Recovery Central: Interruption Recovery in Distributed Meetings

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1 Introduction

Meeting support tools have long been a research focus in the field of Computer Supported Collaborative Work (CSCW). Tools have been developed for improving distributed and asynchronous collaborations with varying levels of success, usually with a focus on communication. While communication is important, interruption recovery is also a common problem in meeting support that has been largely unaddressed in research; particularly when considering asynchronous and private communication which is supported by modern meeting support tools. This poster presents the design process of Recovery Central, an interface supplement to distributed meeting support software that facilitates interruption recovery through collaborative bookmarking.

An inspiration for this work is Meeting Central (MC) [2], a distributed meeting support tool. In this work, Yankelovich et al. utilized a user-centered design process to improve on audio, behavioural, and technical design decisions common to meeting support software. For example, MC has features which support voting, turn taking, and presence and state awareness. During the design of Recovery Central we mimicked their minimalistic, user-centered design process and philosophy.

2 Recovery Central

Design requirements were collected through an informal semi-structured interview with students, focusing on their in-lecture recovery strategies and tools. This phase identified common sources of distraction in meetings, their duration, and when and how users are likely to attempt to recover from them. The results indicated that users would use tools both during and after a meeting and expended minimal effort in the recovery process. Using these results we carried out a three round iterative design process, involving digital prototypes, resulting in the prototype interface illustrated in Figure 1.

Recovery Central leverages features implemented in MC, and other common meeting support software, to record events and discussion in a quickly accessible manner. In particular, speech patterns, vote histories, and discussion slides are augmented with personal and shared bookmarking features for rapid, collaborative indexing. Bookmarks consist of *comments* specific to content (e.g., notes, agenda items, and votes), *decisions*, and *action items* that can be assigned to participants present in the meeting.

Bookmarks can be used in both personal and shared contexts. For personal use, bookmarks serve as reminders or notes. For shared use, bookmarks serve as social commentary, reminders, or other general indexing. For all cases a "one click" creation process was used to ensure that bookmarks can be created with minimal effort. If more detailed information is needed, clicking on the timeline produces a dialog box in which bookmarks can be shared and notes, dates, and task assignments can be added.

The interface is designed to have a minimal desktop footprint, to easily integrate with other meeting support tools, and to be useful both during and after a meeting. During a meeting, a timeline automatically tracks recently added events. Participants can replay recorded audio segments that are indexed by time, implicitly-recorded meeting events, and user-created bookmarks. After the meeting, the timeline can be used to review meeting events, to replay recorded audio, or to export action items to external software such as calendaring applications. A similar technique has been used previously to support interruption recovery in single-user computer-based task environments [1].

After initial prototype design, a pilot evaluation of the interface was conducted in which a focus group discussed the prototype design's strengths and weaknesses. The results of this evaluation were positive, with all participants suggesting that they would use the Recovery Central application given the opportunity. The evaluation also revealed some potential areas for improvement. As this project involved requirements gathering and preliminary design work, future work will involve implementation and interactive evaluations of the design.

3 References

1. Scott, S.D. et al, Assisting Interruption Recovery in Supervisory Control of Multiple UAVs. In *Proc of HFES 2006*. pp 699-703.
2. Yankelovich, N., et al. Meeting central: making distributed meetings more effective. In *Proc of CSCW 2004*. pp 419 - 428.

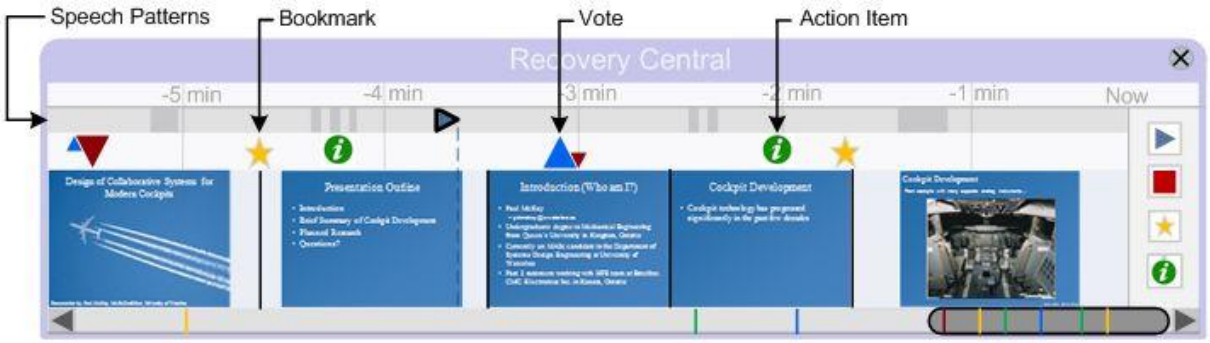

Figure 1. Recovery Central prototype interface. A timeline of meeting events and artifacts is used to provide a rapid summary of recent activity. Items included in the timeline are slides, speech patterns, votes, bookmarks, and action items.