# Reflection on Web Design Based on Real Experiments

*Yujia Chen*

*U7371774*

## Abstract:

This report reflects on HCI and web design based on two real experiments as a participant and one experiment as experimenter. I compare my experience of these experiments to conclude how we could improve the web design from user involvement, multi-media and the amount of content.

## Introduction:

Human-computer interaction (HCI) aims to design a computer system that users could carry out their activities conveniently and efficiently with it (Preece et al. 1994). HCI also plays an important rule in web design to improve the user experience. In this report, I focus on 2 types of experiments to demonstrate my personal feelings about these experiments and reflect on how I could conduct user evaluations on my own website and how the website design could be improved using HCI principles.

For the experiments, one type is standing by the users evaluated by the designers. The first experiment is to evaluate the methods using computer models to make surprises in narratives. The researchers provide some paragraphs demonstrating short stories, and then ask users to complete the survey about the reading experience. The second experiment is to evaluate how people would form impressions of others by giving users three videos about people accused of minor crimes, and asking users some questions after viewing them. Both experiments were conducted online, which made the experiments much closely connected with HCI in web design. After comparing these two experiments, I think a well-designed website should avoid repeatedly show similar content and should add multiple media.

The other type is conducting user experience evaluation about different kinds of e-Book as one of the experimenter. All of these experiments leads to a deeper understanding of how to deign a user-friendly website.

## First Experiment:

### 1. Summary

The purpose of this experiment is to conduct research on the Bayesian Modelling of the well-made surprise. To prove this assumption, they conduct the online study to collect labeled evaluation data for the model from participants.

This experiment provides some narrative paragraphs for participants, and asks them to choose the feelings about these paragraphs. There are about 8 paragraphs, and it takes around 60 minutes. I get involved in this experiment as a participant.

## 2. Experience Description

I chose this experiment because I was attracted by the title "Well-Made Surprise". I was curious about how the surprise could be shown online, so I signed up for this experiment.

First, I read a short paragraph about a boy who was good at playing balls and always for win, but he lost the game that night. And then, I answered some questions like "Do you think the surprise in this story is cheap?", "Do you think the story make any sense?", "Can you get more information after the second read?", etc. Actually, the first story was very short and simple, and I could not find any surprise in it. I chose the answers according to my real feelings, and stepped into the second story. The second story was similar with the first one, which only had one more condition that said the boy was drunk, so he lost the game. Although it was more coherent than the first one, I did not feel any surprise. After I completed the first two short surveys, I felt generally good because it did not take too long time to read the purely text-based instruction, and the number of the questions was also proper. However, I was a little confused about the surprises contained in the stories. And I was also curious about what the next story would be.

The third story was about a student who was worried about the exam in the afternoon. The student fell asleep until the teacher over him. This story confused me because it lacked an ending as a story. It did not make more senses after I secondly read the story. The fourth story added one sentence on the end based on the third one, which said this student played with his dog. This sentence even made this story more confusing. I read the paragraph twice and guessed that maybe it wanted to show the reason of why this student fell asleep. Due to the lack of conjunctions, it was hard to understand the whole story, which was not coherent. Although the amount of questions for each story was not too much, repeatedly finishing these questions made me get bored.

## 3. Strength and Weakness

The strength of the experiment is that the length of each story was not too long that participants could read each story in one minute. Although some of stories does not make any sense, participants would not loss patience because of the curiosity towards the next story.

The weakness is that this experiment is purely based on the text. The demonstration of surprises is singled. As a participant, I cannot clearly remember each story clearly after the experiment. I think the experiment would be more impressive if it could be conducted with multiple media such as images and videos. Besides, some stories in the experiment are confusing, which cannot provide accurate data if participants cannot understand them.

## Second Experiment:

### 1. Summary

This online experiment is to analyze how people form impressions of others. The participants are asked to view some videos about several people accused of minor crimes and provide judgement about these people.

### 2. Experience Description

First, there was a text description to lead me to the scenario that I was going to view people accused of a crime while they were currently awaiting a trial. There were 3 people, and they were being accused of different and unrelated events. The description was brief, but clearly demonstrated the scenario of the experiment, which put me in the scene and added the interest of the experiment.

Each video was only around 40 seconds, where each person demonstrated the criminal event. Then, I was asked some questions like "How much do you think the demonstrator is honest?", "How much do you think the demonstrator is aggressive?", etc.

I found this experiment very interesting, and I was fully concentrated on it. Although it was an online experiment, I felt the scenario that experimenters gave to was lively and real.

### 3. Strength and Weakness

The strength is that the duration of the experiment is only 10 minutes, which does not consume participants' time and patience too much. And it combines the video and text demonstration, which makes it easy for participants to both fully understand what they are supposed to do and concentrate on the content.

The weakness is that the loading time of videos is too long. Because the videos are auto-played, participants may not respond immediately while this experiment requires the fully concentration from participants. Thus, it might cause a negative influence on collecting accurate data from participants.

## Comparison of the Experiments:

From my personal experience, I think the second experiment is better designed than the first one. I enjoyed the second one because I had no patience to read too much text and repeatedly answer the similar questions in the first experiment, while the text was only for demonstrating the scenario and the videos were really fascinating in the second experiment.

Another experiment is about the evaluation of e-readers (Ujala Rampaul, Tom Gedeon). Two approaches were mentioned in the experiment. One was a scenario-based approach, based on a new user to eReader devices, perhaps received as a gift.

The other method was based on tasks, navigating users to a particular section to compare the using experience of devices. After comparing these 2 methods, it said the second approach was better, because once users started reading there were only minor differences in devices.

Both the second experiment and e-reader evaluation used scenario-based approach. Scenarios are used to describe the behavior of a computer system in a user-centered perspective (Ryser, Johannes et al. 1999) I think this approach could emulate the situations that experimenters want participants to be involved in.

## Relevance to web design and development:

Based on these experiments, I think web designers should create a user-friendly site with an understanding of HCI issues. There are some factors from the experiments that should be under consideration:

1. User involvement

The scenario-based approach used in the second experience and e-reader evaluation is helpful to make users get involved in the activities. We could use some brief sentences as instruction in our websites to lead users to imagine the situation we want them to be involved in, such as "imagine you are in 2077, our world might become...".

2. Multi-media

The purely text-based experience made me get bored easily while the experience based on brief instruction and videos easily made me keep concentrated. The first experiment could be improved by adding more images to present the surprises. For the web design, I think single-media website would be tedious and few users would keep concentrated on reading multiple paragraphs without other media.

3. Proper amount of the content

Users would not pay attention in one website for a long time, so I think it is important for designer to estimate how long time users would spend on the website, and show the content in a clear and brief approach in the homepage, such as bullet points. Designers should also provide a way for users who intend to know more to get detailed information, such as using links.

## Conclusion:

The purpose of HCI is to design a computer system to match the requirements of the users (Issa, T. et al. 2022). This report focuses on 3 experiments, and reflects on the web design based on my personal feelings of these 3 experiments from user involvement, multi-media and the amount of content. It is very important for web developers to notice our own experience when looking through websites, and conclude the reflection based on the real experiments.

# Reference List:

Issa, T., Isaias, P. (2022). Usability and Human – Computer Interaction (HCI). In: Sustainable Design. Springer, London. https://doi.org/10.1007/978-1-4471-7513-1_2

Preece J, Rogers Y, Benyon D, Holland S, Carey T (1994) Human computer interaction. Addison-Wesley, England

Ryser, Johannes; Glinz, Martin (1999). A Scenario-Based Approach to Validating and Testing Software Systems Using Statecharts. In: 12th International Conference on Software and Systems Engineering and their Applications (ICSSEA ̕ 99), Paris, 8 December 1999 - 10 December 1999, CNAM.

Ujala Rampaul, Tom Gedeon. Evaluation of e-Readers: A Preliminary Analysis, Australian Journal of Intelligent Information Processing Systems.