

Adaptation of Parallax Scrolling Effect Technique in LegitCheck Website Interface Development

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ABSTRACT

This research focuses on developing LegitCheck's website interface by applying the Parallax Scrolling Effect technique, which is considered as a potential solution to support the startup's promotional strategy. LegitCheck, as a startup that needs an effective way to introduce its services and business concept to consumers and brands, requires a website that can serve as an attractive promotional medium as well as a comprehensive information center. The purpose of this research is to examine the effectiveness of the Parallax Scrolling Effect technique compared to a website without the effect in increasing the effectiveness of the LegitCheck website as a promotional tool. The research method used includes the design and implementation of the Parallax Scrolling Effect technique on the LegitCheck website, followed by evaluation using the A/B testing method. The results showed that the implementation of the Parallax Scrolling Effect technique provided significant benefits, including improved information accuracy, service quality, user satisfaction, and company net profit. Although there are constraints related to page loading speed, the majority of respondents prefer websites with Parallax Scrolling Effect because it provides a more interactive and engaging experience. The implication of this study is that the use of Parallax Scrolling Effect can be an effective strategy for startups such as LegitCheck to increase interaction with users, strengthen brand image, and increase the effectiveness of the website as a promotional tool, although it is necessary to pay attention to technical aspects such as page loading speed to minimize potential disruptions to the user experience.

Keywords: Website, Parallax Scrolling Effect, Effective, A/B Testing, Legitcheck.

INTRODUCTION

The circulation of counterfeit goods has become an increasingly troubling issue in today's global society. This event not only has an impact on the economic sector, but also has implications for social, health, and security aspects for consumers, where cross-border trade is increasingly open and technology continues to advance, the spread of counterfeit goods has experienced a marked increase (Mardiatmi et al., 2022). One example of a violation that often occurs is the increase in cases of counterfeit goods, which has resulted in an increase in public demand for counterfeit goods (Guin et al., 2014). As a result, this phenomenon has increased

the distribution of counterfeit goods in the community (Kasih, 2017). According to (Intan, 2022) losses due to the circulation of counterfeit goods reached Rp 291 trillion.

Various efforts have been made to prevent the circulation of counterfeit goods. Law No. 8 of 1999 on Consumer Protection affirms "a prohibition for business actors to produce or trade goods or services that are not in accordance with the information provided in labels, etiquette, descriptions, advertisements, or sales promotions" (Nomor, 8 C.E.). In addition, there are various platforms or applications that can be used to check the authenticity of an item, such as Depatu, Legit App, and Barcodelookup (Apriadi & Saputra, 2017). However, each app has its advantages and disadvantages.

Based on the advantages and disadvantages of the application, LegitCheck was created which is designed to overcome these challenges. LegitCheck is designed to provide a comprehensive and reliable solution for checking product authenticity, including more comprehensive features such as QR code generation by brand owners, QR code management, automatic checking of item authenticity through QR codes, and more intuitive user interface elements.

To introduce and promote LegitCheck, a website is needed that will serve as an information center explaining the concepts, goals, and services offered by LegitCheck to consumers and brands. This website will be an effective channel to communicate the value and benefits provided by the LegitCheck platform to the audience.

According to (Nizam & Jaafar, 2018) websites have become a key element in efforts to promote products, services, and brands. Websites are considered the main channel for customers when they are looking for more in-depth information, and are considered more efficient than using print media as a means of communication and promotion (Horng & Tsai, 2010). The use of a website with the application of the Parallax Scrolling Effect technique aims to increase the effectiveness of the website as a promotional tool (Rani et al., 2023).

In interface development, there are various techniques such as "Single Page Application" (SPA) and "Component Based Architecture". SPAs are suitable for websites that contain a single page without page movement, such as Gmail and Facebook. Meanwhile, Component Based Architecture is a front-end technique for creating reusable components, such as YouTube. However, for the purpose of developing an interface aimed at promoting and providing information about the concepts, objectives, and services offered by LegitCheck to consumers and brands, the appropriate technique is parallax scrolling. The parallax scrolling effect is often used by large companies such as Apple, Ripple, Tag Heuer, and Porsche. Parallax Scrolling Effect can improve the user experience when presenting a website (Wang & Sundar, 2018).

By applying parallax scrolling, elements that appear in the foreground can move at a higher speed than elements in the background, creating the illusion of an interesting three-dimensional effect (Kusumo & Hartono, 2019). This technique provides a dynamic and creative aspect of web design and enriches the user experience by providing impressive visual depth (Wang & Sundar, 2018).

The use of the Parallax Scrolling Effect would be considered to increase immersion and effectiveness in the context of the web, compared to the web that does not use the Parallax Scrolling Effect (Ilbratt, 2021). Parallax Scrolling Effect improves the user experience, connecting a more satisfying user experience with the fulfillment of variable usability, satisfaction, enjoyment, fun, and visual appeal (Frederick et al., 2015).

Based on the above background, the purpose of this research is to implement the Parallax Scrolling Effect technique on the LegitCheck website, and evaluate and test its effectiveness using the A/B testing method. By achieving these goals, it is hoped that the LegitCheck website can provide a more attractive and satisfying user experience, as well as become a more effective promotional media and be recognized by the wider community through the use of the Parallax Scrolling Effect technique. The benefit of this research is to contribute to the development of interactive and functional web design strategies to increase the attractiveness and effectiveness of a startup's promotion.

RESEARCH METHODS

This study uses the design and implementation method of the Parallax Scrolling Effect technique on the LegitCheck website and evaluates its effectiveness through the A/B testing method. The first step is to determine the specific requirements for the LegitCheck web design project. At this stage, functional and non-functional needs are identified which involves a team brainstorming session to gather various perspectives and ideas. The result of this stage is comprehensive documentation that includes functional requirements such as detailed descriptions, destination information, services offered, FAQ integration, product visualizations, interactive features, and links to social media, as well as non-functional requirements such as easy-to-use, attractive design, clear navigation, page loading speed, and credibility of the information.

The design stage involves creating a website design from wireframe to high-fidelity design. This design includes two versions of the website: one with a parallax scrolling effect and another without a parallax scrolling effect. The high-fidelity design is then translated into code that can be executed by the browser, including HTML, CSS, and JavaScript, to realize both versions of the website.

A/B testing is carried out by comparing two versions of the website, namely the version with the parallax scrolling effect and the conventional version. The author conducted a questionnaire survey with respondents selected through purposive sampling. Respondents include people who often buy genuine goods but are vulnerable to counterfeiting, care about genuine products, like to shop for branded goods, and often access the internet, with the number of respondents being more than 30 people. The survey process involves a live demonstration of both versions of the website, where respondents are asked to explore the existing features and provide their assessment through a questionnaire that includes aspects of system quality, information quality, service quality, usage, user satisfaction, and net

benefits. The data collected from this survey is then analyzed to provide recommendations regarding the application of the parallax effect in website design.

RESULTS AND DISCUSSION

Test Results

This section presents the results of tests conducted to assess the effectiveness of using the Parallax Scrolling Effect technique on LegitCheck websites compared to websites that use non-parallax techniques. The author conducted a questionnaire survey by comparing two different versions of websites, namely websites that use the parallax technique and conventional websites that do not use the parallax technique. During the questionnaire survey, the author gave a demo of the two versions of the website to respondents directly and alternately to get objective feedback. The sampling technique used in this survey is purposive sampling.

Respondents are selected based on certain criteria that are relevant to the purpose of the survey. The criteria for selecting respondents include people who often buy genuine goods but are prone to counterfeiting, people who care about genuine products, people who like to shop for branded goods, and people who often access the internet. The number of respondents in this survey is more than 30, considering that there is no limit to the number of respondents set (Alwi, 2015).

This test was carried out through a survey involving 76 respondents, where they were asked to give an assessment of several predetermined variables. These variables include System Quality, Information Quality, Service Quality, Usage, User Satisfaction, and Net Benefits, Current Need Approach, Everyday Need Approach, Exhaustive Need Approach, Catching-up Need Approach, and Website Preferences. The following are the results of the survey that has been conducted, accompanied by a pie chart to visualize the data obtained.



Figure 1. Question 1

This pie chart shows the results of a survey of 76 respondents regarding their experience with counterfeit goods or product authenticity issues. From this survey, 100% of respondents, or all of those who answered, said that they had experienced or heard of counterfeit goods and product authenticity issues. This shows a high awareness among respondents about this issue.



Figure 2. Question 2

This pie chart shows the results of a survey of 76 respondents on the importance of ensuring the authenticity of the products they buy. From this survey, 100% of respondents answered "Yes," indicating that all respondents consider it important to verify the authenticity of a product before purchasing. It emphasizes that product authenticity is an important factor for consumers.



Figure 3. Question 3

This pie chart shows the results of a survey of 76 respondents regarding their habits when searching for information about new applications. As many as 90.8% of respondents answered "Yes," they searched for information on Google and visited the official website of the application. Meanwhile, 9.2% of respondents answered "No," they did not do so. This shows that the majority of respondents tend to use Google and official websites to obtain information about new applications.



Figure 4. Question 4

This pie chart shows the results of a survey of 76 respondents regarding their habits of visiting official websites before trying a new application. As many as 82.9% of respondents answered "Yes," they visited the official website before trying a new application. Meanwhile,

17.1% of respondents answered "No," they did not visit the official website before trying a new application. This shows that most respondents tend to check the official website first before using a new application.



Figure 5. Question 5

This pie chart shows the results of a survey of 76 respondents regarding the influence of website design and interactivity on their decision to try a new application. As many as 81.6% of respondents answered "Yes," website design and interactivity influenced their decision. While 18.4% of respondents answered "No," website design and interactivity did not influence their decision. This shows that the majority of respondents consider the design and interactivity of the website when deciding to try a new application.



Figure 6. Part 1

Variable 1 System Quality

In this section, as many as 81.6% of respondents chose a parallax website when they found the information they needed on the website, while as many as 18.4% chose a non-parallax website.



Figure 7. Part 1

In the section on page load speed between websites that use the parallax effect and those that do not use the parallax effect. As many as 97.4% of respondents answered that non-parallax websites are faster in loading pages. Only 2.6% of respondents answered that websites use parallax faster.

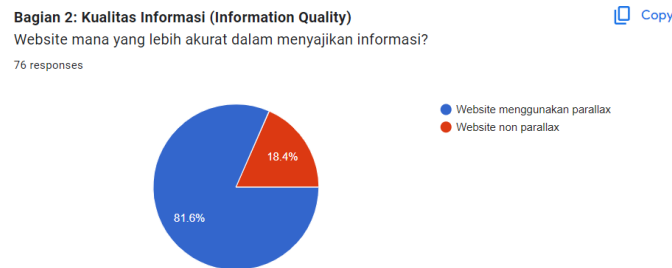


Figure 8. Part 2

Variable 2 Information Quality

The quality of information presented by a website with a parallax effect is compared to a website without a parallax effect. As many as 81.6% of respondents think that websites that use the parallax effect are more accurate in presenting information. Meanwhile, 18.4% of respondents think that non-parallax websites are more accurate.

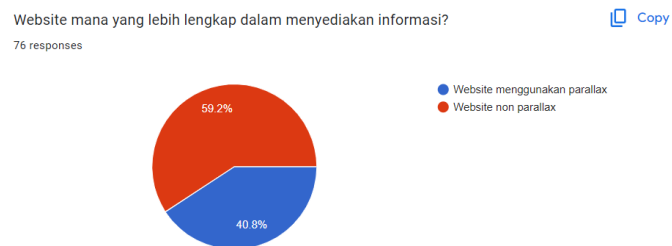


Figure 9. Part 2

The completeness of the information provided by a website with a parallax effect is compared to a website without a parallax effect. A total of 59.2% of respondents think that non-parallax websites are more complete in providing information. Meanwhile, 40.8% of respondents think that websites that use the parallax effect are more complete.

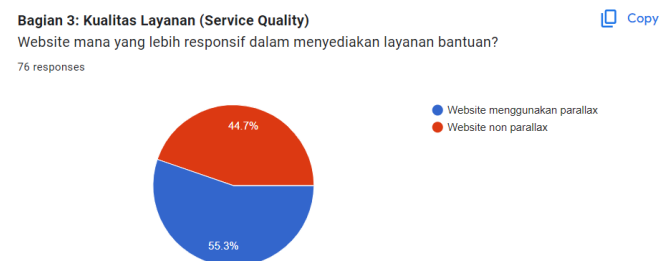


Figure 10. Part 3

Variable 3 Quality of Service

Responsiveness of support services provided by websites with a parallax effect compared to websites without a parallax effect. As many as 55.3% of respondents think that websites that use the parallax effect are more responsive in providing assistance services. Meanwhile, 44.7% of respondents think that non-parallax websites are more responsive.

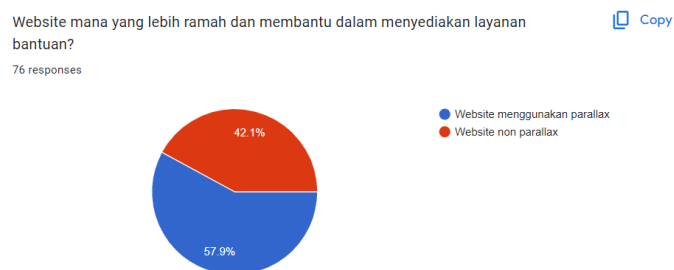


Figure 11. Part 3

The friendliness and assistance provided by a website with a parallax effect is compared to a website without a parallax effect. As many as 57.9% of respondents think that websites that use the parallax effect are more friendly and helpful in providing assistance services. Meanwhile, 42.1% of respondents think that non-parallax websites are more friendly and helpful.

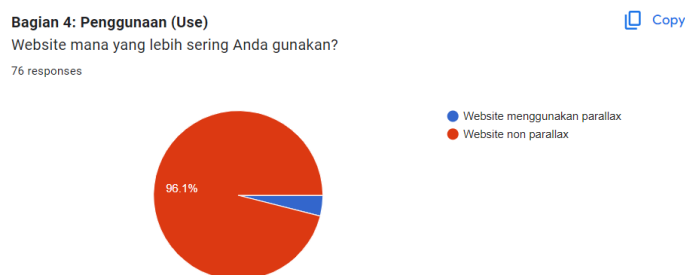


Figure 12. Part 4

Variable 4 Usage

This pie chart shows the results of a survey of 76 respondents regarding the websites they use more often, between websites with a parallax effect and websites without a parallax effect. As many as 96.1% of respondents answered that they use non-parallax websites more often. Only 3.9% of respondents answered that they use websites with a parallax effect more often. This shows that the majority of respondents prefer to use websites without the parallax effect.

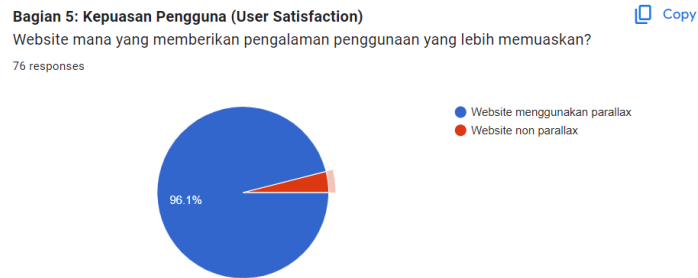


Figure 13. Part 5

Variable 5 User Satisfaction

User satisfaction in using a website with a parallax effect compared to a website without a parallax effect. As many as 96.1% of respondents felt that websites that use the parallax effect provide a more satisfying user experience. Only 3.9% of respondents found non-parallax websites more satisfactory. This shows that the majority of respondents are more satisfied with the experience of using websites that use the parallax effect.

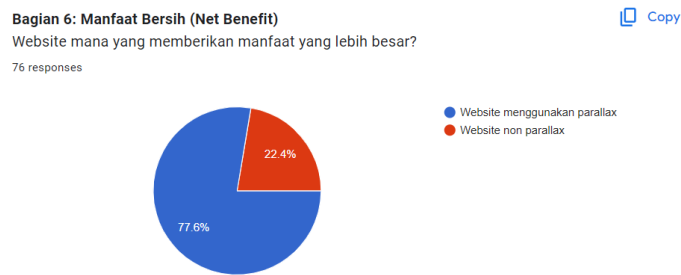


Figure 14. Part 6

Variable 6 Net Benefits

The net benefit provided by a website with a parallax effect compared to a website without a parallax effect. As many as 77.6% of respondents think that websites that use the parallax effect provide greater benefits. Meanwhile, 22.4% of respondents think that non-parallax websites provide greater benefits. This shows that the majority of respondents feel that websites with a parallax effect are more profitable.

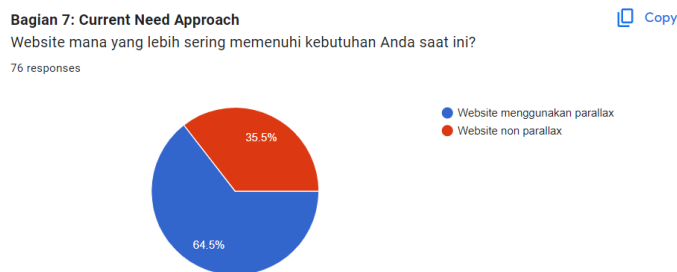


Figure 15. Part 7

Variable 7 Current Need Approach

Websites that more often meet their current needs. As many as 64.5% of respondents think that websites that use the parallax effect more often meet their needs. Meanwhile, 35.5% of respondents think that non-parallax websites more often meet their needs. This shows that the majority of respondents feel that websites with a parallax effect more often meet their current needs.



Figure 16. Part 8

Variable 8 Everyday Need Approach

A website that is more helpful in meeting their daily needs. As many as 60.5% of respondents think that non-parallax websites are more helpful in meeting daily needs. Meanwhile, 39.5% of respondents thought that websites that use the parallax effect were more helpful. This shows that the majority of respondents feel that websites without the parallax effect are more helpful in meeting their daily needs.

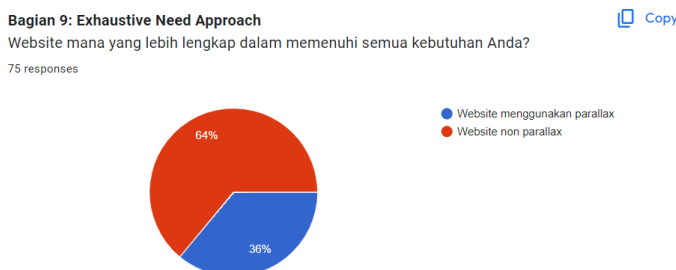


Figure 17. Part 9

Variable 9 Exhaustive Need Approach

Of the 75 respondents, 64% (red) chose a non-parallax website as the more complete one to meet all their needs, while 36% (blue) chose a parallax website. This shows that the majority of respondents feel that non-parallax websites are more comprehensive in providing the information they need.

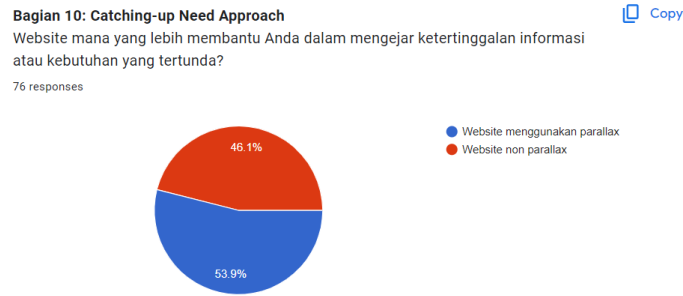


Figure 18. Part 10

Variable 10 Catching-up Need Approach

A website that is more helpful in catching up with information or delayed needs. A total of 53.9% of respondents thought that websites that use the parallax effect are more helpful in this regard. Meanwhile, 46.1% of respondents think that non-parallax websites are more helpful. This shows that the majority of respondents feel that websites with a parallax effect are more useful in catching up with delayed information or needs, although the difference is not too large.

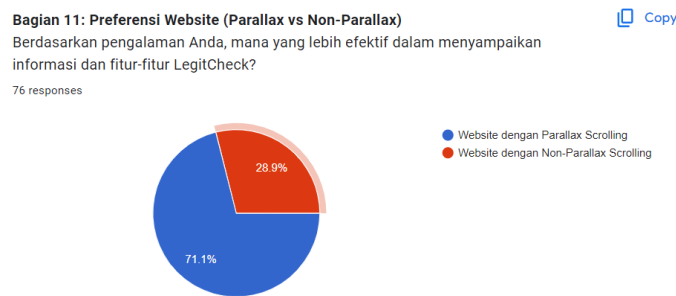


Figure 19. Part 11

Website Preferences

Regarding their preferences between websites with a parallax effect and websites without a parallax effect in conveying LegitCheck information and features. As many as 71.1% of respondents think that websites with a parallax effect are more effective in conveying information and LegitCheck features. Meanwhile, 28.9% of respondents felt that websites without a parallax effect were more effective. This shows that the majority of respondents prefer websites with a parallax effect to convey LegitCheck's information and features.

Table 1. Analysis of Test Results

Variable	Website Parallax Scrolling Effect	Website Non-Parallax Scrolling Effect
System Quality (Easier to provide Information)	81.6%	18.4%
System Quality (Faster)	2.6%	97.4%
Quality of Information (Accurate Information)	81.6%	18.4%

Variable	Website Parallax Scrolling Effect	Website Non-Parallax Scrolling Effect
Quality of Information (Completeness of Information)	40.8%	59.2%
Quality of Service (Responsive to provide assistance services)	55.3%	44.7%
Quality of Service (More Friendly to provide assistance services)	57.9%	42.1%
Usage	3.9%	96.1%
User Satisfaction	96.1%	3.9%
Net Benefit	77.6%	22.4%
Current Need Approach	64.5%	35.5%
Everyday Need Approach	60.5%	39.5%
Exhaustive Need Approach	36%	64%
Catching-up Need Approach	53.9%	46.1%
Website Preferences	71.1%	28.9%

In this section, the author will analyze the test results of the survey that has been conducted to assess the effectiveness of the LegitCheck website with and without the use of the Parallax Scrolling Effect technique. The analysis was carried out based on the variables that had been determined in the study, namely System Quality, Information Quality, Service Quality, Usage, User Satisfaction, and Net Benefits, Current Need Approach, Everyday Need Approach, Exhaustive Need Approach, Catching-up Need Approach, and Website Preferences. In addition, the author will also look at user preferences related to the techniques used in the LegitCheck website.

Based on the analysis of the test results, it can be concluded that the application of the Parallax Scrolling Effect technique on the LegitCheck website provides a number of significant advantages in terms of information accuracy, service quality, user satisfaction, and net benefits, current need approach, everyday need approach. While there are drawbacks in terms of page loading speed, the majority of respondents prefer websites with this technique because they offer a better and interactive user experience. However, the website using the parallax scrolling effect needs a lot of improvements such as increasing the loading speed of pages on the website (Pandey, 2021), increasing the completeness of the information presented to meet the needs of a wider range of users, optimizing the Parallax Scrolling Effect technique to maintain a balance between aesthetics and functionality (Frederick et al., 2015). Thus, the LegitCheck website can be more effective as a promotional tool and information medium for users.

CONCLUSION

Based on the results of the research and analysis conducted regarding the application of the Parallax Scrolling Effect technique to the development of the LegitCheck website interface, several conclusions can be drawn. First, the application of Parallax Scrolling Effect is proven to be effective in improving the quality of information and service delivery, where

websites with parallax effects are better able to present accurate information and provide more responsive and user-friendly services. This is supported by the survey results, which show that the majority of respondents feel that websites with parallax effects excel in these aspects. Secondly, the level of user satisfaction increases significantly, with 96.1% of respondents stating that they are more satisfied using websites that implement Parallax Scrolling Effect. This shows that this technique has a great positive impact on user satisfaction compared to non-parallax websites. Third, websites with Parallax Scrolling Effect provide greater benefits, with 77.6% of respondents stating that these sites offer significant added value. This indicates that the use of this technique not only enriches the user experience, but also provides clear advantages for brand owners.

However, some of the weaknesses identified in this study, particularly regarding page load speed, need to be addressed. Although non-parallax websites are generally faster in terms of load speed, user preferences still lean more towards websites with Parallax Scrolling Effect as they offer a more interactive and satisfying experience. Some suggestions include optimizing the page load speed to address one of the major drawbacks, as well as improving the comprehensiveness of the information presented to better suit user needs. Continuous development and testing of the Parallax Scrolling Effect technique is also necessary to maintain a balance between the aesthetics and functionality of the website. By implementing these suggestions, it is hoped that the LegitCheck website can be optimized to provide a pleasant and effective user experience, and further strengthen its function as a reliable and quality promotional tool..

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