addition, the feedback approval from the stakeholder helped with the iteration process of the requirement analysis and validate the work.

With the requirement features and scenario approved, the prototype UI design began with a rapid prototype. Using the mockingbird software to design the wireframe was very helpful. For instance, the mockingbird software provided many features, icons, functionalities and theme design that would have otherwise not available via the regular paper wireframe. With the overall satisfaction of the wireframe feedback, the prototype development was made easier. Designing the UI on the actual platform, however, was very challenging. Three days were spent on the user interface. The first day was spent on gathering information about the platform, setting up the account, and setting up the features. Two days were spent on the design and development of the features and user interface. However, the feedback response from the stakeholder took about one week. There was communication breakdown in the WhatsApp group. A requested stakeholder meeting was setup for review and feedback of the prototype. The usability testing phase was the easiest of the development. The design of the test case, scenario and actions were limited to five. The reason was to confirm and validate the usability of the related navigation, control, content, and general structure of the website.

### 7.3 Recommendation for the next step

The recommendation is to develop and implement the online store. However, each new addon feature should be user tested. In addition, the user interface for the cart feature should be A/B tested to validate the theory. For instance, the suggested change for improvement was to have an add button before the product page. This should be with A/B testing on social media.

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# Appendices

# Appendix 1. List of Answers from the Stakeholders

Questions	Stakeholder 1
Who is the target audience or group for the website?	Target audience is 15-30 yrs. old who have a sense of pop culture and understand the trends in fashion
What is/are your main product(s)?	Clothes - Pop culture dominated clothes – t-shirts, socks with interesting print
How much should a consumer spend?	Consumer spending depends on the offering we have - on average 20 ea. per item
What are example websites you like and why?	Example websites - https://everpress.com/ - Threadless.com - The reasoning being that they have very vivid and lively website with blogs and a lot of content that puts the human touch in it
What are example websites you do not like and why?	None
What devices are you targeting?	Mobile - the consumer spending comes in as an affect rather than a thoroughly thought spending
What is your colour scheme?	Red, Yellow, Black, and White
What methods will be used to drive traffic?	Targeted ads, online advertisement, Social media ads, google ads, Guest blog, influencer shout outs
How can someone find the website?	None
How do you want to send emails?	Emails must be sent through automatization methods
What user information is needed?	Age, Gender, location, interests, online behaviour
What payment system do you want to have?	PayPal

Questions	Stakeholder 2	
Who is the target audience or group for the website?	The target group are ages ranging from 16 - 30 years old. Men and women. Technology tolerant. Person having accounts on FB, Instagram and YouTube.	
What is/are your main product(s)?	We do not have a list of products yet. We are thinking clothing and smart phone accessories	
How much should a consumer spend?	Each consumer should spend at least 50 euros or 2 products a day. We want to have our customers to easily browse around. Filter by prices	
What are example websites you like and why?	Gigantti: https://www.gigantti.fi/ The left side navigation bar Best Buy: https://www.bestbuy.com/?intl=nosplash The big search box on the top AliExpress: https://www.aliexpress.com/ Neatly organized and content is centred Picture of the item and price is very visible Amazon: https://www.amazon.com/ The proximity of the pictures and option button in the search box.	
What are example websites you do not like and why?	Stockmann: https://www.stockmann.com/?gclid=Cj0KCQiA2ITuBRDkA-RIsAMK9Q7PbvuwgBJraZKoJ2EqjD-ufbFtEtGSVa0a0pR7lWq2_6zf0a1J-caAhVoEALw_wcB The centred layout with overlapping pictures. Feels retro and unappealing Sears: https://www.sears.com/ The banner and the layout of the category tabs as part of the navigation. Too many navigation tabs. Seems boring, advertisements on discounts and not about prices. Feels like you must search too much for the product you need.	
What devices are you targeting?	People with social media accounts and those using mainly phones as part of their shopping. iPhone and Samsung shoppers	
What is your colour scheme?	Simple. Orange and white like AliExpress or Amazon	
What methods will be used to drive traffic?	SEO, FB ads, Instagram Ads, YouTube ads, Google ads	
How can someone find the website?	Through one of our ad or social networks	
How do you want to send emails?	After they signed up an account and after they make a purchase	
What user information is needed?	Name, Address, and credit cards. Credit cards will not be stored. It will be a one-time payment, or they can use PayPal	
What payment system do you want to have?	Third party payment system where shoppers can pay onetime, but information will not be stored.	

Questions	Stakeholder 3
Who is the target audience or group for the website?	Target audience is 15-30 yrs. old who has pets, especially those who loves their pets as real kids.
What is/are your main product(s)?	T-shirts, Socks with interesting print of their own pets
How much should a consumer spend?	Price will be from 25 € per item
What are example websites you like and why?	Example websites - https://furbabysocks.com https://uk.lovimals.com/products/customizable-pet-socks - Pets items are considered as baby products/clothes on these sites, with very clear description and price so customers can imagine how their own pets will looking like on our products.
What are example websites you do not like and why?	None
What devices are you targeting?	Mobile, especially Instagram users.
What is your colour scheme?	Light, fun colours e.g. pastels
What methods will be used to drive traffic?	Targeted ads, online advertisement, Social media ads including Facebook and Instagram, influencer give away.
How can someone find the website?	None
How do you want to send emails?	Email is used as login information and sent after the user made first transaction, and later promotion.
What user information is needed?	Age, gender, address, interests, online behaviour
What payment system do you want to have?	PayPal, Apple Pay, Google Pay.

Questions	Stakeholder 4
Who is the target audience or group for the website?	Target audience is 16-30 yrs. old who likes technology and inspiring products.
What is/are your main product(s)?	Technology - Gift - Products, Phone Accessories.
How much should a consumer spend?	Consumer spending on average 20e - 35e per item
What are example websites you like and why?	Example websites - https://www.inspireuplift.com/ - https://uk.bluecrate.com/ - The reasoning being that they are simple, and you can see straight the best offers, there's lot of products that we don't have to think about return shipping if its not right size for the customer.
What are example websites you do not like and why?	None
What devices are you targeting?	Mobile - Instagram, Facebook
What is your colour scheme?	Black, White, Orange and Blue.
What methods will be used to drive traffic?	Targeted ads, online advertisement, Social media ads, google ads, Guest blog, Give away.
How can someone find the website?	None
How do you want to send emails?	Email is used as login information and sent after the user made first transaction, and later promotion.
What user information is needed?	Age, gender, address, interests, online behaviour
What payment system do you want to have?	PayPal, Google Pay, Apple Pay