Designing The UI/UX of a Website Introducing Traditional Culture Focusing on Dance Using the User-Centered Design Method

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Abstract

Culture is the entire system of ideas, actions and results created by humans in social life that humans possess through the learning process. Introduction to traditional culture is an important part in maintaining and developing the identity of a society. In the digital era, the use of technology as a medium to promote traditional culture is very important. Mahograyasah art studio is one of the art studios or places to learn art which currently has problems, namely in the delivery of material. As a result, learning effectiveness decreases and participants have difficulty mastering the material well. The participants felt it was ineffective to receive the material directly and preferred to practice. However, due to the time and large number of participants, direct practice is difficult. Apart from that, the studio does not provide video tutorials for independent study at home, so participants only rely on learning when practicing in class. To overcome this problem, researchers used the User-Centered Design (UCD) method by developing a web-based prototype. Testing was carried out using the System Usability Scale (SUS). In this research, figma is used to design a website which contains dance material, dance videos, games and locations. The result of this research is a dance learning website prototype for the Mahograyasah studio. Based on prototype testing using the System Usability Scale (SUS) method, the average SUS score obtained was 88. 625. Thus it can be concluded that the Introduction to Traditional Culture learning website focusing on Dance has been accepted and meets the expected criteria.

Keywords: *Traditional Culture, Dance, User-Centered Design, prototype, System Usability Scale*

1. Introduction

Culture includes all the ideas, actions and results that humans have through the learning process in social life. Ki Hajar Dewantara believes that culture is the result of human confrontation with two strong influences, namely age and nature. This fruit shows that human life is successful when it comes to overcoming various difficulties and challenges of life and saves his life, fortunately, when it is orderly and peaceful at the time of birth. Culture is a lifestyle that is dominated and adopted from generation to generation by a certain group of people. Since culture involves various elements such as behavior, religion, language, clothing, etc., it is very important for those who believe.

Introduction to traditional culture is an important part in maintaining and developing the identity of a society. In the digital era, utilizing technology to promote traditional culture is very important. The use of websites as a medium to convey traditional culture is also effective. However, a user-friendly website design is absolutely necessary to help users access and understand traditional cultural content easily. User-centric website development relies heavily on user interface (UI) and user experience (UX) design. User-Centered Design (UCD) methodology is a sound approach to UI/UX design that focuses on user needs and satisfaction.
UI or user interface is the visual appearance or design of a system, application or web page. A user interface is a connecting bridge that allows users to interact with systems, applications or products on a website. UX or user experience, on the other hand, is the process of creating a product based on user experience. Products produced in this way respond to the wants and needs of users. User Experience is a measure of comfort and ease in using the product [1], [2].

Mahograyasah art studio is one of the studios or places to learn art in South Krajan, Watualang, District. Ngawi, Ngawi Regency, East Java. Currently, there are problems in delivering material. As a result, learning effectiveness decreases and participants have difficulty mastering the material well. The participants felt it was ineffective to receive the material directly and preferred to practice. However, due to the time and large number of participants, direct practice is difficult. Apart from that, the studio does not provide video tutorials for independent study at home, so participants only rely on practical learning in class [3].

The use of the website at the Mahograyasah art studio is very important for trainers and participants in learning dance at the art studio, because the website can be accessed anywhere and at any time. Utilization of the website as a supporting tool for interactive learning in art studios discussing traditional dance movements in Indonesia. As a result, based on these problems, researchers tried to create a website design using the UCD method. UI/UX design can ensure that the website created meets user needs and expectations, making the user experience easier and better. The aim of this research is to create a website that can be used easily and effectively by dance trainers or participants and improve the user experience when accessing and understanding the traditional cultural content presented. The background, objectives and research methods used are discussed in this chapter. The background discusses the importance of introducing traditional culture and the role of technology in advancing traditional culture [4], [5].

2. Research methods

2.1. Understanding the user-centered design method

Generally, UCD helps developers and designers create applications that meet user needs. This is the basis of the KCI software design methodology [4] UCD is a user interface design process that focuses on the appearance, accessibility and usability of the user interface, and involves users as the center of the design process by providing input and assessments presented in the form of surveys. Products created using the UCD methodology aim to meet user needs and increase ease of use [6].

In the process of creating or using a product, user experience can be defined as the impressions and interactions that people have when using the product in everyday life. The goal of user experience design is to make the product look attractive to users and provide interactions that are relevant to its use [8].

UCD focuses on user needs during an iterative process or life cycle and aims to optimize the final product by considering the end user's needs, desires and constraints. Designers not only see and predict how consumers are likely to use their products, they also conduct research with end users to test whether this is true [9] Human-centered processes are the basis of UCD, as stated in the international standard ISO 13047. This standard describes the process of the entire development life cycle [10], [11], [12].

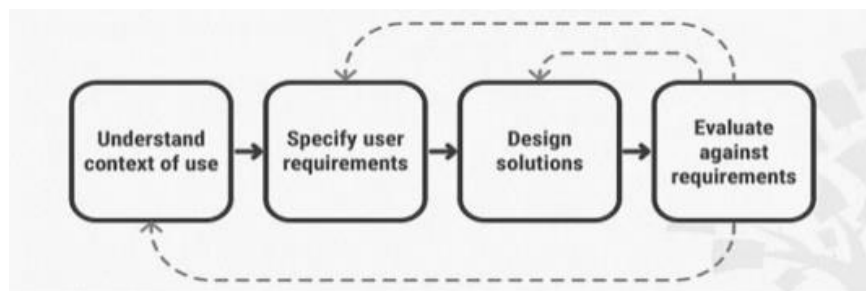### 2.2. User-Centered Design Method Process

Fig. 1: Method Proses

In this design method, the author adopts a user-centered design approach. This approach is a systematic step-by-step design process and requires precision in implementing each step. In the user-centered design method, researchers take several steps to achieve their research goals. The user-centered design (UCD) methodology begins by identifying the usability context, identifying user needs, creating a solution design, and evaluating the created design [13], [14], [15].
1. Understanding usability
2. On this occasion, researchers surveyed 20 respondents who were potential users of the Mahograyasah Art Studio to obtain the information users needed.
2. Determine user needs
3. In this phase, researchers determine user needs based on the information collected in the first phase. These needs are identified by analyzing survey and interview data and distilled into specific specifications that must be met in the design.
4. Solution design
5. To solve problems faced by users, the initial design stage includes creating a site map, system design, wireframe, and prototype. These prototype experiments are conducted by users and provide feedback that is used to refine the design.
6. Evaluation of requirements
7. To ensure that the final product meets user needs and expectations, the design is evaluated at the final stage through usability testing, user research, and feedback analysis. This evaluation uses the usability test (SUS) technique.

Additionally, we use a usability scale survey to measure user satisfaction.

Table1: System Usability Scale Questions

P1	Saya membutuhkan bantuan orang lain dalam menggunakan system ini
P2	Saya berfikir akan menggunakan system ini lagi
P3	Saya merasa fitur yang ada telah berjalan dengan semestinya
P4	Saya merasa ada hal yang tidak konsisten dalam sistrem ini
P5	Saya merasa orang lain memahami cara menggunakan system ini dengan cepat
P6	Saya merasa system ini membingungkan
P7	Saya merasa tidak ada hambatan dalam menggunakan system ini
P8	Saya perlu membiasakan diri terlebih dahulu menggunakan system ini
P9	Saya merasa system ini rumit digunakan
P10	Saya merasa system ini mudah digunakan

3. Results and Discussion

3.1. User identification

User identification was carried out through interviews with Mrs. Indah Triwulandari S. Pd, the owner of the studio, to understand the problems faced by the studio. This interview is conducted online and produces a user persona. From the results of the interviews, various problems and solutions were found that would be implemented in website design.

During the interview process, Mrs. Indah revealed several obstacles faced by her studio, such as problems in delivering material. As a result, learning effectiveness decreases and participants have difficulty mastering the material well. The participants felt it was ineffective to receive the material directly and preferred to practice. However, due to the time and large number of participants, direct practice is difficult. Apart from that, the studio does not provide video tutorials for independent study at home, so participants only rely on practical learning in class.

With this interview, a user persona was produced that describes the needs of the studio website. The proposed solutions include creating a responsive website, providing video tutorials on the website, delivering interesting material in the form of a website, educational games, and effective communication features. It is hoped that the implementation of this solution will help studios increase visibility, increase students' understanding and make it easier to access video tutorials about the art of dance. In addition, a well-organized website will help disseminate information about the studio's activities more efficiently.

3.2. Interface design

The chapter on interface design discusses the interface design creation stage. This stage begins with creating a site map, system design, wireframe, and website mockup. In designing this website using Figma software.
Mind mapping is a method for placing solution ideas generated from interviews at the user requirements stage. These solution ideas are placed on the home page, which is the main page of the Dance Generation website.
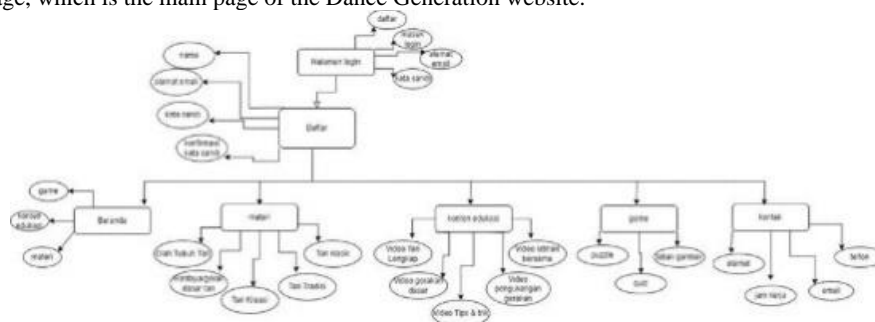
Fig. 2: Mind Mapping

At the solution design stage, researchers designed an interface design for a dance arts website based on previous problems and needs. This stage consists of several interface design stages, one of which is User Flow, as shown in Figure 3.
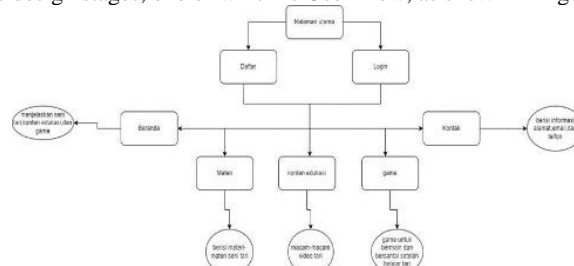
Fig. 3: User Flow

The explanation of the User flow image above is as follows:
a. The homepage is the initial display which has 3 menu options that can be accessed by users: materials, educational content, and animation.
b. Material is a page provided for users to be able to choose material about the art of dance starting from basic dance movements, classical dance, creative dance and traditional dance.
c. Educational content, is a page where users can access dance videos.
d. Game, is a place to play and relax after doing dance practice activities.
e. contact, this page contains address and email information.

Creating a wireframe is the initial process in designing a website page interface. In this process, the icon layout, typography, and size are determined before entering the mockup creation stage. The results of creating a wireframe in the Solution are as shown in the image below.

Fig. 4: Wireframe

The final design result, which includes details such as images, typography, colors, and shapes, is called a mock-up. At this stage, the result is an interface design that is almost the same as the finished website. Mock-ups provide an accurate visual representation of the final appearance of an application or website, allowing people involved in the project to see and assess the design before further development. Mockups can help in finding and fixing design problems, and ensuring that visual components and functionality work well. Figure 5 shows an example mockup.

Fig. 5: Mockup

Prototype is an example of an integrated application interface, which comes from a model connected to a frame, allowing users to interact by pressing available buttons or icons. This stage is carried out to simulate the way users interact with the website that will be created. The results produced during this design solution development stage are as follows:


Fig. 6: Prototype

The Evaluate Against Requirements stage is the prototype testing stage that has been previously created using usability testing. Researchers distributed questionnaires to 20 respondents. In this test, researchers used non-probability sampling to determine samples based on certain criteria. The research sample was dance studio participants aged 7-18 years, who had and had never used learning applications. The System Usability Scale (SUS) method is used with 9 questions that have yes or no answer options

Table 2: SUS calculation

Responden	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Jumlah	Hasil SUS
1	4	4	3	4	2	3	2	4	2	4	32	80
2	4	4	4	2	3	4	4	4	4	4	37	92.5
3	5	4	4	3	2	2	2	4	2	4	32	80
4	4	4	4	4	4	4	4	3	2	4	37	92.5
5	4	3	3	4	2	4	2	4	4	2	32	80
6	4	3	4	2	4	2	4	4	2	4	33	82.5
7	4	4	4	4	4	4	4	4	3	4	39	97.5
8	4	4	4	3	4	4	4	4	3	4	38	95
9	4	4	4	4	4	3	4	4	3	4	38	95
10	4	4	4	2	4	2	4	4	2	4	34	85
11	2	5	5	2	4	2	4	4	2	5	35	87.5
12	2	5	4	2	5	2	4	4	2	5	35	87.5
13	4	4	4	3	4	3	4	4	2	4	36	90
14	4	5	5	2	4	2	4	3	1	5	35	87.5
15	4	4	4	3	4	3	4	4	3	4	37	92.5
16	4	2	2	4	3	4	3	3	2	3	30	75
17	4	4	4	3	4	3	4	4	4	4	38	95
18	4	5	5	2	4	2	4	4	2	5	37	92.5
19	5	5	5	2	5	2	5	5	1	5	40	100
20	4	4	4	2	4	2	4	4	2	4	34	85
										Rata-rata		88.625

The table above shows the results of SUS calculations with varying values. The average SUS value is 88.625. To see Acceptability, Grade, and Adjective Rating, you can see the following image:
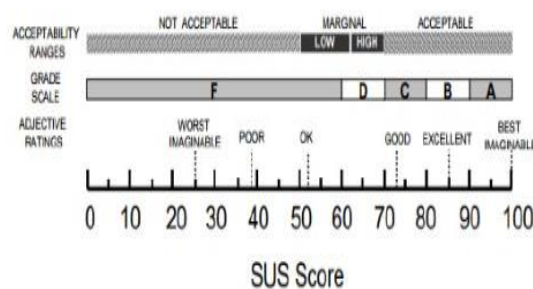
Fig. 1: SUS Criteria

The average SUS value obtained was 88.625. This shows that the Indonesian cultural learning media website which focuses on dance for dance studio participants received Grade B with an assessment of Adjective Excellent and the Acceptable category.

4. Conclusions and recommendations

Based on the research results, it can be concluded that designing Indonesian cultural learning media websites, especially dance, using the User-Centered Design (UCD) approach is very effective. The UCD method allows developers to focus on user needs and satisfaction in every design stage, from understanding the user context, requirements specification, to prototype evaluation.

The designed website received a good assessment in usability testing, with an average System Usability Scale (SUS) score reaching 88.625. This result shows that the website is easy to use and meets user expectations in accessing traditional dance learning materials. Thus, implementing a solution in the form of an interactive website with video tutorial features, educational games and responsive interface design is expected to increase the effectiveness of learning and expand access to traditional culture among dance studio participants.

Based on the results of the website design conclusions, it is recommended that research and development can be continued with other methods in order to achieve maximum results, so that the website prototype becomes better and more attractive.

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