Journal of Applied Informatics and Computing (JAIC)
Vol.9, No.1, February 2025, pp. 62~72
e-ISSN: 2548-6861

User Experience Evaluation of YouTube Website Using Eye Tracking Method

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Article Info

Article history:

Received 2024-10-29
Revised 2024-11-15
Accepted 2024-11-25

Keyword:

Clip Feature,
Eye Tracking,
User Experience,
YouTube.

ABSTRACT

This study aims to evaluate user experience in accessing the Clip Feature on YouTube website using Eye Tracking method, by analyzing user attention patterns and emotions. The Clip feature allows users to highlight and share interesting moments in videos, which can increase engagement. However, many users struggle to find the Clip icon and access the feature, reducing the effectiveness of usage and user experience. Through the RealEye.io tool, 5 respondents participated in the tasks of logging in, searching videos, and finding the clip feature. Heatmaps, gaze plots, and attention & emotion graphs were analyzed to determine the visual focus and emotional response of users during the tasks. The results show that the quality of the test data is very good, with an average E-T data integrity value of 90.33% and gaze on screen of 89.73%, indicating that overall test data is recorded very well and precisely. Analysis of heatmaps and gaze plots shows that respondents' attention patterns tend to show confusion, especially on the task of finding the Clip feature. This is supported by the results of attention & emotion graph analysis which overall, the average respondent's attention level is at 0.318, indicating that the fixation of respondents' gaze is quite short with an increase in emotion of surprise experienced by respondents more than the emotion of happy. This research emphasizes the need for interface adjustments to make the Clips feature easier to access and use effectively, thereby improving user experience on the YouTube website.

I. INTRODUCTION

YouTube is one of the most popular social media in Indonesia [1]–[3]. This social media is run on the basis of a *website* that provides a wide variety of videos [2]. Through YouTube, users can find various types of videos shared by other individuals, including *vlogs*, educational content, news, lifestyle, cooking, and many more [3]. According to data from digital marketing analytics company *Semrush*, the *website* that falls into the social media category with the second most visitors in Indonesia is YouTube.com, with more than 1.5 billion visits as of June 2024 [4]. YouTube increasingly has many features that make it easier for its users. YouTube also continues to optimize all its features tailored to the needs of users [5]. One of the new features introduced is the "*Clip*" feature, which allows users to take short snippets with a maximum duration of 60 seconds from the video they are watching and share them to other social media or instant messaging applications [6]. The Clip feature aims to make it easier for users to highlight interesting moments from longer videos, making it a potential tool to increase *engagement* and share content more effectively, as if the shared Clip is interesting, other users will be motivated to watch the entire video [7]. This feature can only be used for users who have a YouTube *channel*.

However, while the Clip feature offers significant benefits, many users still experience difficulties in accessing this feature. In YouTube's complex interface with various interactive elements, the icon or button to create a clip is often not visible. This difficulty in locating and accessing the Clip feature can reduce its effectiveness and degrade the overall user experience.

Eye Tracking is a technology that has the advantage of observing the user's eye movements directly while accessing the *website* [8], [9], by recording eye movements and the location of the user's gaze over time on a given task [9], [10]. By applying the *Eye Tracking* method to the evaluation of the Clip feature on YouTube, we can better understand how users use the feature.

There are several previous studies on evaluation using the *eye tracking* method. In the research conducted by [11], stated that the *Eye Tracking* method is used to track the focus of user attention on certain elements on the *website*. This research shows user focus on important menus, such as profile, contact, and registration, although there is confusion when accessing the registration menu which leads to a different site. This shows that *eye tracking* can identify areas that are effective and areas that need to be improved to further enhance the user experience, such as the confusing initial appearance of the *website*.

Furthermore, in research conducted by [12], stated that *website* evaluation needs to be done in order to continue to fulfill satisfaction in its use. The *Eye Tracking* method is widely used as a *tool* to evaluate by understanding human behavior through the focal point of system use. *Eye Tracking* can identify user difficulties in navigation and identification of interface elements. The test results show that the evaluation conducted using *Eye Tracking* before and after the redesign has an improvement in *data integrity* and user focus on the screen, thus confirming that *eye tracking* can help in redesigning the interface.

Research conducted [9] discusses the visual attention patterns of students when integrating with the SIAM Unpri *website*. This research states that the appearance of the SIAM Unpri *website* is currently quite attractive, but some students still have difficulty in understanding navigation, and finding information quickly. *Eye Tracking* is used in this study to identify areas of attention and create *heatmaps* to visualize eye movement patterns. The results show an increase in effectiveness between early, middle, and late semester students, although the level of student understanding of the *website* is still relatively low which indicates the need for further improvement in navigation and design.

Then, research [13] discusses the usability analysis of the Medan Area University AOC *website*. *Eye Tracking* in this study is used to help measure user visual attention. *Eye Tracking* can detect where users look, how long they look, and the order they look using eye movement points. This research provides deep insight into user interaction with the interface, usability issues that need to be fixed to improve user experience. Testing is done by giving several *tasks* that respondents do, to see the success of each *task* and the respondent's processing time.

In [14], it is explained that this research was conducted to evaluate user experience when interacting with the Batam State Polytechnic *web* using the *Eye Tracking* method to observe user eye movements directly when accessing the *website*. From the testing that has been done, it was found that there was confusion related to the similarity of the naming of the "Teknik Informatika" submenu for the Department and the Informatics Engineering Study Program, and some respondents were still unaware of some of the innovative products produced at Batam State Polytechnic, because they were fixated on the "Produk" sub menu only, several other product sub menus were neglected. Recommendations for improvement include naming more specific submenus to improve user experience.

Based on these previous studies, it can be concluded that a well-functioning *website* does not guarantee an optimal user experience. Thus, *website* evaluation needs to be done to determine user acceptance and views so that user satisfaction can continue to be met. One method that can be used to evaluate *websites* is *Eye Tracking* which is used to track the focus of user attention on certain elements on the *website* and identify areas that attract user attention.

Therefore, the purpose of this study is to evaluate the user experience of the YouTube *website* in accessing the Clip feature using the *Eye Tracking* method, as well as analyzing attention patterns and the average level of user attention in accessing the feature. This research is expected to provide new assessment references and recommendations in improving the user experience of the YouTube *website*, especially in accessing the Clip feature.

II. RESEARCH METHODS

A. Research Flow

The research flow describes a series of actions required to collect information in a study. The sequence of the research flow applied in this study can be seen in Figure 1 below.

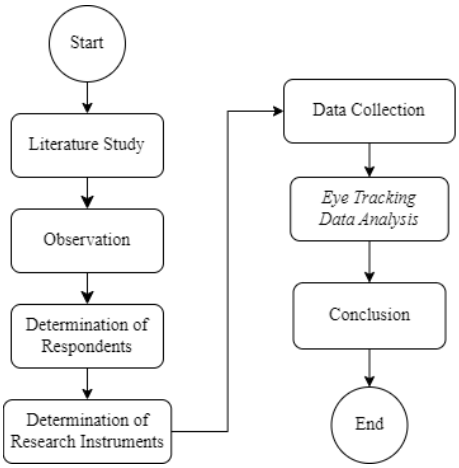

Figure 1. Research Flow

B. Literature Study

This stage includes data collection, collecting sources of insight and knowledge related to the problems discussed. In this research, the necessary data and information are sought by reviewing theories, books, related research, and *websites* that can be references to research topics.

C. Determination of Respondents

Determination of respondents in this study was carried out by determining the population and research samples. The technique used in sampling is *purposive sampling* technique, which is to determine the research sample with certain considerations which aim to make the data obtained later more representative [15], [16]. In addition, to determine the number of samples, according to Arikunto, regarding how many samples are taken, researchers need to consider things, such as the ability of researchers (time, energy, and funds), the narrowness of the area of observation of each subject (concerning the amount of data), and the size of the risk borne by researchers [17]. The criteria for respondents needed in this study are active users of the YouTube *website*, and have YouTube accounts and *channels*. These criteria were chosen to see how the views of active users of the YouTube *website*.

The population in this study includes YouTube *website* users who have YouTube accounts and *channels*. Meanwhile, the sample is Sriwijaya University students who use the YouTube *website* with the appropriate criteria. Referring to Arikunto's opinion above, the researcher only took a sample of 5 users, due to limited *tools*, time, energy, and funds so that he could not take a large and distant sample. This is due to the *RealEye.io tools* used in this study have *participant limits* and license time limits in their use.

D. Determination of Research Instruments

Before collecting data, the researcher first determines the research instrument, which in this study is a *scenario task*. The*scenario tasks* that will be carried out by respondents during the test are described in Table I below.

TABLE I
RESEARCH TASK SCENARIO

Task	Task Name	Task Description
1	Login	Respondent logs into Youtube account.
2	Search Video	Respondents search for videos that have been determined by the researcher using the search *bar* and open one of the search results.
3	Searching for Clip Feature	Respondents will be directed to the video page, then search for the location of the Clip feature and open it (if successfully found).

E. Data Collection

Data collection in this study was carried out through testing to respondents using *RealEye* as the *tools* and a *webcam* as the *input* source.

1) RealEye.io

The use of *RealEye.io* in this study aims to measure the movement and direction of the respondent's gaze when completing the *tasks* that have been given. *RealEye* can be run and analyze data through a *web browser*. In *RealEye*.io, after testing, there are data quality statistics to evaluate participant performance and show the quality of the *Eye Tracking* test data (*E-T data grade*). *E-T data grade* has several levels, namely *perfect, very good, good, average, low, and very low* [18]. The grade is measured through several parameters, which are used in this study, including the *E-T data integrity* (*E-T data length*) and *gaze on screen* values. *E-T data integrity* shows the integrity of the data collected during the test, while *gaze on screen* shows how much or how long the participant looks at the screen during the test [19]. The value of each parameter can be seen in Figure 2 below.

	Perfect	Very Good	Good	Average	Low	Very Low
Total Eye-tracking Data Length	>= 99 %	>= 90 %	>= 80 %	>= 70 %	>= 60%	0 % (no data)
Gaze on Screen	>= 99 %	>= 90 %	>= 80 %	>= 70%	>= 1 %	0 % (no data)

Figure 2. *E-T Data Grade* Parameter [18]

The test results using *RealEye.io* will be analyzed in this study, namely *heatmaps*, *gaze plots*, and *attention* & *emotion* graphs.

2) Webcam

Stands for *web camera* which is a digital camera device to be connected to a computer or laptop [13]. In this study, researchers used a laptop *webcam* as an *eye tracker* during testing. To get maximum *eye tracking* results, there are several things that need to be considered, including making sure the *webcam* image is not shaky, making sure the respondent has good lighting during the test, the respondent's eyes must be clearly visible during the test, and the respondent must sit comfortably and try to keep the head still [20].

The following are the stages of the *Eye Tracking* data collection mechanism using *RealEye.io*.

- *Stage 1:* Login to the *RealEye.io* website.
- *Stage 2:* Create a new study on the "New Study" menu on the *RealEye.io* dashboard. In this study, the study type "Screen Recording" is used.
- *Stage 3:* Set up the study preparation which includes the name of the study, the type of device that can be used by respondents, which in this study uses a laptop device, *eye tracking setup* using the default webcam from the laptop, an opening message that can be filled with a test task scenario and a closing message (optional).
- *Stage 4:* Copy the website that will be used in the test, in this study using the YouTube website. Then, set the test time limit, in this study the test was carried out for 20 seconds.
- *Stage 5:* Set the maximum number of participants (respondents) who can conduct the test, then run the study.
- *Stage 6:* Copy the study link in Bahasa Indonesia to make it accessible and easier for respondents to understand.
- *Stage 7:* Respondents were asked to access the *RealEye.io* study link and enable camera/webcam access on the laptop device being used.

- *Stage 8:* Respondents perform the calibration process to ensure the system accurately detects the participant's eye movements, follow the instructions until the calibration process is complete.
- *Stage 9: RealEye.io* will direct the respondent to do screen recording.
- *Stage 10:* Then, the respondent will be given instructions on the tasks to be performed during the test.
- *Stage 11:* After that, respondents will enter the YouTube web page and work on the tasks that have been given until completion.
- *Stage 12:* After the testing time ends, respondents will be directed to fill in their personal data, including name, age, and gender.

F. Eye Tracking Data Analysis

Eye tracking data analysis in this study uses several visualization data, namely *heatmaps*, *gaze plots*, and *attention and emotion* graphs.

1) Heatmaps Analysis

Used to describe the results of visualizing the user's viewing area when accessing the Clip feature on the YouTube *website* and obtain the results of how the distribution of user attention through the areas on the *web* page that are most viewed by users.

2) *Gaze Plot Analysis*

Used to map the path and pattern of user attention when accessing the Clip feature on the YouTube *website*. The *gaze plot* data will be analyzed and identified which part of the *web* page attracts more attention as well as the navigation path that users use.

3) *Attention and Emotion Graphs Analysis*

Used to measure the user's attention level and emotional response when accessing the Clip feature on the YouTube *website*. This data is obtained from changes in facial expressions recorded during *eye tracking* testing, then analyzed for the average level of user attention and changes in user emotions when interacting with the *website* interface. If attention > 0, it means relatively long gaze fixations followed by short saccades, indicating focal processing. If attention < 0, the gaze fixation is relatively short followed by relatively long saccades, indicating ambient processing [21]. In the *attention and emotion* graph, the attention parameter is normalized so that the range is from -1 to 1. Meanwhile, the emotion change is detected with 3 aspects, namely *happy* based on the movement of lifting the cheeks and pulling the corners of the lips (smile), *surprise* based on the movement of raising the eyebrows, slightly raising the upper eyelids, and gaping, and neutral emotion, based on the lack of lip pulling, lack of eyebrow movement, and lack of mouth opening [21].

Through the results of this analysis, conclusions can be drawn regarding the evaluation results of how the user experience in accessing the Clip Feature on the YouTube *website*.

III. RESULTS AND DISCUSSION

A. Characteristics of Eye Tracking Test Respondents

In this study, data was collected through testing with the eye *tracking* method using *RealEye.io* to YouTube *website* users who have a YouTube *channel*. A total of 5 respondents were obtained who are Sriwijaya University students who use the YouTube *website* with the appropriate criteria.

The characteristics of respondents include the age range of 21-23 years, and as many as 4 respondents are female, and the remaining 1 is male. This age range is a common age for active users of social media, including the YouTube *website*, where students generally often utilize YouTube for various purposes and have needs that are in accordance with the services provided by the YouTube *website*. Gender diversity also reflects the diversity of YouTube *website* users and allows for more representative analysis and evaluation results.

B. Data Quality of Eye Tracking Test Results

The quality of *eye tracking* test data on each *task* can be seen in the following Tables II-IV.

1) *Data quality of Task 1 (Login) test results*:

TABLE II
DATA QUALITY OF TASK 1 RESULTS

Respondent	E-T Data Grade	E-T Data Integrity	Gaze On Screen
R1	Very good	98%	97%
R2	Very Low	46%	95%
R3	Good	91%	83%
R4	Average	70%	91%
R5	Good	82%	96%

2) *Data quality of Task 2 (Search Video) test results*:

TABLE III
DATA QUALITY OF TASK 2 RESULTS

Respondent	E-T Data Grade	E-T Data Integrity	Gaze On Screen
R1	Good	99%	87%
R2	Very Good	97%	93%
R3	Very Good	98%	96%
R4	Very Good	97%	97%
R5	Average	98%	74%

3) Data quality of Task 3 (Searching for Clip Feature) test results:

TABLE IV
DATA QUALITY OF TASK 3 RESULTS

Respondent	E-T Data Grade	E-T Data Integrity	Gaze On Screen
R1	Very Good	99%	98%
R2	Good	97%	88%
R3	Low	87%	66%
R4	Very Good	97%	100%
R5	Good	99%	85%

Of the three *tasks* that have been carried out, *Task* 1 has an average *E-T data integrity* value of 77.4% with *gaze on screen*

of 92.4%. *Task* 2 has an average *E-T data integrity* value of 97.8% with a *gaze on screen of* 89.4%. *Task* 3 has an average *E-T data integrity* value of 95.8% with *gaze on screen of* 87.4%. Thus, the overall average *E-T data integrity* score is 90.33% and the average *gaze on screen* score is 89.73%, with the overall *E-T data grade* being *very good*. This indicates that overall the data from the *Eye Tracking* test is recorded very well and precisely, and has excellent data integrity and focus on the screen as well.

C. Eye Tracking Data Analysis

The following is *eye tracking* test data, in the form of visualization *heatmaps*, *gaze plots*, and *attention* & *emotion* graphs obtained from *eye tracking* tests using *RealEye.io*.

1) Task 1 (Login)

In this *Task* 1, there was 1 respondent who had not successfully completed the *login*, while the other 4 successfully completed the *login* process. The visualization results of *heatmaps*, *gaze plots*, and *Task* 1 *attention & emotion* graphs for each respondent are as follows.

- Respondent 1

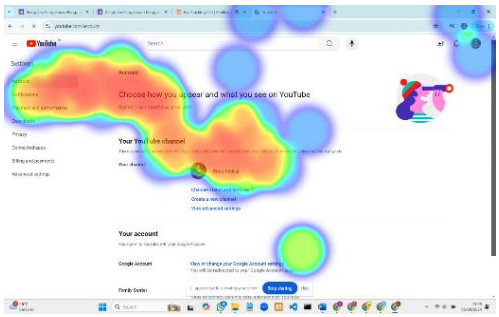

Figure 3. *Heatmaps* of Task 1 Respondent 1

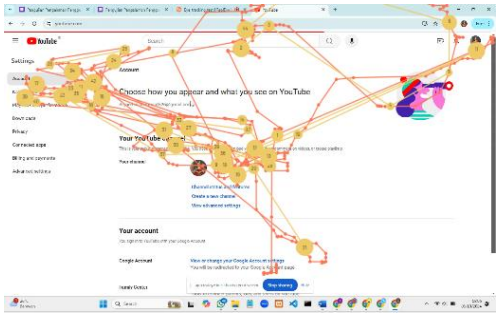

Figure 4. *Gaze Plot* of Task 1 Respondent 1

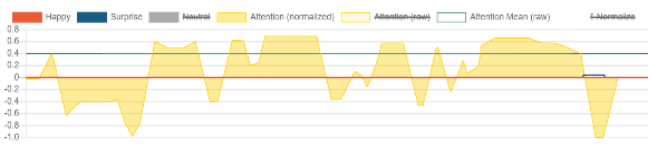

Figure 5. *Attention & Emotion* Graph of Task 1 Respondent 1

- Respondent 2

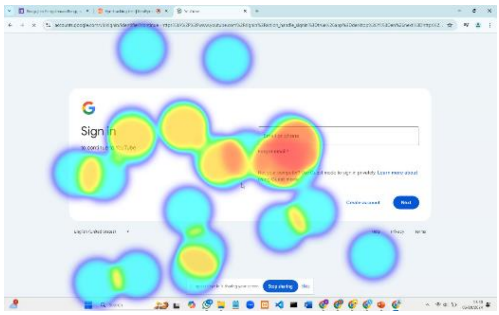

Figure 6. *Heatmaps* of Task 1 Respondent 2

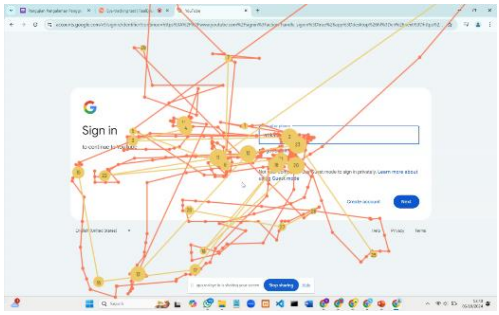

Figure 7. *Gaze Plot* of Task 1 Respondent 2

Figure 8. *Attention & Emotion* Graph of Task 1 Respondent 2

- Respondent 3

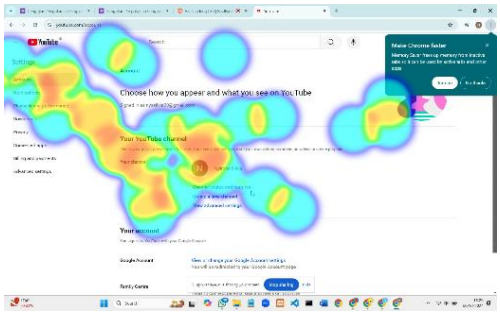

Figure 9. *Heatmaps* of Task 1 Respondent 3

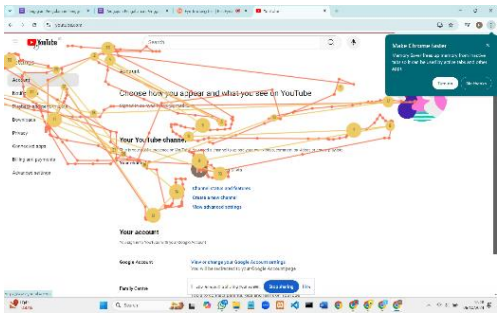

Figure 10. *Gaze Plot* of Task 1 Respondent 3

Figure 11. *Attention & Emotion* Graph of Task 1 Respondent 3

- Respondent 4

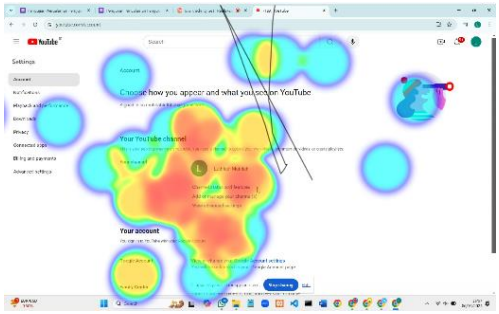

Figure 12. *Heatmaps* of Task 1 Respondent 4

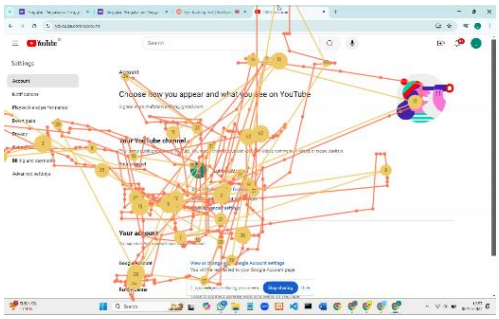

Figure 13. *Gaze Plot* of Task 1 Respondent 4

Figure 14. *Attention & Emotion* Graph of Task 1 Respondent 4

- Respondent 5

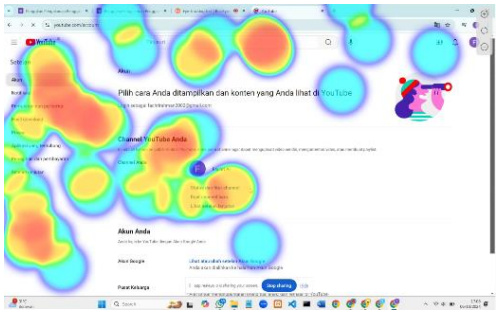

Figure 15. *Heatmaps* of Task 1 Respondent 5

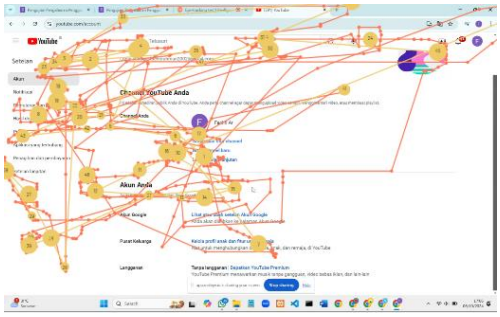

Figure 16. *Gaze Plot* of Task 1 Respondent 5

Figure 17. *Attention & Emotion* Graph of Task 1 Respondent 5

Based on the results of the analysis of *heatmaps*, *gaze plots*, and *attention* & *emotion* graphs of the five respondents in *Task* 1, it can be seen that the attention patterns of all respondents tend to be focused in the center of the *web* page, especially in the *login* area and YouTube account and *channel* explanations. *Heatmaps* show that red areas dominate the center of the screen, while the right and bottom of the *webpage* tend to be ignored by respondents. *Gaze plots* show a variety of line patterns, such as R1 and R4 which show complex gaze shifts between elements on the *webpage*, while R2 is more focused at the beginning but then loses focus. The *attention* & *emotion* graph shows that the average attention level of respondents varies, with the highest averages being R1 and R3, at 0.4 each, while R4 has the lowest average of 0.01. The *attention* & *emotion* graph also shows an increase in the emotions of *surprise* and *happy* at some moments, where the increase in emotion most experienced by respondents is the *surprise* emotion.

2) Task 2 (Search Video)

In this *Task* 2, all respondents successfully completed the *task*. The following are the visualization results of *heatmaps*, *gaze plots*, and *Task* 2 *attention & emotion* graphs for each respondent.

- Respondent 1

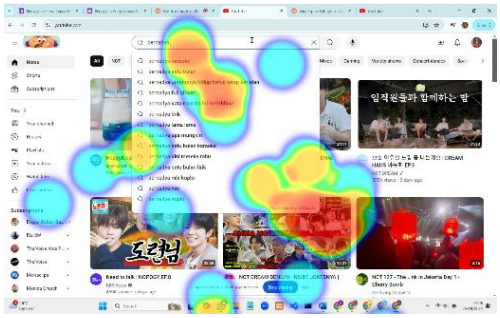

Figure 18. *Heatmaps* of Task 2 Search Video Respondent 1

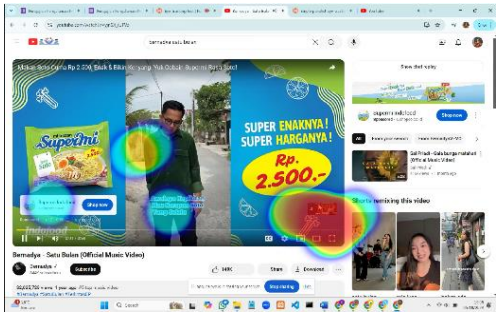

Figure 19. *Heatmaps* of Task 2 Open Video Respondent 1

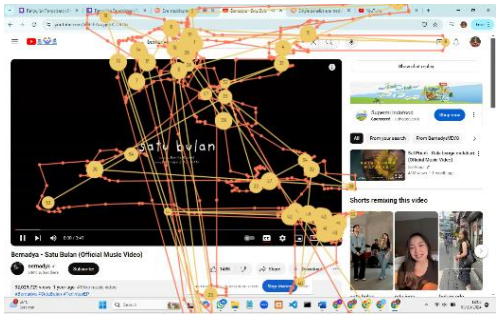

Figure 20. *Gaze Plot* of Task 2 Respondent 1

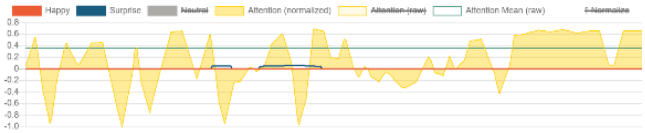

Figure 21. *Attention & Emotion* Graph of Task 2 Respondent 1

- Respondent 2

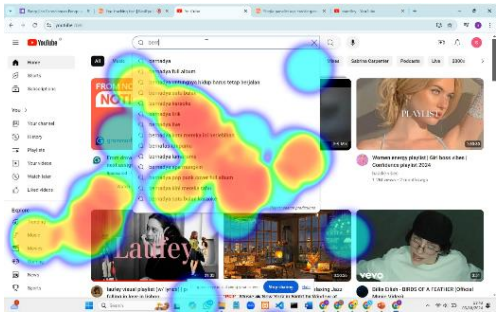

Figure 22. *Heatmaps* of Task 2 Search Video Respondent 2

Figure 23. *Heatmaps* of Task 2 Open Video Respondent 2

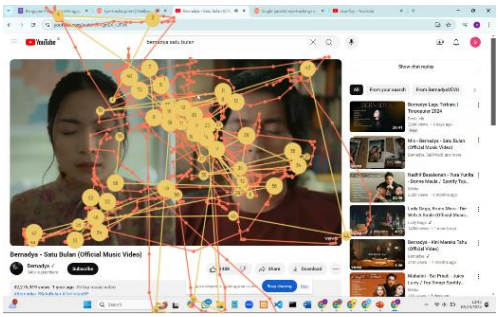

Figure 24. *Gaze Plot* of Task 2 Respondent 2

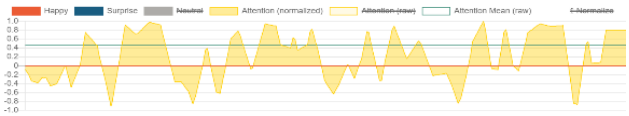

Figure 25. *Attention & Emotion* Graph of Task 2 Respondent 2

- Respondent 3

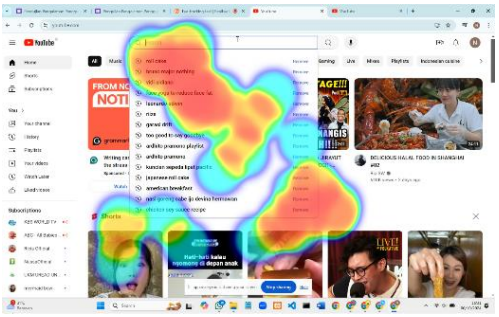

Figure 26. *Heatmaps* of Task 2 Search Video Respondent 3

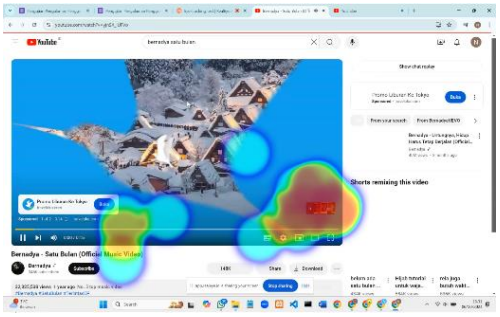

Figure 27. *Heatmaps* of Task 2 Open Video Respondent 3

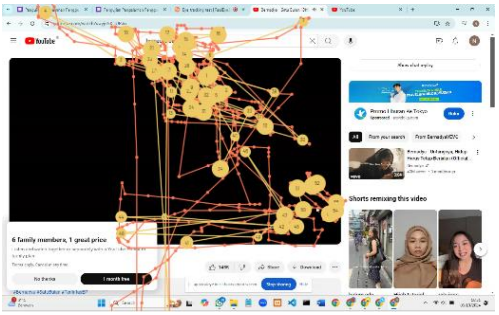

Figure 28. *Gaze Plot* of Task 2 Respondent 3

Figure 29. *Attention & Emotion* Graph of Task 2 Respondent 3

- Respondent 4

Figure 30. *Heatmaps* of Task 2 Search Video Respondent 4

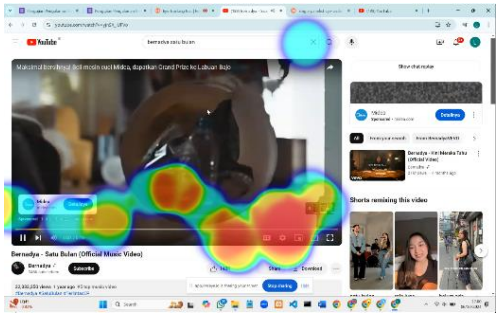

Figure 31. *Heatmaps* of Task 2 Open Video Respondent 4

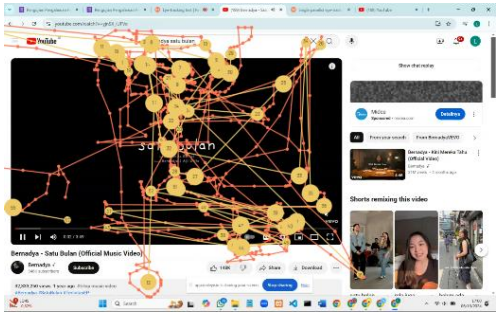

Figure 32. *Gaze Plot* of Task 2 Respondent 4

Figure 33. *Attention & Emotion* Graph of Task 2 Respondent 4

- Respondent 5

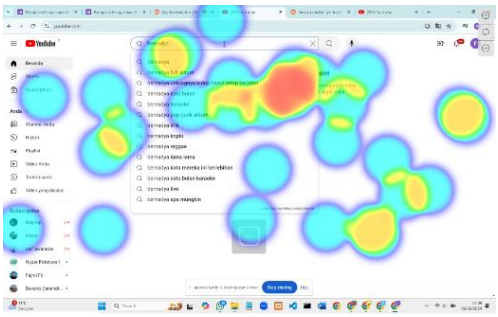

Figure 34. *Heatmaps* of Task 2 Search Video Respondent 5

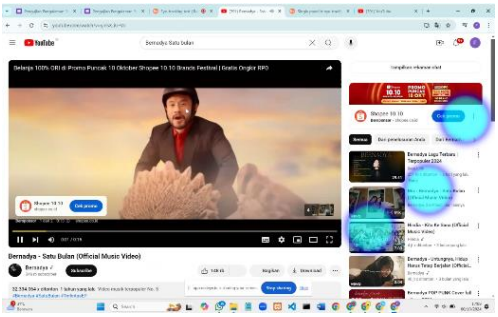

Figure 35. *Heatmaps* of Task 2 Open Video Respondent 5

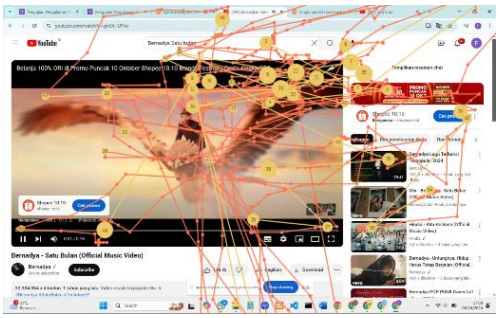

Figure 36. *Gaze Plot* of Task 2 Respondent 5

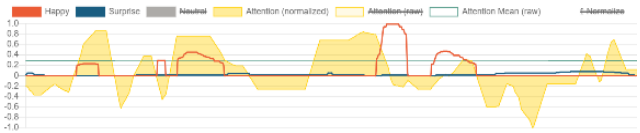

Figure 37. Attention & Emotion Graph of Task 2 Respondent 5

Based on the results of the *heatmaps*, *gaze plot*, and *attention & emotion* graph analysis in *Task* 2 for all five respondents, it can be seen that their attention patterns are focused on the *search bar* and search results list when searching for videos, with a dominant red area at the top of the page. When opening the video, respondents' attention generally shifted to the bottom of the video, especially to the *skip* button to *skip* the ads. The *gaze plot* shows a pattern of attention that starts from the *search bar* and then moves to elements surrounding the video being played, such as the video title, *thumbnail* and *play* button. Some respondents, such as R2 and R5, also showed attention to elements to the right of the video, such as *thumbnails* and navigation

elements. The *attention* & *emotion* graph shows that the average attention level of respondents ranged from 0.28 to 0.44, with some increase in *surprise* and *happy* emotions at various moments, with *surprise* being the more dominant emotion.

3) Task 3 (Searching for Clip Feature)

In this *Task* 3, 2 respondents failed to find the Clip Feature, 1 respondent managed to find, but his attention pattern looked quite confused at the beginning of the feature search, and the other 2 respondents managed to find the Clip Feature without a long time. Below are the visualization results of *heatmaps*, *gaze plots*, and *attention & emotion* graphs for *Task* 3.

- Respondent 1

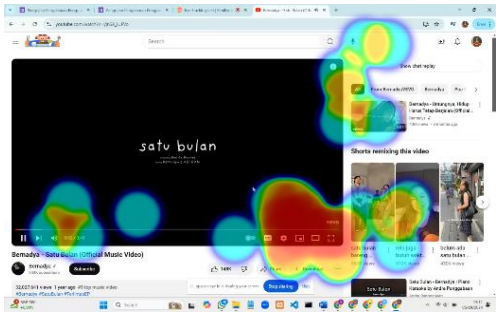

Figure 38. *Heatmaps* of Task 3 Respondent 1

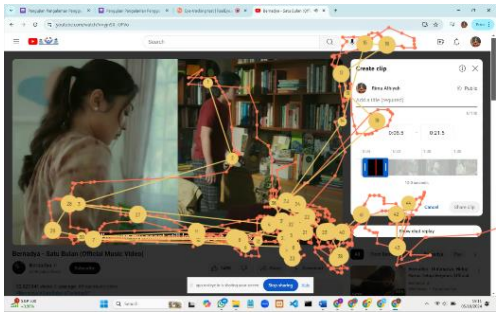

Figure 39. *Gaze Plot* of Task 3 Respondent 1

Figure 40. *Attention & Emotion* Graph of Task 3 Respondent 1

- Respondent 2

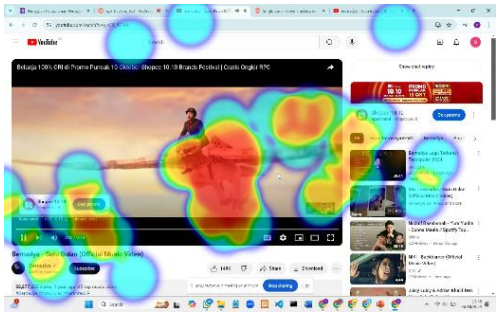

Figure 41. *Heatmaps* of Task 3 Respondent 2

Figure 42. *Gaze Plot* of Task 3 Respondent 2

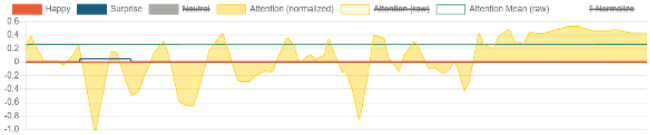

Figure 43. *Attention & Emotion* Graph of Task 3 Respondent 2

- Respondent 3

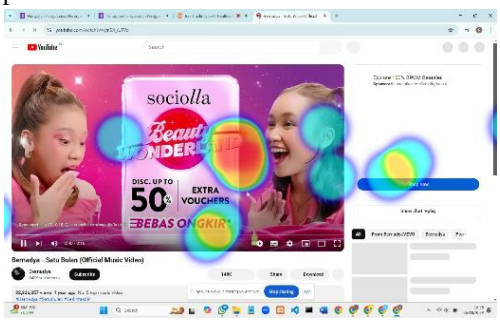

Figure 44. *Heatmaps* of Task 3 Respondent 3

Figure 45. *Gaze Plot* of Task 3 Respondent 3

Figure 46. *Attention & Emotion* Graph of Task 3 Respondent 3

- Respondent 4

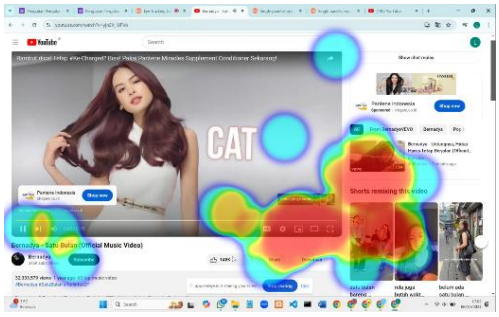

Figure 47. *Heatmaps* of Task 3 Respondent 4

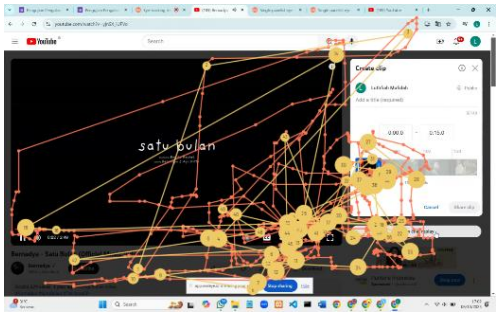

Figure 48. *Gaze Plot* of Task 3 Respondent 4

Figure 49. *Attention & Emotion* Graph of Task 3 Respondent 4

- Respondent 5

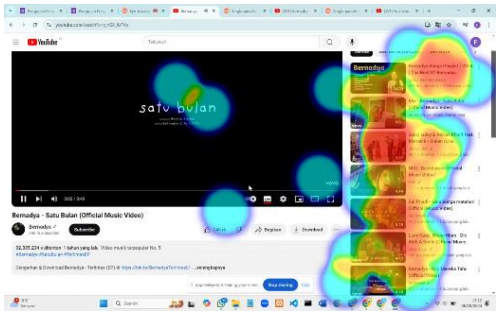

Figure 50. *Heatmaps* of Task 3 Respondent 5

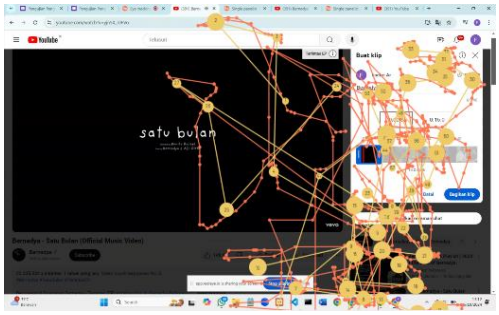

Figure 51. *Gaze Plot* of Task 3 Respondent 5

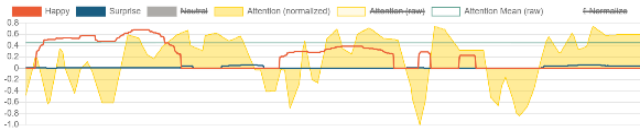

Figure 52. *Attention & Emotion* Graph of Task 3 Respondent 5

Based on the analysis of *heatmaps*, *gaze plots* and *attention & emotion* graphs in *Task* 3, most respondents experienced confusion when searching for the Clip feature, especially R1, R2 and R3. *Heatmaps* and *gaze plots* show that their attention is scattered in the area around the video elements and control sections, such as the *play* button, *settings* icon, display settings button, and some video *thumbnails*. The area where the Clip feature is located, on the other hand, did not receive much attention and respondents seemed to experience some confusion due to the fact that the Clip Feature icon is inside the three dots icon (⋮) below the video and is not immediately visible to respondents. However, R1 eventually found the feature after some time, as evidenced by the focus moving to the top right of the screen when the Clip feature was open. Meanwhile, R4 and R5 were quicker to find and open the Clips feature, with their attention focused on the relevant area from the start. The *attention & emotion* graph shows that the average attention level of respondents ranged from 0.26 to 0.48. However, respondent 3 experienced a significant drop in attention level to -0.03, as his gaze wandered off the screen several times. The *attention & emotion* graph also shows an increase in *surprise* and *happy* emotions, where the most experienced emotion is *surprise*.

From the results of analyzing the *attention & emotion* graph for each respondent, in *Task* 1, the average attention level is 0.262, in *Task* 2 it is 0.372, and in *Task* 3 it is 0.32. Overall, the average respondent's attention level is 0.318, which indicates that the respondent's gaze fixation is quite short followed by a fairly long *saccade*, with an increase in the emotion of *surprise* experienced by respondents more than the emotion of *happy*. This indicates that respondents tend to experience confusion in working on *tasks*, especially when working on *Task* 3, most respondents' attention is scattered in the area around the video element and the control section, not in the area where the Clip feature is located due to the Clip Feature icon being inside the dropdown icon/three dots (⋮) below the video being watched and not directly visible to respondents.

IV. CONCLUSION

Based on the results of the research, it can be concluded that the evaluation of the user experience of the YouTube *website* in accessing the Clip feature using the *Eye Tracking* method was successfully carried out through the *RealEye.io tool*, which produced *heatmaps* data, *gaze plots*, and *attention & emotion* graphs. The data quality of the test results (*E-T data grade*) is considered very good judging from the *E-T data integrity* and *gaze on screen* values. The average *E-T data integrity* score of all respondents in the three *tasks* is 90.33% and the average *gaze on screen* score is 89.73%, so the overall *E-T data grade* is *very good*. This indicates that

overall the data from the *Eye Tracking* test is recorded very well and precisely, and has excellent data integrity and focus on the screen as well.

From the results of the *heatmaps* and *gaze plot* analysis, it shows that most of the respondents' attention patterns from beginning to end are focused on the *tasks* performed namely in *task* 1 (*login*) respondents tend to focus on the center of the *web* page, especially in the *login* area and the explanation of YouTube accounts and *channels*, and in *task* 2 (*search* video) their attention patterns are focused on the *search bar* and list of search results when searching for videos. However, in completing *task* 3, i.e. searching for the Clip Feature, 3 out of 5 respondents still seem to experience confusion, where 2 respondents from the beginning of the *task*, their attention patterns tend to show confusion because their attention is scattered in the area around the video elements and control sections, such as the *play* button, *settings* icon, display *settings* button, and several video *thumbnails*. Meanwhile, the area where the Clip feature is located does not receive much attention, so both of them have not succeeded in finding the Clip feature. As well as 1 respondent whose attention pattern looked quite confused at the beginning of the test, but eventually managed to find the Clip Feature. Meanwhile, the other 2 respondents did not take long to find the Clip Feature, with their attention focused on the relevant area from the start. This is supported by the results of the *attention* & *emotion* graph analysis. Overall, the average respondent's attention level is 0.318, which indicates that the fixation of the respondents' gaze is quite short followed by a fairly long *saccade*, with an increase in the emotion of *surprise* experienced by more respondents compared to the emotion of *happy*. This shows that respondents indicated that they tend to experience confusion in working on *tasks*, especially when working on *Task* 3.

Thus, while the Clip feature offers significant benefits, many users still experience difficulty and confusion in accessing this feature. This difficulty in finding and accessing the Clip feature can certainly reduce its effectiveness and impact the user experience. In the YouTube interface, the icon or button for the Clip Feature is often invisible to users as it is located inside the dropdown/three-dots icon (⋮) below the video being watched, so it cannot be directly seen by users. Therefore, improvements are needed in the form of changes to the layout of the Clip Feature icon/button to make the feature easier to find and increase the use of this feature, so that the user experience of the YouTube *website* can be further improved.

ACKNOWLEDGMENTS

Thank you to the respondents who have participated in this research, as well as the entire academic community of the Information Systems Study Program, Faculty of Computer Science, Universitas Sriwijaya, and various parties who have helped and provided support in completing this research.

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