AR based Co-located Meeting Support System

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ABSTRACT

The use of Augmented Reality (AR) for the purpose of meeting support has been explored in several experimental and commercial solutions however most of these works focus on remote communication. This work targets the use of AR for co-located (face-to-face) meeting support in order to enhance interaction among and between meeting participants and provide collaboration awareness to all. A prototype system called *Meetsu* was developed and it is currently under experimentation.

KEYWORDS: meeting support system, augmented reality, co-located human-human communication.

1   INTRODUCTION

Meeting support systems can also be referred to as group support system (GSS). Even though GSS stands for a general term, its focus is primarily to promote social interactions and enhance meeting performance. In other words, GSS presents important factors which can be used to examine the social interaction between meeting attendants.

One work aiming co-located meeting support is [1] where a prototype for a face-to-face meeting support system (called *HEMS*) based exclusively on the use of handhelds. This system allows people to meet in any place where the handheld connection is able to support the various tasks and processes that arise over the life-cycle of a meeting.

[2] describes an informal communication tool called *MoCHA*. It is aimed to support co-located hospital workers. The prototype system's sharing service consists of displaying the contents of any device in the vicinity, such as a PDA, a PC or a public display, on a handheld computer, and being able to remotely share the control of the device with its owner and/or other users.

Our prototype system, Meetsu, intends to provide the intrinsic benefits of GSS by means of AR to a co-located meeting situation. The exploration of the possibilities given by AR to the aforementioned context constitutes the basis of this work. The study case being used for the experimentation is that of a weekly research meeting in which the participants include students and professors.

2   PROTOTYPE SYSTEM

Meetsu is a web system mainly developed using PHP and JQuery. Its features were decided over iterative discussions on the frequent scenarios for research meeting context as well as general meeting support features.

The main idea is to create a non-intrusive smooth solution for participants to express actions in the context of a research meeting where students present their research progress to their lab members. Users interact through a web interface which controls

the icons being overlaid on top of the live video image of the meeting room with all participants.

In our first attempt to explore AR, the supported actions include making a question and expressing agreement/disagreement through the use of interactive icons (Figure 1) which will be displayed on top of the user's head (Figure 2).

Figure 1. Interactive icons that are available in Meetsu's web interface.

Figure 2. Icons being overlaid on top of a live camera feed.

Questions can also be sent at anytime through the Meeting phase using a submission form, also resulting in the question mark icon being shown in real-time.

2.1   Meeting setup

For this study, the system considers a presentation setting where two screens are visible to the attendants. One screen displays the presenter's slides (a Powerpoint presentation) and the second screen contains Meetsu's AR feature which shows a live camera feed of the audience. A webcam is positioned on top of the front screen capturing images of the meeting room.

3   CONCLUSION

We believe the simple idea of using icons to visually represent one's action (for example, making a question) stimulates participation, provide awareness of everyone's contribution and facilitates management of turn-taking during Q&A.

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