

Fond Memory Management System by Using Information About Communities

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Abstract. In this paper, we propose “yourStory” as an effective reminder management system to construct a life story from the viewpoint of communities to which the user has belonged. Our framework helps the user manage his/her personal history and tell his/her life stories to other users through sharing communities and episodes. This system provides four kinds of functions: building up a life story in accordance with community information, output of the “communityTree” and “lifeChart” data based on the life story, registration of an episode in relation to a community, and display of various kinds of data, including “communityTree,” “lifeChart,” photos and episodes.

Keywords: Fond memory, community, life story, episodic memory.

1 Introduction

The development and spread of information equipment, such as personal computers, digital cameras, digital camcorders, camera-equipped cell phones, make it possible to easily record and preserve fond memories as digital data. Nowadays, many people preserve their reminders, such as photos, videos, and diaries, on the computer.

The problem here is that people still waste time managing reminders. Although they realize that management of the folders is more convenient as compared with before [1][2], they often feel it troublesome to arrange, edit, and continuously manage the data. Additionally, they worry about the obsolescence of tools for managing the data and the destruction of data. Because of these concerns, people began to not only copy the data onto other disks, but also to print photos and create photo albums. Judging from these actions, we can say with fair certainty that people remain dissatisfied with computer software and reliability for preserving reminder data on a computer.

Our goal is to provide a computer system to support continuous and efficient management of reminder data on the computer and bring fond memories clearly into view on the screen. The characteristic of our approach is that we use communities to which people belong for classifying their fond memories. In this paper, we discuss a new framework to manage fond memories on the computer.

2 Anxiety About Loss of Reminders

People can live on the faith of self-images that have not changed throughout the course of their life times. Many people write and manage diaries and take photographs as their reminders. They love seeing their diaries and photographs again and again. In psychological therapy, the “reminiscence method” was proposed and has been used widely in order to support the aged people recall their memories and to restore their vitality to live positive [3]. This method effectively uses reminders: the aged people tell their memories to one or more audiences, inspired by photographs and other reminders.

This can be seen more clearly in the event of great disasters. Every year in the world many people suffer from catastrophes. Among those victimized by catastrophes, the elderly require substantial time to recover while the younger recover earlier [3]. One reason for this is that the former have accumulated a wide range of experiences in daily life and the loss is very serious. For catastrophe victims to return to their pre-catastrophe lives and restart new lives, they need to rediscover their vividly fond memories and the meaning of their past lives [4].

In recent years, there has been a huge boom in blogging.. Many people publish diaries, photographs, and their feelings every day on the web. The authors of “blog”

Table 1. Examples of typical answers to “How do you feel about reminders you have been managing yourselves”

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- Digital photography is high-resolution and high-quality, and it doesn’t fade away as time goes by. But I feel anxious about hard disk crashes, product obsolescence of data, and the risk of virus infection.
 - Human beings memorize a lot of things sequentially, and recall fond memories instantly triggered by time, scenery, a word, someone’s voice, or anything else. From now on, if the computer cannot provide similar mechanism, there is no point in preserving reminder data in a computer.
 - I would like to convert analog photos and analog videos into digital ones, but doing so is very troublesome because I have to spend much time and use much money to do that. I wish I could do that more readily and cheap.
 - I like seeing photo albums. However, it is not interesting if the photos are merely being preserved on the computer, although I know that digital data is suitable for preserving photos.
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want to tell his/her own life stories to their potential readers as self-disclosure [5]. However, this boom might be just a bubble. New media might be introduced to manage their diaries and pictures. If the stored remainders cannot be read on the new media, many people will lose their personal reminders forever. This might be a serious problem to those concerned.

We conducted our Questionnaire Survey of Managing Reminders in December 2005 and January 2006. The participants in this survey were 34 individuals (26 males and 8 females), aged twenty years and above. We have given examples of answer to a questionnaire item which is “How do you feel about reminders you have been

managing for yourselves?” (Table 1). We surmise that most people feel anxious about the loss of reminders and feel dissatisfaction towards the halfway measures of present day systems. We do not want to overlook the fact that people wish to manage reminders more efficiently and more safely.

3 Architecture

In this paper, we propose a framework for expressing individual human life through using information about communities to which people had belonged (Figure 1). This framework will help people to manage their complicated reminder data, and will allow them to realize a prototype system, “yourStory.” This system also facilitates communication with their colleagues and friends who use terminals on the network with this system.

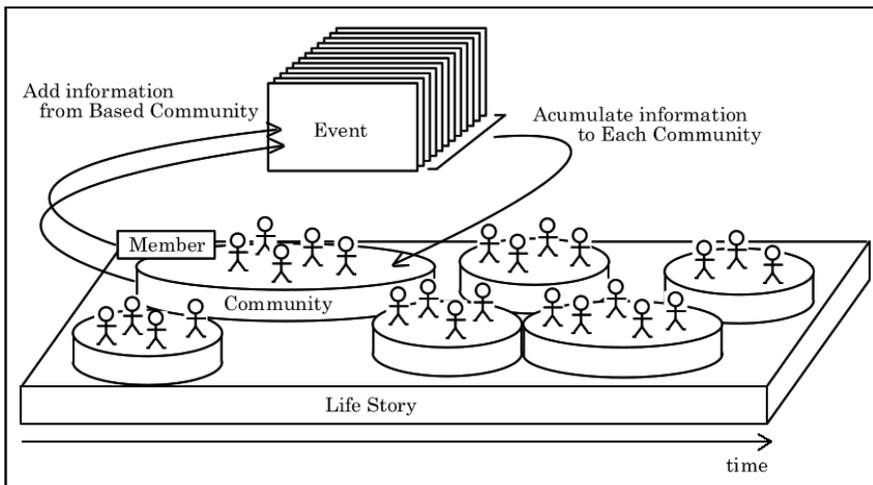


Fig. 1. “Attributed Assembly Model” of human life

3.1 Managing Fond Memories

In this framework, we define community as a certain group or field in which people could be themselves and spend meaningful time for a certain period. Generally, our self-images depend on the memory of such communities. People can easily describe their life stories from the viewpoint of communities through using this framework, and their narratives become more valuable than just a photo album.

3.2 Prototype System “yourStory”

In this section, we propose “yourStory,” the reminder management system. Users of this system recall their past memories of communities to which they had belonged,

and they provide some pieces of information about these communities by following system instructions.

In “yourStory”, attributes of each community consists of five elements:

- community’s name
- period of belonging to the community
- episodes concerning the community
- three typical photos of the community
- members of the community

Users can input information about episodes that concern each community. Each episode has four attributes:

- name of episode
- date of the episode
- picture diary of the episode
- major participants in the episode

Users can input digital reminders of an episode, such as photos, voice data, and videos. Each digital reminder is managed in a different database. Each episode inherits attributes of the community (Figure 1), and the user can refer to reminders by using attributes of community, such as *time*, *season*, *episode*, and *participants*.

The system provides four categories of community, as shown in Table 2, to help the user define each sub-community. These four categories are abstracted because they are thought to have a strong impact on peoples’ lives. Although all communities cannot be categorized into these four categories, almost all sub-communities were classified into these four categories in a preliminary experiment. Guided by these categories, user can remember the communities to which they belonged (sub-communities) and the duration of their participation with less difficulty. The categories are also helpful to retrieve a reminder in addition to *time*, *season*, *episode*, and *members*.

3.3 Architecture of “yourStory”

“yourStory” realizes four functions:

- Building up a life story according to community information that is input by the user.
- Output of the “communityTree” data and “lifeChart” data based on the life story.
- Registration of an episode in relation to a community.
- Display of a various kind of data, including “communityTree,” “lifeChart,” photos and episodes.

Figure 2 is an example of a “yourStory” screen image. If the user inputs information about communities for each category, “yourStory” shows the user reminders with a graphical interface such as this figure.

“communityTree,” shown on the left side of Figure 2, is a tree structure of communities registered in the system. In this field, the user can manipulate



Fig. 2. Example of “yourStory” screen image

information of the communities: adding a new community to a category, editing a community name and structure, and eliminating a community from a category.

“lifeChart” on the right side of Figure 2 shows a period in each community defined in “communityTree.” Each period is displayed as a bar whose color differs from category to category: *educational institution* is red, *work place* is green, *hobby* is blue, and *base region* is yellow. The user can expand and contract a period bar by selecting it with the mouse and dragging it to a certain period. Bars to be displayed in “lifeChart” can be limited by selecting communities in “communityTree.”

Shown in the bottom of Figure 2 is information about a selected community. When the user selects a community on “lifeChart” or “communityTree,” related photos and episode information are displayed in this field. The number of photos is limited to three. This is because the goal of this system is not to organize photos but to use photos in order to help the user describe his or her life story. Three photos for each episode are sufficient for describing an episode. This field helps the user talk to someone about memories that concern the community.

By composing the screen like this, digital photos can be managed by connecting them with communities. People usually organize photos by giving various kinds of information, such as name and date, to the photo files and folders. This makes it difficult to position photos in the order of a life story. An advantage of our system is that it enables the user to select and organize photos by visually mapping them with memories.

This system also enables the user to include a comment not only with each photo and each episode but also with a community. For example, the user can input a long-term episode such as “Those were the days” to a certain community.

3.4 Implementation

“yourStory” is written in Java™. All data of “lifeStory” are represented in the XML documents. XML is used because it easily realizes the complicated structure of life stories and makes easy the extension and modification of the data structure for future function enhancement. Reminder data, such as photos, are managed in the hierarchical directory.

The GUI uses EclipseSWT and VisualEditor. “lifeChart” is implemented in the library module of JfreeChart.

4 Discussions

In “yourStory,” the user can easily enter information about the community with fond memories. There are not so many items for input and they are guided by the structure of communities and fond memories that were already input. The life story of the user is visually expressed through using information about community, and “lifeChart” is a very effective interface for representing the overall structure of communities. This framework helps each user to manage reminders and recall fond memories.

In comparison with other frameworks to express human life, the advantage of our framework is that it is effective not only for the management of personal memories but also for the promotion of communication with other people who use the same system. Our framework enables the user to compare his/her own memory with the memories of other people also involved in a similar community, and to select and talk about a memory that may attract the interest of other users based on the episodes registered in their systems. This kind of extended use of the system suggests the potentiality of this framework.

The number of digital data concerning fond memories is increasing. However, the essence of fond memories is not supported by the number of data, but by the content of the fond memory itself. Management of a significant amount of daily in-depth data, such as e-mail, cell-phone history, schedule, activity-log, and other such forms, causes low efficiency of reminder management and complicates system interface. The reminder management system should manage the necessary minimum number of photos.

5 Conclusions and Future Works

In this paper, we proposed “yourStory” as an effective reminder management system to construct a life story from the viewpoint of communities to which the user belonged. Our framework helps the user manage his/her personal history and talk about his/her life stories to other users through sharing communities and episodes.

Our future work includes implementation of a system with more effective functions to help people manage reminder data and recall their fond memories. We are planning to extend “yourStory” to implement a method of displaying two or more “lifeStory” at the same time. We think this method will arouse unexpected, appealing conversation among people. We also plan to conduct experiments to validate our framework.

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