Silhouettell: Awareness Support for Real-World Encounter

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Abstract. We have developed a system, called Silhouettell, that provides awareness support for real-world encounters. Silhouettell uses a large graphics screen. People's locations (who and where) are projected as shadows on the screen. The feedback from the shadows allows people to naturally know each other. Silhouettell also selects and presents topics common to two or more people to make conversations easier to start. The current implementation uses World Wide Web (WWW) pages as the material describing the common topics. Experiments with three users are reported to show how Silhouettell works in practice. We also examined where the system would be best used by polling people from various nations.

1 Introduction

Various electronic meeting support systems have been studied and developed. There are two forms of meetings: formal meetings, such as business meetings, and informal meetings, such as chatting in a hallway or a lobby. Also, there are two ways of supporting these meetings: supporting them in the real world, and supporting them in a virtual space.

Table 1 classifies electronic meeting support systems.

<table>
<thead>
<tr>
<th></th>
<th>Formal Meeting (business meeting)</th>
<th>Informal Meeting (casual meeting)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real World</td>
<td>Presentation Tools (PowerPoint)</td>
<td>Awareness Support (Silhouettell)</td>
</tr>
<tr>
<td>Virtual Space</td>
<td>Conferencing Tools (MediaSpace, etc)</td>
<td>MUD Tools (FreeWalk)</td>
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To support formal meetings in the real world, presentation tools are commonly used. For meetings between separated people, video conferencing tools have been
developed. MediaSpace[6], MAJIC[5], InPerson[7], and CU-SeeMe[2] provide virtual spaces through computer networks. To support informal meetings, various multi-user dungeon (MUD) tools have widely spread. FreeWalk[3], for example, provides a virtual 3-D space to realize accidental encounters.

It is surprising, however, that almost no research has addressed informal meetings in the real world. Our approach is to provide awareness support, which augments the real world, to enable people to become aware of other people who have common interests.

We think that awareness support should provide a place for people to come together. For this purpose, we utilize a large graphics screen where people can share displayed information. WebStage[9], a Web browser, actively presents information that users are interested in or need. We introduced this idea into awareness support. We believe that a system that displays common interests to users can enrich their encounters.

This paper describes Silhouettell, a system that finds topics common to the participants and uses World Wide Web (WWW) pages to present the topics by displaying them on the large graphics screen. Section 2 describes the design concept of Silhouettell. Section 3 shows how we implemented Silhouettell. Section 4 reports experiments in real-world encounters using Silhouettell.

# 2 Design Concept of Silhouettell

## 2.1 Shadow Play

The following functions are important for awareness support.

- Displaying the presence of others:
  By representing each user as an object (shadow), the system can alert the user to the presence of others.

- Identifying the participants:
  The system displays user profiles (name, affiliation, interests, etc.), so the user can identify the other participants.

- Displaying relations between users:
  The system displays common interests between users to stimulate conversations.

To realize the above functions, Silhouettell uses a large graphics screen. Fig. 1 shows the concept of Silhouettell. Fig. 2 shows an example of it in use.