

POC Communicator: A System for Collaborative Story Building

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Abstract. We propose a system called *POC Communicator* for creating realistic contents collaboratively. Creating contents that bring us reality is important for learning and knowledge sharing among people. We propose a notion of *collaborative story building* for adding reality to contents. We implemented a prototype system based on this notion. Design concept and an overview of the system are described.

1 Introduction

Reality is an important factor for human's understanding. We feel reality in various contents such as movies, novels, and grandfather's stories. An important thing is that we often learn lessons from them. For example, when we listen to experiences of earthquake victims, we understand their sorrow, and learn ways to avoid risks in a disaster area. On the other hand, it is difficult to feel reality in news articles that describe only facts of the earthquake. There is a big difference between the victims' stories and the news articles. More reality we feel, more lessons we learn. Thus, creating contents that bring us reality is important for learning and knowledge sharing among people.

One of issues on communicative reality is how to create realistic contents. Creating realistic contents requires much skills. For example, writing or telling our experiences detailedly and expressively is difficult except for professional scenario writers or storytellers who know techniques to attract readers or audience. Although there are many realistic stories around us, it is difficult for us to write and tell our stories to others because of lack of those techniques.

We propose a notion called collaborative story building for facilitating group members to create realistic contents collaboratively. We can tell our experiences realistically when we tell them in cooperating with people who had the same experiences. This is because they can collaborate to tell a story by adding details or complementing information mutually. We implemented a prototype system called POC Communicator based on this notion.

This paper is organized as follows. Section 2 describes our definition of communicative reality, the notion of collaborative story building, and the design concept of a prototype system. Section 3 describes an overview of the system.

2 Collaborative story building for adding reality to contents

2.1 *Communicative reality*

Following is our definition of “Communicative Reality (CR)”.

Communicative Reality (CR)

CR is reality of contents exchanged through communication between a human and a *contents provider* that has an intention for transmitting information realistically.

In this definition, the contents provider might be a human or an artifact that provides contents statically or dynamically. For example, books and recordings are examples of static contents providers¹. Conversational agents and interactive web pages are examples of dynamic ones.

2.2 *Collaborative story building*

We propose a notion of collaborative story building for facilitating group members to write realistic contents. Our hypothesis is that telling a story collaboratively in a group makes the story more realistic than telling it alone. Suppose a group such as a family, a sport club, or a class in a school, members share feelings and memories about common events to them. They remember those events and tell various episodes realistically even though they meet again after long years. Takatori reported that recalling things collaboratively works better than recalling them alone[1]. This is because humans recall common events to them correctly by complementing information mutually. Thus, we consider that telling stories collaboratively enable them realistic.

2.3 *Design concept of a prototype system*

Followings are points for designing a prototype system.

One can write a fragment of a story.

For lowering cognitive burdens for writing a story, one can write a fragment of a story. A *story* here is a writing of one’s experience. Writing such story requires motivation and a cognitive load. We consider that writing a *message*, which is a fragment of a story, lowers cognitive burdens of users. A message consists of a title, a picture, and a comment to the picture (Figure 1).

Fragments of a story are shared in a group.

For facilitating group members to start writing a story, messages are shared and utilized in a group. By this policy, one can reuse a message by editing title and comment of the original one.

¹Note that the nature is not the contents provider because it has no intention for transmitting information.

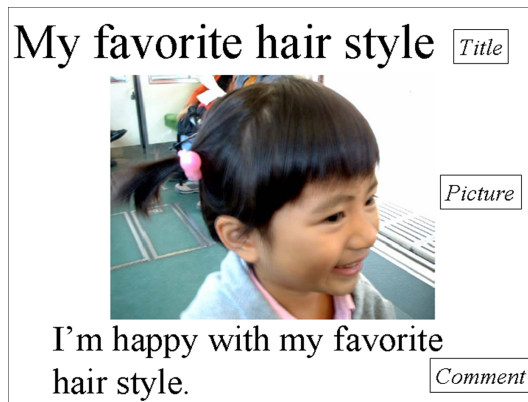


Figure 1: A message consists of a title, a picture, and a comment to the picture.



Figure 2: Conceptual image of the collaborative story building. Group members share messages and stories, and create and edit stories mutually.

Stories are edited mutually.

For evolving stories in a group, stories are edited mutually. Group members can edit not only their own stories but also other stories contributed by others.

Figure 2 shows the conceptual image of the collaborative story building. In the figure, a message, which is posted by one of group members, becomes a component of a story for other members. By sharing and editing messages and stories mutually, the group evolve their stories mutually.

2.4 Previous work

World Wide Web (WWW) has limitations on collaborative story building. This is because most Web pages don't allow people to edit them directly. Although WikiWikiWeb[2] and CoWeb[3] allow people to edit Web pages directly, it is difficult to find relationship among Web pages. For facilitating collaborative story building, a system should lower burdens for creating information. Furthermore, the system should facilitate users to understand relationship among pieces of information.

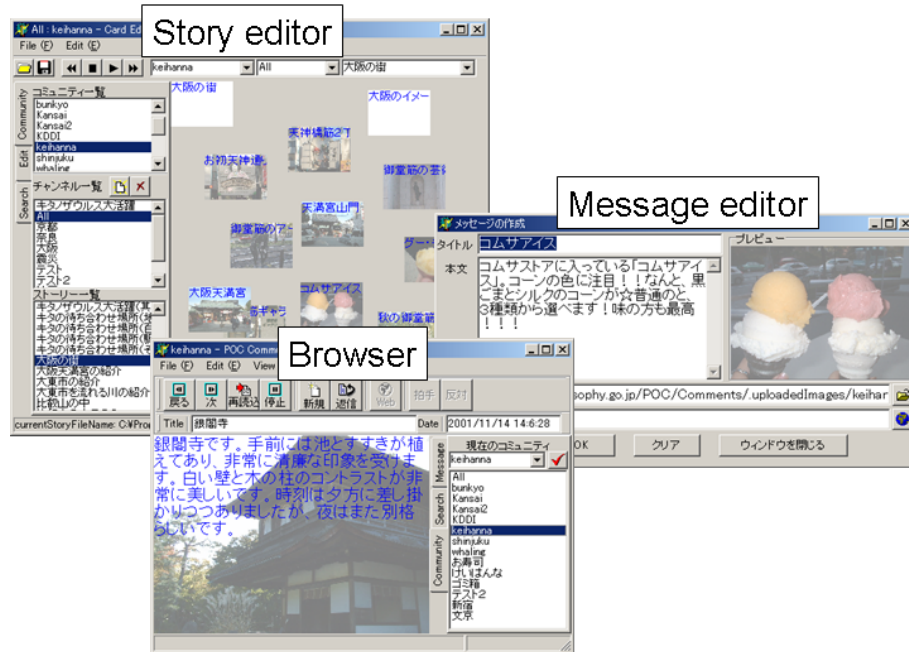


Figure 3: Screen image of POC Communicator. In the message editor window, users can compose and edit a message. In the story editor window, users can edit stories by arranging messages. In the browser window, users can browse messages and stories passively.

3 POC Communicator

We implemented a prototype system called POC Communicator. POC Communicator is the client software of the *Public Opinion Channel (POC)* system[4]. In POC Communicator, a story consists of several messages. Users can create a story by adding messages to a story.

3.1 Overview

Figure 3 shows an overview of the system. The system consists of (1) message editor window where users can create a message, (2) story editor window where users can create and edit a story, and (3) browser window where users can browse messages and stories.

Messages and stories are stored on a server. When a user retrieves messages on the server, the server returns messages. The user can incorporate those messages into his or her stories, and upload them to the server. Stories on the server are available for users. Users can download existing stories, and edit and upload them again.

3.2 Functions

Major functions of the system are follows.

Automatic message playing function

The browser window displays messages automatically. This function helps a user to recall his or her stories. When a user hits upon an idea of a story, s/he can create a new story



Figure 4: A screen image of a story. An interface agent explains the picture with her Text-to-Speech system.

instantly by incorporating the message into the story. This is done by a dragging the message from the browser window and dropping it to the story editor window.

Story editing function

Users can edit not only their own stories but also others' stories directly. A story is displayed on the story editor window. In the window, users can edit a story by (1) adding or removing messages to/from the story, and (2) editing messages contained in the story.

Story playing function

Users can browse a story as a picture-story show in the browser window. An interface agent introduces the story with her Text-to-Speech system. Figure 4 shows a scene of playing a story.

4 Conclusion

We proposed a notion of collaborative story building for facilitating group members to create realistic contents collaboratively. Our hypothesis is that a group can create realistic stories through writing and editing them collaboratively. We will verify this hypothesis through an experiment using the prototype system.

References

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