

Alpha - A Proposed Meeting Scheduling Applications

Group 11

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ABSTRACT

Alpha is a proposed meeting scheduling application. Existing ‘meeting request’ style approaches have issues when scheduling meetings with more than 5 participants. Purpose built meeting schedulers can still be clunky leading to slow responses from participants. Our final product will be a functional chatbot effectively mimicking a human focused on scheduling. There will be many facets of design to be considered when creating the product, these duties will be divided among the four group members.

Author Keywords

Consumer Applications; Calendaring; Novel Interfaces, Natural Language Processing

PROPOSAL

Topic Overview

A common feature of almost all organizations is designated periods of synchronous auditory communication typically called ‘meetings’. When scheduling a meeting it is necessary for all relevant participants to be available for the same block of time. This gives rise to the ‘Meeting Request’ a ubiquitous feature of email+calendaring systems which allows a meeting host propose a block of time to a number of participants, who can indicate their availability. This methodology falls apart once the meeting has five or more participants because of the likelihood a proposed reschedule has conflicts for another participant. We propose a system that will leverage natural language processing to minimize difficulty for users.

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Existing Products

There are issues in current processes that one has to undergo when responding to meeting invites and planning meetings with others. Tools such as Need To Meet and Google Calendar, though widely used, could be improved on.

Need To Meet, though simple to use on desktop, lacks a mobile friendly site. This causes friction in the interactions necessary to use the app and adds more work for the user; for example, the user now needs to zoom into the website and drag to navigate the input forms.

Google Calendar and other systems like it (e.g. Microsoft Outlook) are not the most intuitive to use on desktop. The user creates an event and then edits the event information. When editing the event information there is a guest list where you can enter the email address of all the guests you would like to invite. It is assumed that adding an address to the list would send an invite to the corresponding guest, but nothing happens. Instead, you have to press “email” to the right of the guest list for the invitees to be notified of the event. Then, from the email sent to the user, no action can be done. The visual affordance of the main content of the email is a clickable element that would take me to Google Calendar to see more information —unfortunately hovering over the element does not cause the cursor to change to a pointer, and clicking causes no action.

Functionality of Final Product

The final product will offer the following features:

Meeting invites will be sent from a web interface. The host will open the page, enter a name for their meeting, and some proposed times. The host will then enter the email or mobile numbers for their invitees. Invitations will then be sent to the invitees requesting they indicate their availability.

Email: After opening a link in the invite the user will be presented the proposed times and responses. They will be able to indicate if they cannot, can, or can if necessary attend each given time. They will also have the option of proposing a new time.

Text Message: People invited by text message will receive a message containing the name of the meeting, the proposed times, and a link to the same web interface as the email. For a speedier response, users can reply with a text response to indicate availability. Each option will be lettered, and the response will just include the relevant letters. Proposing new times, and indicating "can if necessary" will not be available over text.

- Once all invitees have responded the host will be informed and will have the ability to call the meeting for a certain time. Once the host has chosen a time all invitees will be informed by the same means they were invited.

Work Breakdown & Duties

Expected work

- **Interaction design** Interactions in the application will be designed in such a way as to strike an optimal balance between maximizing speed and minimizing unwanted invocations/errors.
- **Asset design/creation** Assets (icons, sound effects etc...) will be designed to in accordance with industry best practices and design language. Where appropriate.
- **Application flow design** Application flow will strive to be designed in such a way that the application can be navigated intuitively by as many users as possible.
- **Natural language design** Choosing keywords/hooks essential to the natural language portion of the application should be made keeping in mind as large of a set of end consumers as possible (these may include non english first language speakers etc.)
- **Conversation design** Conversations with our chat bot will be designed to be as 'human' as possible. We are not claiming artificial intelligence is a main goal of the project, but we will design the bot to mimic something of that nature.
- **Proof of concept implementation** Seeing as we are to be providing a proof of concept to demo at the end of this project, we will inevitably need to do some implementation of the design. This may, but is by no means set a frontend implementation, a backend implementation, and api design.

Duties

James Taylor - Interaction design, Asset design/creation, Proof of concept implementation

Ryan Marks - Asset design/creation, Application flow design, Proof of concept implementation

Nick Morrison - Application flow design, Natural language design, Proof of concept implementation

Phillip Tran - Natural language design, Conversation design, Proof of concept implementation

ANALYSIS OF EXISTING SOLUTIONS

Doodle Poll

Doodle is an event scheduling website that focuses on giving invitees the option to vote on event dates and times. With each

invitee able to vote up time slots suitable to their availability, the event organizer can find the least conflicting time slot.

High Level Goals

A scheduling system such as Doodle strives primarily to achieve one thing: Have a group of participants reach an agreement on a time and place to meet.

Tasks

There are two major tasks users of the system will want to accomplish.

- Creating a new event
- Responding to an event invitation

Creating a new event

From a new user's perspective, Doodle does a good job at keeping its design language (button style, icon choice etc.) in accordance with popular modern practice. The homepage lists only a few options with the most likely next step (Create a Doodle/Create Doodle poll) made clearly the most prevalent among them.

A text entry field inhabited by the "What's the occasion" placeholder gives immediate focus upon loading the page. There may be some unhelpful redundancy between the two separate "Create Doodle poll" buttons made available. Both fulfill nearly the exact same functionality (the difference being that the button next to the form will populate the "Enter title" field on the event creation page with the contents of the "What's the occasion" text field).

The first step on the event creation page is to outline some information about the occasion. Something lacking here is a clear way for a user to cancel the creation of the new event. Simply leaving the page or pressing the back button in the browser accomplishes this, but this may not be obvious to every user.

The second step presents a dialog for selecting dates for the event. Although the creator can select as many days as they like in this dialog (these will be the options participants choose from), events are effectively limited to single days. Beyond selecting multiple adjacent (but still independent), there is no first class method for creating an event spanning two or more days.

After an event has been created, it is given a unique URL that can be shared with event invitees. The creator can register to be notified of activity within their event and is given control over finalizing the date once she/he deems that a sufficient number of people have voted.

Voting on/Responding to an event invitation

Going to an event URL, an invitee is presented with the homepage for the event. The event homepage does very little in terms of guiding the user towards what they are meant to do. There is a somewhat inconspicuous text field with the greyed out placeholder "Enter your name" as well as boxes for the user to vote on the proposed dates. Doing something as little as giving the name field focus (as was done with the Doodle's index) would at least guide a new user in the right direction.

Need To Meet?

Critique

"Need to Meet?" is a meeting scheduling website that helps users enter to select mutually agreeable meeting times. Other than a noticeable lack of certain features (notifications of when the meeting was decided) certain ways of interacting with the website lack discoverability, particularly the button to open the calendar view when an attendee is selecting their available dates and times.

High Level Goals

There are two high level goals for the website:

- Creating a meeting event and showing available time slots
- Indicating when you can attend the meeting

Tasks

The major tasks users of "Need to Meet" perform include:

1. Creating a Meetup Event to get availabilities of attendees
2. Click schedule a meeting
3. Enter meeting title and duration, optionally add email for correspondance
4. Using a calendar interface select the dates and times (optionally send people invites through the website)

The major tasks meeting attendees need to perform are:

1. Navigate to the event via the link sent by the host
2. Indicate availability, enter name, and submit

Google Suite

The Google Apps suite offer a great deal of functionality to individuals and organizations. The tight integration of the suite offers many opportunities for improved usability. Two such apps are Calendar and Inbox, in the tight integration for shared meeting events.

Calendar presents the user's schedule immediately and keeps it as the main focus of the app. Interactions are very straightforward, and most day to day calendaring can be done without entering a menu.

Inbox is a very powerful email client focused on using email to get things done. It has many inbox management features like snoozing emails from the inbox for some time and bundling similar low priority emails together. It also offers quick calls to action from the inbox like event invites and flight information.

Inviting Someone to a New Event with Calendar

Users begin the invitation process by selecting or creating the event for which invitations should be sent. This model is better than having meeting invites be a separate entity. After creating or selecting an event, the user must enter its detail page to make invitations. The invitees emails are entered one by one in a text field and invites are sent. Not showing invitees from the app's main screen is a reasonable design decision as invites are not a primary feature of Calendar

Responding to a Calendar Invite from Inbox

Calendar invites are received as regular emails which are augmented by Inbox. When the email is opened, event details are presented and three buttons indicating "Yes", "Maybe", and "No". This system is exceptionally straightforward offers little room for improvement. One option to improve the system is to present the invited event in the context of their calendar so conflicts can be identified.

Outlook

Microsoft Outlook is an application which acts as a desktop email manager on the front. Outlook takes an existing email address and once added into the Microsoft Outlook registry, it allows the user to manage their emails, calendars and other various smaller actions (such as todo lists and journals). In addition to this, a user can use Microsoft's servers (Microsoft Exchange Server) to allow multiple users to access shared applications (email and calendar) or contact each other via Skype meeting.

To a new user, Outlook is similar to any Microsoft Office product where many of the options will be at the taskbar at the top, all categorized in their own particular category. This can be challenging for any users who are not familiar with the Office application family, as there are many different categories that require searching. In addition to this, users may have a hard time knowing what each option does initially, which may cause users to be overwhelmed with the vast amount of options.

Fortunately this is alleviated with a search function where Outlook will return results similar to what the user is looking for (e.g. searching for calendar will return options regarding calendar) as well each option has a brief description of what it does when it is hovered over.

Some of the few high level goals that Outlook can help a user achieve:

- Date/meeting management
- Email management

Date/Meeting Management

For date/meeting management, Outlook allows one to set up a calendar between users through the Microsoft Exchange Server.

1. Users may create a subject
2. Users may set a location
3. Users may set a start time
4. Users may set an end time
5. Users may set the meeting as an all day event
6. Users may enter body text
7. Users will add recipients for the meeting to be sent to
8. Meeting organizer will enter all potential attending members' email address

9. Meeting will be sent to all recipients

The date/meeting management is handled similarly to sending an email, wherein a user can use many of the features that an email already offers (e.g. creating subjects, body text, adding email recipients), as well it adds in features that help with setting up meeting details (e.g. locations and meeting times). After the meeting details are sent, recipients will be able to respond to the notification as an email, check the calendar or check meeting minutes (if meeting has occurred).

1. Open Meeting Email
2. Respond to email (send reply)
3. Check meeting minutes
4. Check Calendar for meeting date

Email Management

For email management, Outlook handles users to manage both their personal email as well as a shared mailbox. The steps can be seen through the diagram above.

1. Users may create a subject
2. Users may set email as a Carbon Copy (CC) to send to multiple people
3. Users may enter a body text
4. Users may check names
5. Users can select the suggested names
6. Users may attach a file/item
7. Users may add a signature
8. Users may add priority/flags to the email
9. Users will add recipients to send to
10. Users will send the email

Outlook uses a layout that is similar to many email interfaces. It uses this interface for both personal and shared mailboxes. This allows users to navigate inside the shared mailbox or find email addresses with relative ease. After the email is sent (via person email or within the shared mailbox), recipients will be able to respond to the email via reply.

1. Open email
2. Reply
3. Reply All
4. Forward
5. Forward email to new recipient
6. Archive email
7. Move email to new folder
8. Add tags to email
9. Edit the email

For clarity, the diagram does not include a path for Reply, Reply All and Forward because it is essentially the same as the Sending Email diagram.

Conclusion of Analysis

This survey has exhibited powerful applications for the organization of meetings. The simplicity of GSuite and the time selection features of Need to Meet and Doodle offer worthwhile direction to follow. There are clear improvements to be made by taking a close examination of the user experience flows. We will need to take the same care in designing our product.

APPENDIX

Figure 1. Doodle homepage

Figure 2. Create event dialog

Figure 3. Event homepage

Figure 4. Need To Meet Homepage

Figure 5. Subtask 1.1 of the invitation procedure for Google Calendar

Figure 6. Subtask 1.2 of the invitation procedure for Google Calendar

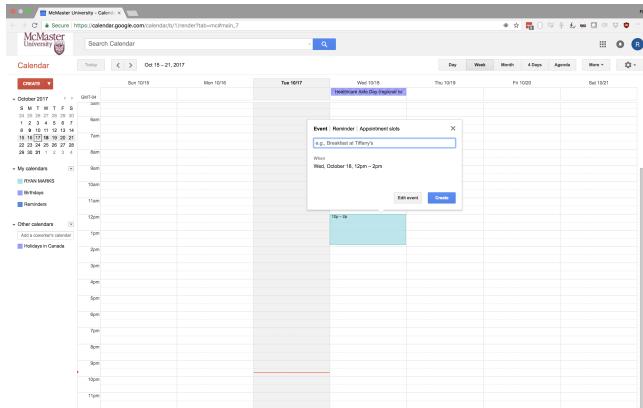


Figure 7. Before subtask 1.3 of the invitation procedure for Google Calendar

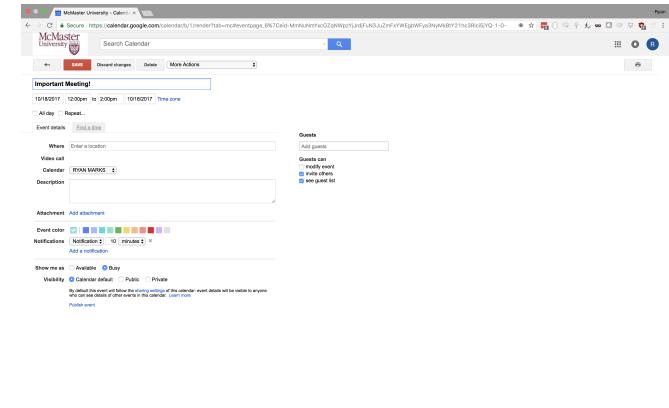


Figure 10. After subtask 2.1 of the invitation procedure for Google Calendar

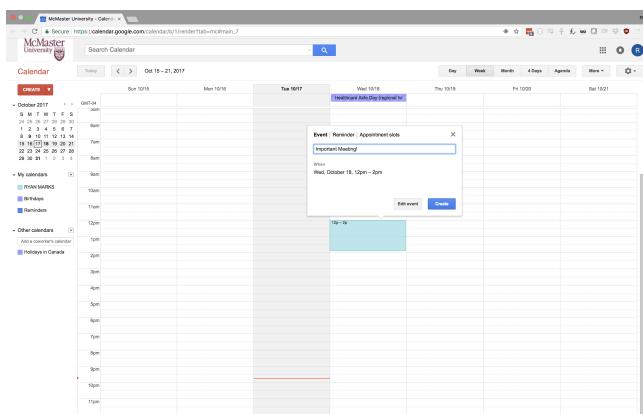


Figure 8. After subtask 1.3 of the invitation procedure for Google Calendar

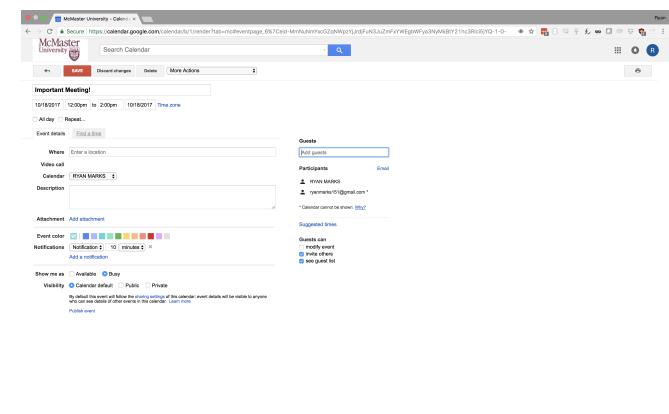


Figure 11. Before subtask 2.2 of the invitation procedure for Google Calendar

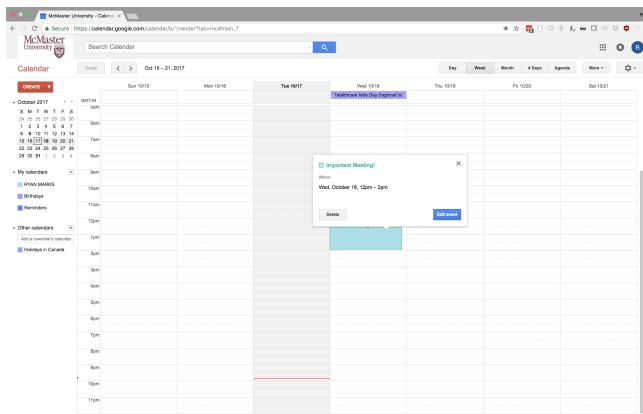


Figure 9. Before subtask 2.1 of the invitation procedure for Google Calendar

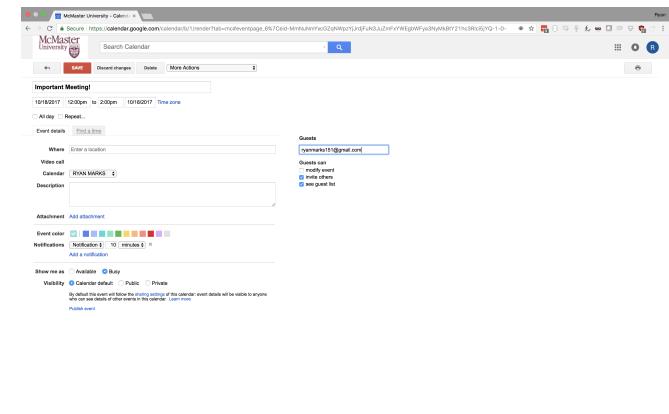


Figure 12. After subtask 2.2 of the invitation procedure for Google Calendar

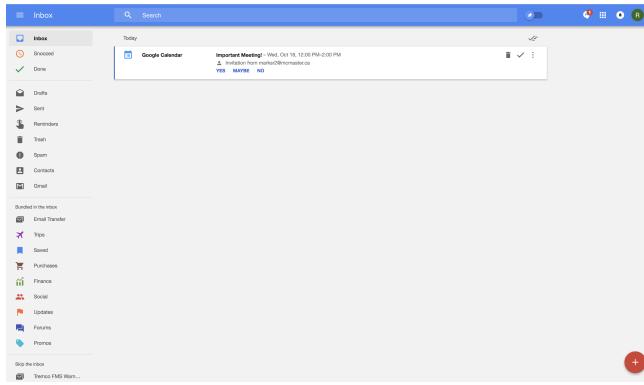


Figure 13. Before subtask 1 of the invite response task with Google Inbox

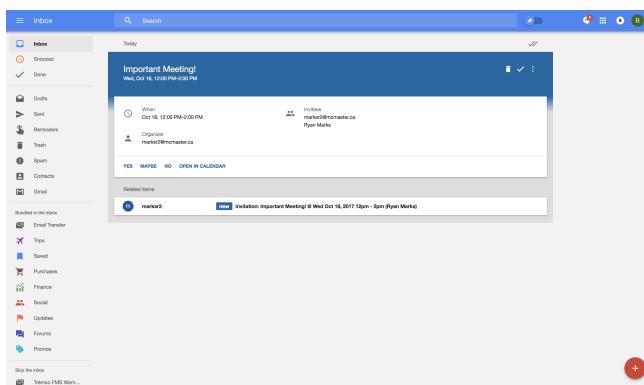


Figure 14. After subtask 1 of the invite response task with Google Inbox

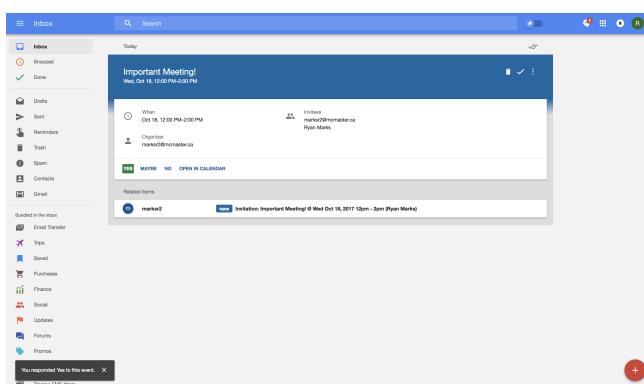


Figure 15. Subtask 2.1 of the invite response task with Google Inbox

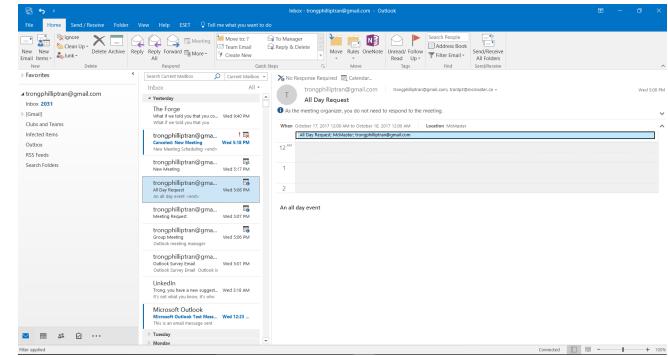


Figure 16. Outlook has many options, which can be overwhelming if a user has no experience in using Microsoft Office type applications

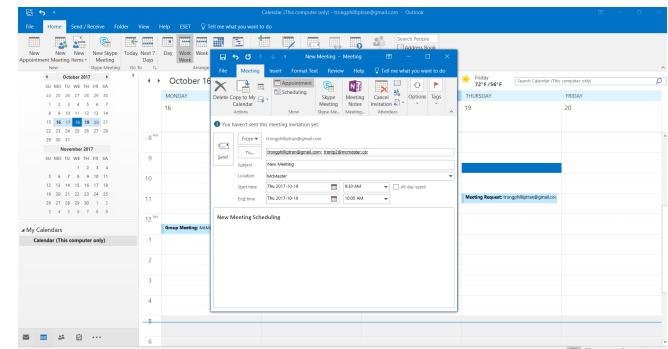


Figure 17. New Meeting Scheduling

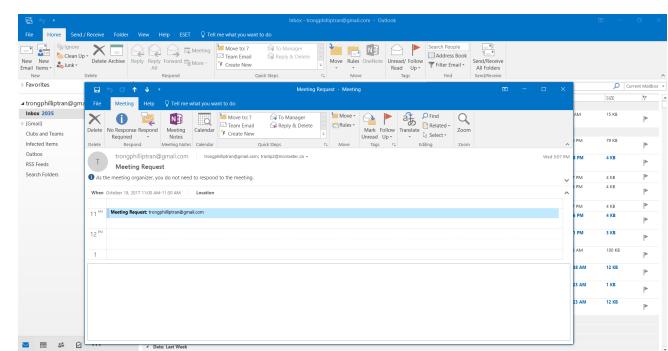


Figure 18. Meeting Request Response

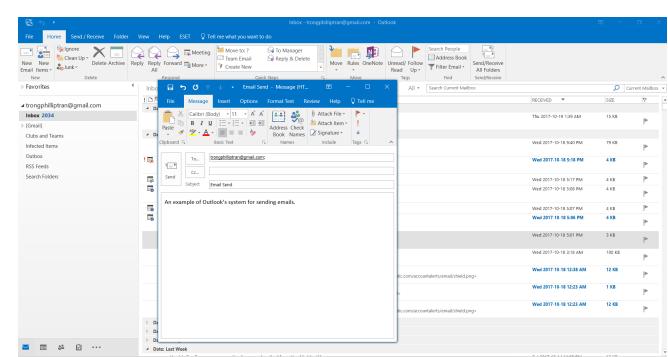


Figure 19. Meeting Request Response

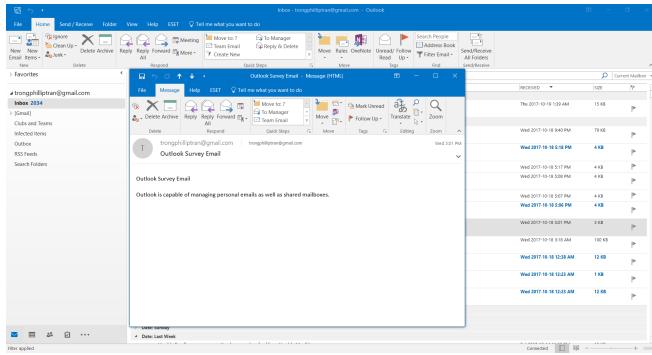


Figure 20. Meeting Request Response