

Experiment Write Up and Analysis

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1 Experiment Overview

This experiment was conducted using Gazepoint Eye Tracking technologies in order to observe a group of participants and obtain their eye tracking data using two different flyers for the same event. The purpose of this experiment is to test readability, information retention, and overall design appeal and how it affects the designated participant's opinions on the event itself.

Hypothesis: The Bigger Picture

Does the presentation of information affect the audience's ability to locate, comprehend, and retain information?

2 Methods and Approach

The following methods for carrying out this experiment were conducted on the basis that by following Usability Testing techniques and the principles for conducting an Eye Tracking Experiment. We were able to apply methods such as Gaze Plot and Heat Map graphics to the data we were able to collect.

Pre-Survey

The approach used for our pre-survey consisted of obtaining basic demographics on the participants as well as obtaining their preferences. Asking for their preferences allows us to see how they approach the flyers in regards to choosing unbiased participants. The preferences vary between participants which will later be shown in the results section of this paper.

Name
Age
Date/Time
Gender
Do you like Halloween?
Do you dress up for Halloween?
Do you like coffee shops?
How often do you go to coffee shops?
Do you like local events?
How often do you go to local events? (ex: Oktoberfest, Azalea Festival, etc)

Post-Survey

The approach used for our post-survey consisted of analysing the effects on readability, information retention, and overall attention captivity of the participant.

Would you attend SpookyFest?
Which flyer did you like more?
Why did you like this one more?
With which flyer were you able to read more information on?
Which flyer drew your attention more
Why did this flyer draw your attention more?
Where could improvements be made on Flyer 1?
Where could improvements be made on Flyer 2?

3 The Process: Test Time

1. **Step 1:** Prior to conducting this experiment a clear understanding of the end goal was essential in order to know how to approach the experiment and know who our target clients are.
2. **Step 2:** For our Activity 2 we had to come up with a set of controlled data that would be presented on both flyers in order to ensure all participants are shown the same information despite differences in form of layout.
3. **Step 3:** Both flyers were designed individually and up to total discretion of the author. There was no constraints on how the flyers should present the information as long as it was on there.
4. **Step 4:** Once both flyers were designed, Post and Pre Surveys were drafted and created using a form platform which would be presented to each participant in the same manner.
5. **Step 5:** Our target audience ended up being people in college. This allowed us to use our peers in CSC 475 as participants in our study.

6. **Step 6:** Conduct the experiment during class hours and during Digital Arts Laboratory free hours.
7. **Step 7:** After the data has been collected, we were able to review it and decided to apply the overview in two different layouts: Gaze Plot and Heat Map
8. **Step 8:** Lastly, once the data has been analyzed it is time to record the findings within this research paper.

4 Experiment Results

The experiment results allowed us to test out our research questions in an unbiased way in efforts to see if the results lined up with our hypothesis.



Figure 1: Flyer 1



Figure 2: Flyer 2

Result Summary

The results of this experiment will be represented in the form of Heat Maps and Gaze Plots. We also took the data collected by the Pre and Post Surveys and displayed it in the form of circular statistical graphics.

The Raw Data

Figure 1 and Figure 2 are representations of the data collected on Flyer 1 and Flyer 2 using the Gaze Plot format. Gaze Plots show the "visual paths" that the participants take. Fixations are represented by the bubbles and their size denotes the length of time or intensity of that fixation.

The pupil's movement is called a "saccade" while a focus point is called a "fixation". Eye Tracking technologies measure the speed of the pupil which allows it to detect when fixations occur. That being said, these fixations allowed us to see what drew the participants attention the most.

Flyer 1 had most of the fixations on the information themselves and nearly no fixations on the design aspects of the flyer, such as the stars. Flyer 2 had most of the fixation points on the information located in boxes. Fixations are present on the graphics.

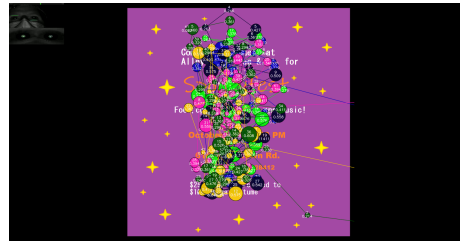


Figure 3: Flyer 1 Gaze Plot Graphic

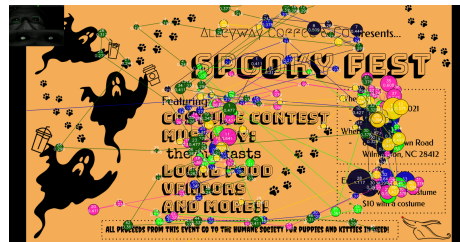


Figure 4: Flyer 2 Gaze Plot Graphic

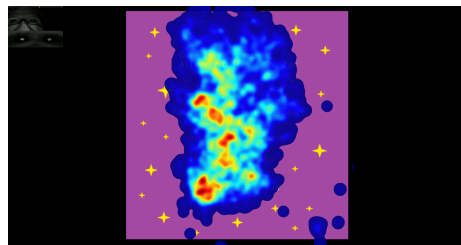


Figure 5: Flyer 1 Heat Map Graphic

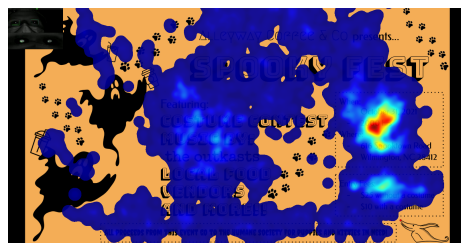


Figure 6: Flyer 2 Heat Map Graphic

Figure 1 and Figure 2 are representations of the data collected on Flyer 1 and Flyer 2 using the Heat Map format. Heat Maps show what the participants focus on. Focal points are represented as "Hot Spots". The figures represent the averaged out data between all participants.

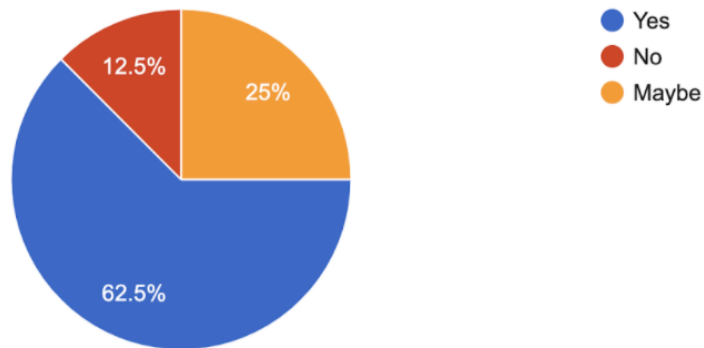
Figure 1 Shows that the price for the event and the mention of food was attention grabbing. Figure 2 depicts that the information in the boxes were most commonly focused

on. The graphics are all well focused on as well which is different than the graphics on Flyer 1.

The figure below is an example of the data collected from the Pre Survey. As mentioned before, the preferences of our participants were taken into consideration in efforts to see how the survey and flyers were approached in a sense that was out of our control. In efforts to remain unbiased while conducting this experiment, we decided to choose our participants at random during class hours and on our own time as well.

Do you like coffee shops?

8 responses

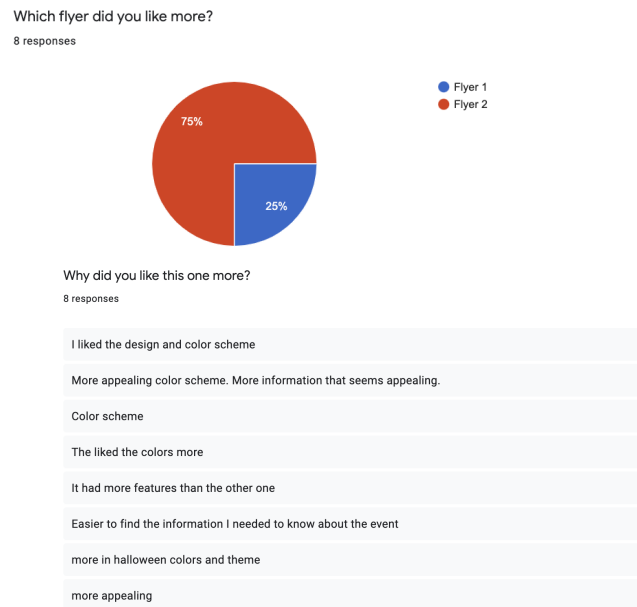


5 In Conclusion...

This experiment allowed us to further apply what the CSC 475 curriculum consisted of to a real life situation. The application of these techniques gave insight to how this data may be collected for research and marketing purposes. In conclusion, the graphics and the way the same data was presented affected the participant's perception, feedback, and overall understanding of the event's mes-

sage. Given that we were observing the retention of information, some feedback was specific to the way information was presented. This showed that certain displays made it easier for the participants to remember such as the time on Flyer 2 being presented in military time.

Preferred Flyer



Flyer 1 appeared to be the most appealing amongst participants. The display in terms of color scheme and graphics is what made the flyer more appealing than Flyer 1.

Room for Growth

It was presented in our Post Survey that changes could be made to the designs on both flyers. While this feedback is subject to change between participants, it gave us insight to how the information was perceived and how it could be better presented. The point of conducting experiments like this is to continue to improve in efforts to make it as efficient as possible to relay data to targeted audiences.

Where could improvements be made on Flyer 1?

8 responses

More contrast on the "Spookyfest" text

More art and symbols, higher contrast color scheme.

The purple could be changed to a more halloween color

Maybe some pictures

Add more graphics

n/a

make it more in the spirit of halloween

Everything, More graphics, change font, Use a better color scheme, Make the font pop

Where could improvements be made on Flyer 2?

8 responses

n/a

Reorganize the information so the most important stuff is highlighted.

The font for the middle text is a bit hard to read

There's a lot going on and it's hard to find the information

The font is kinda hard to read at just a glance

Font was hard to read

Doesnt really need improvements it was appealing over and caught my attention.

Use 12hrs time instead of military time