

RESEARCH ON EMOTAG PHOTO BROWSER SYSTEM BASED ON “IMPRESSION”

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ABSTRACT

Moving experiences, in turn, leave an “impression” that often affects future life decisions. Our research proposal focuses on how to construct a better photo browsing system, with special attention paid to the emotive impressions of the photographs. Therefore, we surveyed 71 students (40 men, 31 women) from Future University-Hakodate. We asked the subjects to think about their every day lives and asked them the following questions. 1) “What event in your life was most impressive (ie, leaving the biggest impression)?” 2) “Why were you impressed?” 3) “What changed because of the event, experience?” and 4) “How do you feel now recalling the event, experience?” The survey has revealed that subject’s impressions are related with surprise, achievement, love and strength of memory especially. As a result, we propose the photo browser system using creating emotive tags, or emotags (emotive + tags) in addition to the tags.

Keywords: *Impression, Memory Recall, Photo Browser System*

1. RESEARCH BACKGROUND AND OBJECTIVES

Through deeply moving experiences, new ways of thinking and action occur. Like a student who reads a book and decides to become a scientist, people are affected by the

experiences they have. These experiences, in turn, leave an “impression” that often affects future life decisions.

According to research by Tokaji, *moving experiences* are more easily remembered and leave *impressions* of the moment that are stronger than just memory [1]. The impressions leave feelings that strengthen the experience.

An example of how something evokes strong memories is photographs [2]. Photographs record valuable experiences and looking at them evoke powerful feelings of nostalgia and impressions. One looks at the pictures and recognizes old and new details, rediscovering the value of the moment.

Recently, with the widespread use of digital cameras, it has become very easy to take and save pictures. According to Yamashita and others, many people organize the pictures by date and event categories and save them in folders [3]. However, due to the sheer volume of pictures, finding the one you want has become a problem. One solution has been to add *tags* to the photographs [4-6]. However, most tags are incorporate only the people in the pictures, the places and dates. Unfortunately, this method does not allow a search based on emotion or impression.

Our research proposal focuses on how to construct a better photo browsing system, with special attention paid to the *emotive impressions* of the photographs. We propose creating emotive tags, or *emotags* (*emotive + tags*) in addition to the tags already in use.

We first define the characteristics of “impression” and then use the results of our survey to design a new photo browsing system based on impression and emotions.

2. DEFINING *IMPRESSION*

According to the Koujien Dictionary, 感動 (Kandō) is defined as “something felt deeply about something.”

Tokaji argues that Kandō is something related to one’s experiences [7]. Misawa and others go further to say that one’s values affect the meaning of the *impressions* [8]. Harada states that experience and values affect the overall degree of *impressions* [9]. In other words, strength of *impression* is very subjective and affected by the person’s experiences and values. Since research is limited in this field and there is no standard definition, for the purposes of our research, *impression* will be defined as, “*The positive change in one’s thoughts or actions based on experience.*”

3. RESEARCH

3.1. Research Objectives

In order to develop a system based on *impression* we must first define the characteristics of what one believes to be *impressive*. Our research sets out to clarify this by noting the *details of the impression*, the *results of the impression* (*What made it impressive?*) and *emotions felt when recollecting these impressions*, especially as to how they affected change.

3.2. Research Methods

Our research method closely follows that of Tokaji. We surveyed 71 students (40 men, 31 women) from Future University Hakodate. We asked the subjects to think about their every day lives and asked them the following questions:

1. What event in your life was most impressive (ie, leaving the biggest impression)?
2. Why were you impressed?
3. What changed because of the event, experience?
4. How do you feel now recalling the event, experience?

Subjects were allowed to answer freely questions #1 and #4. They were asked to choose three from a list of 18 choices for #2 and three from a list of 13 choices for #3.

3.3. Results

3.3.1. Impressive Experiences

With the help of three others, we categorized the results using the KJ Method. The results are in Table 1. The biggest group, almost half of the responses, was “Club Activities.” The largest detailed response was “We won for the first time.” Winning or losing—or what was said by someone because of said winning or losing were categorized as “Experience Through Others.” The next largest group was “Friends Family Lovers.” Some common responses were “surprise birthday parties” and “letters from friends.” Experiences involving people close to the test subjects were common.

Table 1: Details of Impressions

Answer	Subjects (%)	Details
Club Activities	31 (43.7%)	First time winning a soccer match. Receiving big applause after a concert. What people said after winning or losing a game or match.
Friends Family Lovers	18 (25.4%)	Surprise birthday parties. Letters from friends. Older brother making good-luck charms in secret for tests.
Graduation	4(5.6%)	Classmate cried at graduation.
Birth	4(5.6%)	Birth of a niece, nephew.
Test	4(5.6%)	Getting into college.
Movie / TV	3(4.2%)	Watching a movie.
Nature	2(2.8%)	Swimming in the ocean in Okinawa.
Other	2(2.8%)	First time flying in an airplane.
Music	1(1.4%)	Song lyrics.
Live Performance	1(1.4%)	Live performance.
People	1(1.4%)	Meeting an artist they like.

Table 2 shows the results categorized into “Experience Through Others” and “Self-Centered Experiences.” Note that the two largest responses were *Experience Through Others*,

especially “winning” and “surprise birthday parties.” We concluded that people are *impressed*, have strong *impressions* especially when experienced, shared through and with other people.

Table 2: Results based on the KJ Method

Experience Through Others		Self-Centered Experience	
Friends • Family • Lovers	18(25.4%)	Live Concert	1(1.4%)
Club Activities	31(43.7%)	Test	4(5.6%)
Graduation	4(5.6%)	Movie • TV	3(4.2%)
People	1(1.4%)	Nature	2(2.8%)
Birth	4(5.6%)	Music	1(1.4%)

3.3.2. Reasons for Impressions

The reasons for impressions can be seen in Table 3. Having totaled the results, we found that *Unexpectedness & Surprise, Achievement, Thoughtfulness & Love and Strength of Memory* were the most common.

Figure 1 gives a detailed explanation of the reasons for impressions. Many of the subjects gave many different reasons for one impression, leading us to believe that it is possible to have various reasons for an impression.

Table 3: Reasons and Details of Impressions

Type	Subjects (%)	Details
Unexpected Surprised (26)	Friends / Family / Lovers 11 (42.3%)	Surprise birthday parties Getting a farewell note from a friend when moving from Sapporo
	Club 7 (26.9%)	Teacher always being angry but praising me at the end...
Achievement (26)	Club 22 (84.6%)	Winning All-Hokkaido Personal & Group, in Jr. High School Receiving big applause at concert.
Thoughtfulness Love (23)	Friend / Family / Lovers 10 (43.4%)	Receiving strength and courage from a friend.
	Club 6 (26.0%)	What people said after winning or losing a match or game.
Strength of Memory (22)	Club 9 (40.9%)	The Finals (sports) in high school
	Friend / Family / Lovers 8 (36.3%)	The feeling after a school play.

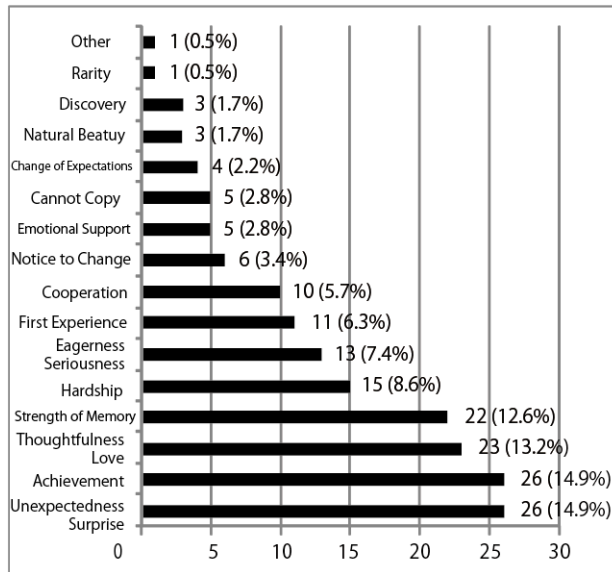


Figure 1: Reasons for Impression

3.3.3. Changes

Figure 2 shows the results for any changes experienced. Within the group *Motivation*, “Motivation” to try and / or try harder was the largest. Within the group *Outlook on Others*, “trust” and “human love” were high. And finally, “broadened outlook” and “change in thinking” were common for *Change in Attitude, Thinking*. And using Tokaji’s research[1] as a base, we found that there were no significant differences between the three groups, *Motivation*, *Outlook on Others* and *Change in Attitude, Thinking*. We concluded that in terms of changes, these three groups are representative.

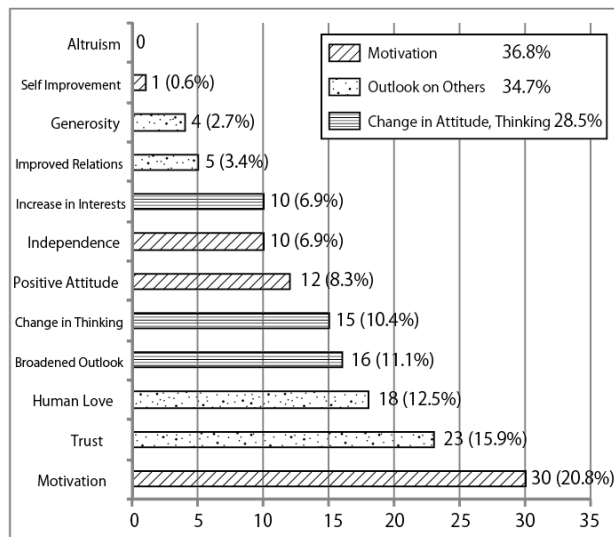


Figure 2: Changes

3.3.4. Emotions Felt Recalling Events

Table 4 shows the results when we categorize how the subjects felt when recalling past events. We found that for the category *Problem Recognition*, “Wants to be nicer to people” was the most common response with more than half (56%). And, just like in Tokaji’s research[1], the results are very close. The next largest group, *Emotional*, “Became happy” and other

positive emotions were most common. And the results for *Nostalgia* led us to believe that the subjects re-evaluated the experiences and assigned new value and worth to them. We feel that recalling events affects changes in the subjects especially as it relates to deepening the impression.

Table 4: Emotions Felt Recalling Event

Results	People(%)	Details
Problem Recognition	40 (56%)	Wants to make time and practice again. Wants to be nicer to people. Thought it was a great experience. Wants to see their friends again. Etc.
Emotional	18 (26%)	Became happy. Was fun but sad. Etc.
Nostalgic	10 (14%)	Nostalgic Was young. Etc.
No Answer	2 (4%)	

3.4. Conclusions

Our research results show that *impressions* are deepest when between the subject and the experiences they share with other people. The four most common reasons were *unexpectedness* *is surprise, achievement, thoughtfulness* *is love and strength of memory (the strength of the memory itself, not powers of recollection)*. The thought flow is illustrated in Figure 3.

The top three results in terms of how they affected the subjects are, in order: Motivation to try harder (*Motivation*); Trust (*Outlook on Others*); and Broadened outlook (*Change in Attitude, Thinking*).

The results also suggest that recalling the *impressions* also lead to a deepening of the *impressions* and help motivate the subjects for the future.

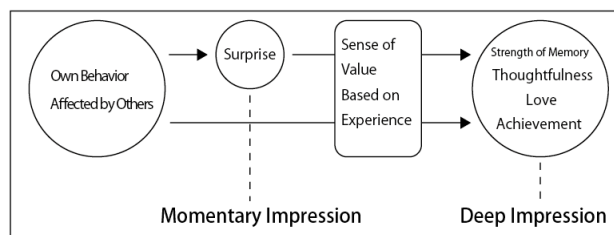


Figure 3: Flow of Creation of Impressions Between the Subject and Other People

4. SYSTEM PROPOSAL

4.1. System Guidelines / Requirements

We conclude that the photo browser system be able to recognize the “feeling” of the impression, especially *unexpectedness* *is surprise, achievement, thoughtfulness* *is love and strength of*

memory. The system should also be able to display pictures based on the user's psychological state as *impressions* are subject to the user's circumstances and feelings.

4.2. System Concept

Our system will allow users to enter the tags *unexpectedness* *surprise*, *achievement*, *thoughtfulness* *love* and *strength of memory*. The concept is illustrated in Figure 4.

1. Saving Pictures: The user selects picture to be saved ① and then assigns a value to the following categories: *unexpectedness* *surprise*, *achievement*, *thoughtfulness* *love* and *strength of memory*②. The picture is saved and tags are entered into the database.

2. Browsing Pictures: The user enters how strongly they feel in the following categories: *unexpectedness* *surprise*, *achievement*, *thoughtfulness* *love* and *strength of memory*③. The system then displays the pictures, in order of closeness, to the inputted values④. The system can also display matching photographs saved by other users, such as friends and family, who have also saved their pictures in the same database⑤.

Our system will allow the user to search their pictures using *emotags* such as *surprise*, *achievement* and *love*. After using the system, our hope is that the user has a stronger sense of *motivation*, a greater *outlook on others* and a *change in thinking or attitude*.

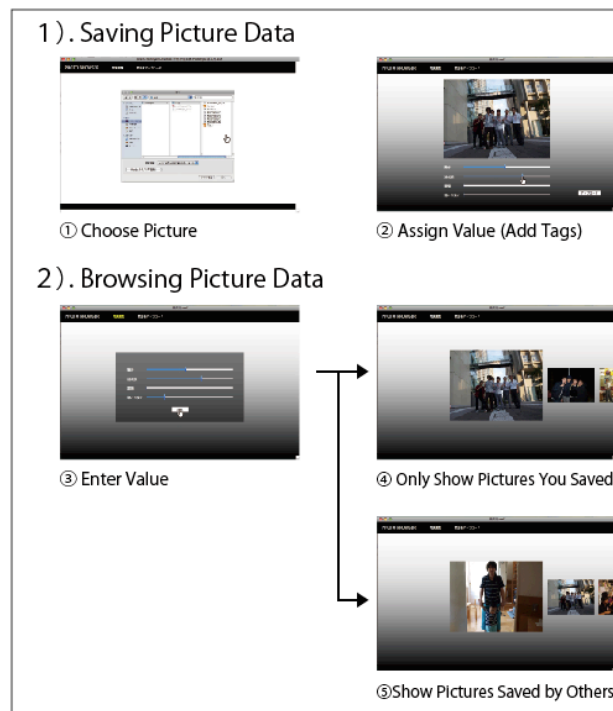


Figure 4: System Flow

4.3. Next Steps

Our current research objective is to outline the structure for a Photo Browsing System using impression as a keyword for more effective browsing. By using emotags we feel that the user can better find the pictures he or she is looking for. The area of research covers only the concept of impression as a new search method and the way to display the results. Our

ultimate goal is to build an Emotag Photo browser System. To do this, we need to more research on how to build the system to allow for shared users and integration and how to more effectively display results. Further investigation is necessary for greater variety of input fields to further evoke the impression response or feeling. We feel this will become very important for the system. Further analysis also needs to be done between the connection, relation of the user's feelings at time of search and how this affects search results and display. The next steps involve using this research as a base for further research, building a prototype, evaluating prototype and using the evaluation results, improving the system.

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