The Interface Design Of Web-Based Interactive Catalog In Bandungrejosari Ward Malang City

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Article Information

Abstract

MSMEs (Micro, Small and Medium Enterprises) are one of the foundations of the Indonesian economy that was able to survive the monetary crisis that hit from 1997 to 1998. in 2012 and increased to 62.9 million MSME businesses including UMKM in the Malang city area (BPS, 2017) (Depkop, 2018) (YR Suci, 2017). As technology develops, SMEs are starting to take advantage of the internet network through e-commerce websites and social media as a means of buying and selling online. With this development, competition between businesses is getting tighter and more competitive. So that many of the same products can be found with different sellers and prices. The impact that arises from this intense competition is the development of the same product so that it does not highlight the main products of these MSMEs and only focuses on selling trending products. Based on the problems found, the Bandungrejosari Village, Malang City, requires accurate information facilities as a reference for developing information updates in the MSME sector digitally in the form of a website. Media Website was chosen because it can display information quickly and in real-time. With the existence of the Kata UMKM Website, it is hoped that it can expand MSME information in the Bandungrejosari sub-district, so that it is better known, especially for the people of the Bandungrejosari sub-district and Malang City.

1. Introduction

MSMEs (Micro, Small and Medium Enterprises) are one of the foundations of the Indonesian economy that was able to survive the monetary crisis that hit from 1997 to 1998. With a significant increase in the number of MSMEs from year to year. MSMEs recorded by the Ministry of Cooperatives amounted to 55.2 million MSMEs in 2012 and increased to 62.9 million MSME businesses. The development of MSMEs also includes MSMEs in the city of Malang [14] The development of MSMEs also opens up the potential for employment. According to data from the Central Bureau of Statistics, UMKM absorbed 85 million to 107 million workers in 2012 [1 1] .

As technology develops, SMEs are starting to take advantage of the internet network through the *E-Commerce Website* and social media as a means of buying and selling online so as to increase production efficiency. This technology helps consumers to get many product variants practically and quickly so that they can be done anywhere without taking up a lot of time buying or looking at product details [1 4] . With this development, competition between businesses is getting tighter and more competitive. So that many of the same products can be found with different sellers and prices. The impact that arises from this intense competition is the development of the same product so that it does not highlight the main products of these MSMEs and only focuses on selling trending products.

Malang City is a tourist city and has a focus on developing the creative economy through annual events such as the MBOIS Festival which is always present every year. The Malang city government certainly has an important role to play in developing various programs to embrace all old and new MSMEs to develop their businesses. This MSME development program is carried out with the assistance of Diskopindag (Department of Cooperatives, Industry and Trade) of Malang City, namely Seminars, Training, Assistance and Legality Assistance, as well as exhibitions and festivals every month. Diskopindag also provides *E-Commerce facilities* for MSMEs in Malang in collaboration with various parties and other agencies.

Obstacles encountered by researchers on MSMEs in the Bandungrejosari sub-district area, Malang city, such as the lack of information regarding MSME data in the Bandungrejosari sub-district, Malang city that can be accessed by the public, lack of digital business management skills, this is due to limited human resources, capital, and unfavorable competition. between MSMEs with the same product in an area so that economic pressure emerges. MSME Product Marketing is also relatively low because it focuses on selling traditional products, the lack of digital marketing skills used. It is difficult to find MSME data as a reference for market research on a business that is developing in an area, especially the Bandungrejosari sub-district, Malang city. So that products and SMEs are not widely known by the community in the Bandungrejosari sub-district and Malang city. So far, the data collection has been carried out as an internal data collection for the urban village and city government of Malang. The lack of access to MSME information facilities has resulted in limitations in recording and identifying MSMEs that continue to appear so that the existing data is not updated compared to previous data collection.

Based on the problems above, the Bandungrejosari Village, Malang City, requires accurate information facilities as a reference for developing MSME programs. improve skills and update information on the MSME sector digitally in the form of a Website. Media *Website* was chosen because it can display information quickly and in real-time. With the existence of the Kata UMKM Website, it is hoped that it can expand MSME information in the Bandungrejosari sub-district, so that it is better known, especially for the people of the Bandungrejosari sub-district and Malang City.

It is hoped that the community will love and recognize MSME products that are developing in the Bandungrejosari sub-district area, Malang city. Facilitate data search and find data or information related to MSMEs in the Bandungrejosari sub-district area, Malang city.

1.1 Literature Review
Previous research helps to make it easier to collect data, analytical methods obtained from previous research studies for the author's references are as follows.

1.1.1 Previous Similar Journal Research
Marion Garniera's research results, Ingrid Poncin (2019), entitled "Do enriched digital catalogs offer compelling experiences, beyond websites? A comparative analysis through the IKEA case" This research was conducted by reviewing a case study of the IKEA furniture company. By using a representative experimental analysis of variance (ANOVA) method to create an event that describes the various variations of consumers who buy a product through a catalog through the website and a qualitative approach method. The results of the study show that the gap between expectations and the actual experience provided by the IKEA digital catalog encourages consumers to shop and have an interesting experience.

The results of Muhammad Iqbal's research (2020), entitled "EFFECT OF IMPLEMENTING E - CATALOGS IN PROCUREMENT OF GOVERNMENT GOODS/SERVICES ON MSMEs". This research was conducted to examine the influence of MSMEs along with Indonesia's economic growth rate on the procurement of services and

information. According to the results obtained in the study, there is still minimal use of the digital catalog system as a medium of information and promotion. So that there are still many opportunities to explore catalogs as an open, transparent and efficient means of information that encourages the development of public services by the government on needs and services.

The research results of Wawa Wikusna, Heru Nugroho, Rennyta Yusiana, Ade Irma Susanty, Syahputra, and Imanuddin Hasbi (2021), entitled "Development of Membership Web-Based Applications and SME Product Catalogs and Data Management Training in UMKM Associations throughout Bandung Regency". The purpose of this study is data processing in the form of MSME information which is managed in the form of a website that contains the Bandung district PPKM organizational profile as well as a dynamic content profile. The research results obtained are the coordination of MSMEs so that they can operate independently without the help of an admin, so that they can help develop MSME information in Bandung district.

Table 1. Previous Similar Journal Research

Researcher & Title	Research Focus	Technology Depth	Strength / weakness
Garnier, M., & Poncin, I. (2019). Do enriched digital catalogs offer compelling experiences, beyond websites? A comparative analysis through the IKEA case. Journal of Retailing and Consumer Services, 47, 361-369. (Garnier, M., & Poncin, I., 2019)	Reviewing case studies on the use of digital catalogs (Website) on user experience when purchasing or searching for IKEA furniture products.	By using a representative experimental analysis of variance (ANOVA) method to create an event that describes the various variations of consumers who buy a product through a catalog through the website and a qualitative approach method.	Advantages : - Understand the reasons why users use digital catalogs as a preference for choosing IKEA products - Catalogs in the form of websites are reviewed to be more effective and efficient for conducting product research compared to other furniture stores.
Iqbal, M. (2020). The Influence of the Implementation of E Catalogs in Government Procurement of Goods/Services for MSMEs. Journal of USM Law Review, 3(1), 77-97.	Reviewing the creation of e-catalogs as a solution for government assistance to support developing MSME information.	Using a juridical normative method, by taking the main approach through sources of information and documentation found.	**Advantages** - Using qualitative analysis, so that it is linear with the researcher's data processing - The problems raised are linear with the problems encountered in the field **Deficiency :** The research area is not given boundaries
Wikusna, W. (2021). Development of	Making a website as a management of community	The method used is relatively common, namely	**Advantages :** - Direct data analysis by

Membership Web-Based Applications and SME Product Catalogs as well as Data Management Training at the Umkm Association throughout Bandung Regency. Charity, 4(1),82-91.	membership data by MSMEs in Bandung district in the form of a website with practical and dynamic visuals	through data collection, analysis and design, and development to website testing.	gathering representatives of UMKM in Bandung district accompanied by training to use the website later **Deficiency :** **-** The website cannot be accessed so that the results of the website's work cannot be tested as a whole.

1.1.2 Research Journal of Visual Communication Design

The results of Mangapul Siahaan's research, Kelvin Kurniawan (2021), entitled "Design And Development Of Web Based Information System At Harum Snack & Cookıes". This study aims to design a digital catalog in the form of a website as a means of information on UMKM Harum Snack & Cookies. The research method used is the Waterfall method by applying successive stages in the process. Based on the results of the research, the authors describe the advantages and disadvantages of supporting the operational activities of the UMKM Harum Snack & Cookies.

Fig. 1 Research Result by Mangapul Siahaan, Kelvin Kurniawan (2021)

Research results by Natasha, R., Sutanto, R. P., & Pranayama, A. (2021), entitled "Solesister Local Shoe Brand Website Design". This design uses the 5W+1H and SWOT data analysis methods. The website includes company information, products, as well as promotions to increase consumer brand awareness of the local shoe brand "Soul Sister". The design concept used is sweet and simple so it is easy to use as a means of information to consumers. This is adjusted to the data obtained during the design according to the targets and needs of the company. Responsive design flow so that it can be used on various devices such as laptops and smartphones. The target audience is urban women with an age range of 18-30 years who have a penchant for online shopping.
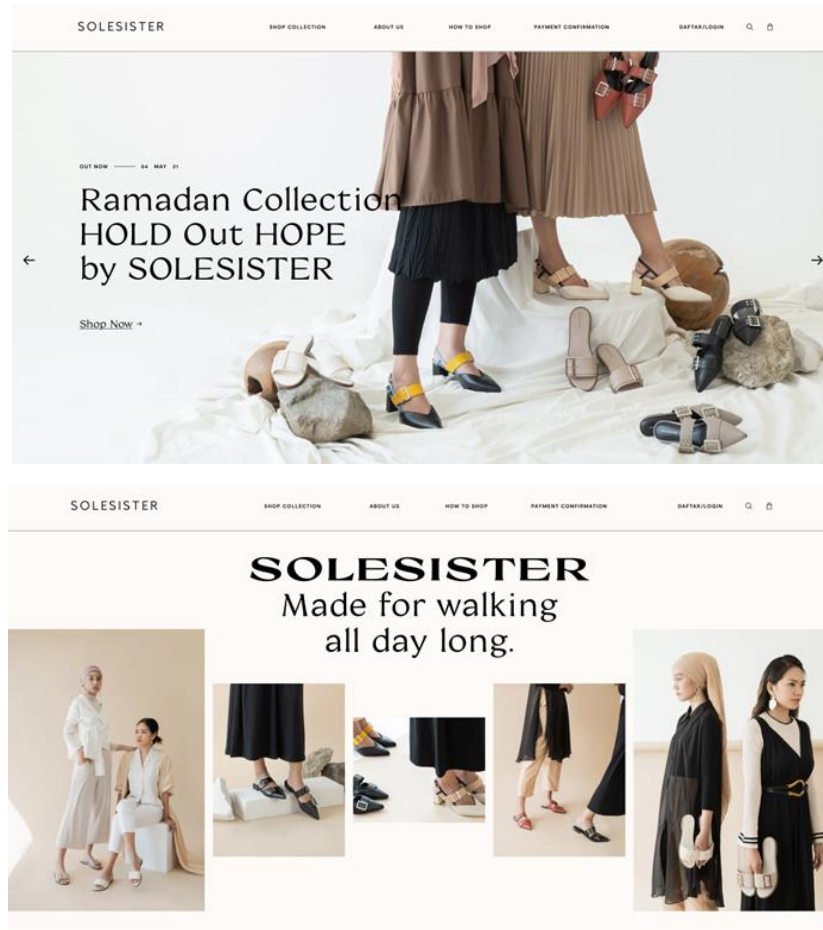
Fig. 2 Research Result by Natasha, R., Sutanto, R. P., & Pranayama, A. (2021)

The results of Haryana, F. E. A., Aryanto, H., & Maer, B. D. A.'s research (2020), entitled Designing a Promotional Strategy for "Ivorie's Cake" use interview and observation methods. The website design concept provides variations of Ivori's Cake products using USP & Positioning theory as a differentiator from other cake business competitors. The target audience for this website are young people who want to buy cakes with premium designs at affordable prices. The scope of information on this website is in the form of explanations of existing product variations, which can be ordered or customized according to consumer wishes. The design results also produce supporting media in the form of logos, Instagram social media content, packaging designs, business cards, and greeting cards.

Fig. 3   Haryana, F. E. A., Aryanto, H., & Maer, B. D. A. (2020)

The conclusions regarding previous research are as follows:

Table 2. Research Journal of Visual Communication Design

Researcher & Title	Research Focus	Technology Depth	Strength / weakness
Siahaan, M., & Kurniawan, K. (2021, September). Design And Development Of Web Based Information System At Harum Snack & Cookies. In *Conference on Business, Social Sciences and Technology (CoNeScINTech)* (Vol. 1, No. 1, pp. 353-358).	Creating a Harum cookies business website according to the request of the business owner.	By using the Waterfall method as a reference for creating informative communicative tools.	**Advantages :** - The design results are quite easy to understand and informative for the user to use **Deficiency:** - Not explained in detail the sequence of website design.
Natasha, R., Sutanto, R. P., &	Creating a website as a	The research method uses	**Advantages**

Pranayama, A. (2021). Solesister Local Shoe Brand Website Design. DKV Adiwarna Journal, 1(18), 7.	digital catalog and also communicative marketing of products to consumers.	primary and secondary data as a reference for making a website to increase consumer brand awareness of Brand Soulsister	- Using the same method as the researcher, namely design thinking as a design sequence. - An attractive and interactive design makes it easy for users to understand the Website. **Deficiency** Lack of explanation regarding the basic sketch as a design reference
Haryana, F. E. A., Aryanto, H., & Maer, B. D. A. (2020). Promotion Strategy Design "Ivorie's Cake". Journal of DKV Adiwarna, 1(16), 9.	Information development to discover experiences for Ivori's Cake consumers	The method used is the SWOT and 7p methods to analyze the advantages and disadvantages of other competitors from Ivori's Cake.	**Deficiency :** - Lack of explanation of the design sequence - The images on the UI are too tightly packed together to be inconsistent with the spacing between other elements - Lack of design theory used as a design reference - Lack of alignment of icons with the main color theme of the website

1.2 Related Theory
1.2.1 Website
In the Big Indonesian Dictionary (2021), a Website or better known as a Website is a computer program that runs a service that provides access to information on several pages online. Meanwhile, according to (Yulistina D., Baiq Desi Dwi. Arianti, 2019) a website is a medium as a broad marketing tool, where the information presented can be easily and quickly obtained by website visitors. This can be done by using the internet as an online medium to develop the business being developed. Meanwhile, according to (Ben Mimoun et al., 2014) websites are programs that are usually designed to be useful, effective and to facilitate the search and discovery of certain products and services online. So it can be concluded that the Website is an information processing service that is appropriate for use as a product catalog or MSMEs in the Bandungrejosari sub-district, Malang city, which can be accessed by the public online effectively and efficiently.

1.2.2 Catalog
According to the meaning obtained through the Big Indonesian Dictionary, a catalog is a card, list, or book that contains the names of certain objects or information that you want to convey, arranged sequentially, orderly and alphabetically (Ministry of National Education, 2021). A catalog is also defined as a collection of lists of documentation and data that are processed systematically so that they are easy to find according to the system

in the form of sheets, books, or other forms in an information unit. (Revil Hudriani, Hendra Ariwan, S.Sn., M.Sn Drs. Ariusmedi, M.Sn. 2016). So that it can be concluded that the UMKM catalog for the Bandungrejosari sub-district is in accordance with the main principle of the catalog, namely a collection of information about MSMEs that can be accessed publicly and individually.

1.2.3 Digital
Currently, almost all competing companies use information technology as a tool to support operational activities and also as a representation in the digital world. Ideally, a competitive business requires new internal information media that is able to provide information about business profiles (Siahaan & Kurniawan, 2021). It is hoped that this design can expand information about MSMEs, especially in the Bandungrejosari sub-district area, Malang city, and display verified and valid data to be accessed by the entire community.

1.2.4 User Centered Design (UCD)
The process of repeating design adjustments to users in each process of developing a Website design is often called User Centered Design (UCD). By concentrating the user (User) as the core of development with the aim of producing products with high usability (Prasetyo et al., 2018). By being oriented to the people of the Bandungrejosari urban village, Malang city, it is hoped that it can be used easily on the MSME digital catalog website.

1.2.5 User Interface (UI)
One of the components that supports the design process of a product, to attract user interaction through input and output (Prasetyo et al., 2018). Basically the User Interface (UI) is a harmony of several graphic elements that allow users to explore the various features of the Website. In this design the Catalog User Interface is designed simply so that it is easy to understand and use. With the aim of getting interaction on input and output with users of the digital catalog website for UMKM, Bandungrejosari sub-district, Malang city.

1.2.6 User Experience (UX)
At this point the designer understands the user experience in using a product. By observing the feelings when using the product, the ease that is felt when exploring product features, to the way users understand the product. From this process the designer can imagine the action or actions that appear to the stimulus in the form of features such as interactive buttons or icons in the product. (Ar Razi et al., 2018). By involving users to have experience in exploring the digital catalog site for UMKM in the Bandungrejosari sub-district, Malang city to access information that is easy for visitors to this website later.

1.2.7 Copywriting
Copywriting is the commercial activity of creating, maintaining and deepening profitable relationships by using the written word. Traditionally, product copywriting is done by business owners to increase the growth of new product purchases (Wang, Z, et.al, 2021). This copywriting later aims to attract user interest and enhance the experience by highlighting product characteristics in a textual description.

1.2.8 Quality Control
Quality Test is a series of activities that generate value in the form of goods and services by testing the quality of the goods first. Business people are competing to be able to meet the needs and desires of consumers, starting from the selection of good ingredients to the manufacturing process with the aim of creating a product of the highest quality (Ernawati, D. 2019). The Quality Test is intended so that visitors and prospective buyers feel safe and secure for MSME products in the Digital catalog later. So that through the UMKM Data Collection that is included in this Digital Catalog Website through Quality Control which is supervised by the Bandungrejosari sub-district, Malang city.

1.2.9 Color
Color is an important element in Visual Design work, because color also influences the beauty and perception of an object through understanding the sense of sight (eyes). According to Kardinsky, color has compatibility with certain shapes that are formed through the human subconscious so that certain perceptions arise (Josefin, et.al, 2016). The development of color theory has continued to develop since Leonardo da Vinci discovered the main psychological colors (Red, Yellow, Green, Blue, Black and White) in the 15th century. Color interpretation attracts psychologists to discuss the perception of color stimuli generated through brain waves.

Colors have various types such as primary, secondary, tertiary, warm, cool colors. These colors are classified according to the distribution of the color wheel as follows:
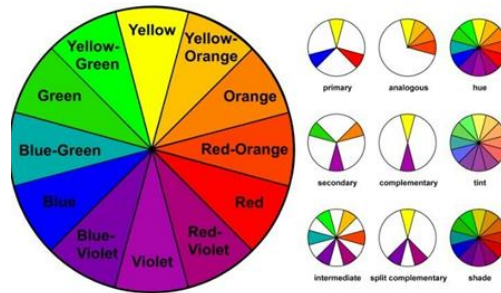

Fig. 4 Color Theory *(Source : www.lifehack.com)*

a. Complementary Colors

Is a color that is produced opposite 180 degrees in a color that contrasts and stands out, for example green and red.

b. Analogous Color

Analogous colors are produced from 2 adjacent colors on the same color wheel, which have a harmonious impression.

c. Triadic Color

Triadic colors are synonymous with equilateral triangles placed on the color wheel, resulting in three contrasting colors that are modern and energetic.

d. Complementary Split Colors

Complementary split colors are produced by forming an isosceles triangle that resembles the letter Y on the color wheel, resulting in a balanced color.

e. Tetradic Color (Rectangle)

Tetradic colors are a combination of two complementary colors to produce the perception of cool and warm colors.

Colour	Positive
white	clean, peace, honest
black	dignity, control, power
yellow	bright, happy, celebrate
blue	calm, maskulin, control
red	hot, passion, fresh
green	cool, earth, humble
orange	energic, young, adventure
purple	confidence, wise, flexible

Fig. 5 Color Perception *(Source :Josefin, et.al, 2016)*

1.2.10 Typography
Typography has the meaning of writing arrangements including line settings, to the arrangement of letters in a design work based on point size (pt). Over time, various types of writing emerged to suit the design style of the work itself. Typography has an important role as a medium of verbal information to clarify messages in a design.

1.2.11 Differences between UI (User Interface) and UX (User Experience)

Basic interface design from creating an application or website design, along with user experience design (UX/User Experience). The experience that the audience gets after using an application or website is known as design (UX). Meanwhile, the visual interface that the audience sees when interacting with applications and websites is known as UI (User Interface) design (Purwitasari, R. W., et al, 2021). To meet user needs, designing a good user interface requires not only in-depth knowledge about design principles and guidelines, but also an understanding of the user regarding the appearance of the UI/UX that is created.

2. Research Methods

Research method that uses a mix method with Qualitative and *Design Thinking* approach with title " Design Catalog of Digital - Based MSMEs in Kelurahan Bandungrejosari City of Malang.
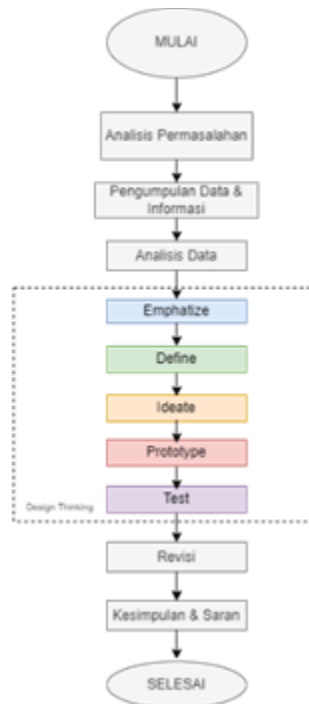
Fig. 6   Flowchart of Qualitative Research Approach with Design Thinking method

2.1 Place and time of research

Place and time study in Design Interface Catalog Interactive website -based MSMEs in Kelurahans Bandungrejosari Malang City, East Java . Research process accompanied by Mr. Nurokhman , SE as head Ward Bandungrejosari Malang city on Monday 10 January 2022 from 9.27 to 11.05 (GMT+7).

2.2 Materials and Research Tools

Materials and research tools used in research in designing the website-based MSME Interactive Catalog Interface in the Bandungrejosari Village, Malang City, use:

- Interview : Question Guide

- Observation: List of Questions

- Questionnaire: List of Questions (Google form)

The hardware and software used in the study was an Infinix Zero 8 smartphone to document interviews and also record sound during the interview. Pocket books are used to record important points during observations and interviews.

2.3 Data and Information Collection

The method of collecting data and information used refers to the results of interviews with the Lurah and IT staff for the Bandungrejosari Village, Malang City. While external sources are obtained from previous research, websites, government documents and research journals. There is a questionnaire that represents the results of a survey from the community around the city of Malang as a correspondent. The method used is:

1. Literature Studies

The data obtained through literature study is taken through readings that have a correlation with topics relevant to the design title. By using other sources such as sites and articles obtained via the internet as a basis for designing digital catalogs and SMEs.

2. Observation

The activity of observing UMKM in the Bandungrejosari sub-district, Malang city, using all the tools and materials needed. Observation requires observation in various other ways, namely interviews, image and video documentation, as well as supporting audio needed during design.

3. Interview

Interview data is needed as validation of data obtained through observation which can be obtained through various sources that have been found through literature study. Interviews were conducted with MSME business owners in the Bandungrejosari Village, Malang City.

4. Questionnaire

The questionnaire is used as data validity to measure the accuracy of the design instrument with the needs used in research (Sugiyono, 2017). The questionnaire correspondents are residents of the city of Malang and its surroundings by using the Google form feature to get the results of the need for access to information on UMKM in the Bandungrejosari sub-district for the community.

2.4 Data Analysis

In this design the researcher uses the SWOT data analysis method (Strength, Weakness, Opportunity, Weakness), which includes:

1.Strength **:** What are the strengths that will be displayed in the "Web-based MSME Interactive Catalog Interface Design in Bandungrejosari Village, Malang City"?

2. Weaknesses **:** How to overcome the weaknesses found in "Web-based MSME Interactive Catalog Interface Design in Bandungrejosari Village, Malang City"?

3. Opportunity **:** What are the opportunities found in the "web-based MSME Interactive Catalog Interface Design in Bandungrejosari Village, Malang City?

4. Threatness (Threats): How to overcome the threats encountered in the website-based MSME Interactive Catalog Interface Design in Bandungrejosari Village, Malang City?

2.4 Procedure

Using the method popularized by David Kelley and the Brown Design Thinking Team, it provides solutions by understanding users with a strategic approach to solving problems with a series of processes, including:

1. Empathize

At this stage the researcher made observations by approaching the sympathy felt in the object's understanding of the problems felt by the user. Researchers position themselves as users to find problems objectively directly.

2. Define

At this stage the researcher collects the data that has been obtained at the Emphasize stage. This was obtained by distributing the results of the questionnaire data using the Google form. The researcher also explained the problems encountered in the design using the SWOT Data Analysis (Strength, Weaknesses, Opportunity, Threatness) method.

3. Ideate

In this stage the researcher explores solutions by generating ideas in the form of determining creative strategies as problem solving. The solution found is an analysis of the data found in the previous stage. After brainstorming, the researcher determines the most appropriate solution, in this design the researcher chooses website media as the best solution.

4. Prototypes

This stage is the identification of the suitability of the best solution in the design. This stage produces a final design visualization in the form of a website or a simple prototype as a design realization. Media design produces 2 media, namely the main media and supporting media. The main media is in the form of the "Kata UMKM" website with supporting media in the form of Instagram social media content, digital promotional media, stickers, and office stationery.

5. Testing

After a series of previous stages, Testing is carried out to match the information that has been designed in the prototype stage according to user conditions. The method used is the System Usability Scale (SUS).

2.5 Design Concepts

The Concept of Designing a Digital-Based MSME Catalog for the Bandungrejosari Village, Malang City. This website is called "Bandungrejosari sub-district MSME e-catalog" and has the following concept design.

1. Using Indonesian, because Indonesian is the unifying language used by all Indonesian citizens.

2. The colors used are green and white. The green color means growth or development (Josefin, et.al, 2016) which represents MSMEs. Supporting colors are yellow, white. The meaning of these colors is that yellow symbolizes intellectuality, orange gives a warm impression, while white symbolizes loyalty.

3. The font type in this design is sans-serif to give a firm and modern impression. Besides that, sans-serif font types are easier to read for mobile device users. The font used in this application is Poppin.

4. Target Users

 a) Demographics

all genders, with an age range of 12 – 50 years and over with a range from pre-adolescent to early elderly.

b) Geographical

Residents of the Bandungrejosari sub-district, Malang city to National.

c) Psychographics

People who love and routinely buy MSME products around their environment.

2.6 Design Process

At this stage, the design process will be explained as follows.

1. Logo Creation

The logo was created as an identity for the introduction of the website to the public, using a sans serif typeface that looks not stiff to create a modern and soft impression. The logo is made with 4 important elements, namely SMEs, society, shopping and information. Before becoming a logo, a concept sketch is designed for the style and elements of the logo.

Fig. 7   Rough sketch for the creation of the "Kata UMKM" logo (Source: Personal Documentation)

Fig. 8 Digital logo " KataUMKM" (Source: Personal Documentation)

2. Color

The color palette used during design uses analogous color theory. By selecting Green as the main color. The green color has a calming perception and growth according to (Josefine A, et.al , 2016).

Fig. 9 Color palette used as Design resource" (Source: Personal Documentation)

3. Typography

Font selection in design is a font that has a modern impression, is not stiff, and is comfortable for users to read. The font used is a Sans Serif writing type with sharp edges, and is suitable for use in UI (User Interface) design. The Quicksand writing type was chosen as the header, and "Manjari" as the body caption.

Fig. 10 Font Type "Quicksand" (Source: https://lilbabysprouts.com/)

Fig. 11 "Manjari" Font Type (Source: Personal Documentation)

4. User Persona

At this stage, the designer describes the character of the prospective user according to the target audience with demographic, psychographic and geographical segmentation. The User Persona is presented in a one or two page document with an explanation that includes behavior patterns, goals, skills, attitudes, and background information, as well as the environment in which the potential user is located. In designing persona details depicted as fictitious persons to make the character personas realistic (e.g. quotes from real users), as well as context-specific details (e.g. for a banking application, it makes sense to include a person's financial sophistication and major expenses).

Fig. 12 User Personas in Website-based MSME Interactive Catalog Interface Design in Bandungrejosari Village, Malang City (Source: Personal Documentation)

5. User Flow

User Flow is the path taken by tasks. The user flow takes them from their entry point through a series of Steps to a successful outcome and final action, such as buying a product or getting the information they need. Here's a picture of the flow.
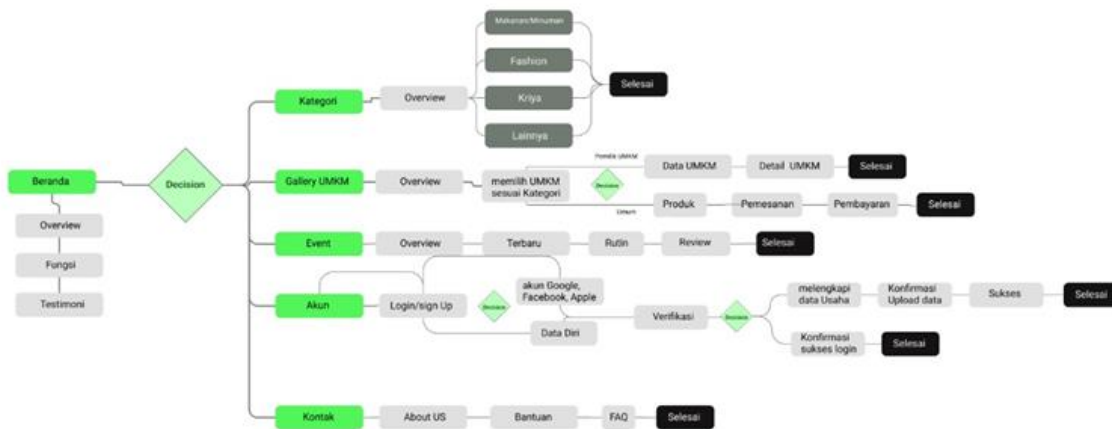
Fig. 13 User flow on website design KataUMKM Bandungrejosari sub-district Malang city (Source: Personal Documentation)

6. Wireframes Sketch (Digital)

Wireframes are two-dimensional illustrations of page interfaces that specifically focus on space allocation and content priority, available functionality, and desired behavior. Wireframes do not include any styles, colors or graphics. The Wireframes function helps build relationships between the various features offered on the website. So that the visual structure described can provide a visual understanding of the initial series of projects. Wireframes are made to show details by displaying the layout by adjusting the features mentioned in the user flow.

Fig. 14 Wireframe on website design Kata UMKM (Source: Personal Documentation)

7. Mock Up

Bring out the visual details of the wireframe by adjusting the colors as well as the typography. In this stage the designer obtains visuals so that they are attractive and comfortable to see according to the target user. The mockup is static so it cannot be operated yet.
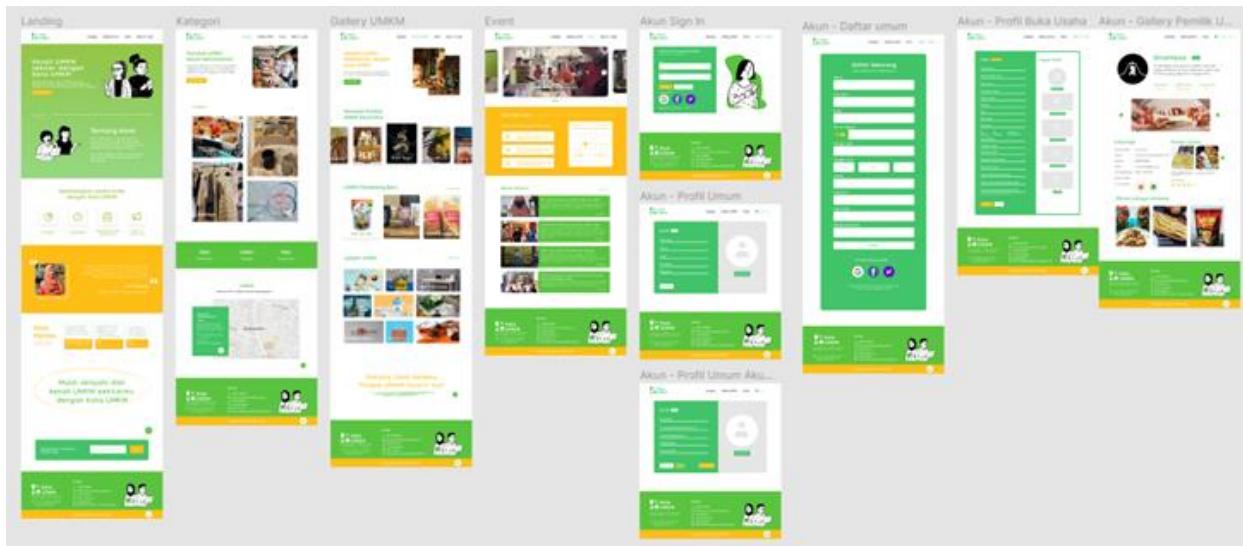
Fig. 15 Website design Kata UMKM Implementation Mock Up (Source: Personal Documentation)

8. Prototypes

The prototype is used as an adjustment to the User Interface (UI) design that has been made by presenting interaction simulations that are tailored to user needs. Later the prototype is used as a trial to analyze the deficiencies of the product. With this, prospective users are expected to be able to provide display and feature input in the prototype.
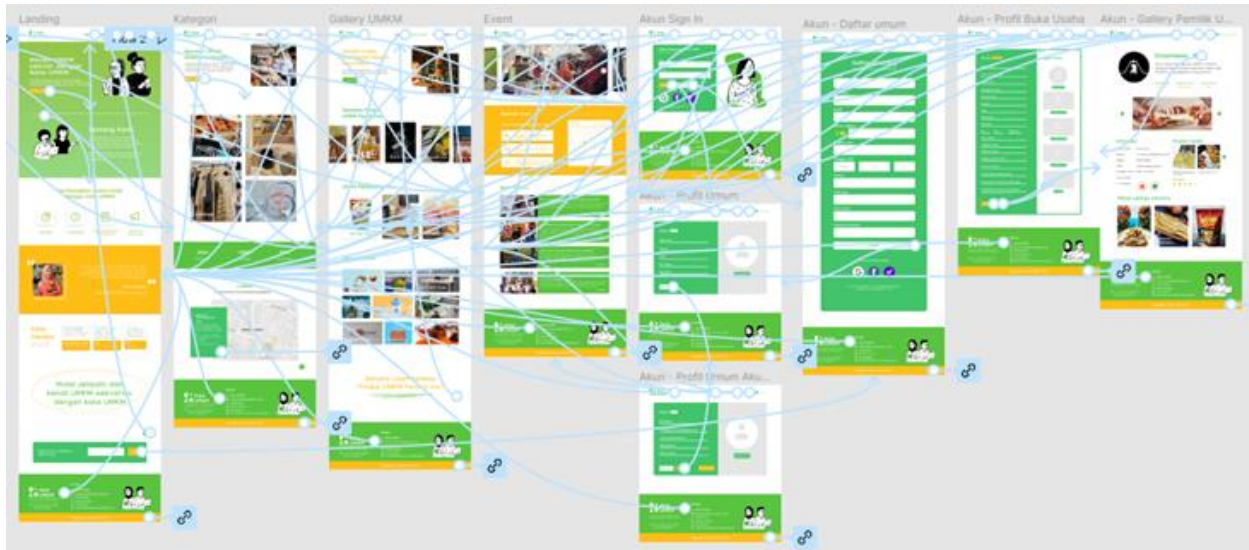
Fig. 16 Website design Kata UMKM Prototype (Source: Personal Documentation)

2.7 TEST RESULTS

2.7.1 Developing Test

The method used for testing is usability testing, which is using a prototype as an overview of the final product and followed by remote testing using the Google form on several participants to obtain preference and satisfaction data from April 16 to July 15, 2022. The data obtained through the assessment of respondents using the System Usability Scale. Here are the SUS instruments. The purpose of this test is to describe the end result of the product when used by the user, and minimize errors before they are realized. Trials were conducted on the resulting product through several stages. By obtaining responses from prospective users as testers, testing is carried out using the Usability Testing method. The following are aspects that will be tested on participants.

1. Able to log in

2. Able to update data on personal data

3. Able to switch and browse pages other than the main page

The product is tested using a questionnaire in the form of a Google form. Testers (Prospective Users) as participants will answer questions according to their experience when running website trials based on the System Usability Scale. Testing was carried out by ten participants for 2 days from 20 to 23 May 2022.

2.7.2 Test Score

Based on the test results using the Usability Testing method obtained based on participant responses. Data calculations were carried out using the Calculate Usability Testing tool according to the test parameters and pure participant assessment (Sharfina, Z., & Santoso, H. B., 2016).

Table 3. Previous Similar Journal Research

No.	Question	1	2	3	4	5
1	I think I will use this Website often					

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2	This website is not very complicated					
3	I think this Website is easy to use					
4	I think I need help to be able to use this Website					
5	I found some variety of features on this Website that are well integrated					
6	I found inconsistencies in this Website					
7	I imagine that this Website can be quickly used by everyone					
8	I found a complication in this Website					
9	I am very sure that I can use this Website					
10	I think I have to learn a lot to be able to use this website					

3. Result and Discussion

This design will produce a Prototype Website "Kata UMKM" in the hope of meeting user needs for access to MSME information located in the Bandungrejosari sub-district area, Malang city. MSMEs are an economic pillar that has helped eradicate the 1997 to 1998 Monetary Crisis. With a significant increase in the number of MSMEs from year to year. SMEs recorded by the Ministry of Cooperatives amounted to 55.2 million SMEs in 2012 and increased to 62.9 million SMEs. The development of MSMEs also includes MSMEs in the Malang city area (BPS), 2017) (Depkop, 2018) (Y.R. Suci, 2017). The Malang city government certainly has an important role to play in developing various programs to embrace all old and new MSMEs to develop their businesses. With the increase in MSMEs in the Bandungrejosari sub-district, they have difficulty collecting data, due to the Covid-19 pandemic outbreak, several people have experienced layoffs (termination of employment). So that there are more and more new MSMEs, especially in the Bandungrejosari area, Malang city.

Based on the problems above, the Bandungrejosari Village, Malang City, requires accurate information facilities as a reference for developing MSME programs. improve skills and update information on the MSME sector digitally in the form of a Website. Media Website was chosen because it can display information quickly and in real-time. With the Kata UMKM Website, it can expand MSME information in the Bandungrejosari sub-district, so that it is better known, especially for the people of the Bandungrejosari sub-district and Malang City.

Table 5.Test results for the website "Kata UMKM" (Source: Personal Documentation)

No	Reponden	Usia	Jenis Kelamin	Skor Asli (Data Contoh)										Skor Hasil Hitung (Data Contoh)										Jumlah	Nilai (Jumlah x 2.5)
				Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10		
1	Responden 1	>20	Laki Laki	5	2	4	3	4	2	3	4	3	3	4	3	3	2	3	3	2	1	2	2	25	63
2	Responden 2	>20	Laki Laki	3	2	5	1	5	2	5	4	5	2	2	5	4	4	4	3	4	1	4	3	34	85
3	Responden 3	>20	Perempuan	4	1	4	4	3	3	3	4	3	1	3	4	3	1	2	2	2	1	2	4	24	60
4	Responden 4	>20	Perempuan	4	1	4	2	4	4	4	2	4	3	3	4	3	3	3	1	3	3	3	2	28	70
5	Responden 5	>20	Perempuan	4	2	3	2	4	5	4	2	4	3	3	3	2	3	3	0	3	3	3	2	25	63
6	Responden 6	>20	Laki Laki	4	4	4	3	3	3	3	3	3	3	3	1	3	2	2	2	2	2	2	2	21	53
7	Responden 7	>20	Laki Laki	5	5	5	5	5	3	4	3	5	3	4	0	4	0	4	2	3	2	4	2	25	63
8	Responden 8	>20	Laki Laki	4	5	5	3	4	3	5	1	5	1	3	0	4	2	3	2	4	4	4	4	30	75
9	Responden 9	>20	Laki Laki	5	4	4	5	4	3	5	2	4	2	4	1	3	0	3	2	4	3	3	3	26	65
10	Responden 10	>20	Perempuan	4	5	5	5	5	5	5	5	5	1	3	0	4	0	4	0	4	0	4	4	23	58
11	Responden 11	>20	Perempuan	5	5	5	5	4	3	4	2	5	2	4	0	4	0	3	2	3	3	4	3	26	65
12	Responden 12	>20	Perempuan	4	5	5	3	4	2	3	3	5	4	3	0	4	2	3	3	2	2	4	1	24	60
13	Responden 13	>20	Laki Laki	4	2	5	2	4	3	4	3	5	2	3	3	4	3	3	2	3	2	4	3	30	75
14	Responden 14	15-20	Perempuan	4	2	5	4	4	3	5	4	5	3	3	3	4	1	3	2	4	1	4	2	27	68
15	Responden 15	>20	Perempuan	3	3	4	2	4	4	5	3	4	2	2	2	3	3	3	1	4	2	3	3	26	65
16	Responden 16	>20	Laki Laki	5	1	4	1	4	4	4	4	4	3	4	4	3	4	3	1	3	1	3	2	28	70
17	Responden 17	>20	Laki Laki	4	1	4	3	4	4	3	3	2	2	3	4	3	2	3	1	2	2	1	3	24	60
18	Responden 18	>20	Laki Laki	4	1	4	3	3	1	3	3	4	1	3	4	3	2	2	4	2	2	3	4	29	73
19	Responden 19	>20	Perempuan	4	4	5	4	5	4	4	3	4	3	3	1	4	1	4	1	3	2	3	2	24	60
20	Responden 20	>20	Perempuan	3	5	5	3	4	3	5	3	4	3	2	0	4	2	3	2	4	2	3	2	24	60
21	Responden 21	>20	Laki Laki	5	5	4	1	5	3	3	1	5	2	4	0	3	4	4	2	2	4	4	3	30	75
22	Responden 22	>20	Laki Laki	5	2	1	4	3	1	4	1	5	1	4	3	0	1	2	4	3	4	4	4	29	73
23	Responden 23	>20	Perempuan	3	4	4	3	4	4	4	2	4	2	2	1	3	2	3	1	3	3	3	3	24	60
24	Responden 24	>20	Perempuan	4	4	4	4	4	4	4	2	4	2	3	1	3	1	3	1	3	3	3	3	24	60
25	Responden 25	>20	Perempuan	4	2	4	2	4	1	5	2	5	1	3	3	3	3	3	4	4	3	4	4	34	85
														Skor Rata-rata (Hasil Akhir)											66

The Usability Testing technique tests respondents who are curious to find information about MSMEs in the Bandungrejosari urban village, Malang city. The number of respondents who took the test amounted to 25 participants who live in the city of Malang and its surroundings. Questionnaires were distributed online to conduct trials according to the parameters described in the previous Chapter. After carrying out the task according to the parameters requested, participants can provide answers to the questions given on the Google form. Participants were given a series of tasks to answer the questions that had been given.
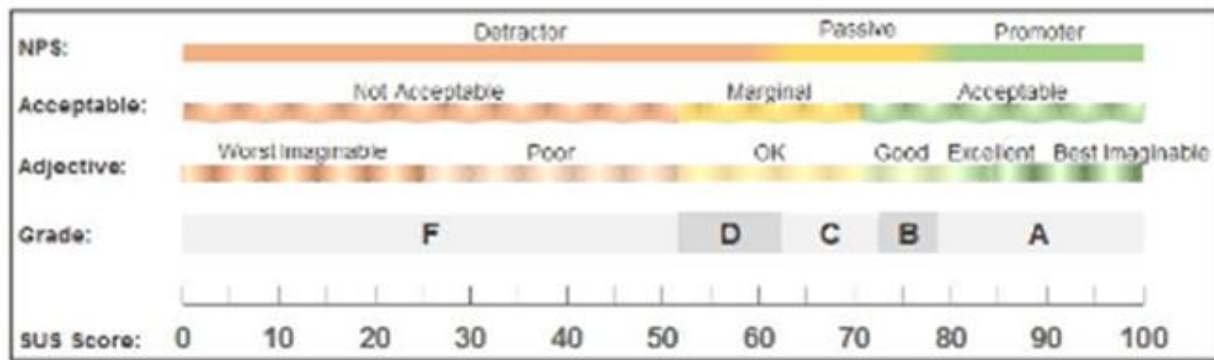

Fig. 17 Interpretation of System Usability Testing (SUS) testing values (Source: Kesuma, 2020)

The results obtained are the results of calculating the System Usability Testing (SUS) method. After testing, the average score is 66. The score indicates the Ok category (Marginally Accepted), the website ranking is detractors (with a score of 6 and above).

4. Conclusions

The presentation of the conclusions is obtained through the results of testing the results of the website design "Kata UMKM" using the Design Thinking method. The results of the respondents after testing were positive responses with several notes such as confusion in adjusting operations, and the lack of information found on the website. However, most of the respondents stated that they were able to operate without problems. Of course, this is a record for developing the "Kata UMKM" website with the needs of users who continue to grow so that it can be better received by prospective users and users of this product in the future.

Assessment of the results of the design produces suggestions that are useful for the development of the Institute and for further similar research. The following suggestions are obtained:

Consideration of adjusting user needs by considering the User Experience. So that the system can be used easily and efficiently in accessing every feature in it. Maintain Consistency of the design style with the initial sketch. This is intended so that the design principles and the final design result do not have any discrepancies, so that users are not confused when using the website later. Providing navigation as a feature guide on the "Kata UMKM" website. So that users do not get confused in accessing and recognizing existing features.

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