Transmedia Storytelling Website-Based Children's Learning

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Abstract. Children in Indonesia still show very little interest in reading. According to a poll by the United Nations Educational, Scientific, and Cultural Organization, Indonesian children's interest in reading is still extremely low at only 0.01% despite extensive indoctrination about the value of reading books (UNESCO). People are encouraged to use technology, particularly in the area of multimedia, by developments and developing technologies. This offers researchers the inspiration to develop a digital media application that tells a tale utilizing the idea of transmedia storytelling. With audience engagement so that users may choose their own plot, this application seeks to provide readers a new sense of enjoyment when reading stories. Children will find reading stories on smartphones, tablets, or computers interesting when combined with voice, text, and 2D animated pictures. This project attempts to provide engaging educational media that encourages kids to use their devices responsibly. Testing in this study was carried out by two methods, the first was done with black box testing to find out whether this application was functioning properly. the test results show the results that the application can work well. then proceed with usability testing using the usability scale (SUS) system and evaluated with the Net Promoter Score (NPS). the result is the final SUS score of the respondents is 73.00 and based on the NPS it indicates the application developed is in the passive category and needs improvement.

Keywords: Transmedia, Storytelling, Website.

1 Introduction

Based on the results of the research "Most Littered Nation in the World" by Central Connecticut State University (CCSU) in 2016, Indonesia is in position 60 out of 61 countries whose population likes to read books, especially at the level of children is also low. According to the results of a survey from the United Nations Educational Scientific and Cultural Organization (UNESCO) explaining that interest in reading books in children is only 0.01%,

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which means that out of 10,000 there is only 1 who likes to read books. Even though reading is the highest part of brain function and is an important part of life because almost all learning processes are based on the ability to read [1].

The development of science and technology increasingly encourages people to use and develop technological results in various fields, especially in the field of multimedia. One form of utilization is by utilizing various platforms to involve audience participation in the concept of transmedia storytelling. According to Rutledge [2], transmedia storytelling uses various platforms that provide multiple narratives simultaneously to create a wider world. Transmedia storytelling is a process that integrates elements in fictional stories through various platforms with the specific purpose of entertaining the audience [3].

Based on the explanation above, an idea emerged to create a web-based story application using the concept of transmedia storytelling as a new medium in delivering a story that is packaged more attractively. The results of this research will be implemented on digital media, especially the website platform and is expected to be a medium for learning stories that are interesting for children and also increase children's interest in reading. Furthermore, transmedia can be used as an approach not only for the education purpose, but also as a creative element as it presents children with a distinguished method of learning [11]. Thus, transmedia storytelling offers various stories to the audience to engage in, participate as well as generate their learning process in a creative way by creating stories and other relevant activities. As the result of exposure from broad range development of media technology, young children are exposed on several platforms and channels, so that this phenomena has potensial chance to implement concepts from transmedia storytelling for preschool and school children [12].

This project attempts to provide engaging educational media that encourages kids to use their devices responsibly. We adopth the concept into a website as a media. In the website we add some stories with title Roy Sang Juara. Roy Sang Juara is 2D animation web-based stories that run as the transmedia storytelling concept. It offers interactivity to users. In general, Roy Sang Juara gives an educational perspective to the audience about the dangers of using smartphones too much. The stories consist of some episodes in which users can choose specific episodes. Transmedia storytelling enables students to "broaden the mix of representational modalities in which students communicate their knowledge and to establish collaborative knowledge cultures" in comparison to traditional educational approaches for information delivery [14].

2 Literature Review

2.1 Transmedia Storytelling

According to the research of [4], transmedia is an element of fiction that is disseminated systematically through various media matters in its platform. In this case the researcher is trying to achieve two goals, namely the limitations of transmedia in the entertainment and education industry, fiction is spread directly across the internet. Several coordinated online platform channels, and each plate also has its own characteristics; transmedia storytelling is utilized to motivate the audience indirectly connected to visual design. Moreover, the audience also can contribute in encouraging content creation, while transmedia storytelling requires proper analysis and estimation. Transmedia storytelling may have some parts that are not

perfect enough in making; it less attractive to the audience because it can look boring. However, the more advanced generation now sees transmedia storytelling as a creative and informational medium, in taking the method [5], so it reveals more interactively. The sample analysis was carried out by relying on the research of the participants themselves who were selected by the researchers themselves, also on the grounds that the researchers easily found the characteristics that they thought were needed, and for the shortcomings that are often experienced in making transmedia storytelling in terms of business [6].

This is due in view of the business being able to reveal trade and intellectual secrets as well as property. Dealing with such issues requires a lot of outlays which can potentially increase costs, margins to unmanageable levels [7]. The result is that it becomes difficult to sell expensive products to such customers who may not want to be involved with a different platform because of the high prices. So that it can be detrimental to the company and that in terms of business does not escape also in terms of education in this case the researcher is also interested in exploring practice but also has research limitations, namely:

a. In terms of transmedia requires cognitive maturity.
b. There are also participants who find it difficult to get access and equipment in accessing transmedia storytelling.
c. The existence of media or platforms that do not support this is because it requires large funds with less profitable income.
d. The development of transmedia to date is still relatively slow because there is still a lack of knowledge about transmedia.

In this case the data reveal that public attention in transmedia storytelling will still be minimal, especially at the age of children who still depend on guidance from their guardians or teachers in conducting transmedia storytelling learning. Most are unable to interact with different media platforms in search of other elements of the story related to education. In fact they never realize whether the story that came to them through different mediums is incomplete and contributes to the whole story. Multi-platform storytelling refers to a special way of text where content appears in a coordinated manner across different media platforms (such as television, film games, books, graphic novels and music albums) [8].

2.2 Learning in Early Childhood Education

[9] suggests that early childhood learning is carried out through play activities prepared by educators by preparing material (content) and the learning process. Education during early years gives the best challenge for investment in human capital due to its effect on later school life during primary and secondary level [13].

Learning in early childhood is a child-oriented learning process, parents in an environment in developmental tasks prepared by educators. This learning is intended so that children can gain knowledge and can develop their potential optimally. With learning, it is hoped that there will be changes in children's behavior for the better. For child educators, of course, learning interactions must be fun and liked by children. Because, if the learning interaction is monotonous and boring, children do not have enthusiasm in the learning process.

3 Research Methodology

3.1 Multimedia Development Life Cycle

The MDLC method of study is in line with the idea of Website-Based Child Storytelling Transmedia [10]. The Multimedia Development Life Cycle (MDLC), which combines picture, sound, video, animation, and other media, is the process of developing and changing systems, models, and techniques used to build media application systems.MDLC (Multimedia Development Life Cycle) is a system development method that is suitable for multimedia-based system development. The MDLC method is here to assist in the development of Website-Based PBL Transmedia Storytelling Children's Learning products in designing the system. Multimedia Development Life Cycle consists of six stages, namely, the stage of material collecting, assembly, testing, and distribution as follow figure 1.

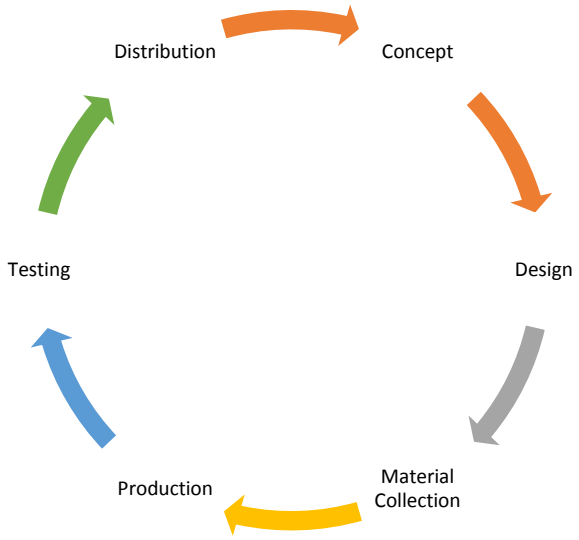

Fig. 1. Multimedia Development Life Cycle

The MDLC research and development steps are designed as follows:

a. Concept (stage to determine the purpose and who are the users of the program). Multimedia apps are intended to be interactive for both educational and entertaining purposes. The interactive tales by Roy Sang Juara are geared for kids between the ages of 5 and 12. The final product is a 2D animation that is shown on a Kai-Zen website.
b. Design (the stage of making the design of the appearance, style and materials and materials). The design is as precise as it can be. A storyboard is required to describe

each scene in the design section. The design was created using a distinctive and personable 2D animation design..

c. Material Collecting is the stage of collecting materials to be worked on. These materials include images, animation, video, and audio.
d. The assembly stage is the stage of making all objects and multimedia that have been made based on storyboards, flow charts and navigation structures.
e. The testing stage is carried out after the manufacturing stage by running whether the output produced has an error or not.
f. Distribution stage, at this stage the output will be stored in a storage medium. Storytelling Website-Based Children's Learning, the product will be distributed on the Kaizen Website that has been created.

4 Implementation and Result

4.1 Build The Story

The characters in Roy Sang Juara's story are as follows:

a. Roy
   Roy's character has olive skin, is tall and kind as a diligent and smart child, always gets good grades as a child and is addicted to cell phones.
b. Rama
   A child with brown skin, glasses, diligent and easy to get along with
c. Toni
   A child with fair skin, glasses, diligent and easy to get along with
d. Dad
   The figure of a father who is tall and fair-skinned, pampers his son, is kind,
e. Mother
   The figure of a mother who has a tall and olive body. Has an understanding and kind character.

4.2 Storyboard

Storyboard serves to describe the story line, from the beginning to the end. Helping to plan the shooting process to be more structured is the important role of storyboards in making assets and 2D animation in transmedia storytelling Website-Based Children's Learning. The plan for making storyboards using the Celtx application.

4.3 Asset

Design assets play an important role in complementing the needs of multimedia assets that will be used in the product manufacturing process. The design assets needed include photos, videos, fonts, website templates, voice over, sound, backsound, background, and so on. The design asset creation plan will use Freepik and Canva.

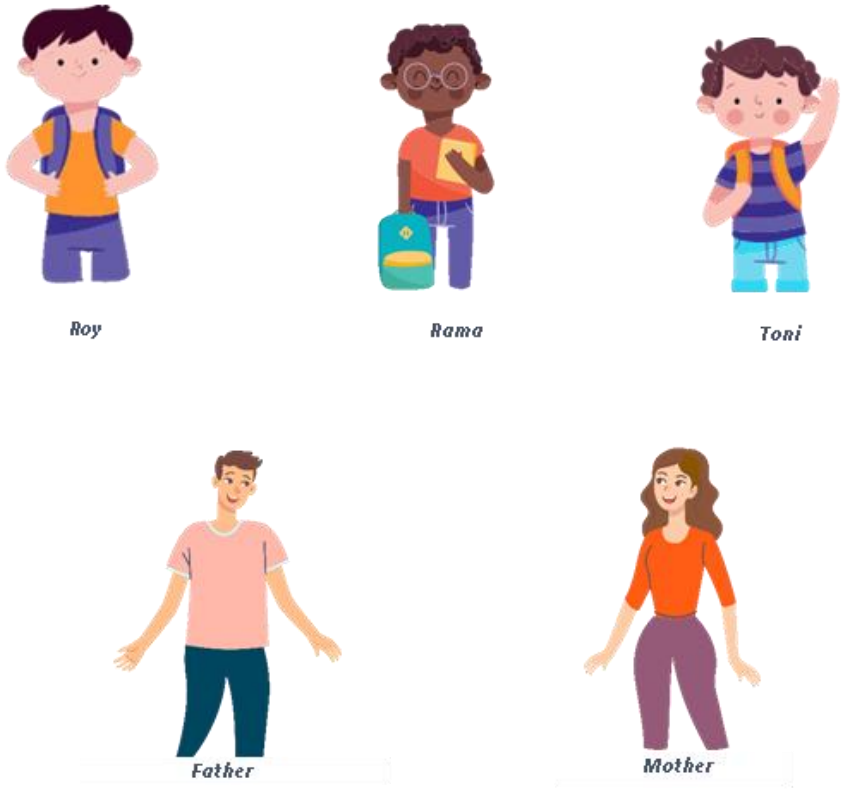

Fig 2. Asset

4.4 Website

The website offers an information display feature. The availability of information can make it easier for website users or viewers to access and use the material on the page. The Roy Sang Juara 2D animated material on the Kai-Zen website is developed as an interactive website to pique children's interest in reading who have been studying on it.

The CSS (Cascading Style Sheet) and Bootstrap will be used to create the website design. The usage of bootstrap is highly beneficial in creating a website's design so that it is more responsive. According to the observation, the Gallery Menu's content presentation is designed to resemble a YouTube View. Plan for building a website with Visual Studio Code.

The Kai-Zen website is designed with 4 main menus, namely:

a. Homepage, which is a main menu that displays the start page of a website. Featuring an introduction to the Kai-Zen Website and the Kai-Zen Video Trailer.

b. Gallery, which is a menu that displays and manages all content posts that have been previously created, namely 5 Episodes of Roy Sang Juara.

c. About Us, a menu that displays the profiles of the Kai-Zen Team members themselves.

d. Contact Us, a menu that displays the contacts of the Kai-Zen Team and the resulting Products.

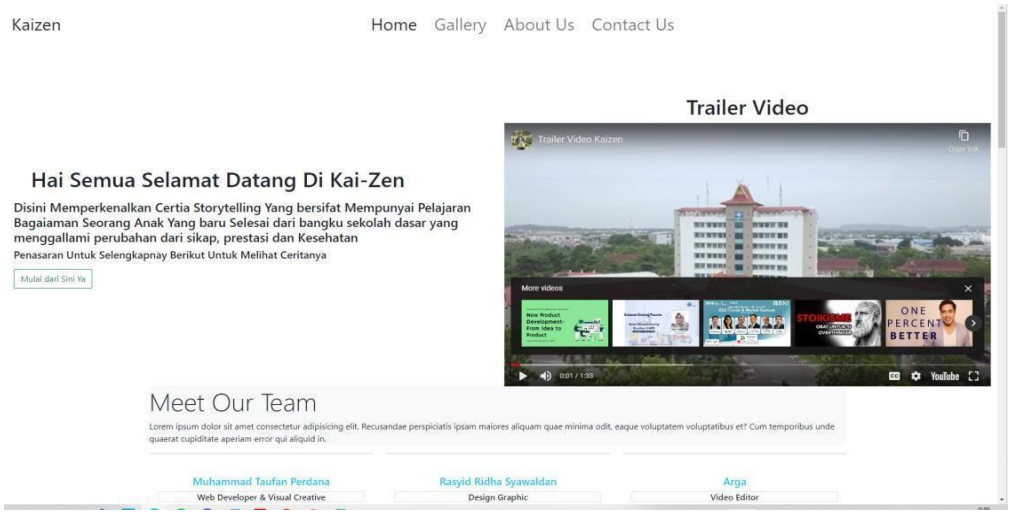

Fig. 3. Kai-Zen Website

4.5 Assembly

In the implementation stage or called Assembly Roy Sang Juara, this process here uses several applications such as:

a. Canva – Layout Editing (Figure 4) and Adobe Premiere – Content Editing (Figure 5)

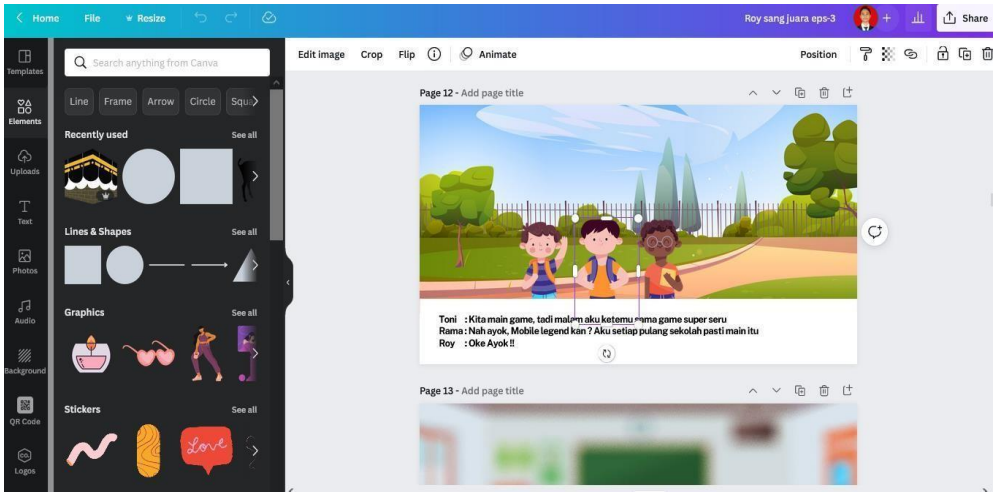

Fig. 4. Layout Editing

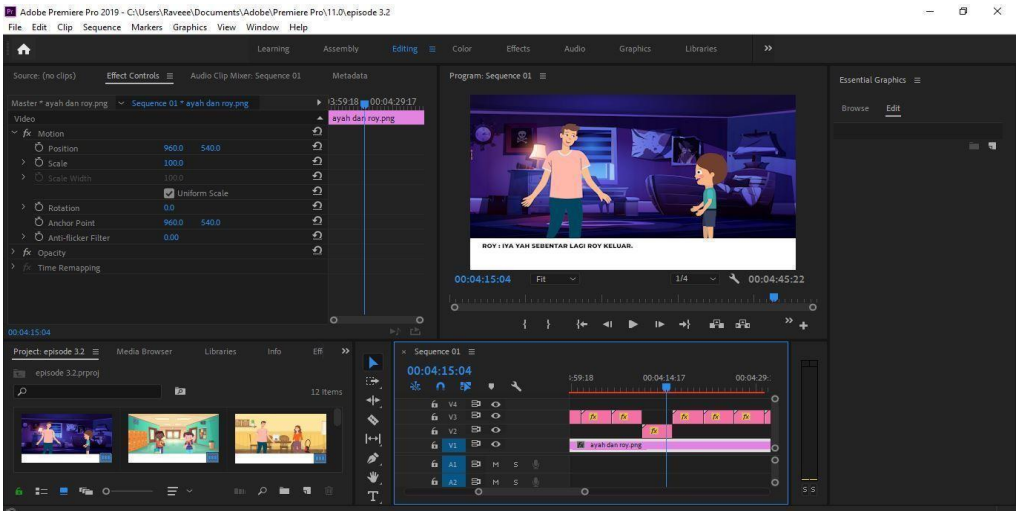

Fig. 5. Content Editing

b. Visual code studio – Code Editing

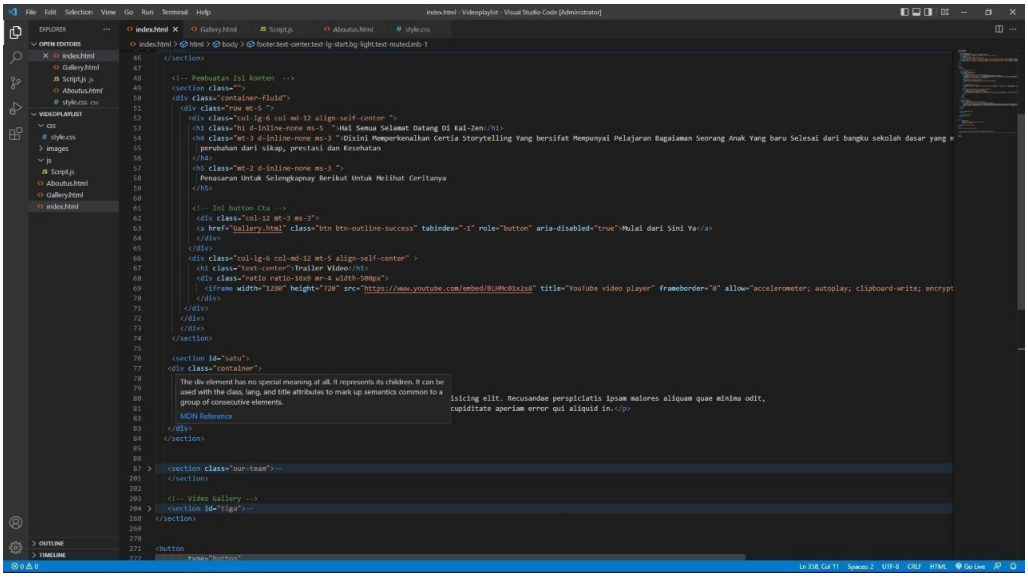

Fig. 6. Create the Website

c. github – Hosting program

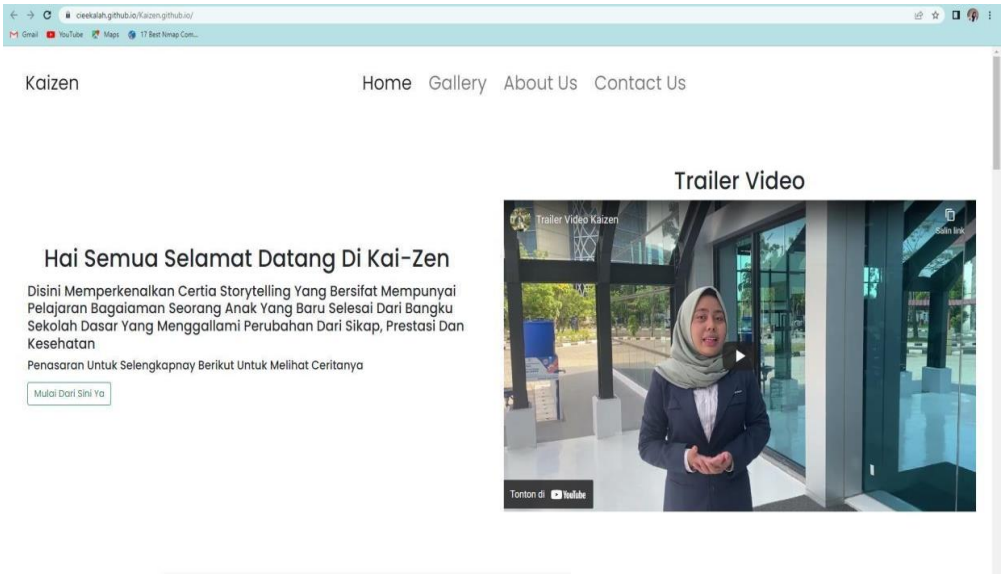

Fig. 7. Hosting Website

4.6 Testing

Testing or product testing will be aimed at children aged 5-12 years where it is the target target of this product itself. From this stage the suitability will be tested.

Table 1. Interactive Multimedia Component Testing

Test Case	Test Scenario	Test Parameter	Test Result
Web User Interface	By accessing the website link	The web has successfully appeared on the user layer	Success
Choose the Episode	Users can press the selection of episodes that are displayed	Users will be directed to the video story "roy sang Juara"	Success
Choose the Story	After selecting the episode, the user can start the story by pressing the play button	The story video has been successfully played and until the end of each episode	Success

For the next application is tested on users by trying the application on children aged 5-12 years who are accompanied by their parents or family. The researcher explained to the test target about this app, how to use it and invited the children and their families to try it. After

that, the family was given a questionnaire and asked the parents to discuss with the children what they thought about this interactive folklore application. A total of 5 questions were asked to 20 pairs of respondents (where each pair consisted of children and parents/adult families). The list of test questions is shown in table 2.

Table 2. System Usability Scale Question

Code	Question	Very Disagree	Disagree	Neutral	Agree	Very Agree
R1	I think that I would like to use this system frequently	1	2	3	4	5
R2	I found the system unnecessarily complex	1	2	3	4	5
R3	I thought the system was easy to use	1	2	3	4	5
R4	I think that I would need the support of a technical person to be able to use this system	1	2	3	4	5
R5	I found the functions in this system were well integrated	1	2	3	4	5
R6	I thought there was too much inconsistency in this system	1	2	3	4	5
R7	I would imagine that most people would learn to use this system very quickly	1	2	3	4	5
R8	I found the system very cumbersome to use	1	2	3	4	5
R9	I felt very confident using the system	1	2	3	4	5
R10	I needed to learn a lot of things before I could get going with this system	1	2	3	4	5

From the SUS questionnaire distributed, respondents were required to fill in the assessment column of each question item according to what they felt when experimenting with the system. Furthermore, the results of the questionnaires that have been filled out by the respondents are recapitulated and calculated for each answer with the following conditions:

a. For each odd numbered question, the score of each question obtained from the user's score will be deducted by 1.

b. For each question with an even number, the final score is obtained from a score of 5 minus the question score obtained from the user.

c. The SUS score is obtained from the sum of the scores for each question which is then multiplied by 2.5.

From the results of the recapitulation of the SUS score, we get an average score which we will then draw conclusions from. The next stage is to determine the results of the SUS assessment. To determine the results of the SUS assessment, the Net Promoter Score (NPS) is used.

NPS is an effective method to control and measure the level of user satisfaction. There are several different patterns and different responses in each group of users, namely: 1. Promoter - for people who respond by giving a rating of 77.2-100 usually described by repeated use; 2. Passive - people who give the product/app a score of 62.7-77.1; and 3. Detractor (detractors) - which gives a score of 0-62.6. Their score indicates that the user response is reduced or the product/application used.

The calculation of the SUS score in this study can be seen in Table 3 and the average final SUS score of the respondents was 73.00.

Tabel 3. Usability Testing result

SUS Score	Adjective	Acceptability	NPS
73.00	Good	Yes	PAssive

From the results of the scale of determining the results of the SUS assessment, it can be explained in detail into the SUS score scale as follows:

1) The SUS score obtained in this study is 73.00 obtained from users, which indicates the score is quite good. And the developed application can be accepted by the user.

2) Acceptability. Another variation in describing SUS is through acceptable or unacceptable statements. The SUS score of 73.00 indicates that the application is acceptable but still needs improvement.

3) NPS. The SUS score of 73.00 indicates the application developed is in the passive category. Users are known to be passive towards applications that are used to increase interest in folklore made in digital form.

5 Conclusion

From the results of the research that has been done, it can be concluded that the power of the Transmedia Storytelling Concept in website-based children's learning has an impact in strengthening a story that has been made. That is, it makes the reader more attached in an emotional way to the fictional story that is made. And also from the point of view of the production of this website, Transmedia Storytelling production develops stories in various forms such as animation, music, sound, images, which will create unique pieces of content on this platform. Each piece of this media is not only linked together, but the synchronization of the narratives made between one another will create an attraction for the reader, especially for children.

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