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## FALCON: Seamless Access to Meeting Data from the Inbox and Calendar

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# FALCON: Seamless Access to Meeting Data from the Inbox and Calendar

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## ABSTRACT

We present a system that supports seamless access to information contained in recorded meetings from the cornerstone points of a knowledge worker's daily life: mailbox and calendar. The solution supports granular search of meeting content from an enterprise email system and automatically displays recordings of meetings related to the message the user is currently viewing. Additionally thumbnail summaries of the meetings are added to the user's calendar entries after the meetings have taken place. Lastly our system supports easy sharing of videos associated with recorded meetings through the use of hot-linked thumbnail summaries which can be sent via email.

## Categories and Subject Descriptors

H.5.2 [Information Interfaces and Presentation]: User Interfaces; H.3.3 [Information Storage and Retrieval]: Information Search and Retrieval

## General Terms

Design, Human Factors.

## Keywords

Mailbox, inbox, calendar, meeting, recording, video, access, search, browse, share.

## 1. INTRODUCTION

In spite of the recent growth and reliance on Web 2.0 mechanisms for interaction, email and calendar remain the dominant focal points for most knowledge workers. Today's inbox must contend with more than just email including input from feed aggregators, rich collaborative media as well as a plethora of social networking technologies (e.g. Facebook alerts). The calendar is the main source of daily and hourly planning for future events, yet provides little value after an event has occurred.

Today's mail and calendar tools require users to leave their current context to access content contained in other sources (e.g. hard drive, wiki, blog) [1]. This, combined with a growing use of Web-conference meetings, led us to create a solution which would provide users with relevant information, without requiring them to leave their current environment.

Finding the necessary information can be a difficult task, requiring users to depend on their memory, or spend a substantial amount of time searching content repositories. Often workers can remember that the necessary information was discussed in a meeting but must then scan their notes or flip through their calendars to find the right pointer (e.g., "what was the release date we agreed to").

With the advent of easily accessible recording functions on Web-conferencing tools [1] users find it useful to record meetings but then have no efficient way to share these recordings or discover information locked in the recording. Currently users have to either attach a video recording to an email message (which imposes significant storage costs since the attachment is kept in the inbox of all recipients of the email), or upload the video to a video sharing site or a file sharing system and embed a link to the video in the email. Recipients are then left with the dilemma of deciding whether to invest the time and effort to download the video, or to follow the link (which requires getting out of the mailbox environment) to watch the recording. To make matters even worse, the video playback often starts from the beginning with no indicators to what is happening in the overall meeting that typically lasts over 30 minutes.

In this paper, we present a system that integrates email and calendar functions with a recorded meetings application [2]. This implementation, named FALCON (**F**ederated **A**ccess to **L**otus **CO**ntent from **N**otes), has as its aim to help knowledge workers increase their efficiency by reducing the time and effort required to access relevant meeting content, and decreases the burden of sharing information from meeting recordings (including videos) within an enterprise network.

## 2. KEY FEATURES

**Meeting search and sharing.** FALCON enables users to search for meetings that are relevant to the current email selected in the inbox. The search is triggered from the contextual menu of the current email (Figure 1). The user can search by sender name or by subject. Alternatively s/he can open an advanced search dialog box to specify other search criteria (e.g. by meeting participants, by date, etc.). The results are displayed in a browser page embedded in the email client. Each result includes a snippet from the description of the meeting as well as host and time information. The user can play an entire meeting by clicking on the "Play Meeting" link, or s/he can share the meeting with colleagues via email. For each shared meeting, the system sends an automatically derived visual summary [2] with links to important segments of the meeting recording (Figure 2).

**Content surfacing.** In addition to the user triggered search, FALCON automatically retrieves and displays related meetings when a user is viewing a specific message. The results are
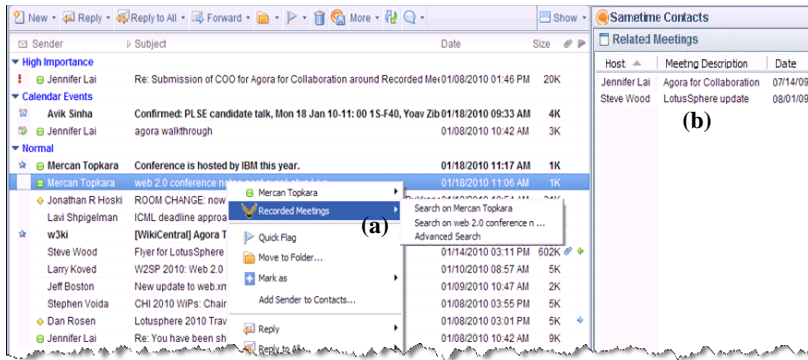
**Figure 1. Meeting search (a) and recommendation (b).**



**Figure 2. Meeting summary shared via email.**

processed and presented in an interactive side panel. In this way we are experimenting with both implicit and explicit contextualized search for content. We believe that there may be times when useful information is surfaced for the user even when s/he does not think to explicitly trigger a lookup. A longitudinal study post implementation will allow us to report on these results.

**Meeting updates with summaries.** FALCON automatically updates the calendar entry for a meeting after it has taken place with the meeting summary information. This supports ready access information discussed during the meeting from the calendar. The updated entry includes a "Recorded Meeting Summary" tab to display the thumbnail summary of the meeting recording which was automatically derived (see Figure 2 for an example of a meeting summary).

**Meeting browsing.** FALCON also provides support for browsing recorded meetings from within the calendar. Specifically, a panel is added to the calendar to list meetings hosted or attended by the user; grouped by date, host, or tags. The panel also displays an interactive tag cloud that allows the user to dynamically drill down a subset of meetings by tag. Links are included for the user to play or share any meeting in the list. The screen shot is omitted here due to space limitations.

## 3. SYSTEM DESCRIPTION

Figure 3 illustrates the functional flow of FALCON for providing the key features described in the previous section.

To support search, content surfacing, and browsing of meetings, the system first processes the current application context provided by Lotus Notes client (e.g. the email in focus, or the selected meeting category for browsing). Next it automatically generates one or more search/browse requests to interact with a Collaborative Recorded Meeting browsing repository, also developed by team members and described in [2]. Then FALCON processes the meeting results returned and interacts with Notes elements to surface this information to the user.

For the share function, FALCON obtains the meeting summary from the meeting browsing repository, processes and formats the summary to generate an editable email. Under each key thumbnail is a link to that moment in time in the video which the recipient can play if desired.

The calendar updates for meeting summaries are triggered by the automatic Lotus Notes synchronization based on a schedule set by the user. When triggered, FALCON gathers information about the
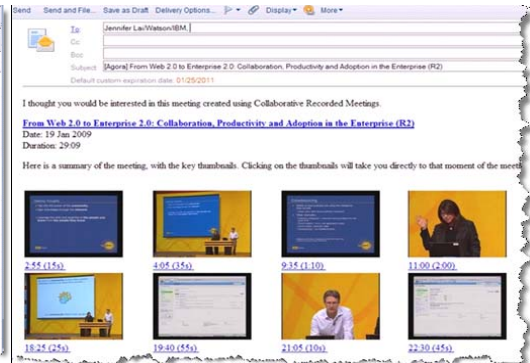
calendar entries to be synchronized, and generates requests for information (including summary) of the meetings contained in these entries. After processing the results the system updates the corresponding calendar entries.
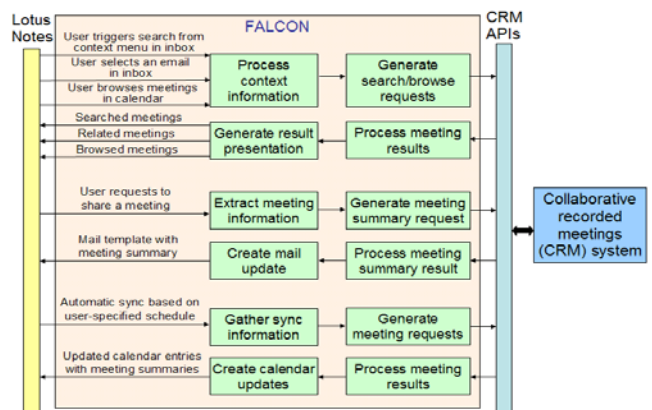


**Figure 3. FALCON functional flow.**

## 4. DEMO PLAN

We plan to demonstrate all key features described in this paper. Information about our demonstration is available at https://researcher.ibm.com/researcher/view_project.php?id=1390.

## 5. CONCLUSION

We describe the system, FALCON, developed to close the gap between the inbox environment and a meeting browsing repository. Users can seamlessly access content when reading email, or from calendar views without leaving their current environment. Additionally we provide a means to share thumbnail summaries of meetings rather than attaching a large video. FALCON does not impose any significant processing and storage costs on the system, but instead provides a solution to the problems of heavy video sharing costs, and the fact that knowledge workers currently have to leave their current context to search for information needed in their daily jobs.

## 6. REFERENCES

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