HOW PEOPLE USE DIGITAL PHOTOGRAPHY IN THEIR DAILY LIVES?

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HOW PEOPLE USE DIGITAL PHOTOGRAPHY IN THEIR DAILY LIVES?

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ABSTRACT

To further our understanding of the use of digital cameras, this research was conducted based on a Micro-Scenario Method of how people use digital image contents. The results indicate that the potential for enjoying digital image contents have expanded; however, the ways to enjoy the contents in daily life have not become rooted into everyday life. Although the PC can be used for organizing digital images and also as a hub for relaying the contents to other devices that people employ to enjoy those contents, the PC is not widely used by people on a daily basis to browse the contents. Real world environments where people can enjoy digital image contents as part of their daily lives need to be further envisioned.

KEYWORDS

Digital Image Contents, Micro Scenario Method, Daily Life, Digital Camera.

1. INTRODUCTION

Contents, such as text, music, images, and videos that surround us have become rapidly digitalized. This has brought us plentiful benefits. For example, we can enjoy more beautiful images and videos than ever before. We can carry large amounts of music freely and listen to it at any place we wish. Also we can share, with friends and family, images of sights we have just seen.

Digital contents have disseminated into our lives since many people have started to take digital photos on a daily basis. This is true because most mobile phones are now equipped with a digital camera function, and digital cameras have become pervasive, even among the elderly.

In general, we can describe the life cycle of any type of media content as consisting of five processes starting from “Generation,” through “Collection,” “Organization” to “Usage,” and finally “Disposal.” When this concept is applied to image contents, the digitalization of these contents significantly affects the relationship between users and contents at each process of the life cycle.

First, the volume of digital contents that a typical user collects and thus the volume of image contents that users must handle has increased. Although the types of different content usage have expanded, it is no longer easy for people to use these contents. Consequently, digital contents that are barely used and are idly kept have increased. To put this differently, there is an increase in the amount of contents that do not reach the “Usage” process (Hirasawa (2007)).

Furthermore, advances in digitalization have facilitated separation of contents from media. Contents are commonly moved between flash memory, hard discs, DVD-R, and other type of storage media. On the other hand, the options for enjoying image contents have multiplied the load of learning the operating procedures for all of these different types of devices. Also, the more functionality that is provided by digital machinery the more that users must learn about the new operating procedures. Further, as users select the ways that they enjoy digital contents their labor is further compounded because they must properly organize the contents for use across corresponding platforms.

Moreover, not everyone becomes accustomed to new usages of contents. This is true even when the user understands the operating procedures embodied within the product that is being selected for the desired function. Research based on ethnomethodological studies of home appliances has shown that there is a gap between the comprehension of usage and actual implementation. (Kuramochi (2006)).

These issues are especially important because they relate to our use of photographs. Photographs have strong influence on our daily lives. Various issues related to photographs have been investigated in philosophy, social sciences, psychology, medical sciences, and in other disciplines. (Burdieu et al. (1965), Sontag(1977)). The objective of this study is to reveal current situations that involve the use of photographs in digital environments from the perspective of the digital content life cycle presented above. These digital image contents are an important part of our everyday life. A further long-range goal of this research is to identify the challenges for using digital image contents and to identify the requirements for home appliances and home solutions that use these image contents with the hope that this better understanding will bring to people new user experiences.

2. FIELD RESEARCH FOR USAGE LIFE CYCLE OF PHOTOGRAPH

This study proceeded with a survey methodology followed by in-depth interviews of users of digital cameras, in order to identify structural problems in the context of digital contents use in daily life. First, we classified users of digital cameras into five different groups based on the survey results. Next, we selected respondents from each of the classification groups and interviewed each respondent multiple times.

1) Survey and classification of users of digital cameras:

We conducted a web questionnaire survey of 220 users of digital cameras (107 male, 113 female) to develop the user classification group structure. Data from the survey was analyzed by means of a "*Usage Scaling Method*" (Mine and Tahira (2004)). This method involves the following sequence of actions: First, we use factor analysis to determine characteristic factors. Second, cluster analysis, where the clusters are defined based on those characteristic factors, was used to classify each user into one of the five classification groups.

The five user groups are as follows:

Group 1 users like to try various functions of the digital camera and can sufficiently use a PC.

Group 2 users simply release the shutter of the digital camera without caring about other functions.

Group 3 users become accustomed to adjusting the camera settings in accordance with visual conditions and typically ask a photo studio to print the image according to their tastes.

Group 4 users know little about the functions of the digital camera. These users organize images on their PCs.

Group 5 users enjoy the use of digital images without using their PCs.

2) Interviews regarding usage of digital image contents:

Fourteen respondents (5 male, 9 female), ages 19 to 60, were selected from among the survey respondents for in-depth interviews (Table 1). Preceding each interview, the interviewee was asked to answer a questionnaire related to the characteristic factors of digital camera usage. Each interviewee was classified based on the results of the questionnaire. Interviews were semi-structured and were repeated twice for every interviewee.

Table 1. Characteristics of Interviewees

Group	Age	Gender	Camera	Organizer	Manager of image
G1	22	female	SLF-ST, compact DC	PC	Self
G1	24	male	SLF-DC, Mobile with DC	PC	Self
G2	25	male	compact DC, Mobile with DC	PC	Self
G2	22	male	compact DC, Mobile with DC, single-use ST	PC	Self
G2	40	female	compact DC, Mobile with DC	PC	Husband
G2	50	female	compact DC, Mobile with DC	PC	Husband
G2	60	male	SLF-DC, Mobile with DC	PC	Son
G3	21	female	SLF-ST, compact DC, Mobile with DC	Album	Self
G3	19	female	compact DC, Mobile with DC, single-use still camera	SD card	Sister
G4	23	male	compact DC, Mobile with DC	PC	Self
G4	22	female	compact DC, Mobile with DC	PC	Self
G5	22	female	SLF-DC, compact DC	PC	Mother
G5	36	female	compact DC, Mobile with DC, single-use still camera	PC	Husband
G5	23	female	compact DC, Mobile with DC	Album	Self

DC: digital camera, SLF: single-lens reflex, ST: still camera

The interview log was analyzed based on the Micro-Scenario method. This method is conducted as follows:

(1) Each interview supplied "Ground Information." This is common information regarding the informant pertaining to his/her characteristics and some context regarding the informant's daily life.

(2) "Problem Micro Scenarios" are created based on descriptions from the interviewees. The scenarios describe actual problematic situations that users of digital contents encounter. "Problem Micro Scenarios" are text descriptions, two hundred to four hundred words in length.

(3) Each "Problem Micro Scenario" is tagged based on various characteristics of context of user's life situation.

(4) Once collected, "Problem Micro Scenarios" obtained from multiple informants can be sorted and categorized based on user situation and categorized according to the tag information.

Since we now have a set of well defined user problems, it is conceivable that we could create "Solution Micro Scenarios" that address each of the corresponding "Problem Micro Scenarios" however this research did not include this step.

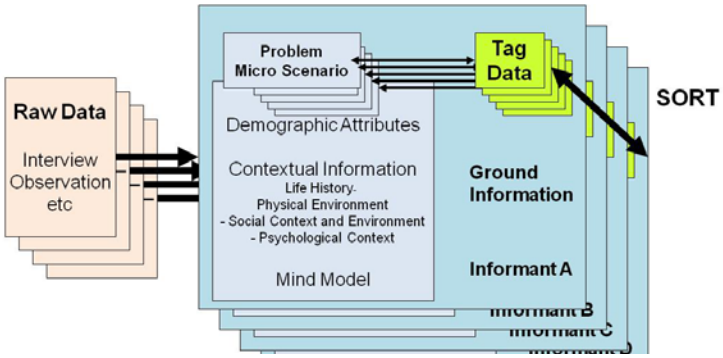

Figure 1. Structure of Problem Micro Scenario (Kurosu (2006))

3. RESULT OF RESEARCH

One example of a "Problem Micro Scenario" follows:

> *Rieko casually takes photos in her daily life, and keeps them in the SD card of her digital camera. She occasionally looks at these photos on the screen of her camera. When she finds photos that she likes, she goes to a convenience store with her camera and prints out those photos.*

Our future research agenda includes a plan to expand the number of informants and scenarios. In fact, an analysis of the interview log revealed that we could have generated as many as 141 "Problem Micro Scenarios" from the web questionnaire survey results.

By analyzing the scenarios, the basic usage processes of image content that include both digitally stored images and printed photographs can be graphically conceptualized (Please see figure 2). Our analysis reveals three general "user specific" classifications for user processing of digital image contents: Users enjoy viewing the images themselves; users distribute the images to their friends, and users display images by putting them on a wall or on a desk (usually in their houses). The goals for enjoying digital versus printed images are similar, however variations of methods of enjoyment have increased dramatically.

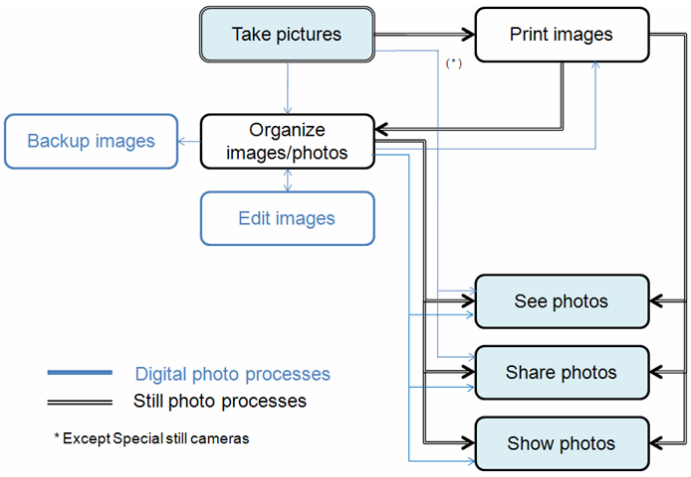

Figure 2. Usage life cycle processes of photographs in daily life

We found two new types of user processes germane to digital image contents that not exist relative to the use of printed images. One such process is the preparatory or additional procedures such as PC launching procedures, conducted prior to the main process of viewing digital contents with a PC application. The second new process results from the characteristics of digital contents and involves activities such as editing procedures with an image retouch software application. New "links" between processes could also be found, such as the link between "taking a picture" and "sharing a picture" by using a mobile camera.

4. DISCUSSION

This research, in particular our analysis of micro scenarios revealed several implications:

- Few users consider the PC as a platform for enjoying image contents. User perception of a suitable platform seems to require that the images be immediately viewable, that there be no complicated operating procedures, and that there be few restrictions on the place, performance, and other characteristics related to operating the device. A PC does not match any of these basic requirements.

- One conventional way of enjoying printed image contents, the viewing of albums, is quite unlikely to be transformed by the introduction of digital media. This process for enjoying printed image contents is expected to survive thus it is unlikely that digital image contents will replace all previous user experiences. It would be difficult, for example, for a new digital process to substitute the incidental activity of viewing images of a photo album when people happened to see it in a room.

- It was once expected that the enjoyment of digital image contents through the use of high-definition TV would widely prevail. At the present stage, however, the environment where people can regularly enjoy images this way has not yet developed. Our research suggests that for this user process to emerge, the functions of hard disc recorders would need to change drastically.

- Some users enjoy showing image content to others through a personal blog or website. This is a new and previously non-existent user experience that has come into existence as a result of the widespread use of the Internet.

- In some homes, a family member undertakes the role of "Image Contents Manager." This family member organizes much of the family related digital image contents, his/her own content, and the contents of other family members. One of the activities of this person may be to prepare the digital contents for viewing on the family high-definition TV. The existence of this role indicates that people may perceive that, unlike the ownership of music content, digital image contents are a shared in-group resource.

This research clarified that image contents need to be enjoyed without difficulty in daily life, especially with no need to follow specific procedures in order for users to enjoy this content. In this sense, an optimum platform for allowing users to enjoy digital contents on a daily basis does not yet exist. Also it appears as though users are more inclined to enjoy the sharing of image contents, compared with music contents. These

and other considerations are important perspectives in shaping our vision for developing new platforms that will allow users to enjoy digital image contents.

5. CONCLUSION

This research identified that while the potential for enjoying digital image contents has expanded, a platform perfectly suited for easily enjoying these contents in our daily lives have not yet been created. The PC can be used for organizing image contents, and also as a hub for relaying those contents to other devices. This capability offers different ways to enjoy the contents. However at this stage, the PC still cannot be considered as a platform for enjoying digital image contents. We designate it as a "living platform." We are still left with the challenge of envisioning the ideal platform for users to experience enjoyment of digital image contents.

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