

Research Report

Team XC2 (Xinbei, Corey, Can)

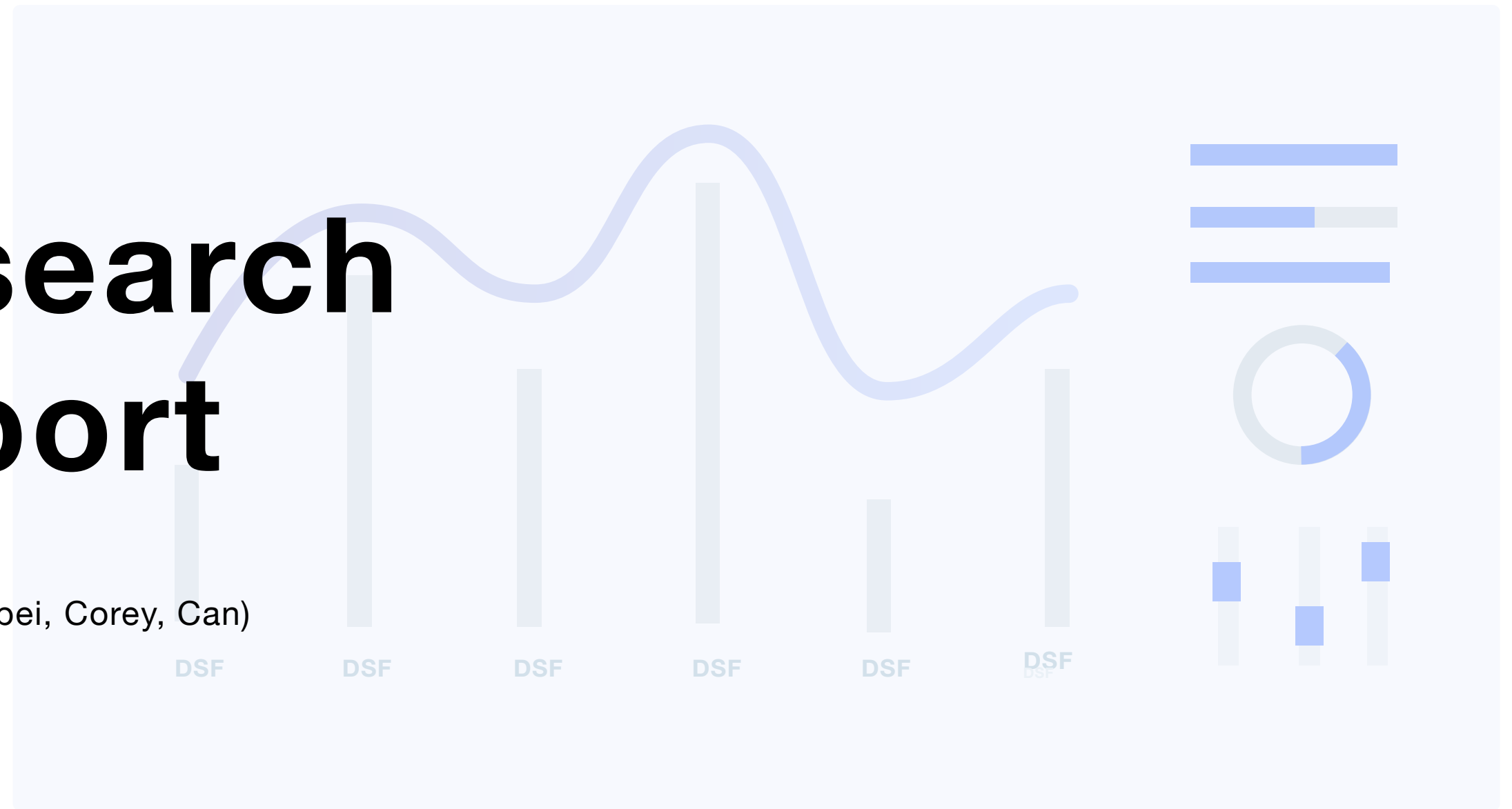


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Team XC2

We are a team of detail-oriented designers, aiming to solve everyday practical problems. We prioritize design problems over technologies. We observe, question, and research human-centered problems. Our ultimate goal is to impact the world with simple and profound design solutions.



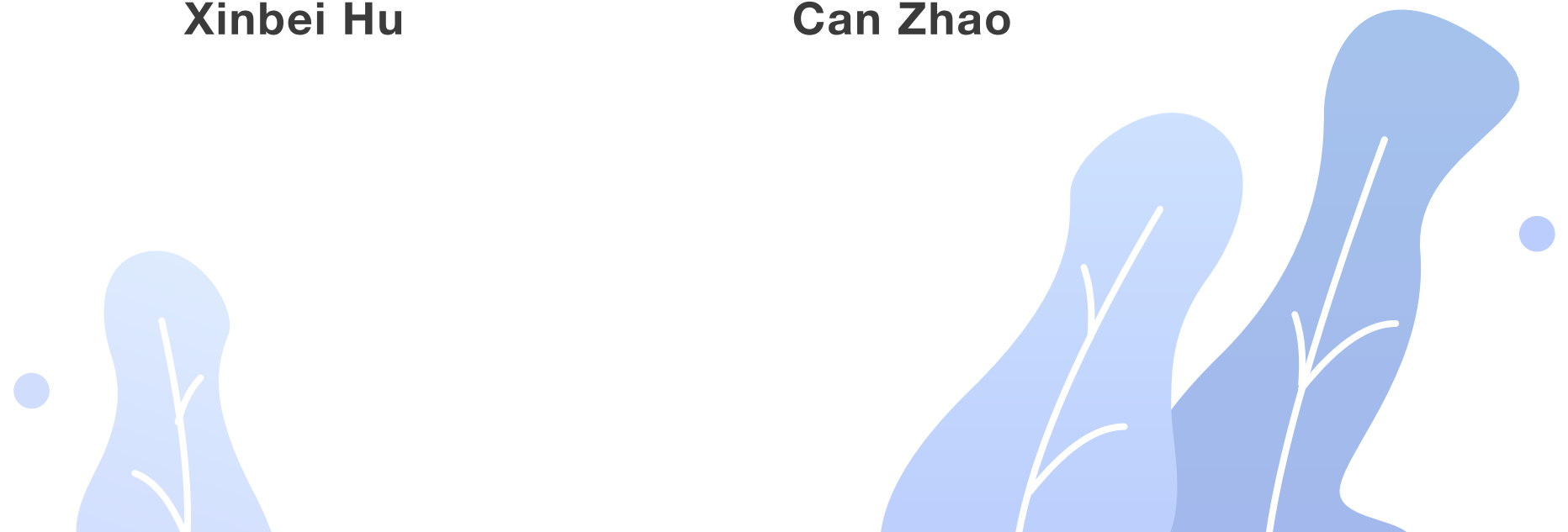
Corey Brown



Xinbei Hu



Can Zhao



01 Problem Statement



How might we facilitate constructive contribution to make each attendee's presence more meaningful during multi-disciplinary meetings?

Research Question:

What are the most common challenges in meetings?

Do meeting types and frequencies vary correlated to the size of the company, attendees' job functions, and experience levels?

In the context of collaboration, what form of input data (image, text, video, audio and etc.) do attendees find most useful and how do they utilize them?

What hardware technologies/platforms are usually available in the current meeting environment?

What software tools are usually used in the current meeting environment and for what purposes?

Which stage of meetings has more potential to be interfered - before meetings, during meetings, or after meetings?



02 Background



1. Introduction
2. Literature Review
3. Competitive Assessment



Introduction

Overview

The meeting is a vehicle for many organizational activities, and employees spend a significant amount of time in meetings. Kevin Hoffmann, an expert in organizational science notes that “meetings should add value to participants’ lives by providing a sense of progress — problems being defined, decisions getting made, priorities being prioritized, and solutions being built upon the benefit of multiple perspectives.” Our research finds that many people are unsatisfied with their current meeting experience. Additionally, our research shows that people most frequently participate in small meetings consisting of 3-5 people across various job titles and roles. Deeper inquiry through semi-structured interviews exposed communication gaps within multidisciplinary environments.

Executive Summary

The goal of this research was to identify and understand existing problems within the meetings in US business environments. Our team conducted a literature review, 4 expert interviews, and primary research methods consisting of a 200+ response survey and 12 semi-structured user interviews. Our research revealed that the multidisciplinary meeting environment, coupled with attendees dissatisfaction and perceived lack of productivity suggest an opportunity for improved communication among small, multidisciplinary project teams.

The observations and findings gleaned from our research led to the generation of 7 key insights. Our insights informed the creation of the following **design principles**:

- Increase engagement during the meeting.
- Bridge the knowledge gaps between attendees.
- Promote individual awareness of context.
- Optimize individual expressions
- Facilitate independently comprehension of the meeting’s content



Literature Review

Meeting has been an integral part of working dynamics for decades in the US. In his 2001 research paper, Nicholas C. Romano defines meeting as “a focused interaction of cognitive attention, planned or chance, where people agree to come together for a common purpose, whether at the same time and the same place, or at different times in different places” (1). This broad definition focuses on the interactive “cognitive attention” of meeting despite a potential temporal and physical dispersion. The meeting he defines includes “formal board meetings, casual hallway conversations, telephone calls and internet-enabled interactions through tools such as Net-meeting” (ibid.) Though our team is more interested to mediate face-to-face interactions, Romano’s definition is useful in terms of its conceptualization of a meeting’s purpose: a meeting is essentially a mechanism to leverage collective intelligence for a common goal. Kevin Hoffman’s definition extends the understanding of this common goal: “a meeting is something that enables us to achieve an outcome that we can’t otherwise achieve without it, measured in an agreed-upon fashion” (9). In other words, the “agreed-upon fashion” is the assumed ritual of a meeting – when everyone agrees to attend a meeting, they are already expecting a level of “agreed-upon fashion” rather than someone making decisions alone. Though extreme cases exist, we as a group believe that a meeting’s value should be measured on its ability to acquire meaningful consensus from its attendees. Our ultimate goal of this research report is to explore, question, and measure the useful consensus of meeting in modern enterprise culture.

Scholars have adopted various approaches to recreate meeting experience. Multiple technologies are experimented in face-to-face meetings: smartphones, smartwatches, video camera, shared screen/projector, and speech recognition (see Method in References). While these references will be useful in our ideation process, we find many opportunities in multidisciplinary meetings (MDMs). Jessica Cohen mentions “coverage” as an important metric to define useful meetings in the expert interview. Coverage refers to a meeting’s ability to include opinions from multiple perspectives or disciplines, as opposed to a meeting with similar disciplines. Our definition of MDMs are meetings directly associated with important group decisions made by attendees with different job functions (e.g. Project Manager, Software Engineer, Designer, and etc.). MDMs are common among clinical meetings (Kunkler). While the context of enterprise meetings is different from that of clinical meetings, enterprise meetings’ likewise need to incorporate diverse perspectives for a consensus. Mazzaferro points out that “decisions that are vague or made with poor group engagement are unworkable and close to useless because abstraction facilitates an absence of accountability.” In his opinion, group engagement makes sure every physician know their responsibility and thus be accountable for their behavior after MDMs. We imply that similarly, in modern enterprise environments, useful decisions (e.g. actionable items) are highly contingent on sufficient group engagement and interactions.

Competitive Assesement

In order to better understand our problem area, we conducted a competitive analysis of 8 applications that either features working environment or focuses on meeting experience. Asana, SharePoint, Confluence, LessMeeting, Voicera, Quip, Meetin.gs, and Basecamp were analyzed.

We examined 8 products in terms of their features, information architecture, and user interface. We map their functions onto a 2x2 matrix: the Individual vs. Collaborative axis distinguishes the concepts focused on personal management versus collective contributions; the Multi-Function vs. Meeting-Specific axis distinguishes the concepts focused on contextualizing meetings with multiple functions verses meetings specifically. The blank space in the lower-right suggests our opportunity space and direction: We should to design a tool that is both **collaborative** and **meeting-specific**.



03

Research Methods



1. Expert Interviews
2. Survey
3. User Interviews



Expert Interviews

Kevin Hoffman

Kevin Hoffman is the author of Meeting Design: For Managers, Makers, and Everyone(2018).He connects people, ideas, and solutions in order solve our industry’s pressing design challenges. As Vice President for Design Practices at Capital One, he takes responsibility for assessing, exploring, and accelerating all areas of design with a team of over 80 very talented human beings. He also co-founded a software product, Boardthing, and a design agency, Seven Heads Design, a network of digital design thinkers who collaborated frequently on major projects. Kevin regularly shares his insights at conferences across the world.

Microsoft Group Interview

Jessica Cohen is a senior design Researcher in Microsoft and works in the Compass Program. She spent the past 21 months working with teams to improve their collaboration habits. She also decided to have a follow-up interview with us

Charlie Chung is currently working on its core collaboration products (Outlook and Exchange). He is the head of product for all time management scenarios at work in Outlook. This includes all aspects of how users organize their time, schedule and collaborate around meetings, and navigate their day.

Brian Stucker’s job is to find, attract, and influence people across Microsoft through meetings. He and his staff spend about 80% of our day, every day, planning, engineering, and participating in meetings. They have resources that allow them to utilize a full product marketing process in order to refine every aspect of who they meet with.

Caitlin Hart is a product manage and acts as product owner for multiple v1 and mature experiences, most recently Outlook Calendar.

Jessica Cohen

Jessica Cohen is a senior design Researcher in Microsoft and works in the Compass Program. It thrives on being fast and efficient: their global relationships enable them to bring the voice of the customer into their product with maximum ROI. The variety of projects she do keeps the team fresh and focuses. She spent the past 21 months working with teams to improve their collaboration habits, first with Macy’s Technology (18 months) and now with a variety of Microsoft Customers (3 months),



Survey



Intermediate	Large (more than 100-999 employees)	Design	less than 20%	more than 3 meetings a week	3	Video conferencing tools— Flat panel display (e.g. television), Audio medium (6-10)	Apple laptop, iPhone, Android	Decision making	Keeping meeting	Start with an agenda, †	Questions that are not on topic, not having a clear agenda or goal for the meeting, not having one or two people who are leading the meeting and keeping it focused.
Entry/Junior	Large (more than 100-999 employees)	Design	50% to 80%	more than 3 meetings a week	3	Video conferencing tools— Flat panel display (e.g. television), Single small (3-5 people)	Windows laptop, iPhone	Decision making	Keeping meeting	Start with an agenda, †	Too many of them...
Senior	Large (more than 100-999 employees)	Design	20% - 50%	1-2 meetings a week	3	Video conferencing tools— Flat panel display (e.g. television), PC or medium (6-10)	Apple laptop, iPhone, Pen	Decision making	Keeping meeting	Start with an agenda, †	Meetings for the sake of meetings with no agenda or goal
Intermediate	Large (more than 100-999 employees)	Research	more than 80%	1-2 meetings a week	4	Presentation tools— e.g. P Single projector display, PC or server connected to the display, A medium (6-10)	Apple laptop, Pen/Pencil +	Decision making	Coming to decision	Start with an agenda, †	Lack of culture around stopping tangents and staying focused on most important or pressing topics
Intermediate	Large (more than 100-999 employees)	Engineering	more than 80%	more than 3 meetings a week	4	Video conferencing tools— Flat panel display (e.g. television), Single medium (6-10)	Windows laptop	Decision making	Coming to decision	Start with an agenda, †	Large number of people dial in from different areas in different time zone
Intermediate	Large (more than 100-999 employees)	Design	about 50%	1-2 meetings a week	2	Video conferencing tools— Flat panel display (e.g. television), Single small (3-5 people)	Pen/Pencil + Notebook	Decision making	Coming to decision	Start with an agenda, †	A. When there are more than 10 people join the meeting, people usually provide too many suggestions which extends the meeting time and effectiveness. B. When the collaboration devices are not working well or too difficult to use, which wastes a lot of time to adjust either the meeting place or the devices.
Senior	Small (less than 100 employees)	Information Technology	50% to 80%	more than 3 meetings a week	3	Scheduling tools— e.g. Outlook Flat panel display (e.g. television), Audio medium (6-10)	Apple laptop	Decision making	Lack of preparation	Start with an agenda, †	Lack of an open environment.
Entry/Junior	Large (more than 100-999 employees)	Design	less than 20%	1-2 meetings a week	2	Video conferencing tools— Flat panel display (e.g. television), Single small (3-5 people)	Windows laptop, iPhone, †	Reviews, Status	Coming to decision	Start with an agenda, †	Remote meeting, big group of people, lack of agenda, lack of all people needed to make decisions, technical issues (connection, projector not working etc.)
Intermediate	Medium (100-999 employees)	Engineering	20% - 50%	more than 10 meetings a week	5	Video conferencing tools— Flat panel display (e.g. television), PC or medium (6-10)	Apple laptop, iPhone	Reviews, Status	Coming to decision	Start with an agenda, †	lack of good host
Intermediate	Large (more than 100-999 employees)	Program or Product	more than 80%	more than 10 meetings a week	4	Presentation tools— e.g. P PC or server connected to the display, A medium (6-10)	Windows laptop	Decision making	Coming to decision	Start with an agenda, †	People distracted by laptops
Intermediate	Medium (100-999 employees)	Quality Management	50% to 80%	more than 3 meetings a week	3	Video conferencing tools— Flat panel display (e.g. television), Traditional small (3-5 people)	Apple laptop, iPhone, Pen, †	Reviews, Status	Lack of preparation	Start with an agenda, †	No set agenda. No consolidated materials to review. Use of video-conferencing. Use of computers to multi task during the meeting. Energy levels of participants.
Intermediate	Medium (100-999 employees)	Research	20% - 50%	more than 3 meetings a week	4	Video conferencing tools— Single projector display, Traditional whiteboard medium (6-10)	Apple laptop, iPad, Android	Decision making	Post-meeting follow up	Start with an agenda, †	Technical difficulties and rabbit hole discussions

We distributed the survey via email and social networks to those who are currently working or have working experience in the United States. We collected and analyzed the results of the survey as responses are submitted.

After distributing the survey, we will focus on the population who attend small group meetings and find out what their current pain points are. We targeted IT companies because we aimed to target more tech-savvy population with more potential to utilize new technologies rather than more traditional meetings.

The questionnaire also served as a recruiting method for our user interview. We recruited participants by using the questionnaire mentioned above, pulling out those participants who fit our profile: U.S. residents who have at least one year working experience.

We wanted to understand the current pain points and existing solutions so that we will not duplicate efforts. We wanted explore possible directions for our research questions and determine what technologies our populations have access to.



User Interviews



Interview with Participant 12 in person

User interview

Our sessions began with a 20–40 minute semi-structured interview with the participants regarding their meeting experiences.

In this activity, we decided to build empathy with our participants by hearing personal stories and examples of their meeting experience. We wanted to find out the details of the structures of each multi-disciplinary meetings, the process in each meeting and the way people communicate with each other in each meetings.

After all the data is collected and mapped out, we looked differences and similarities between multi-disciplinary meetings in different IT companies. We wanted to identify what defines good communication.

Interviews were conducted in person and remotely (Skype or Google Hangout). see Appendix.

User Recruitment

From our survey results, we decided to focus on small to medium multi-disciplinary meetings. We reached out to 14 eligible participants and were able to recruit 12 people from different sizes of companies, who were selected based on their survey answers. (5 designers; 2 researchers; 3 engineers, and 2 product managers).



04

Research Results



- 1. Overview
- 2. Survey Data
- 3. Insights



Overview

After wrapping up our data collection from user interviews, expert interviews, and surveys, we began synthesizing our data by affinity diagramming.

For the **user interviews**, we coded the same participant's data, reviewed each other's data points together, and agreed on a certain level of details on each data point. When writing data points for the rest of participants on yellow sticky notes, we made sure we examined each one together and revised the unclear ones to reach the agreed level of details. We then grouped the data points into themes, written on blue sticky notes.

For our **survey data**, we generated pie charts for the demographic information of our participants and grouped the responses to "What factors do you think make meetings less productive?" into certain themes.

For our **expert interviews**, we triangulated the data by generating insights based on the themes we have already seen from the user interviews and surveys. We distilled all of the information above into following insights.

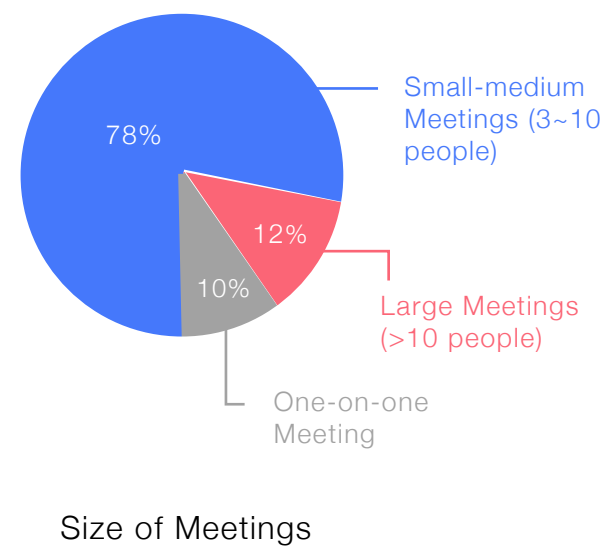
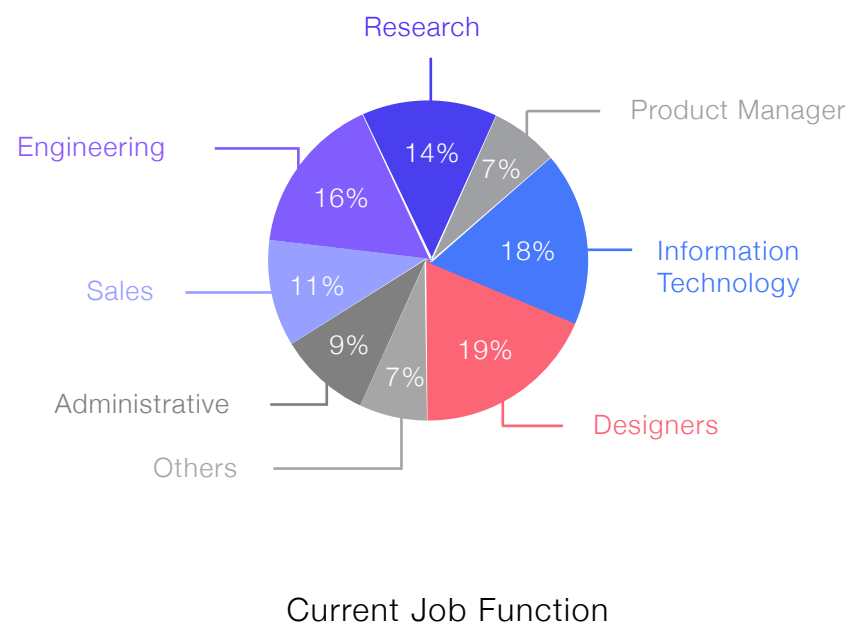
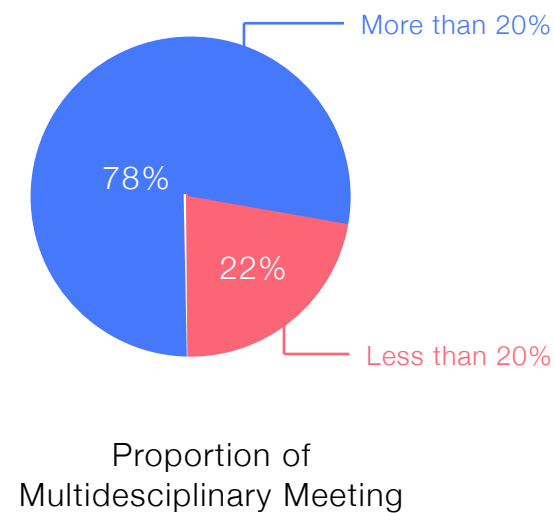
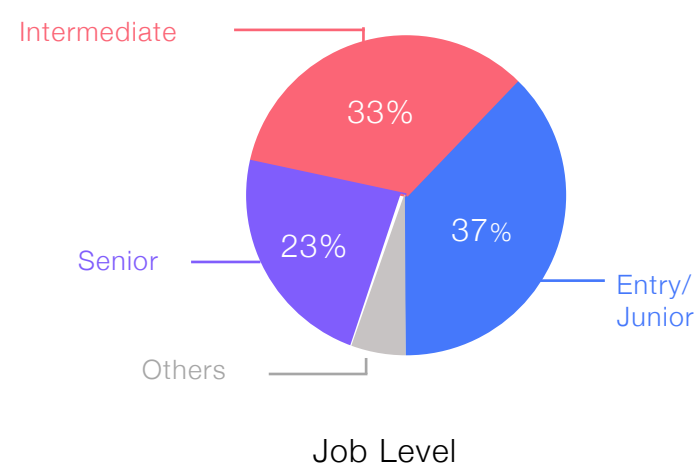
Insights

- 01** In large meetings, attendees have less expectations to engage the conversations and tend to be distracted by other tasks.
- 02** In multidisciplinary meetings, attendees find it difficult to distill and engage useful details of another discipline due to knowledge gaps of different domains.
- 03** Some attendees tend to count on a meeting leader to call out irrelevant/divergent topics due to social courtesy and fear of disrupting a group atmosphere.
- 04** Attendees find taking their own (digital or manual) notes useful even if there's always someone taking notes for everyone.
- 05** Attendees like to take notes by hand because paper has less constraints than digital forms. They need to transcribe and tailor paper notes digitally for the understanding of a larger audience.
- 06** How can you collaborate agenda information without losing a goal. How does the meeting organizer balance the goal and the varying desired discussion topics?

Survey Data

Below is the demographic information of the 204 survey respondents who have at least 1-year working experience in the United States. See Appendix for full survey data.

Total 204 Respondents



Survey Result

As the demographic break down of our participants shown, the survey participants identify with a variety of job functions. Multidisciplinary meetings occupy at least 20% of all the meetings they attended last month. 78% of the participants responded that most of the meetings they attended consist of 3 ~ 10 people.

We noticed 2 patterns from these participants:

- 1) In terms of the objects participants would bring to a meeting, more than 50% of participants say that they would bring pencil/pen, notebook.
- 2) In response to the most common challenges of meetings, 43.3% chose "keep meeting focus and on track" and 38.3% chose "coming to decision".

We used affinity diagram to organize the qualitative data in response to the survey question, "What factors do you think make meetings LESS productive?"

We found two themes lead to back and forth discussion during meetings: 1) Different domain knowledge and different interpretation of topics; 2) Lacking of enough information to agree or disagree. Meanwhile, we notice that individual use of electronic devices brings a sense of "distractions" or "multitasking." We infer that by having access to the same content, with same medium, and at the same time, participants find a sense of "on the same page."

01 Insights

In large meetings, attendees have less expectations to engage the conversations and tend to be distracted by other tasks.

Explanation

Most of our participants acknowledged that they multi-tasked during large meetings. Though they generally considered a meeting with 10 people to be large, some of them also raised expressed similar opinions towards 7-people meetings. From their tones, we infer that it is socially acceptable to be less engaged during large meetings.

In our expert interviews, Kevin Hoffman reminds us the model in his book. His model suggests a correlation between meeting size and meeting complexity with the premise that everyone is contributing some opinions to the meeting. 7-people is the limit he suggests. Beyond that, we have reason to believe either agreement or engagement will be lacking in these meetings.

I would say that more like 60% of the [large] meetings I am probably responding to some emails or like doing some low cognitive tasks.

— Participant 12

Participant 1 “In larger meetings, I think it's pretty common for people to multi-task.”

Participant 11 “In large meetings around 80% of the people are going to be multi-tasking.”

Expert Interview “The complexity of meeting is highly dependent on the meeting size. If we connect every attendee and understand each line as one point of argument, we can see that adding one person does not only mean adding one new agreement. It will scale up the complexity of the meeting quickly. ”

In multidisciplinary meetings, attendees find it difficult to distill and engage useful details of another discipline due to knowledge gaps of different domains.

Explanation

Jargons create barriers for attendees of other disciplines to engage meaningfully during meetings. A continuous input of these unknown vocabularies might quickly lower some attendees' interest and make them multi-task. However, different roles need to create mutual understanding for each other and achieve consensus on some decisions. This requires the conversations to include useful information that explain each other's restrictions without delving into excessive details of a disciplines.

“It makes the meeting less productive to get into very detailed domain-specific topic when meeting with people from different backgrounds.”

– Participant 8

Participant 1 “People from other teams speak really casually with their acronyms...Also sometimes too much detail can be misleading.”

Participant 2 “When [marketing team] started talking about the content of their strategy most people just listened until... I'm sure that some people were multitasking at that point because I was in the in the conference room... It's their expertise.”

Participant 5 “When PMs and engineers join the meeting, everyone has to agree on a single design decision because we all have different perspectives. “

Participant 12 “You do not want to bring out specifics because again, when you bring out specifics, you could step into these radical discussions that are not useful.”

03 Insights

Some attendees tend to count on a meeting leader to call out irrelevant/divergent topics due to social courtesy and fear of disrupting a group atmosphere.

Explanation

Calling out an irrelevant topic can be stressful during meetings. While some people would wear professional hats and redirect the conversation, some people would hesitate to interrupt others and be judged in public.

There is also an uncertain delay of calling out irrelevant topics. The presenter/facilitator usually needs to find a timing to interrupt the conversation after making sure that it's off topic.

Sometimes [as the presenter] I have to redirect people back to what kind of feedback we want. It's like sometimes people are just keep talkin about something that we don't really care.

— Participant 6

Participant 7

There is a lack of mechanism around stopping tangents and staying focused on most important or pressing topics.

Participant 9

“I have these important people in a room. They'll kind of try to hijack the meeting to talk about a different matter just because they think something is more important...[I'm the project manager] so I'll just say hey guys, back to what we actually are talkin about.”

Participant 11

“People are more comfortable communicating this in slack and are hesitant to actually like vocalize what they want to say probably because of fear of speaking up. And they're worried that it might hurt others.”

04 Insights

Attendees find taking their own (digital or manual) notes useful even if there's always someone taking notes for everyone.

Explanation

The process of making notes is to reinforce personal transient memories as trackable data. Since high-level notes (taken by one person, usually a PM) cannot represent everyone's perspectives and interests, attendees always prefer to document important moments for themselves. Action items are usually in personal notes or sent individually to relevant attendees.

Usually, notes for everyone are high-level documentations. They are useful as a way to keep everyone on the same page and provide a general direction for the project.

However, presenters find it difficult to take notes during meetings. They mostly rely on others' notes or write something down immediately after the meeting based on their short-term memories.

“Generally I think [personal] notes are helpful. I think if you're in the meeting and you're paying attention, the notes will jog your memory enough for you to remember what was being said.”

— Participant 1

Participant 2

“I need to remember stuff on my own because I can't always rely on someone recapping the meeting at all times. There are things that are just for me and maybe that's not something they'll take notes on.”

Participant 3

“All of us would take notes except for the presenter.”

Participant 4

“The notes are for my individual use but then the note-taker will send a follow-up summary to the whole team via email... Note-taking affects how we focus on the content [of the meeting].”

Participant 9

“Taking notes while talking is like multi-tasking.”

Participant 9

“The common notes are pretty high-level...if I want to remember a specific reference I'll write that down.”

05 Insights

Attendees like to take notes by hand because paper has less constraints than digital forms. If these notes will be shared with a larger audience afterwards, they will transcribe and tailor paper notes digitally.

Explanation

In terms of the form of taking notes, manual notes are always preferred according to our survey results and user interviews. While some designers specifically mentioned their needs to sketch in their notes, some people just prefer manual notes without explicit reasons. When these participants need to transcribe these manual notes to someone else, they will also tailor their manual notes so that they will be more useful to the target audience.

“When I need to send my notes to others via email, I transcribe the handwritten words and describe my sketch through words.”

— Participant 3

Participant 4

“I don’t know why. I just like hand notes. I’m old.”

Participant 11

“I don't transcribe like all the [handwritten] notes to Outlook. Some notes are for me. In my shared notes I'll try to quote the exact words [from the meeting] so that everybody can remember.”

The attendees lose track of the conversation as a result of not having access to the context of the meeting.

Explanation

Context decides the relevancy between topics and attendees of meetings. A broad definition of “context” is the general value and focus of a all the attendees. If an attendee does not identify with the problems of these people, he/she does not want to attend this meeting. A more specific definition of “context” is how topic A goes to topic B, and the reasoning pattern that everyone agrees upon. By figuring the context of a meeting, the attendee can learn what kind of information is too detailed for other attendees, as well as the high-level problems that everyone relates to.

“It’s really useful if people provide some context like, information that tells me, how we are, where we are now, where we’re trying to get to. A lot of times what we’re trying to do is just getting from one place to another. If you don’t understand how you got there then you’re missing the context.”

— Participant 1

Participant 2

“I have invites but sometimes, I didn’t receive the agenda (for the meeting) before I got here and I realized that this is not I want to attend.”

Charlie Chung

“Meetings are meant for us to reinforce the culture that we actually want within the team. So what you're really doing is engineering the social interaction. Because that is part of any work environment. People are not all robots and you have to have that shared context. You have to get people on the same page in the same direction. I think that's what effective meetings really do. ”

07 Insights

A mismatch between attendees' behavior and expectations results in a vicious circle of seeking help after meetings.

Explanation

In our studies, we notice a general pattern of seeking communications through group chats or emails after meetings. Since some attendees already have the expectation to be able to inquire someone more thoroughly after meetings (e.g. to confirm if their understandings are on the same page), they tend to retain less information during meetings.

Sometimes people just don't retain everything that happened in the during the meetings and just ask you questions. I always send out notes with references after the meeting, but of course, nobody reads these emails these days.

— Participant 9

Participant 1

“It's very common to get added to a group chat when you're added to a meeting or a specific project. And then after the meeting that's where people will post their slides and maybe post action items. Some people still use emails though.”

Participant 7

“The PM's notes are saved on OneNote and they are available for everyone. I don't know who accesses these or if anyone does. They're probably just for PMs.”

05 Personas



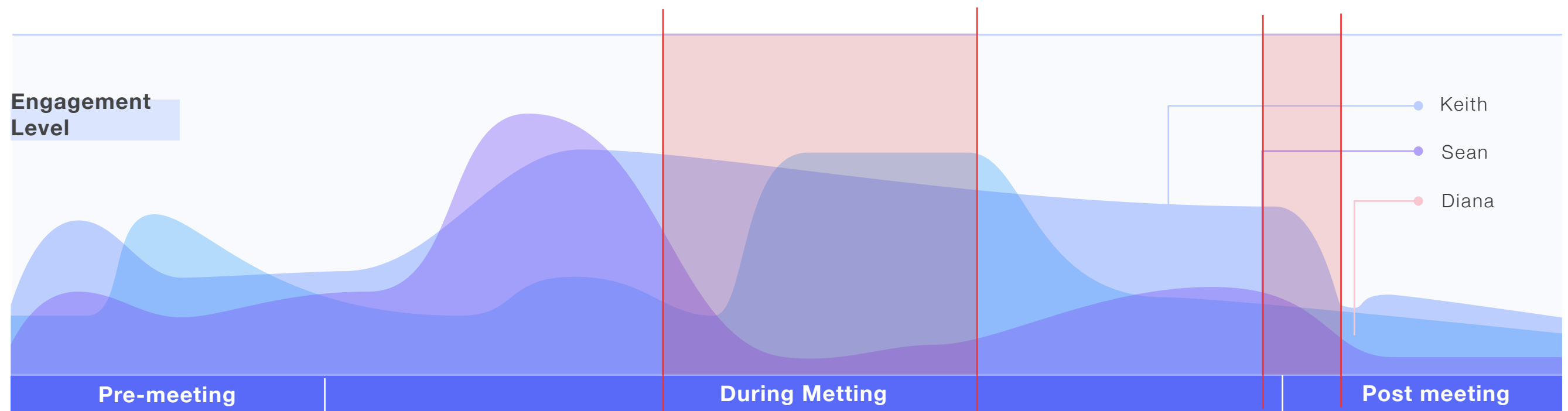
1. Context Scenario
2. Sean Mathis Persona & User Journey
3. Keith Lambert Persona & User Journey
4. Diana Algar Persona & User Journey



Context Scenario

The design team is presenting their solution of Product feature A and would like to get some feedback from engineer team, marketing team and product manager, so that they could move forward. Product manager invites all people who are relevant to this subject matter to the meeting. During the meeting, the developer team challenges their solutions, present their perspectives, and propose another direction.

The diagram is the meeting experience for Keith, the product manager, Sean, the graphic designer, and Diana, the software engineer. The next slides will introduce each person and their detailed user journey during the meeting.



Keith comments on and summarizes Sean's work for Diana. As Diana hears more, she starts to ask questions about specific details relevant to her work instead of Sean's. Only Keith engages her questions and Sean starts to lose interest.

After the meeting, Keith needs to answer all the questions from Sean and Diana because they could not follow the universal notes emailed by Keith.

01 Persona

Sean Mathis

Contributer

Seattle, WA



I know the general idea but the knitty-gritty technical details are not useful to me.

Background Story

Team A needs to talk about their design decision about Product A with both team B and C. Sean's boss invites all three teams to the meeting in the afternoon. Sean also needs to present.

Goals

- Contribute his own work
- Be Productive

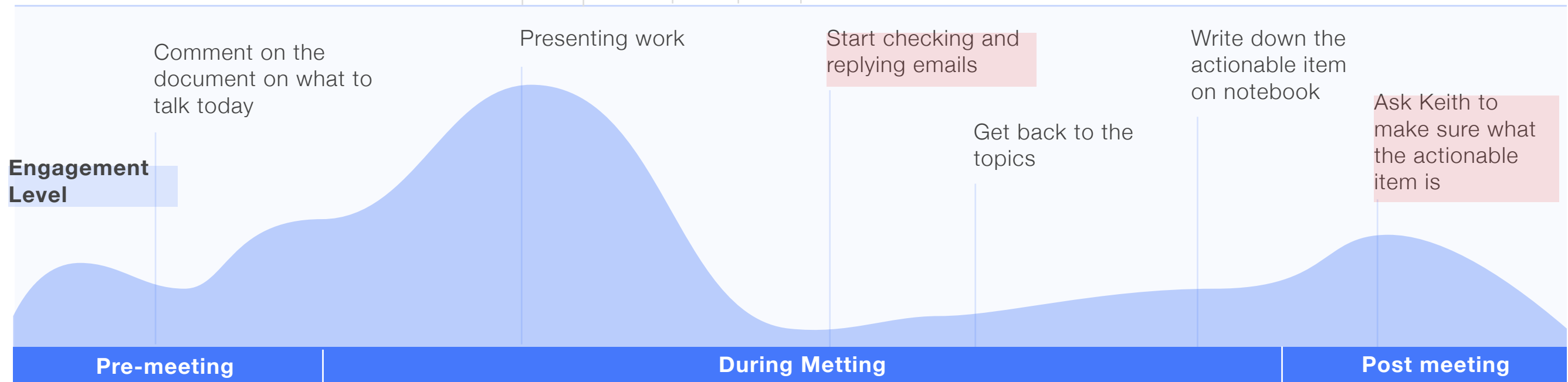
Needs

- Understand the concepts or the acronym that the engineers or sales team referred to.
- Understand what content is relevant or not to himself during meeting
- Easy get back to topic after multi-tasking
- Easy and free note taking
- Understand what to work on after the meeting (clear actionable items)

01 Journey Map

Sean's meeting experience

Thoughts & Feelings



Description

Sean need to comment on the document prior to the meeting so that they have something to say during the documents

Description

Sean need to present his work in front of all 3 team members. After that Both sides (Global Marketing and Tech) express their opinion on issues. Sean feels the marketing and tech details are not relavant to him, so he start multitasking Talk until compromise is reached.

Description

Sean recieves a email about what happened during the meeting. He takes a glance and continue to work on his own work.

02 Persona

Keith Lambert

Facilitator

Seattle, WA



Background Story

Keith is responsible for a project that involves 3 teams. He needs to check everyone's working progress and get consensus on possible collaborative directions.

Goals

- Make sure everyone is on track and know their responsibility
- Make everyone happy

Needs

- Make effective agenda, including setting goals and inviting relevant attendees
- Keep meetings focused on the right things effectively
- Facilitate stakeholder communications
- Track follow-up actions from the meeting

“I don't manage people. I can't just say build this. I have to get them to understand why.”

02 Journey Map

Keith's meeting experience

Thoughts & Feelings

Look forward to seeing everyone's work

Need to make this structured

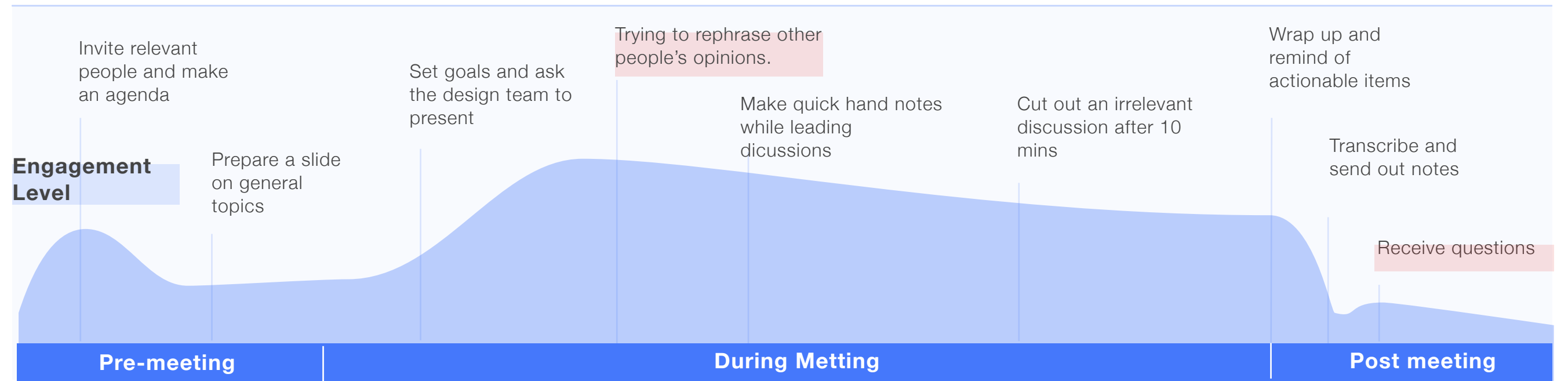
OMG I should write this down wait I should also lead the discussion

This person might have a great idea but my team look confused

So it turns out to be a different problem and irrelevant to this project

I should identify actionable items for my team and high-level

Man this question is answered in my notes...



Description

To keep the meeting manageable, Keith decides to invite 6 people from 3 teams. Keith initiates an agenda and shares it with the attendees. He's not sure if he can speak for everyone, so he makes the agenda pretty open.

Description

Keith starts with a summary of their topics for the meeting. He asks design team to present their progress. While facilitating the discussion, Keith takes quick manual notes about problems and questions. The marketing and engineer teams also present their perspectives, and Keith tries to find a common ground for both teams so that

Description

After the meeting, Keith transcribes his manual notes digitally and shares them through email. However, he notices people might not read it (carefully) since he receives questions that are answered in his notes.

03 Persona

Diana Algar

Uninformed Attendee

Seattle, WA



Background Story

Diana was invited to a project meeting to discuss a decision. The meeting does not directly address Diana's work and she does not need to speak. Diana considers this meeting to be of low-priority.

Goals

- Get her work done
- Stay on top of her to-do list

Needs

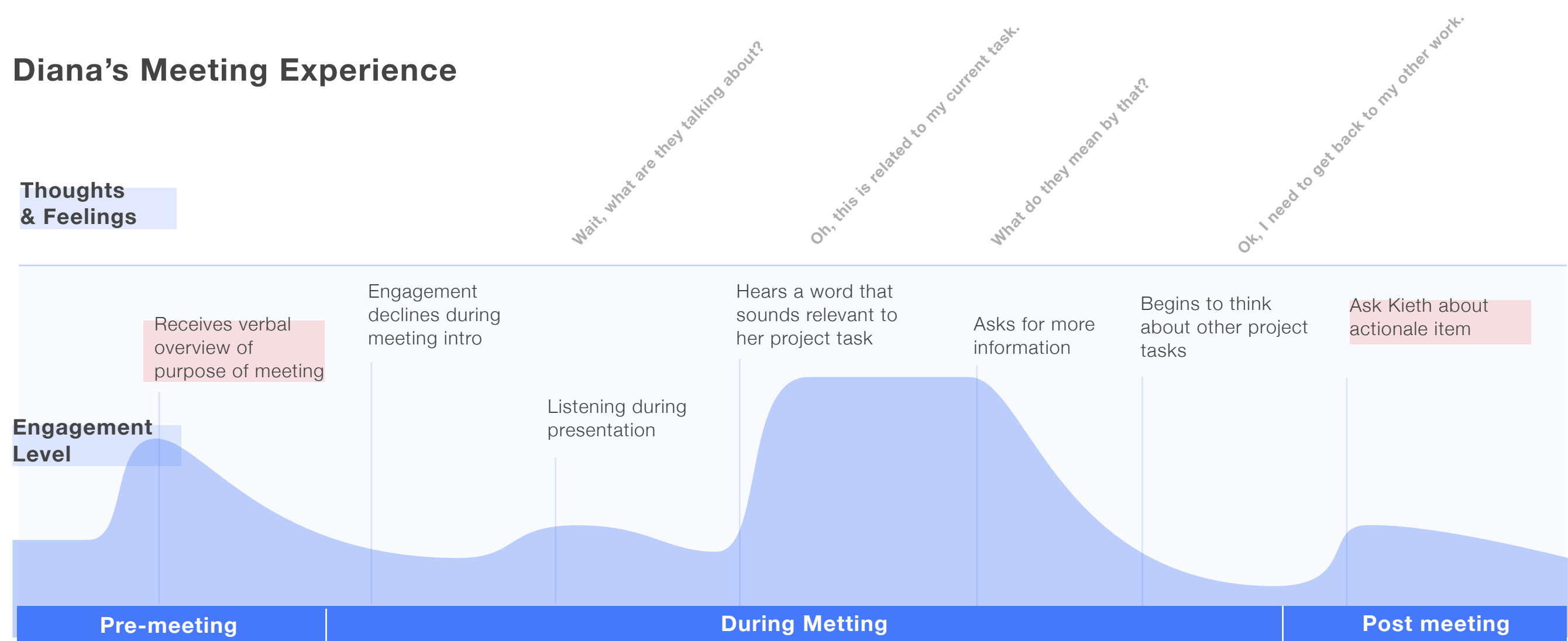
- Know her specific task within the project
- Understand why the meeting is taking place
- Be aware of her deadlines
- Know the information that is relevant to her work

“How is this relevant to what I will be working on?”

03 Journey Map

Diana's Meeting Experience

Thoughts & Feelings



Description

Due to her unrelenting workload, Diana is unaware of the purpose or function of this meeting. She neglects to read the brief and requires a verbal summary of the meeting purpose before the start.

Description

Diana's engagement rises during the design presentation. Her engagement declines after the presentation but then peaks during follow-up discussion when she hears a word that is relevant to her tasks.

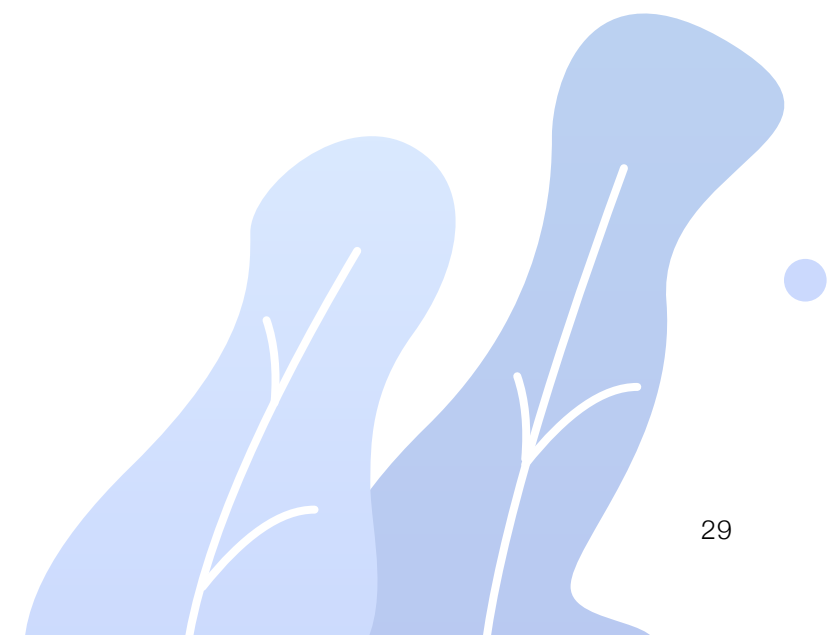
Description

As soon as the meeting ends, Diana returns to her work that was originally occupying her attention.

06 Discussion



1. Design Principles
2. Next Step



Design Principles

01

Increase engagement during the meeting.

- The solution should prevent attendees from multitasking during meetings.
 - The solution should find a way to encourage attendees' individual input.
-

02

Bridge the knowledge gaps between attendees.

- The solution should create a collective resource that everyone can refer to.
 - The solution should make sure everyone understand a little bit about each others' discipline to make an informed decision.
-

03

Promote individual awareness of context

- The solution should provide context during the meeting to help attendees to be aware whether they are off topics or not, and help them to stay on track.
- The solution should inform the attendees the current state of the meeting.

04

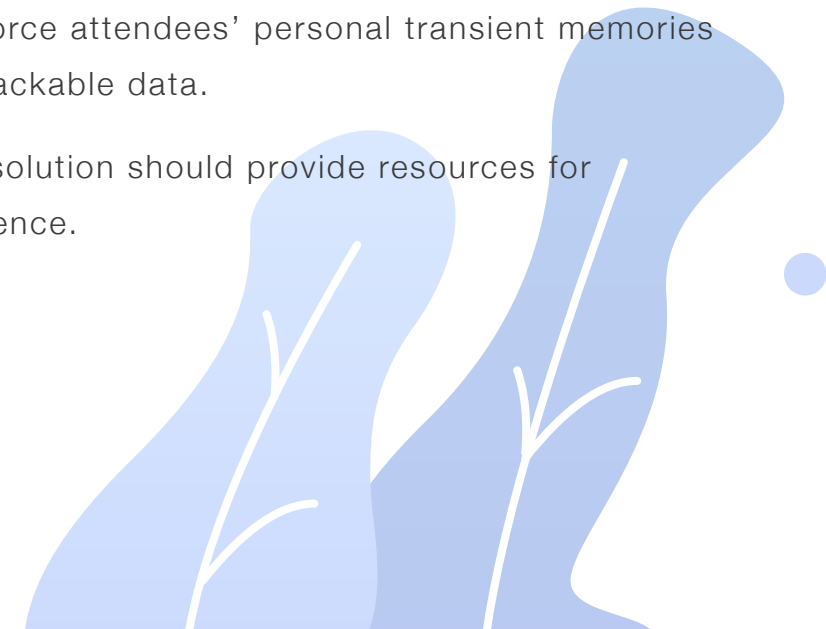
Optimize individual expressions

- The solution should help attendees testify disagreements through a concrete representation of each other's understanding
 - The solution should help attendees to express their opinions to be understood by other people.
 - Open form of sharing information helps attendees to freely express their thoughts and opinions.
-

05

Facilitate independently comprehension of the meeting's content

- The solution should make sure each attendees walk out with an actionable item
- The solution should document important moments for each attendee in order for them to reinforce attendees' personal transient memories as trackable data.
- The solution should provide resources for reference.



Next Step

During our research stage, We conducted expert interviews, survey, and user interviews to identify a several painpoints. Based on the research data, we built empathy with our users and created a user journey map to represent their behaviors and cognitive process. Through this, we gained a thorough understanding of our problem area.

With the secondary and primary research completed and some early concept ideas in mind, we will begin the ideation process and try to create as many possible solutions based on our design principles. However, regarding our principles, we will continue to refine them as we acquire new information and knowledge. As we move forward with concept generation, we will explore more and take a closer look at the current meeting environment.

Lastly, we will iterate and begin the prototyping stages after ideation. We will initially start with low-fidelity methods such as paper or cardboard prototypes. In the meantime, we will try to familiarize ourselves with motion prototyping methods as quick as possible and also establish a harmonize collaborating pace. Eventually, we will move to more high fidelity prototypes.



07 Appendix

1. Reference
2. Competitive Assessment
3. Research Kit
4. Expert Interview Guide and Report
5. Survey Result
6. User Interview Script
7. Infinity Diagram

Reference

Method References

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COMPETITIVE

ANALYSIS

Team XC2 (Xinbei, Can, Corey)

01 Asana

Asana gives you everything you need to stay in sync, hit deadlines, and reach your goals. From tasks and projects to conversations and notifications, Asana enables teams to move work from start to finish. It's simple to get started, but powerful enough to run your entire business. And it's free.

The screenshot displays the Asana web interface for a project titled "Marketing Brand Campaign". The top navigation bar includes "MY TASKS" and "INBOX" with a search bar. Below the project title, there are tabs for "List", "Timeline", "Calendar", "Conversations", "Progress", and "Files". The main content area shows a task list with columns for "Add Task", "Due", "Status", and a user icon. The tasks are grouped into "Planning:" and "Milestones:". A mobile view overlay is shown on the right, displaying a simplified version of the task list.

Task	Due	Status	Assignee
Planning:			
✓ Campaign brief and launch timeline		Approved	[User]
✓ Overall goals and success metrics		Approved	[User]
✓ Approved budget		Approved	[User]
Milestones:			
✓ Campaign creative concepts	Jun 19 – 27	In review	[User]
✓ Campaign messaging	Jun 18 – 20	Approved	[User]
✓ Select agency and secure SOW	Jun 21 – 22	Approved	[User]
✓ Media plan	Jun 25 – 26	In progress	[User]
✓ Campaign performance tracking	Jul 3	In progress	[User]
✓ Customer stories finalized	Jul 10	In progress	[User]
✓ Videos assets completed	Jul 20	Not started	[User]
✓ Landing pages live on website	Jul 24	Not started	[User]
✓ Campaign launch!	Aug 1	Not started	[User]



We choose Asana because it is a workflow management tool that includes the meeting, especially in the post meeting phase with the decision or actionable item.

Features

Strengths

- Track projects by visualize work in each stage
- Use Timeline to create a plan that shows you how the pieces of your project fit together
- Bring emails, files, tickets, and more into Asana
- All attachments to tasks & conversations in this project will appear in “files”.
- Easy integration
- Real-time Communication

Pain points

- No notification on the app besides email notification
- Not enough features in mobile version, just a to-do-list
- No filter in search
- Can't use the app offline

Information Architecture

Strengths

- Have multiple entry point to the main task
- Hierarchy between 1st level nav and second level nav is very clear and maintain consistency
- Page layout and visual weight distribution is clean and clear. Visually dominant action button get noticed the most.
- Central message is delivered by highlight the color of e.g. “who’s missing from your team”

Pain points

- Hierarchy in view more(“...”) is not enough. take action slow
- automatically go to that date.
- No entry of finding the specific label. Long process of work around (need to add a new label, and click into that label)
- Too many steps to delete a task as “Delete“

UI

Strengths

- Card approach made each module very clear

Pain points

- 1st level navigation bar is not clear which tab is on right now
- Too many font sizes in toolbar.



Target Audience

Asana is for individuals, teams, startups, SMBs, large enterprises, and non-profit organizations. mostly IT company

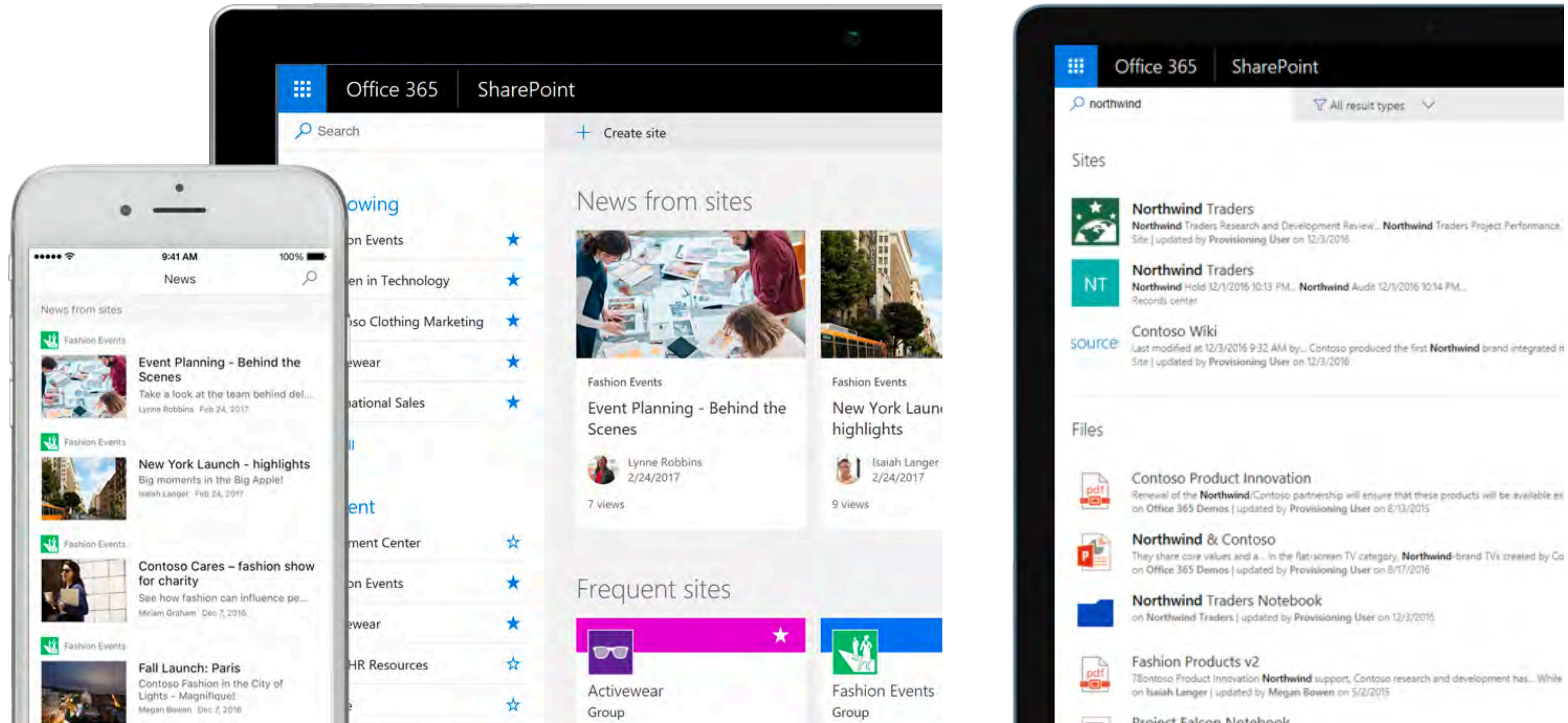
Takeaway

The assessment of Asana made me realize how important is visualization for people to easily understand their workflow. Also it is important to create connection between each related Asana exemplifies how visualization of workflow could benefit busy professionals. The lesson we learned from Asana is that visualization as a scheme can lower the learning curve and makes the product more approachable to users. In the context of our project, we should explore where and how we want to adopt visualization effectively as a scheme: in pre-meeting preparation, spontaneous synthesis during meetings, or post-meeting follow up?

Another takeaway from Asana is that meeting does not exist independently; Asana contextualizes meetings with “workflow,” which involves tasks, projects, and people with different job functions. Asana provides the context of each meeting through connections of the above. In our project, we should investigate the entire workflow before diving into meeting specifically. Our questions are: how might workflows vary across companies? Should we design a tool that incorporates workflows of a specific group, or do we broaden it up to a common theme?

SharePoint

SharePoint is a platform that for people to share and manage content, knowledge, and applications to empower teamwork, quickly find information, and seamlessly collaborate across the organization.



SharePoint

We choose SharePoint because it is a powerful collaboration tool, especially for managing content and knowledge. One important aspect of meeting is how the attendees share knowledge with each other. Analysing SharePoint can help us understand how they make it work.

Features

Strengths

- Collect data, share and manage on an intranet.
- Automate data exchange, synchronize files
- Create apps that interact with data in SharePoint lists and libraries
- Smart result (Powerful search engine)

Pain points

- Mobile app doesn't work stand alone. It always wants to open OneDrive to view a file.
- No filter for files searching in mobile version

Information Architecture

Strengths

- For each different sub tool, SharePoint use different color indicator and same location to show the sense of space.
- The hierarchy of search result is very clear. Easy for user to quickly find what they want
- The hierarchy of each module is very clear. Easy to navigate through different task

Pain points

- The universal search is in the same place with toolbar which may be confused with only search inside toolbar.
- 3 cancel buttons and 2 save buttons in "new request"

UI

Strengths

- Using the same visual language as other Office 365 tool. The consistency makes user clear what each indication means.
- The card approach made each content very clear.
- Using Iconography for each different types of content. Easy for user to recognize.

Pain points

- There is no shadow nor outline of each card, which made it hard to be separated from the grey background.

SharePoint

Target Audience

SharePoint designed for teams of all sizes. In addition, companies that use Office 365 and other online Microsoft applications can get the most benefit.

Takeaway

SharePoint has a powerful search engine used for discovering relevant or recommended content. It also integrates many Microsoft tool within its platform. This means it has the power to track every metadata of a “point” (e.g. a document, a person) and connect relevant data points together. This makes the searching function very accurate and the user can always find what they need on Sharepoint. The lesson is that if we need to empower our project with some feature, we might not try to build the whole thing but try to integrate with some existent platforms.

Sharepoint might be the most powerful tool we’ve examined in this assessment. It can basically do everything: make a website, keeps track of immense amount of content (eg. spreadsheets, discussion boards, presentations), provides reliable searching results based on people’s working information. However, the powerful functions blur Sharepoint’s product positioning. We found that a lot of users have difficulty understanding what Sharepoint does because it does everything. The lesson we take is that we need to have a clear product positioning of our project and think of a easy-to-remember slogan to capture the function of our product.

Confluence

Confluence is content collaboration software that gives the team a central place to keep your team's work organized and accessible, making it easier to find the information needed to keep work moving forward. Confluence is designed for teams to improve their ability to communicate and share files.

The screenshot shows the Confluence interface for a space named 'capstone'. On the left is a navigation sidebar with options like Overview, Pages, Blog, and Space settings. The main content area features a 'Roadmap' macro. At the top of the roadmap are four team member profiles: Harvey Honner-white (Team Lead), Alana Baczewski (Tech Lead), Sameer Farrell (Marketing), and Mia Bednarczyk (Recruitment). The roadmap itself is a Gantt-style chart for the year 2015, with columns for May through November. It is organized into three horizontal tracks: Marketing (red), People (purple), and Product (blue). Marketing tasks include 'Social campaign' (Aug-Oct) and 'Website development' (Jul-Sep). People tasks include 'Crowdfunding campaign' (Jun-Jul), 'Recruitment' (Jun-Jul), 'Assessment Period' (Aug-Sep), 'Training' (Sep-Oct), and 'Finalis' (Nov). Product tasks include 'Planning' (Jun-Jul), 'Development' (Aug-Sep), and 'Testing' (Oct-Nov). A 'Yearly Finalisation' marker is at the bottom right. Below the roadmap is a 'Know your spaces' section.

Roadmap

You can edit this roadmap or create a new one by adding the Roadmap Planner macro from the Insert menu. Link your Conflu and find more tips by reading the Atlassian blog: [Plan better in 2015 with the Roadmap Planner macro](#).

2015	May	Jun	Jul	Aug	Sep	Oct	Nov
Marketing				Social campaign	Website development		
People		Crowdfunding campaign	Recruitment	Assessment Period	Training		Finalis
Product		Planning	Development	Testing			

Know your spaces

Everything your team is working on - meeting notes and agendas, project plans and timelines, technical documentation and m base for your team.

The screenshot shows the search interface in Confluence. It features a search bar at the top with a back arrow and a search icon. Below the search bar are two sections: 'RECENTLY VIEWED' and 'RECENT SPACES'. The 'RECENTLY VIEWED' section lists several items with a blue icon and a title, such as 'File lists capstone', 'capstone capstone', 'trs t this on May2 capstone', 'test how this work capstone', 'use jira as the main tool capstone', 'Decision log capstone', 'test12123 capstone', 'How-to articles capstone', and '2018-04-26 Meeting notes capstone'. The 'RECENT SPACES' section shows a single item: 'capstone'.

Search...

RECENTLY VIEWED

- File lists capstone
- capstone capstone
- trs t this on May2 capstone
- test how this work capstone
- use jira as the main tool capstone
- Decision log capstone
- test12123 capstone
- How-to articles capstone
- 2018-04-26 Meeting notes capstone

RECENT SPACES

- capstone

Confluence

We choose confluence also because it is a collaboration tool mainly for knowledge exchange in the team.

Features

Strengths

- Add meeting notes, project plans, product requirements, and more. Include multimedia, dynamic content
- Collection of related pages
- Templates for all the contents
- Meeting notes can crowdsource the agenda
- Roadmap can link to page

Pain points

- Need to input in the text in “filter”, instead of selecting.
- After attached the file, it will refresh the page
- No real time editing when there are 2 people editing the same page on mobile version
- “Like” for each content

Information Architecture

Strengths

- structured hierarchy in search result

Pain points

- Too many modules, hard for user to focus on one task.
- Lack of hierarchy under “creating content”, too many choice in the options of no hierarchy, hard to find the one that you want
- Too many steps to create content
- Hierarchy between 1st level tool bar and 2nd toolbar is not clear
- After entering into each task, how to get back is not clear
- Click Each button will lead to a new page and how to get back is not clear

UI

Strengths

- Great great illustration

Pain points

- There is no transition between each pages (confusing because don't know where to where)
- Too many things under comment, “reply” “edit” “delete” “like” and time
- The date selection in “Create” new content, is too small. Hard to choose the number
- Inconsistent UI - different sizes of return button, style of metadata, etc.
- No difference in indicator of editing label and content.

Confluence

Target Audience

for JIRA users to instantaneously create issues and track their progress; for developers to discuss specifications together; for technical writers with its nifty documentation storage, drafting and editing; and for enterprises with solid enterprise readiness and easy synchronization.

Takeaway

The assessment of Asana made me realize how important is visualization for people to easily understand their workflow. Also it is important to create connection between each related Asana exemplifies how visualization of workflow could benefit busy professionals. The lesson we learned from Asana is that visualization as a scheme can lower the learning curve and makes the product more approachable to users. In the context of our project, we should explore where and how we want to adopt visualization effectively as a scheme: in pre-meeting preparation, spontaneous synthesis during meetings, or post-meeting follow up?

Another takeaway from Asana is that meeting does not exist independently; Asana contextualizes meetings with “workflow,” which involves tasks, projects, and people with different job functions. Asana provides the context of each meeting through connections of the above. In our project, we should investigate the entire workflow before diving into meeting specifically. Our questions are: how might workflows vary across companies? Should we design a tool that incorporates workflows of a specific group, or do we broaden it up to a common theme?

04 LessMeeting

Less Meeting is an online app and tool focused on making meetings more productive. The purpose of Less Meeting aligned with our challenge statement.

This screenshot shows the 'Manage Agenda' modal window in the Less Meeting application. The modal is titled 'Manage Agenda' and contains a list of agenda items with their durations. A red box highlights the 'edit agenda' button in the background, and a red arrow points from it to the 'Save as Template' button in the modal. The modal also includes a 'Save' button and a 'Share with a Team' dropdown.

Item	Duration
1. General Discussion	25 mins
2. Next Steps	5 mins
3.	10 mins

Agenda Ends: 5:20PM

This screenshot shows the 'YOUR MEETINGS' dashboard in the Less Meeting application. The dashboard features a navigation bar with 'Dashboard', 'Meetings', and 'Action Items'. Below the navigation bar is a bar chart showing meeting activity for March 13th. A 'QUICK FILTER' section is visible, with 'today's meetings' selected. A list of meetings is displayed, including dates, times, and titles.

Date	Time	Title
Feb 17	4:00PM - 4:10PM	Paper Sale
Feb 17	3:00PM - 3:45PM	One on On
Feb 17	12:00PM - 2:00PM	Lunch N' L
Feb 17	11:20AM - 11:40AM	Team Stat
Feb 17	11:00AM - 11:25AM	Weekly Sta
Feb 17	9:00AM - 9:55AM	Project Kic
Feb 10	4:31PM - 4:56PM	Weekly Sta

04 LessMeeting

We choose lessmeeting because the purpose of Less Meeting aligned with our challenge statement - make meeting more productive.

Features

Strengths

- Set agendas and time needed for each topic.
- Time progress bar
- automatically syncs
- Set priority level for each task
- Under “Take Agenda Notes ” typing notes can be marked as “Key point”, “decisions”, or “action item”

Pain points

- only allowed to have three topics under each agenda
- Time progress bar
- Have to input time needed for each topic

Information Architecture

Strengths

- N/A

Pain points

- In “action item” don’t know how to add new
- create meeting is in the same level with “meeting”
- No entry of finding the specific label. Long process of work around (need to add a new label, and click into that label)
- Too many steps to delete a task as “Delete“ is hidden in the “...” under each task details page.
- While adding task, the task list slides to the left and the “adding new task” is showing on the right, which is in the same hierarchy level with task list.

UI

Strengths

- Drag bar to control time.

Pain points

- When creating meeting, setting time, only one slider in dragging bar , how to set both start time and end time just dragging one slider?
- When check “send invite”, the action button shows “send invite”, when uncheck “send invite”. The action button becomes “create meeting space”

04 Less Meeting

Target Audience

It is for the team which has limited time and space.

Takeaway

Less Meeting is an extreme example of designing constraints or structuring topics during meetings. Its time progress bar forces people to talk through a certain topic within the designated time span without considering the real-world situations - not every topic is worthy of the same amount of attention and time. We learned that through our user interviews: if one important topic is not adequately addressed, there will probably be more meetings scheduled. Thus, Less Meeting is only making one session of meeting shorter, but not making meeting less as a whole.

We learned that when designing some constraints to organize the meetings, we should consider attendees' agency and behavioral patterns instead of restricting them mechanically. We thus need to ask more questions about people's behavioral modes.

05 Voicera

Less Meeting is an online app and tool focused and making meetings more productive. The purpose of Less Meeting aligned with our challenge statement.

The screenshot shows the Voicera web interface for a meeting titled "testing2" held on April 24, 2018, at 5:00 PM PDT. The interface includes a navigation bar with "Upcoming", "Past", "Integrations", and "Settings". Below the meeting title, there is a timeline from 02:00 to 07:00 with a current position at 04:49:53. A search bar is present with the placeholder text "Enter a term and hit enter" and a suggestion "Search for terms you care about, like 'burritos.' :)". The "Highlights" section shows two action items created by "zhaocan@uw.edu" 2 days ago, both marked as "[silence] [silence]". The first action item is from 4:32 to 4:52, and the second is from 13:43 to 14:03.

The screenshot shows the Voicera mobile app interface for a meeting titled "testing2" at 12:31 PM. The interface includes a play button, a stop button, and a "+ Add Title" button. Below the title, there is a duration of "01:33". A large blue circular button with the text "Tap to Highlight" is visible. Below this button, there is a text box containing the text "or say: 'Action item', 'Take a note' or 'Decision is'".

Voicera offers an example of how automation works to structuralize actionable items during meetings. We specifically aim to examine how user's data during meetings are collected in this interactive machine learning model.

Features

Strengths

- supports multiple conference call platforms on portable devices with microphones.
- The conference notes and transcriptions are synced to cloud automatically and there's no messy download
- The AI system learns over time and automate highlights according to user's highlights.

Pain points

- The precision of the transcription is dependent on the audio quality.
- The pause of transcription (eg. comma) is not semantic but cognitive.
- The user's highlight through either tapping or voice commands always lags behind the speaker's real highlights. It is awkward and intrusive to say actionable items to highlight during meetings.

Information Architecture

Strengths

- N/A

Pain points

- Different sections of the system seem unrelated and the user might have a hard time figuring out a typical use case/flow.
- "Make sure the meeting has a dial-in or meeting URL and make sure the invite comes from an email registered with Voicera." This important information is at the lower left of the calendar web page. The user might not notice it until they make some mistake and tries to diagnose why. Plus, it's not obvious how a "meeting URL" would work since only a phone number works in my testing.

UI

Strengths

- The system integrates the UI of inviting someone to a meeting through email into adding Eva to a meeting.
- The user gets notified whenever any action is done
- The action buttons are obvious and intuitive to use

Pain points

- When creating meeting, setting time, only one slider in dragging bar , how to set both start time and end time just dragging one slider?
- When check "send invite", the action button shows "send invite", when uncheck "send invite". The action button becomes "create meeting space"



Target Audience

Asana is for individuals, teams, startups, SMBs, large enterprises, and non-profit organizations. mostly IT company

Takeaway

The assessment of Voicera makes me realize the path of automation not only has its technology constraints but also causes confusion for users. Like any other product in the realm of interactive machine learning, Voicera's biggest challenge is the difficulty to collect valid data from the users to train an AI model to understand what is going on during meetings. The direction of our project should then focus more on augmenting the meeting experience rather than automating experience, since using machines to make important decisions for human beings is still questionable and open to a lot of challenges.

Voicera also makes me realize multi-platforms of one product could be confusing if not organized properly. If our project work on several platforms, the experience should be consistent as a unifying flow.

The implied opportunity of Voicera is the possibility to integrate in-meeting experience simultaneously rather than adding extra workload before meetings (such as making agendas).



Less Meeting is an online app and tool focused and making meetings more productive. The purpose of Less Meeting aligned with our challenge statement.

The screenshot displays the Quip interface for a "Weekly Team Meeting". On the left is a dark sidebar with navigation options like "Updates", "Folders", "History", and "Chat". The main content area is split into three panels: a document view on the left, a chat window in the middle, and a meeting summary on the right.

Document View (Left Panel): Shows an agenda for July 24, 2017, with items like "Go over latest draft of initiatives and OKRs". Below the agenda are "MEETING NOTES" and "ACTION ITEMS".

Chat Window (Middle Panel): Displays a conversation between Mark Johnson and Megan Prescott. Mark asks if Megan can add something for Monday. Megan responds that she has put together an agenda for the next meeting. Mark then asks Richard to fill out a table.

Meeting Summary (Right Panel): Titled "Weekly Team Meeting", it lists attendees (@MEGAN, @MARK, @RICHARD, @APRIL) and standing goals. It includes a table for the agenda and meeting notes.

Item	Owner	Time	Docs/presentations
Go over latest draft of initiatives and OKRs	@Richard	10 mins	Company Initiatives and OKRs
Review Q2FY18 Board Meeting Presentation	@Mark	15 mins	Q1FY18 Board Meeting Presentation.pptx
Make plan for action items in presentation	@Megan	10 mins	

Meeting Notes (Right Panel): Lists attendees and notes from Richard's presentation, including a score of 60% and a target of 70%.



Quip is commonly used among big tech companies during meetings. It exemplifies how technology tools could augment and remediate people's behavior during and after meetings.

Features

Strengths

- All the interactions are succinctly designed on the same page and the user does not need to leave the page during the meetings.
- Action items incorporates @ mentions and reminders, which makes sure the responsibility is distributed to an individual level within a certain time span.

Pain points

- Though each member can comment on the agenda, the interaction does not include how the agenda could be adjusted based on these comments.
- Team member's notes might not sufficiently represent everyone's understanding and contribution to the topic.
- Only allows for verbal notes, which might limit the expressions of each participant

Information Architecture

Strengths

- Slack-like collaborative system that syncs chatting, document editing and sharing, spreadsheets in one place.

Pain points

- Quip's remediation of behaviors during meetings are very limited - participants need further follow-up group chats to decide what to put on action items.

UI

Strengths

- The system integrates the flow of inviting someone to a meeting through email into adding Eva to a meeting.
- The user gets notified whenever any action is done
- The action buttons are obvious and intuitive to use

Pain points

- This experience of receiving multiple information from web, email, and phone during a short period of time is incongruent and frustrating.



Target Audience

Asana is for individuals, teams, startups, SMBs, large enterprises, and non-profit organizations. mostly IT company

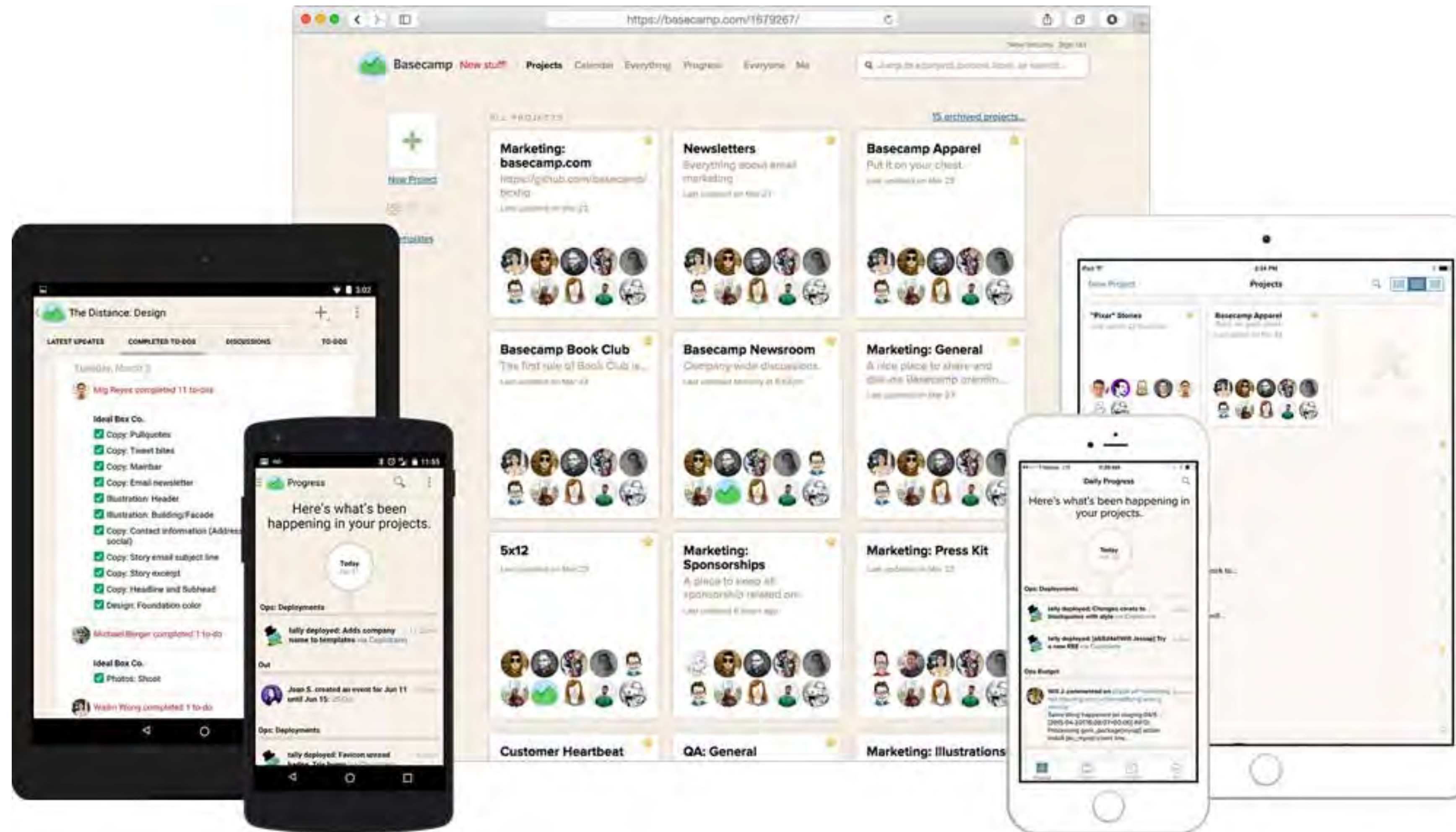
Takeaway

The assessment of Quip's team collaboration makes me realize the meeting experience is embedded in the entire working flow in a company and cannot be deprived of its context.

Quip augments the meeting experience by inventing some information structure that the attendees need to follow, and give users the freedom to figure out what to put in the blanks. Currently, users would just schedule another meeting or use group chats to figure out the answers. This is the opportunity space for us to intervene in this process.

07 BaseCamp

Basecamp is an online collaboration app designed to provide teams a place to discuss and manage projects, events, or other work they're doing together. Basecamp features team-specific message boards, check-ins, to-do lists, schedules, and documents and files.



07 BaseCamp

Quip is a collaborative productivity software suite for mobile and the Web

Features

Strengths

- Information, messages, documents, and communication is equally visible to all team members.
- Automatic Check-ins ask team members to submit a short report answering a question on a recurring basis. The options are highly customizable
- Message boards track progress and communication.
- “Campfire”- a chat room that allows team members to pose questions and discussions to everyone in the team.
- “Ping”- the direct messenger on basecamp.
- You can generate reports that show tasks that are overdue or all the tasks assigned to a particular person.

Pain points

- Doesn't offer time-tracking, invoicing, or reporting tools
- When you open the chat box to read incoming messages or start new ones, it directs you to a whole new page for it.

Information Architecture

Strengths

- Teams and projects are compartmentalized.
- Dashboard- each team or project space is depicted on the dashboard as a card.
- Clear hierarchy- team cards are grouped together. Project cards are grouped together. Above Teams and Projects is a main account card, with the name of your business or organization.

Pain points

- Once a user enters one project or team space, all others disappear from view.
- Dashboard lack high-level information and summaries. You need to seek out information and scrub through projects and message boards.
- In the message board, the user needs to scroll to the bottom to see the most recent activity.
- You can't be in a Ping conversation while also looking at a project page.

UI

Strengths

- Teams and projects are compartmentalized.
- To collaborate on any project or with any team, you just have to enter that space by clicking on the card.
- There is a timeline of things that have been done.
- Everything is visible and navigable from the dashboard.

Pain points

- To get any company news or information, you have to fall down the company rabbit hole by clicking on that card.
- you can't annotate or draw on image files and PDFs to illustrate what you may not be able to describe clearly in a text comment.
- The interface requires a lot of navigation in and out of different spaces just to navigate your account.

07 BaseCamp

Target Audience

As a place for collaboration, Basecamp best serves companies with teams across various disciplines, working on multiple projects. Small to medium-sized companies without existing collaboration software infrastructure will benefit best from basecamp's collaboration tools.

Takeaway

Basecamp provides teams an online hub for basic collaboration. It has nearly all the necessary tools for facilitating efficient collaboration within projects.

Aside from the core features of message boards, to-do lists, timelines, and schedules, Basecamp offers several unique features— the “Automatic Check-In” offers a unique solution to time-consuming status meetings. Additionally, the ability to directly message team members seems useful, but the lack of access to threads and documents while chatting undermines the feature's effectiveness. The “campfire” feature is useful in that it allows team members to pose a discussion question to everyone in the company, providing a place for inter-team information exchange.

The organization and hierarchy are logical and clear. Teams and project organization is easily glanceable and accessible. Personal information such as “My Stuff: My Assignments, My Bookmarks, My Schedule” are also accessible via the dashboard. However, certain elements of the architecture and interface present drawbacks in productivity. For instance, to locate information from a specific project, users are must navigate down the “project rabbit hole” by clicking on that card, at which point no other projects are visible. Basecamp would benefit from a more accessible navigation structure, allowing users to be aware of the context of the content and project they are viewing.

Meetin.gs

Basecamp is an online collaboration app designed to provide teams a place to discuss and manage projects, events, or other work they're doing together. Basecamp features team-specific message boards, check-ins, to-do lists, schedules, and documents and files.

The screenshot displays the Meetin.gs interface for a meeting titled "Meetin.gs Board Meeting". At the top, the Meetin.gs logo is on the left, and a search bar, a "Meetings" dropdown, a "+ New meeting" button, and a user profile icon are on the right. Below the title, the meeting details are shown: "Fri 6 Aug", "10:30 AM - 11:30 AM (UTC+2)", "Company office", and "On Skype". A row of participant avatars is visible below the details. On the right side of the meeting header, there are icons for settings, a pencil, and a "PRO" badge. The main content area is divided into two sections. On the left, there is a sidebar with "Agenda" (highlighted), "Action Points", and a file "Messaging&positioning...draft1.pdf". Below these is a "+ Add new material" button and a "Drag & drop materials here" area. The right section shows the "Agenda" content, which includes a welcome message, the meeting goal, and a list of four agenda items. Below the agenda is a "Write your comment here." text area with an "Add comment" button. At the bottom, a comment from "Lotta Vitariemi" is shown, stating "I booked a table for lunch after the workshop." with a timestamp of "6 Nov at 12:15 PM".

Meetin.gs

Meetings + New meeting

Meetin.gs Board Meeting

Fri 6 Aug 10:30 AM - 11:30 AM (UTC+2) Company office On Skype

Agenda

Action Points

Messaging&positioning...draft1.pdf

+ Add new material

Drag & drop materials here

Agenda

Write your comment here.

Add comment

I booked a table for lunch after the workshop.
Lotta Vitariemi - 6 Nov at 12:15 PM

Agenda

Welcome to the Board Meeting!

The goal of this meeting is to define a final version our company's messaging and positioning presentation

Agenda items:

1. Overview of draft 1 version of company messaging platform, further developed from the previous message definition document.
2. Discussion on the draft, ideas for further development and iteration.
3. Roadmap & schedule status check and discussion for activity planning for the next months.
4. Agreement on next steps: boilerplate revision, backgrounder document, PR action plan.

Meetin.gs

Quip is a collaborative productivity software suite for mobile and the Web

Features

Strengths

- Meeting scheduler- lets others pick a suitable time from your meeting scheduler that synchronizes with your calendar.
- All meeting participants are informed through email regarding meeting related updates.
- Agenda is sent to participants before the meeting takes place and action points are sent afterwards as a follow-up.
- View participant profiles including a photo, contact information, and RSVP status. Export their business cards to your address book.

Pain points

- No checklist to mark meetings as done.
- Ability to comment and add documents

Information Architecture

Strengths

- Meeting pages exist online. Each meeting has its own URL for attendees to access information.
- Dashboard allows users to See a quick overview of upcoming meetings and activities related to them.
- All meeting participants are informed through email regarding meeting related updates.
- Ability to see all past meetings in one place.

Pain points

- Dashboard categories are inconsistent- "Today," "Tasks," "Scheduling," "This Week"
- Each meeting brings the user to a different web page.

UI

Strengths

- Participants are able to view the meeting materials and provide their comments in real-time without sending an email or downloading a single attachment.
- Meeting pages allow for custom styling- company colors, logo, etc.

Pain points

- Mobile interface is inconsistent with desktop interface.
- Web-based functionality creates minor variations in views across browsers.
- The UI informs you where the remote meeting is held (e.g. skype, google hangouts) but does not provide a clickable link to that chatroom.



Target Audience

Meetin.gs target audience: As a meeting management and scheduling tool, Meetin.gs best serves individual freelancers or small companies willing to implement a standard meeting planning structure.

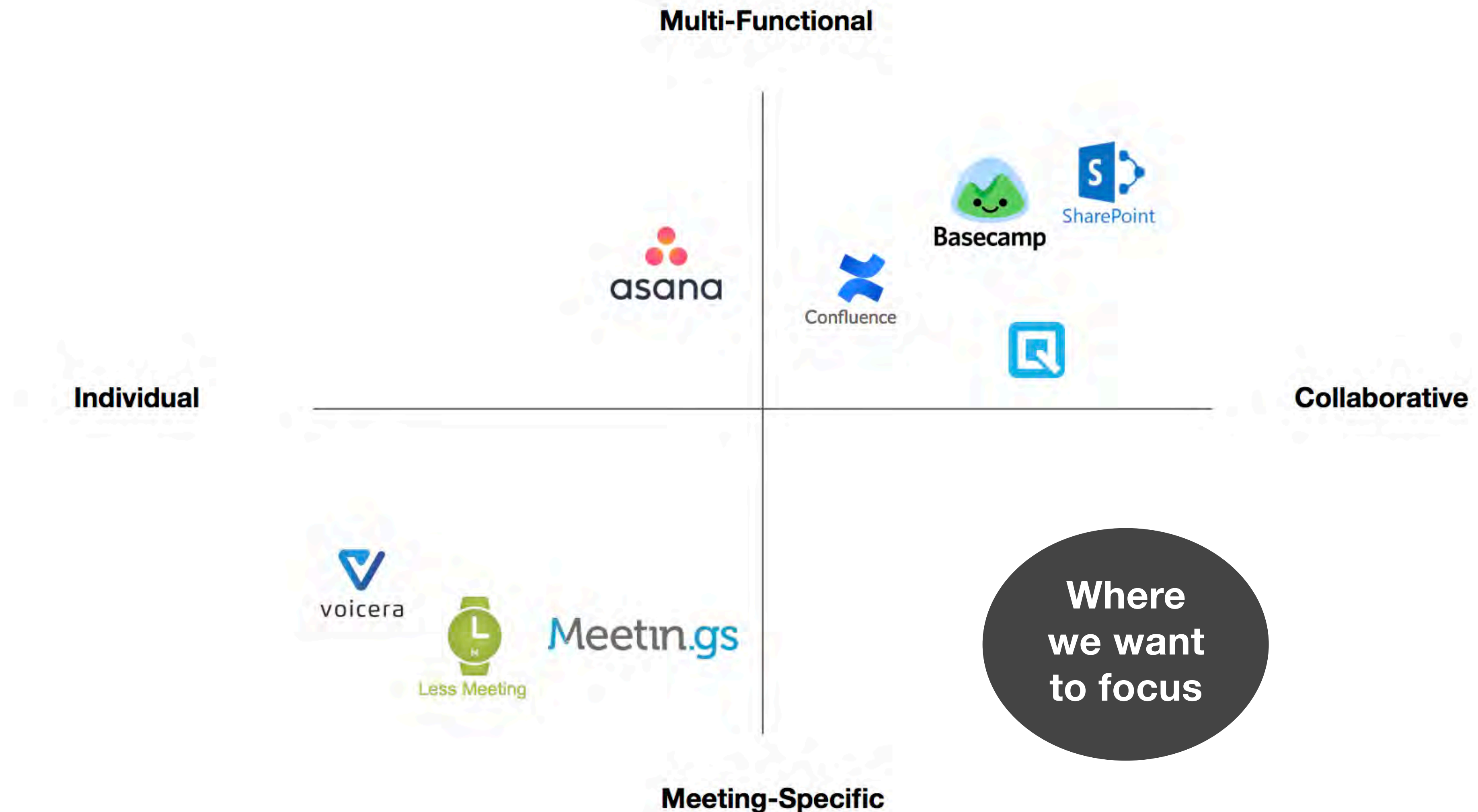
Takeaway

At its core, Meetin.gs provides certain features that are not available on other Calendar apps. When scheduling a meeting, users have the ability– and are encouraged– to add an agenda and action points. Once the “meet me” page is set up with its own unique URL, attendees can add and access relevant documents, as well as facilitate discussion in the comments section. The web app integrates with other calendar apps such as Google Calendar and Office 365 to determine meeting times. It also integrates with communication platforms such as Skype and Google hangouts to link user’s to a remote meeting service.

For meetin.gs users, there is a dashboard that visualizes all of the past and upcoming meetings. This is useful but inconsistently organized. Since it does not serve as the actual audio/video service for remote meetings, Meetings.gs essentially just provides meeting attendees a web page that serves as a central location for meeting materials and information. The means of getting to this central place involve going through existing calendar apps as a middle-man. Other than accessing documents and comments, there is not much benefit or motivation to transition from existing practices (e.g. Google Calendar, Office 365) to meetin.gs.

Overview

We examined 8 products in terms of their features, information architecture, and user interface. We map their functions onto a 2x2 matrix: the Individual vs. Collaborative axis distinguishes the concepts focused on personal management versus collective contributions; the Multi-Function vs. Meeting-Specific axis distinguishes the concepts focused on contextualizing meetings with multiple functions versus meetings specifically. The blank space in the lower-right suggests our opportunity space and direction: We should to design a tool that is both **collaborative** and **meeting-specific**.



Research Kit

The Future of Meetings



Xinbei Hu, Can Zhao, Corey Brown

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Introduction & Background

Overview

The meeting is a vehicle for many organizational activities, and employees spend a significant amount of time in meetings [1]. Our research aims to identify opportunities to improve the value of collaborative business meetings. Research has shown that a large portion of meetings are perceived as unproductive by attendees. Meetings should add value to participants' lives by providing a sense of progress — problems being defined, decisions getting made, priorities being prioritized, and solutions being built upon the benefit of multiple perspectives [2]. This project intends to better understand the intents, process, and efficacy of workplace meetings to increase the value of meetings.

How might we facilitate constructive collaborations of meeting attendees in the US working environment?

Literature Review

Meetings are pervasive in business culture. Meetings are defined as “an act or process of coming together” that may be “a chance or a planned encounter.” Romano and Nunamaker further this description in the context of business meetings, addressing level of formality and temporal and physical dispersion, defining meetings as “a focused interaction of cognitive attention, planned or chance, where people agree to come together for a common purpose, whether at the same time and the same place, or at different times in different places” [3]. Meetings, whether in-person or remote— using audio and/or video conferencing— occur to facilitate communication along a variety of areas of focus.

Among these are decision making, reviews, status updates, brainstorming, planning, and information exchange. “We meet because people holding different jobs have to cooperate to get a specific task done. We meet because the knowledge and experience needed in a specific situation are not available in one head, but have to be pieced together out of the knowledge and experience of several people” [4]. While meetings have been a standard way of communicating and collaborating for years, studies and testimonials show that they are not always productive.

Introduction & Background

A survey by Clarizen, an enterprise work collaboration software company found that “Three in five employed adults reported that preparing for a status meeting “takes longer than the meeting itself,” [5] while more than one-third of those who attend status meetings called them a waste of their time.” Additionally, Americans spend an average of 4.6 hours each week preparing for status meetings and 4.5 hours attending general status meetings (cite clarion study). Almost half of respondents would rather “do any unpleasant activity” than sit in a status meeting, including going to the Department of Motor Vehicles or watching paint dry. (note: a status meeting is defined as a meeting with updates for team members on completed and active work tasks. Strategy, brainstorming and company planning meetings are not included in this definition of a status meeting.)

Research also shows that the time spent in meetings can be both unproductive and counterproductive. Almost three in five workers reported that they multitask during status meetings [5] This illustrates the idea that meetings are not always perceived as a valuable use of time for attendees. Additionally, Parkinson’s Law states that “work expands so as to fill the time available for its completion.” Essentially, tasks take as long as the time allotted. If a meeting is planned for two hours, it takes two hours regardless of the realistic time to completion.

”Almost every time there is a genuinely important decision to be made in an organization, a group is assigned to make it” [6]. While meetings often pose as unproductive use of time, Hall found that “When a group’s final decision is compared to the independent points of view that the members held before entering the group, the group’s effort is almost always an improvement over its average individual resource, and often it is better than even the best individual contribution” [7]. Meetings have the potential to create productive, valuable, positive outcomes. They can lead to new ideas, better strategies, stronger relationships, good decisions, and organizational changes [2]. This research plan will attempt to uncover the interactions that contribute to valuable, constructive meetings and identify the gaps that cause unproductive, less valuable meetings.

Introduction & Background

References:

- [1] Steven, R. G., Desmond, L. J., Peter, W. B., & Jennifer, B. L. (2006). "Not Another Meeting!" Are Meeting Time Demands Related to Employee Well-Being? *Journal of Applied Psychology*, 91(1), 86-96.
- [2] Hoffman, K. M. (2018). *Meeting Design: For managers, makers, and everyone*. Brooklyn, NY: Two Waves Books, an Imprint of Rosenfeld Media, LLC.
- [3] Romano, N., & Nunamaker, J. (n.d.). Meeting analysis: Findings from research and practice. Proceedings of the 34th Annual Hawaii International Conference on System Sciences. doi:10.1109/hicss.2001.926253
- [4] Drucker, P. *The Effective Executive*. New York: Harper & Row, 1967.
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- [6] Hackman, J.R., & Kaplan, R. E. Interventions into group process: an approach to improving the effectiveness of groups. *Decision Sciences*, 5, 1974, 459-480.
- [7] Hall, J. Lost on the Moon. *Psychology Today*, November, 1971, 51.

Introduction & Background

Research Questions:

In order to figure out how to facilitate the collaboration process of meetings, we plan to research on the following questions:

1. What are the most common challenges in meetings?
2. Do meeting types and frequencies vary correlated to the size of the company, attendees' job functions, and experience levels?
3. In the context of collaboration, what form of input data (image, text, video, audio and etc.) do attendees find most useful and how do they utilize them?
4. What hardware technologies/platforms are usually available in the current meeting environment?
5. What software tools are usually used in the current meeting environment and for what purposes?
6. Which stage of meetings has more potential to be interfered - before meetings, during meetings, or after meetings?

Participant Profile

Our participants will be mainly US professionals who:

1. Are already familiar with professional meetings in the US working environment.
2. Aged 24 - 45
3. Willing to adopt certain technologies to facilitate meetings
4. Have at least 1 year of working experience
5. Have attended various meetings in professional occasions.
6. Work in companies that have less strict policies

Study Objectives

Survey

We will distribute survey to people who are currently working or have working experience in the United States. After sending out the survey, we will focus on the population who attend small group of meetings and find out what their current pain points are. We plan to target IT companies because we aim to target more tech-savvy population with more potential to utilize new technologies rather than more traditional meetings. We want to know the current pain points and current solutions so that we won't duplicate efforts. We want to possible directions for our research questions.

Determine what technologies our populations have access to

Semi-structured User interview

The participants that we are going to recruit for our user interview will be selected from the survey.

In this activity, we decide to build empathy with our participants by hearing personal stories and examples of their meeting experience. We would like to find out the details of the structures of each decision-making meeting, the process of making decisions in each meeting and the way people communicate with each other in each meetings.

After all the data is collected and mapped out, we hope to find the difference and

Contextual inquiry (observe 1~2 meetings)

Comparing the observations of a live meetings and attendees' recalled memories would offer us more objective insights understanding the dynamics of meetings. After the surveys, we will inquire relevant participants whose company allow scholars to audit meetings for researching purposes and and interview 8 to 9 participants. From these participants, we will select 2 or 3 participants based on the productiveness of the interviews and ask to join a type of meeting they describe to us.

Concerns: we might not be allowed to attend companies' meetings or are not allowed to attend the type of meetings we're interested in.

Supporting Materials

Meetings and Collaborations Survey

We might follow up through the email address you leave.

Email address *

Valid email address

How would you describe your current job function?

- Administrative
- Sales
- Engineering
- Information Technology or HCI
- Program or Product Management
- Research and Development
- Education
- Design
- Other...

How would you describe your experience level? *

- Entry/Junior
- Intermediate
- Senior
- Director
- Other...

What's the size of your current company? *

- Small (less than 100 employees)
- Medium (100-999 employees)
- Large (more than 1000 employees)

Supporting Materials

How often do you attend meetings in a business/professional setting? *

- 1-2 meetings a week
- more than 3 meetings a week
- more than 10 meetings a week
- I rarely attend meetings.

What size of professional meetings do you attend most? *

- private (myself and 1 other person)
- small (3-5 people)
- medium (6-10)
- large (more than 10 people)

Do the meetings you attend always include members with multiple job functions?

- Yes, attendees have people with multiple job functions
- No, attendees have people with similar job functions
- Both, I attend meetings with multiple job functions AND meetings with similar job functions

When attending meetings, which of the following technologies are most commonly used in the meeting rooms? Select all that apply.

- Flat panel display (e.g. television)
- Single projector display
- Multi-projector display setup
- PC or server connected to the display
- Audio or web conferencing equipment
- Electronic white board
- Traditional white board
- Other...

Supporting Materials

When attending meetings, which of the following methods are most commonly used? Select all that apply.

- Video conferencing as in Skype/FaceTime/Google Hangout
- Instant messages as in Skype/Google Hangout/Windows Live Messenger/Slack
- Presentation as in Powerpoint/Keynote/PDF/Google slides
- Scheduling meetings as in Outlook/Google Calendar
- Tasks management as in Trello/Jira
- Internal organization blogs
- Other...

What are the most common challenges in meetings you attend? Select all that apply

- Lack of preparation by the participants
- Post-meeting follow-up
- Coming to decisions
- Keeping meetings focused and on track
- Getting everyone to engage/participate
- Technical difficulties with equipment
- Personal engagement with meeting content
- External distractions (emails, messages, etc.)
- Other...

What items do you typically bring to meetings? Select all that apply. *

- Windows laptop
- Apple laptop
- iPad
- Android tablet
- iPhone
- Android smartphone
- Wacom Tablet
- Other...

Supporting Materials

When YOU have prepared content to share in a meeting how do YOU most often share that content with other meeting attendees in the room? Select all that apply.

- use a cable to connect my device
- bring my content on a Flash/USB drive
- print the materials and bring hard copies
- use a wireless content-sharing solution
- Other...

Which of the following do you think make meetings MORE productive? Select all that apply.

- Read slides/presentations prepared ahead of time
- Read slides/presentations after meetings
- Make notes during meetings
- Ask questions/make comments during meetings
- Ask follow-up questions after meetings
- Other...

Which of the following do you think make meetings LESS productive? Select all that apply.

- Read slides/presentations prepared ahead of time
- Read slides/presentations after meetings
- Make notes during meetings
- Ask questions/make comments during meetings
- Ask follow-up questions after meetings
- Other...

Supporting Materials

How do you currently* collaborate with team members in meetings? Select all that apply

- in-person meetings with no collaboration technology
- in-person meetings, one person shares content on a screen
- in-person meetings, multiple people share content on a display via multiple wired connections
- in-person meetings, one person shares content on a display wirelessly
- in-person meetings, multiple people share content on a display wirelessly
- remote meetings via audio/web conferencing
- remote meetings via video conferencing
- Other...

Supporting Materials

Interview Study Guide

Hi.I'm [interviewer] and this is [note-taker] and [photographer].Thank you so much for taking the time to do the survey and talk with us about the meeting experience.Today, I'll be talking with you, [note-taker] will be taking notes, and [photographer] will be taking some photos to help us remember what you've told us.We'll let you review these photos at the end. If you ever need to

take a break please let us know. We can stop the session at anytime

We'd like to record this interview, is that still alright with you?

Can you sign this form? It says that you're giving us permission to use the photos we take for our project. It also says that you're giving us permission to record this conversation, but that the recording won't be shared with anyone else. Do you have any questions?

Would you like to use the restroom or get a drink/snack before we start?

Background Questions

Before we talk about the meeting experience, we have some questions about you.

What do you do?

Which company are you working at? What city?

Which team do you work at?

Process of Meetings

How many meetings do you participate every week? In each week what day tend to have most meetings? What types of meetings do you attend the most often? How many percentage of your time at work each day that you need to attend meetings?

Are all the meetings mandatory?

Have you ever attended decision-making meeting? How often? When? How many people in these types of meetings? Who are the participants (what roles)? How did you schedule the meetings? How long it took?

Walk us through your experience in one of those meetings.

In the meeting, how did you involve in the decision making process? How did you make decisions? How did you and your colleague come to an agreement?

If you have everything the way you wanted about the way you and your colleagues communicate, what would it look like?

Supporting Materials

What tool did you use during the meeting? (Taking notes, photos, scheduling, sharing...)

How productive do you think is each meeting? Why do you think that is?

Can you describe how you feel about the process?

Do you ever multitasking in the meeting? (check emails, reply message) Do you think it will interfere with the meetings?

Did you ever remotely join the meeting before? How often do you do that? How do you like that experience? How would you like to change it ?According to your own experience What is the main difference between remote and not remote meetings?

Conclusion

Is there anything else you'd like to tell us?

Thank you so much for spending time with us. Those are all the questions we have! We hope you enjoyed the experience as much as we did Here is a small thank you from us.<Give gratuity.> Please sign this form to acknowledge that we've given this gift to you along with our contact information.

Again, thank you for your time. Here is our contact information if you have any questions.

what kind of information the participant is following from the meeting and what the actions are.

Supporting Materials

Contextual Inquiry Session Plan

Comparing the observations of a live meetings and attendees' recalled memories would offer us more objective insights understanding the dynamics of meetings.

Consent Form Preparation

We should ask the participant to point us to the organizer of the meeting, and inquire if we need to sign any consent form not to share any content of the meetings beyond educational purposes. We need to know if audio/video recording is acceptable, what form of notes we are allowed to take, what other restrictions exist.

Pre-Meeting Check-in with Participant (10 minutes)

We will ask the participant what kind of preparation they would do before the actual meeting through emails or instant messages.

Introduction before the meeting (5 mins)

We should introduce the team (background and name) and the purpose of the observations - our purpose is to improve the quality of meetings through technology resorts.

Observe and make notes during meetings (ideally less than 1 hour)

We should merely observe and make notes. If audio or video are allowed, we should make sure the equipment is working during the meeting.

Ask Short Questions after the meeting (5 minute)

After the meetings, if possible, we could ask short questions about what software/platform/technology are used during the meeting.

Follow-up Check-in with Participant (20 minutes)

After the meeting, we will check in with the participant within one week and ask

Supporting Materials

Consent Form

About

We're investigating the experience and conditions of meetings from professionals who are familiar with the working environment in the United States, like you. We hope to learn more about the dynamics of group meetings in order to facilitate constructive collaborations of meetings in the professional context through the design of digital products.

Form

This is just an interview. We have a list of question, but we see it more like a conversation. You don't have to answer any question you don't care to.

Confidentiality

We will need to **audio record** during the interview process. The purpose of audio recording is for us to take notes and synthesize them into insights for our project. You can immediately raise any concerns or areas of discomfort during the session with the study administrator. You may ask that we stop recording at any time. The recording will not be shared beyond our team members (Corey Brown, Xinbei Hu, Can Zhao, students of [MHCI+D](#) at the University of Washington). The records associated with this study will be kept private. We will not link your name or other personally identifiable details to the content of this interview in any form — **your participation will remain anonymous**. However, **we would like to be able to associate participants' occupations with their data**. If you do not want your occupation associated with your data, let us know and we will omit that information.

Compensation

For taking part in the study, you'll be given a **\$15** Amazon Gift Card as thanks.

If you agree with the above, please sign here:

Name

Date

Check List

Scripts

Consent Form

Audio Recorder

iPhone

Skype

Note-taking

Notebook

Pens/Pencils

Expert Interview Report with Kevin Hoffman

Interview Guide:

Introduction (5 minutes):

Hi Kevin, my name is Can and these are my teammates Corey and Xinbei. We're currently master students of Human-Computer Interaction and design at the University of Washington and we're investigating meetings in the working context in the US. We know that you're an expert in meetings design, and the purpose of the meeting is to learn from you about meetings. We will have some questions to keep the meeting structured, yet the main point is for you to talk. Our meeting should not last more than 45 minutes. Before we start, do you have any questions for us? Great. Now let's start with the first question.

I. General Questions

1. How would you define meetings?
2. Are you particularly interested in a specific type of meetings? Why?
3. Generally, why do you think current meetings need to be redesigned (why doesn't it work)?

We put very minimal design thinking into meetings.

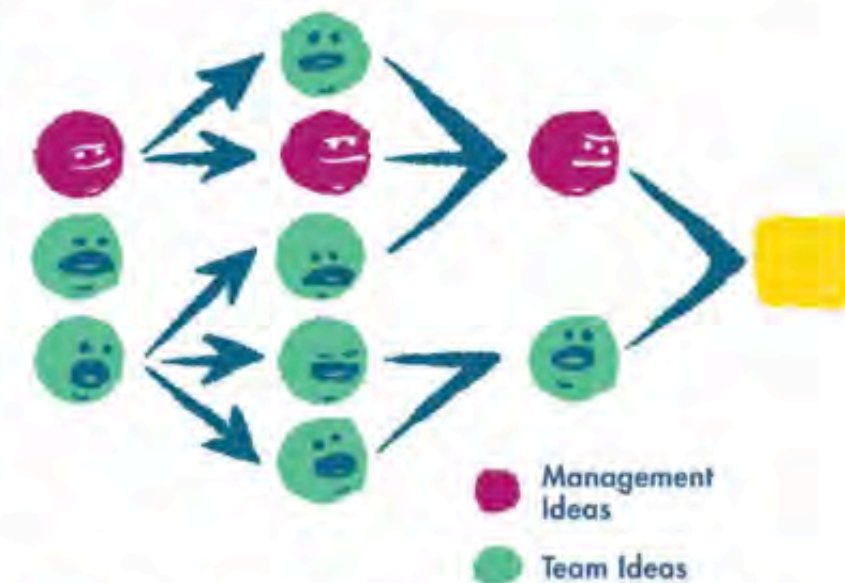
Bias: ritual and outcome

Based on last experience (if it is success) being in context, the success triggered feelings, habits. Breaking the habits is hard.

II. Specific Questions

1. How did you learn the problems of the people you studies in the book? How did you come up with an solution and think it would work?

2. Do you think the dynamics/structure of meetings are under the influence of job titles? Can you say more about your visualization below?



3. Correct me if I'm wrong - I noticed that there are more content about in-person meetings rather than remote meetings. Is there any reason you make such choice?
4. We're especially interested in visual facilitation of meetings. Why do you think visual facilitation work during meetings is going to be useful? What are the constraints and opportunities? Can you describe what kind of visualization would be useful?
5. We noticed that the most often technology you refer to in the book is sticky notes. Is there any reason you picked this rather than other technologies? What are the pain points of using other technologies?
6. What are the current technologies you're aware of as visual facilitators?
7. If you're asked to design one technology/multiple technologies in the meeting room, what problems should they solve?
8. Last question, is your talk on April 24th going to be video-recorded?

review with stopping points to review every 10 minute or so - a reasonable cognitive load
Visual facilitation

2. Different types of meetings: we're having problems categorizing meeting types. Why do you categorize meetings that way? What kind of context were you envisioning?

Survey Result

Participant ID	Job Title	Company Size	Industry	Meeting Frequency	Meeting Duration	Meeting Location	Tools Used	Meeting Frequency	Meeting Duration	Meeting Location	Tools Used	Meeting Frequency	Meeting Duration	Meeting Location	Tools Used	Meeting Frequency	Meeting Duration	Meeting Location	Tools Used	Meeting Frequency	Meeting Duration	Meeting Location	Tools Used
1	Entry/Junior	Large (more than 1000 employees)	Design	20% - 50%	more than 3 meetings a week	3	presentation tools— e.g. Powerpoint/Keynote, PC or server connected to the display, Audio or web conferencing equipment	medium (6-10)	laptop, iPad, iPhone, Android smartphone, etc.	Status Updates, Brainstorming, Planning	meeting content, Keep the meeting information notes during meetings, Ask questions/make	different working pace on different	person shares content on a screen, remote										
2	Intermediate	Medium (100-999 employees)	Sales	50% to 80%	more than 3 meetings a week	4	presentation tools— e.g. Powerpoint/Keynote, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop, iPhone, Pen/Pencil + Notebook	Status Updates, Information Exchange,	Post-meeting follow-up, Coming to decisions/	presentations prepared ahead of time, Ask questions/make	notes during meetings, Ask questions/make										
3	Intermediate	Small (less than 100 employees)	Design	50% to 80%	more than 10 meetings a week	2	Google Hangout, Tasks management tools— e.g. Trello/Jira/Asana, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop, iPhone	Decision making, Reviews, Planning	in by the participants, Keeping meetings focused	notes during meetings, Stand Up meetings,	off topic chats										
4	Intermediate	Small (less than 100 employees)	Design	more than 80%	more than 3 meetings a week	1	Tasks management tools— e.g. Trello/Jira/Asana, Audio or web conferencing equipment	medium (6-10)	Apple laptop	Status Updates, Brainstorming, Information	Post-meeting follow-up, Coming to decisions/	management makes effective meetings, Who attends	of track, Bad decision making proportion										
5	Entry/Junior	Small (less than 100 employees)	Design	more than 80%	1-2 meetings a week	3	Powerpoint/Keynote/PDF/Google slides, Single projector display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop, iPhone	Decision making, Planning	ing follow-up, Keeping meetings focused and on track,	Make notes during meetings, Ask questions/make	Meeting without pre-organization,										
6	Entry/Junior	Large (more than 1000 employees)	Design	50% to 80%	more than 3 meetings a week	2	Google Hangout/Windows Live Messenger/Slack, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	medium (6-10)	Android tablet, iPhone, Android smartphone, etc.	Status Updates, Brainstorming, Planning	ing follow-up, Getting everyone to engage/participate,	Remote meeting during meetings, Ask questions/make	Meeting on Fridays										
7	Entry/Junior	Medium (100-999 employees)	Human Resources	about 50%	more than 10 meetings a week	3	Google Hangout/Windows Live Messenger/Slack, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Windows laptop, Pen/Pencil + Notebook	Status Updates, Planning, Information	Exchange everyone to engage/participate, Technical	Make notes during meetings, Ask questions/make	other than note taking/things not on a display via multiple wired connections, in-person										
8	Entry/Junior	Medium (100-999 employees)	Administrative	20% - 50%	more than 3 meetings a week	3	presentation tools— e.g. Powerpoint/Keynote, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop, Pen/Pencil + Notebook	Status Updates, Planning, Information	Exchange meeting content, External distractions/	ahead of time, Make notes during meetings, Ask questions/make	notes during meetings, Ask questions/make										
9	Entry/Junior	Medium (100-999 employees)	Information Technology	50% to 80%	1-2 meetings a week	3	Google Hangout, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop, iPhone	Status Updates, Planning, Information	Exchange engagement with meeting content, External	distractions/ ahead of time, Make notes during meetings, Ask questions/make	notes during meetings, Ask questions/make										
10	Entry/Junior	Small (less than 100 employees)	Law	more than 80%	1-2 meetings a week	5	scheduling tools— e.g. Outlook/Google Calendar, PC or server connected to the display, Audio or web conferencing equipment	medium (6-10)	Pen/Pencil + Notebook	Reviews, Status Updates	Lack of preparation by the participants	Start with an agenda	None										
11	Intermediate	Medium (100-999 employees)	Engineering	20% - 50%	more than 10 meetings a week	5	presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	medium (6-10)	Apple laptop, iPhone	Reviews, Status Updates, Planning	Coming to decisions	ahead of time, Ask questions/make	comments during meetings, lack of good host										
12	Intermediate	Medium (100-999 employees)	Design	20% - 50%	1-2 meetings a week	3	presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Windows laptop, iPhone, Pen/Pencil + Notebook	Status Updates, Brainstorming, Information	Exchange focused and on track, Technical	difficulties with equipment during meetings, Ask questions/make	comments during meetings, Don't know										
13	Entry/Junior	Small (less than 100 employees)	Design	20% - 50%	1-2 meetings a week	4	Google Hangout/Windows Live Messenger/Slack, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Pen/Pencil + Notebook	Reviews, Status Updates, Information	Exchange	Post-meeting follow-up, Remote meeting	during meetings, Ask questions/make										
14	Entry/Junior	Small (less than 100 employees)	Human Resources	20% - 50%	1-2 meetings a week	4	Google Hangout/Windows Live Messenger/Slack, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop, iPhone, Pen/Pencil + Notebook	Status Updates, Brainstorming, Planning	ing follow-up, External distractions (emails, messages,	ahead of time, Make notes during meetings, Ask questions/make	notes during meetings, Ask questions/make										
15	Entry/Junior	Large (more than 1000 employees)	Design	more than 80%	1-2 meetings a week	4	Powerpoint/Keynote/PDF/Google slides, Document viewer, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Windows laptop, Pen/Pencil + Notebook	Reviews, Status Updates	Keeping meetings focused and on track,	agenda, Attend meeting less than 5 people, Inactive	topics, poor personal conditions, in-person meetings, one										
16	Entry/Junior	Large (more than 1000 employees)	Administrative	less than 20%	I rarely attend meetings.	4	collaboration tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Pen/Pencil + Notebook	Status Updates, Planning	Getting everyone to engage/participate,	Ask questions/make	comments during meetings, Bring phone to meeting,										
17	Entry/Junior	Large (more than 1000 employees)	Design	less than 20%	1-2 meetings a week	3	presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop, Pen/Pencil + Notebook	Reviews, Brainstorming	Post-meeting follow-up, Coming to decisions/	ask questions/make	comments during meetings, Unnecessary issues + changes										
18	Entry/Junior	Small (less than 100 employees)	Design	more than 80%	1-2 meetings a week	3	presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	iPhone, Pen/Pencil + Notebook	Reviews, Status Updates	Coming to decisions	with an agenda, Make notes during meetings,	Too much talking										
19	Intermediate	Large (more than 1000 employees)	Engineering	less than 20%	more than 3 meetings a week	3	presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Windows laptop, Android smartphone	Reviews, Status Updates	Coming to decisions, Keeping meetings	with an agenda, Attend meeting less than 5	minutes, in-person meetings, one										
20	Entry/Junior	Small (less than 100 employees)	Design	50% to 80%	1-2 meetings a week	4	collaboration tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Pen/Pencil + Notebook	Reviews, Brainstorming	Lack of preparation by the participants	ahead of time, Simultaneously input from multiple	participants while everyone else has to pay attention										
21	Intermediate	Large (more than 1000 employees)	Engineering	less than 20%	more than 3 meetings a week	4	Skype/FaceTime/Google Hangout, Document viewer connected to the display, Audio or web conferencing equipment	medium (6-10)	Apple laptop	Decision making, Status Updates, Brainstorming,	Planning	and on track, Technical difficulties with equipment,	Make notes during meetings, Attend meetings,										
22	Intermediate	Small (less than 100 employees)	Engineering	20% - 50%	1-2 meetings a week	2	Google Hangout/Windows Live Messenger/Slack, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop, iPhone	Decision making, Reviews, Brainstorming,	Planning	and on track, Technical difficulties with equipment,	Make notes during meetings, Attend meetings,										
23	Entry/Junior	Large (more than 1000 employees)	Medicine	less than 20%	I rarely attend meetings.	4	collaboration tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Pen/Pencil + Notebook	Reviews, Status Updates	Coming to decisions, Keeping meetings	focused and on track, Start with an agenda	Targeted										
24	Intermediate	Large (more than 1000 employees)	Design	more than 80%	more than 3 meetings a week	3	presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Windows laptop, Android smartphone	Reviews, Status Updates, Planning	ing focused and on track, Technical	difficulties with equipment, Make notes during meetings, Ask questions/make	comments during meetings, Making jokes (not relevant to who										
25	Entry/Junior	Small (less than 100 employees)	Human Resources	less than 20%	1-2 meetings a week	4	Outlook/Google Calendar, Documentation/Note-taking — e.g. Wiki, Verbal	N/A	Pen/Pencil + Notebook	Decision making, Reviews, Status Updates, Planning	ing meetings focused and on track, Getting everyone	to engage/participate, ahead of time, Make notes during meetings, Ask questions/make	comments during meetings, Everyone should know the										
26	Intermediate	Large (more than 1000 employees)	Consumer Finance	less than 20%	I rarely attend meetings.	4	Documentation/Note-taking — e.g. Wiki, Verbal	small (3-5 people)	iPhone, Pen/Pencil + Notebook	Reviews, Status Updates, Planning, Information	Exchange	Lack of preparation by the participants	with an agenda, Make notes during meetings,										
27	Entry/Junior	Large (more than 1000 employees)	Engineering	less than 20%	1-2 meetings a week	3	collaboration tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	large (more than 10 people)	Apple laptop	Status Updates	Remote meeting	Start with an agenda	not prepared										
28	Entry/Junior	Large (more than 1000 employees)	Consulting	about 50%	more than 10 meetings a week	4	slides, Scheduling tools— e.g. Outlook/Google Calendar, Multi-projector display setup, Audio or web conferencing equipment	medium (6-10)	Windows laptop, iPhone, Pen/Pencil + Notebook	Status Updates, Brainstorming, Planning,	ing	Post-meeting follow-up, Coming to decisions/	make notes during meetings, Ask follow-up questions										
29	Entry/Junior	Large (more than 1000 employees)	Design	20% - 50%	more than 3 meetings a week	4	FaceTime/Google Hangout, Scheduling tools— e.g. Outlook/Google Calendar, Multi-projector display setup, Audio or web conferencing equipment	small (3-5 people)	Apple laptop, Pen/Pencil + Notebook	Decision making, Planning	ing, External distractions (emails, messages/	make comments during meetings, Ask questions/make	comments during meetings, Noises										
30	Entry/Junior	Large (more than 1000 employees)	Information Technology	50% to 80%	more than 10 meetings a week	2	Google Hangout/Windows Live Messenger/Slack, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Windows laptop	Status Updates, Brainstorming, Planning	ing	Personal engagement with meeting content, Attend	meeting less than 5 people, 3) fundamental problems										
31	Entry/Junior	Large (more than 1000 employees)	Design	50% to 80%	more than 3 meetings a week	3	Powerpoint/Keynote/PDF/Google slides, Single projector display, Audio or web conferencing equipment	small (3-5 people)	Windows laptop, iPhone	Status Updates, Brainstorming, Information	Exchange	and on track, Technical difficulties with equipment,	ahead of time, Make notes during meetings, Ask questions/make										
32	Entry/Junior	Large (more than 1000 employees)	Research	less than 20%	1-2 meetings a week	4	Slack, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	medium (6-10)	Pen/Pencil + Notebook	Reviews, Status Updates	focused and on track, Getting everyone to	Attend meeting less than 5 people	Bad slides										
33	Intermediate	Large (more than 1000 employees)	Design	about 50%	more than 10 meetings a week	3	presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Windows laptop	Status Updates, Brainstorming, Information	Exchange	to decisions, Technical difficulties with equipment,	Ask follow-up questions after meetings,										
34	Entry/Junior	Large (more than 1000 employees)	Engineering	50% to 80%	more than 3 meetings a week	4	Google Hangout/Windows Live Messenger/Slack, Scheduling tools— e.g. Outlook/Google Calendar, Multi-projector display setup, Audio or web conferencing equipment	small (3-5 people)	Apple laptop, iPhone	Status Updates, Brainstorming, Planning	ing focused and on track, Technical	difficulties with equipment, Make notes during meetings, Ask questions/make	comments during meetings, lack of control										
35	Entry/Junior	Large (more than 1000 employees)	Engineering	less than 20%	1-2 meetings a week	4	collaboration tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop	Status Updates, Brainstorming, Planning	ing	Remote meeting during meetings, Ask questions/make	comments during meetings, Repetitions and unclear										
36	Senior	Small (less than 100 employees)	Information Technology	20% - 50%	more than 3 meetings a week	4	Google Hangout/Windows Live Messenger/Slack, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	large (more than 10 people)	Windows laptop, Apple laptop, iPad	Decision making, Reviews, Status Updates	by the participants, Post-meeting follow-up,	presentations prepared ahead of time, Read reasons for your	meeting and you share content on a screen, in-person										
37	Senior	Large (more than 1000 employees)	Sales	less than 20%	1-2 meetings a week	4	collaboration tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Windows laptop	Reviews	Coming to decisions, Getting everyone to	engage/participate, Ask follow-up questions after meetings, Attend	meetings, Don't meet face to face										
38	Director	Medium (100-999 employees)	Engineering	about 50%	1-2 meetings a week	3	Google Hangout/Windows Live Messenger/Slack, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	medium (6-10)	Android tablet	Status Updates	Coming to decisions	Start with an agenda	nothing										
39	Intermediate	Medium (100-999 employees)	Education	20% - 50%	1-2 meetings a week	5	Powerpoint/Keynote/PDF/Google slides, Scheduling tools— e.g. Outlook/Google Calendar, Multi-projector display setup, Audio or web conferencing equipment	large (more than 10 people)	Pen/Pencil + Notebook, Google Chrome Booking,	Reviews, Status Updates, Brainstorming,	Planning	focused and on track, Getting everyone to	Make notes during meetings, Ask questions/make										
40	Intermediate	Medium (100-999 employees)	Information Technology	less than 20%	1-2 meetings a week	1	Google Hangout/Windows Live Messenger/Slack, Tasks management tools— e.g. Trello/Jira/Asana, PC or server connected to the display, Audio or web conferencing equipment	medium (6-10)	iPhone, Pen/Pencil + Notebook, Linux Laptop	Reviews, Status Updates, Brainstorming, Information	Exchange	Keeping meetings focused and on track, Getting everyone	to engage/participate, Ask questions/make										
41	Intermediate	Medium (100-999 employees)	Information Technology	less than 20%	more than 3 meetings a week	4	scheduling tools— e.g. Outlook/Google Calendar, Flat panel display (e.g. television)	small (3-5 people)	Android tablet	Status Updates	Getting everyone to engage/participate,	Read slides/presentations after meetings,	son who showed up on time, are multiple people										
42	Entry/Junior	Medium (100-999 employees)	Sales	20% - 50%	more than 3 meetings a week	4	collaboration tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop	Decision making	Post-meeting follow-up	Read slides/presentations prepared ahead of time,	yes										
43	Entry/Junior	Medium (100-999 employees)	Information Technology	less than 20%	I rarely attend meetings.	3	collaboration tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Windows laptop	Information Exchange	External distractions (emails, messages, etc)	None	not prepared										
44	Intermediate	Small (less than 100 employees)	Sales	20% - 50%	more than 3 meetings a week	4	collaboration tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop	Reviews	Coming to decisions	Read slides/presentations prepared ahead of time,	yes										
45	Intermediate	Medium (100-999 employees)	Information Technology	20% - 50%	more than 3 meetings a week	4	Google Hangout/Windows Live Messenger/Slack, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Android tablet	Status Updates	Coming to decisions	Make notes during meetings	Start on time, and end on time										
46	Senior	Small (less than 100 employees)	Engineering	20% - 50%	more than 3 meetings a week	3	collaboration tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Windows laptop	Planning	Keeping meetings focused and on track,	Read slides/presentations after meetings,	23										
47	Entry/Junior	Large (more than 1000 employees)	Information Technology	20% - 50%	more than 3 meetings a week	3	scheduling tools— e.g. Outlook/Google Calendar, Traditional white board	large (more than 10 people)	Windows laptop	Reviews, Status Updates, Planning	Lack of preparation by the participants,	Post-meeting follow-up,	Make notes during meetings,										
48	Intermediate	Small (less than 100 employees)	Education	20% - 50%	1-2 meetings a week	4	collaboration tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	medium (6-10)	Windows laptop	Reviews, Status Updates, Planning, Information	Exchange	Participants, Coming to decisions, Getting everyone	to engage/participate, Make notes during meetings,										
49	Intermediate	Medium (100-999 employees)	Human Resources	about 50%	more than 3 meetings a week	4	collaboration tools— e.g. Outlook/Google Calendar, Tasks management tools— e.g. Trello/Jira/Asana, PC or server connected to the display, Audio or web conferencing equipment	medium (6-10)	laptop, iPad, iPhone, Android smartphone,	Decision making, Reviews, Status Updates, Planning,	ing	Personal engagement with meeting content, Attend	meetings, Stand Up meetings,										
50	Senior	Small (less than 100 employees)	Engineering	20% - 50%	more than 3 meetings a week	4	FaceTime/Google Hangout, Tasks management tools— e.g. Trello/Jira/Asana, PC or server connected to the display, Audio or web conferencing equipment	medium (6-10)	Windows laptop, Apple laptop, iPad	Reviews, Status Updates, Brainstorming, Planning	ing focused and on track, Getting everyone to	up questions after meetings, Attend meetings,	insufficient power supply										
51	Senior	Medium (100-999 employees)	Engineering	20% - 50%	more than 3 meetings a week	4	Slack, Presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	medium (6-10)	Apple laptop, Android tablet, iPhone	Status Updates, Brainstorming, Planning	ing	Notes during meetings, Ask follow-up questions	delay process										
52	Intermediate	Large (more than 1000 employees)	Design	50% to 80%	more than 3 meetings a week	4	presentation tools— e.g. Powerpoint/Keynote/PDF/Google slides, PC or server connected to the display, Audio or web conferencing equipment	small (3-5 people)	Apple laptop, iPhone, Pen/Pencil + Notebook	Status Updates, Brainstorming, Planning, Information	Exchange	Technical difficulties with equipment, External	distractions/ notes during meetings, Ask questions/make										

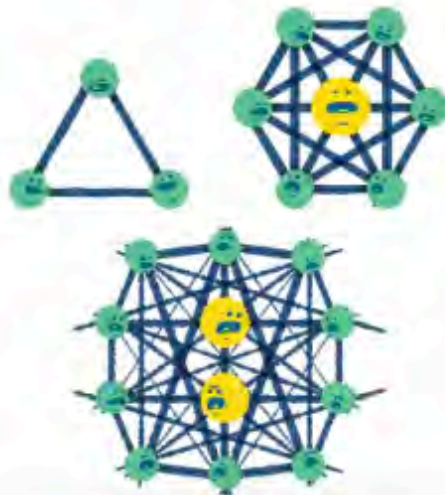
Expert Interview Report with Kevin Hoffman

Expert Interview with Kevin Hoffman

Profile

Kevin Hoffman is the author of Meeting Design: For Managers, Makers, and Everyone(2018).He connects people, ideas, and solutions in order solve our industry's pressing design challenges. As Vice President for Design Practices at Capital One, he takes responsibility for assessing, exploring, and accelerating all areas of design with a team of over 80 very talented human beings. He also co-founded a software product, Boardthing, and a design agency, Seven Heads Design, a network of digital design thinkers who collaborated frequently on major projects. Kevin regularly shares his insights at conferences across the world. He gave a talk in NYC UXPA on April 24.

Observations & Insights



1. Meeting size
 - a. The complexity of meeting is highly dependent on the meeting size. If we connect every attendee and understand each line as one point of argument, we can see that adding one person does not only mean adding one new agreement - it will scale up the complexity of the meeting quickly.
 - b. Assume that everyone is engaging in the meeting, reaching agreements from 3 to 7 people is still manageable, while a 12-people meeting could be a mess.
2. Memories and visual facilitation

- a. The most important criterion of evaluating a meeting experience is if it's memorable. A facilitator's job is basically to create feedback loop between what people say and what people hear. Visual Facilitation offloads people's ability to remember things even if it's 1~2 hours ago and avoid peak recency bias.
 - b. In reality, it would be unrealistic to confirm each other's memories/understanding of words during meetings despite the gaps of various memory capacity and understanding of things. Visual facilitation of memories can reveal various attendees' different perspectives and disagreements. A shared visualization of thoughts might quickly reveal agreements and disagreements during meetings.
3. Why Sticky notes work well during meetings?
 - a. it forces attendees to edit or segment thoughts on a designated size of paper. It's a design constraint that allows you to create the visual experience of proximity of distance to notes.
 - b. Therefore, how can we create design constraints in our conversation? What are the easiest ways to create design constraints in our conversation that support appropriate sizing of content, and allow us to create behaviors around the contents of grouping, breaking groups apart, regrouping, visualizing how things are?
 4. Remote Meetings
 - a. all of the biases of in-person meetings are both amplified and filtered during remote meetings. People choose to have less control of the meetings for the sake of its huge convenience - they choose the sacrifice the missing data such as each other's body language and background situations.
 - b. There is difference in the constraints with which you can design to, yet there isn't a difference between remote meetings and in-person meetings since the functional intent of a meeting should be the same. The whole point of meeting design is to get to the same outcomes via managing different constraints.

Notes:

K: Meetings needs to have a design layer applied to them. Meetings, in terms of their relationship to an organizational culture, that's something you can be intentional about. A single series of meeting you can be intentional about, and within a meeting, I think there's intention. There are a really rich history of thinking about how we could be more intentional with the time we can use when we are in a group. The history of us thinking about how we use meetings to get things done has not become part of the way we think about work in the same way that that **email** has. We still put very minimal design thinking into meetings in a lot of situations. I don't think it's universal though. Just hasn't become a **norm**.
Can: Why? Do people wish to have less structure, less constraints?

Expert Interview Report with Kevin Hoffman

K: One of reason is that I think that the active meeting is the primal instinct; it's a behavior that comes from an internal bias towards protection. If you think about as a species, we detect some sort of threat or danger or we have some sort of fear, the desire to gather, the narrative that it is a primal... (6:49) the fact that you're in a room with people feels safer than being alone. Just by staying together feels safer without saying anything. (8:11)

Another reason is that over time we develop different **kinds of biases**. I think one of the biases we developed is in the relationship between **ritual and outcome**. I'm gonna start with Agile Software methods. Agile is very tied to a specific set of rituals. Their core is around the ritual of the scrum, or **the concept of the scrum** (?). And beyond that you have sprint meetings (8:57)

Visual Facilitation (representation)

False categorization of remote meetings and in-person meetings

Visual Facilitation: a specific act of moving conversations forward

Diagram of facilitation model

Some of us process more by speaking, some of us process more by visual

By creating a visual focus, you're engaging people **at a different level of meeting**, it might be higher it might create complexity. Adding meanings that's not possible without visuals

To have the experience that's memorable to them

Feedback loop - offloading people's ability to remember things

And the thing that makes it powerful- creating a shared memory - group memory

Problems:

People's capacity of memories vary (the diversity of people's ability to remember things)

(25:52) We're not going back to confirm to what we said, yet we might forget (visual offset the problem)

It's more about disagreeing but not about agreeing

The fact of drawing reveals disagreement - to build a model to ascertain that we are in align or not and how it affects the decision we're making

Sticky notes: forces you to edit your thoughts

That editing and segmenting is really helpful in meetings- make small thoughts connect together

Design constraints.

Posted notes - visualize proximity

How can we create design constraints in our conversations that support appropriate sizing of the content, that allows to create behavior with the content like grouping, breaking groups, visualizing content in a sequence?

People's ways of processing information vary

Reduce Peak recency bias

Recall, synthesize , and apply

Remote Meetings

Biases are amplified and filtered in a remote meetings

Losing the experience of being a person

Assumptions in remote meetings are probably right or wrong.

For the most part, a meeting is functionally defined by people being together in real time.

The assumption that remote is different is wrong - the constraints are different

There's not much difference. The function/intent of meeting should be the same.

Expert Interview Report with Outlook Team

Expert Interview with Outlook Team

Profile

Jessica Cohen is a senior design Researcher in Microsoft and works in the Compass Program. It thrives on being fast and efficient: their global relationships enable them to bring the voice of the customer into their product with maximum ROI. The variety of projects she do keeps the team fresh and focuses. She spent the past 21 months working with teams to improve their collaboration habits, first with Macy's Technology (18 months) and now with a variety of Microsoft Customers (3 months).

Charlie Chung is currently working on its core collaboration products (Outlook and Exchange). He is the head of product for all time management scenarios at work in Outlook. This includes all aspects of how users organize their time, schedule and collaborate around meetings, and navigate their day.

Brian Stucker's job is to find, attract, and influence people across Microsoft through meetings. He and his staff spend about 80% of our day, every day, planning, engineering, and participating in meetings. They have resources that allow them to utilize a full product marketing process in order to refine every aspect of who they meet with which has included Satya on down to individual contributors that have been out of college for a few weeks.

Skye Pazuchanics is a design researcher working on the Outlook team. She've been doing a lot of work to understand what brings workers in large organizations joy and sorrow in their day to day work-lives. Throughout their work, the topic of "Meetings" has come up as one of the core sorrows. Because of this, their team has since done more work to get a deeper understanding of how meetings work, and points where they can rock or be terrible. She've also done some work to understand how gender dynamics can impact them, and what they can do to make things better there.

Caitlin Hart is a product manage and acts as product owner for multiple v1 and mature experiences, most recently Outlook Calendar. I drive business objectives into product initiatives, including prioritizing and designing new features and evaluating health of current product offering.

Key Observation / Insights

Goal and Agenda

1. Every successful (productive) meeting has a goal. "A lot of times it's just to reinforce the culture, reinforce the principles of the team or company" Meetings are often held for the purpose of engineering social interaction.

2. The details in agenda is hard to create. People don't have details about the meeting besides they need to have one about some topics, because most of the time, meeting is scheduled 2, 3 weeks ago.
3. Meetings are less productive when not everyone understands the end goal. It leads to weird meetings.
4. "It's a social skill to be able to create an agenda and articulate the expected outcome." Not everyone has that social skill. This leads to a lack of agenda and a disorganized, inefficient meeting that is prone to go off-topic.
5. Setting an agenda in advance can be restricting- it limits the opportunity to make changes and adjustments to the meeting as-needed.
6. People get nervous while filling out the agenda if it becomes a required field.
7. Though everyone says a meeting is better with an agenda, the reality is the meeting leader feels difficult to speak for everyone before the meeting without putting words in people's mouth. A calibration and negotiation of agenda has to be agreed everyone together, in a meeting.

Different Workflow in different team

8. The real challenge for a meeting tool is to incorporate the tool into the working flow seamlessly in every company's working culture instead of just teaching the user how to use it. Outlook has to be flexible enough to be adjusted to different company's needs.
9. "Every team starts to build their own workflow. There is no standard structure. Some people are organized, send reminders, etc. Other people are not this way."
10. Adopting new workflows and change patterns of behaviors in organization takes longer than individual adoption of software.

Learnability

11. "When you think about meetings, whether they be in outlook or Skype, etc., no one ever teaches you how to do it. Tutorial videos are too long and no one wants to learn. If you try to get a work group to adopt tools like "teams" or "slack," you have to get all team members to consistently use it. For anything when you're trying to get people to use, you don't just have to teach them how to use it, you have to convince them why they should be using it."

Social Interaction

12. Having regular time to come together and build that shared context is very important.

Expert Interview Report with Outlook Team

Interview Guide:

Introduction (5 minutes):

Hi everyone, my name is Xinbei and these are my teammates Corey and Can. We're currently master students of Human-Computer Interaction and design at the University of Washington and we're investigating meetings in the working context in the US. We know that you're an expert in remote meetings design, and the purpose of the meeting is to learn from you about remote meetings. We will have some questions to keep the meeting structured, yet the main point is for you all to talk. Our meeting should not last more than 45 minutes. Before we start, do you have any questions for us? Great. Now let's start with the first question.

Questions

1. During the research, what methods did you use to discover how users organize their time, schedule and collaborate around meetings?
2. What is your understanding of the current collaboration habits you are studying?
3. How did you learn the problems? How did you come up with a solution and think it would work?
4. As what I understand, people tend to have a set behavior during meetings, so after you find the pain point, how do you manage to improve their collaboration habits? What features does Outlook provide to improve that?
5. Both as an attendee and as a person with expertise on meetings, what are the current challenges and solutions you see during **cross-functional** meetings? how would you see Outlook's role in cross-functional meetings?
6. What is the current planning and preparation for a meeting with outlook?

Expert Interview Report with Outlook Team

Different language

13. One of the biggest challenges is to all teams to be speaking the same language, at the same level, and to make sure who owns the output. Cross-team, cross meetings (potential design challenge: how can we facilitate attendees in cross-team and multidisciplinary meetings speak the same language at the same level?)

General Learning

14. It is important to interpret like what people really want to accomplish because people tend to describe their problem, they describe it in the language that they know.
15. Before releasing it to a broader audience, starting with a smaller version of changes that you can measure actual outcomes from it.

Notes:

Brian:
we have gone so far as to build facebook profiles of people who we expect will be in these "prototypical meetings."

Charlie:
because our product is so broad, every team starts to build their own workflow. There is no standard structure.
Some people are organized, send reminders, etc.
Other people are not this way.

Jessica:
Each person represents 50 million users
moving just one little button can throw a person's whole day off

Caitlyn:
People don't like having their cheese moved.

Brian:
One of the things at Microsoft, because in scale, we can ship almost anything- we can ship a button that does almost nothing.
Even bad ideas are hard to get out of the product.

Jessica:

Agendas- everyone says this: meetings would be better if it just had an agenda or a purpose sentence.

"Should purpose/agenda be a required field in the outlook system." Almost everyone said yes but then they switch and say no, I don't want that as a requirement.

Brian: People, when they describe a product, they describe it in the terms they know of. That's our challenge as innovators.
What is the core of the problem? Then we can go back and try to solve it.

Brian:
Product development—
User acquisition funnel
Awareness, motivation, proficiency, evangelization. In each stage, the number of people gets smaller and smaller.
How do we actually bring people along with us in the journey

Jessica:
When you think about meetings, whether they be in outlook or Skype, etc., no one ever teaches you how to do it. But tutorial videos are too long and no one wants to learn.
If you try to get a work group to adopt tools like "teams" or "slack," you have to get all team members to consistently use it.
For anything when you're trying to get people to use, you don't just have to teach them how to use it, you have to convince them why they should be using it.

Charlie:
When you're dealing with meetings, you're dealing with groups of people.
***You're having a meeting to bring people together. You're sort of trying to **engineer the social interaction**.
***A lot of times it's just to reinforce the culture, reinforce the principles of the team or company.
Bad meetings: person doesn't understand or have a vision of what they want
Good Meetings: They have a goal (decision making, etc.)
What you're really doing, is engineering the social interaction to get stuff done. We are all people. We're not robots.

Brian:
infamous meeting: people would go through and decide what things would be added to the software that day. You'd sit there- each team (20 teams) brings up a form, explains a bug or a fix that needs to happen. The value of the meeting would happen later on- someone would bring up a nutty idea and everyone would say "that's crazy, we're never implementing that."
The next day, someone has the same idea. Over the next two weeks, people start understanding where the bar is because they bring the feedback back to their teams. 20 people end up communicating with 5000 people, indirectly.

Expert Interview Report with Outlook Team

Jessica leaves

Charlie:

Having regular time to come together and build that shared context is very important. Meetings are less productive when not everyone understands the end goal. It leads to weird meetings.

Why no agenda?

Caitlyn: It's a social skill to be able to create an agenda and articulate the expected outcome.

Brian:

***If there is a culture of measurement in the company, people are going to be hesitant to set an agenda.

***If I send too much out in advance, I am depriving myself of the opportunity to do that.

***Another reason people don't set an agenda is because they set meetings up very far in advance. They don't necessarily know what will need to be covered at that point in time, but they know that discussion will need to occur.

Charlie:

Agenda is super important when time management is a factor.

A goal is sometimes more important than an agenda.

The end goal of what you want to walk out of that meeting with is important- and that doesn't necessarily need to be a list or an agenda.

Caitlyn:

A key observation- How organizations structure their teams- cross disciplinary teams require everyone to be on the same page.

Until you can get all teams to be speaking the same language, at the same level, and who owns the output, that is one of the biggest challenges.

Charlie:

Each team will have their own local language, when you start talking cross teams, things can mean completely different things.

When the common language isn't established, meetings get drawn out and people talk in circles.

Brian:

If you want to get a whole bunch of people in a room to agree, that's pretty rare.

Some people will have meetings just to hammer home agreement.

Sometimes, meetings are really just about understanding.

I manage a cross-disciplinary team.

People listen to other people based on their preconceptions.

Ex. Engineer sees GPM and they think "oh he's a GPM, he wont understand."

Brian:

Ideally, I would have people rotating through the various production teams to see how different disciplines interact with each other.

Within Microsoft, there's Design I, Design II, Principal, Partner, VP

I am a program manager, I report to a designer (Paper by 53 founder) that had to solve really hard technical problems AND run a business, so he has just enough knowledge to figure out and have understanding of other disciplines.

It comes down to *Patience and Willingness to Yield*

I feel like, generally speaking, most cross disciplinary meetings hinge on the level of patience and the willingness to just understand the other person.

My position is to reduce the amount of time that takes in the room.

Caitlyn:

The PM is the glue between each of the disciplines.

Building consensus and getting everyone on the same page as to why this is important.

Brian:

There's a big difference between simply getting people to do stuff and convincing them why it's worthwhile.

Understanding that not everyone is moved by the same thing.

How do I frame this up so that it appeals to you?

Caitlyn:

If you do want to move hearts and minds, you need to make each person feel involved. It has to be a collaborative experience so that people feel "bought in" to it.

Brian:

Sometimes you may know exactly what you want but you hold back in order to have that "organic come together" process with the team.

Earth Day guy: "They might be right" card. I know what I want but they might be right.

Amazon critique: by having a paper and reading beforehand, you are "over-framing" the meeting.

Caitlyn:

A good PM would take notes throughout the meeting and sending a follow up to all attendees.

Brian:

In the military, they don't tell you exactly what to do, but they tell you the goal.

This allows for adjustments by the team throughout the process.

Expert Interview Report with Jessica Cohen

Expert Interview Guide

Jessica Cohen

Participant Profile

Jessica Cohen spent the past 21 months working with teams to improve their collaboration habits, first with Macy's Technology (18 months) and now with a variety of Microsoft Customers. At Macy's Jessica was a user of Microsoft MyAnalytics tool. After gaining experience with the tool and providing valuable insights, she was brought to Microsoft to work as a User Researcher for the MyAnalytics tool. Jessica has been at Microsoft for 4 months.

Interview Guide:

Introduction (5 minutes):

Hi Jessica, thank you so much for making time to meet with us this morning! My name is Corey and these are my teammates, Xinbei and Can. As you know from our previous meeting, we are current Master students in Human-Computer Interaction and Design at the University of Washington. We're investigating meetings in the working context in the US. After briefly hearing about the MyAnalytics tool, we would like to get a better idea of how this is used and some of the ideologies behind the tool. We will have some questions to keep the meeting structured, but please feel free to speak openly. Before we start, do you have any questions for us?

Questions

1. In your opinion, what is the value of meetings in a workplace setting?
2. What are some of the most effective collaboration habits you have seen?
 - a. Why are they effective?
 - b. What are the least effective? Why?
3. Can you walk us through a typical experience on MyAnalytics? (screen share previously agreed upon)
4. How does MyAnalytics treat meetings?
5. On MyAnalytics, are do more meetings correlate with increased productivity?
 - a. How about less meetings? If someone is attending less meetings does that correlate with more or less productivity?
6. How does MyAnalytics promote a productive, efficient work style?
7. Do you find MyAnalytics to be useful?
8. What are the future steps for MyAnalytics?

Expert Interview Report with Jessica Cohen

Expert Interview Report

Jessica Cohen

Participant Profile

Jessica Cohen spent the past 21 months working with teams to improve their collaboration habits, first with Macy's Technology (18 months) and now with a variety of Microsoft Customers. At Macy's Jessica was a user of Microsoft's MyAnalytics tool. After gaining experience with the tool and providing valuable insights, she was brought to Microsoft to work as a User Researcher for the MyAnalytics tool. Jessica has been at Microsoft for 4 months.

Key Observations / Insights

- What Makes a Good Meeting...
 - Design -> frame -> manage -> conclude
 - This framework starts at the pre-meeting phase with designing the meeting. Jessica notes that it is important for the meeting organizer to have intention. Framing the meeting provides context for the attendees.
 - Framing provides a clear goal about why the meeting is happening and helps keep a structure and prevent diversions.
 - Managing the meeting refers to the in-meeting moderation— allowing discussion but maintaining direction.
 - Concluding the meeting involves a brief summary and ensuring people are aware of their future responsibilities.
- There is a learning curve with professional organizational software
 - Jessica noted that "When you think about meetings, whether they be in outlook or Skype, etc., no one ever teaches you how to do it. But tutorial videos are too long and no one wants to learn. If you try to get a work group to adopt tools like "teams" or "slack," you have to get all team members to consistently use it. For anything when you're trying to get people to use, you don't just have to teach them how to use it, you have to convince them why they should be using it."
- Structure of MyAnalytics
 - Meeting hours- just adds up all time you spend in emails.
 - Email hours- every email you read takes 2 mins, every email you send takes 4 minutes.
 - Focus hours- any time there is a 2 hour block of time open on your calendar during your normal working hours (working hours are set by individuals. 6am-6pm example)
 - After Hours- anything you do outside of those working hours.
- MyAnalytics lacks a feedback loop.
 - While MyAnalytics allows users to see how their time was spent (based on their calendar and device usage habits), there is no way for MyAnalytics to know whether that week was necessarily a productive week or if that user feels the week is productive.
- Perceived productivity can't always be quantified
 - A well-divided week in MyAnalytics might look "good," technically, but it is possible it was not a productive week for that user, for various external reasons outside of scheduling.

- In contrast, a very unevenly distributed week in MyAnalytics could be a highly productive week for an individual user.

Notes

WorkplaceAnalytics

MyAnalytics

Dashboard- three tabs

Explore

- Meeting hours- just adds up all time you spend in emails.
- Email hours- every email you read takes 2 mins, every email you send takes 4 minutes.
- Focus hours- any time there is a 2 hour block of time open on your calendar during your normal working hours (working hours are set by individuals. 6am-6pm example)
- After Hours- anything you do outside of those working hours.

Programs

- New Feature to make teams work together

Trends

- A way to see these numbers over time

***Feedback into the system- if you had a super productive, great week, the system could adjust accordingly based on the type of week you had (meetings, email, focus, after hours).

Good meetings...

design->frame->manage->conclude

Co-developed with a consulting firm: stopmeetinglikethis.com

Who is doing what in the room?

Survey Result

Level	Company Size	Industry	Meeting Frequency	Meeting Duration	Meeting Tools	Meeting Location	Meeting Frequency	Meeting Tools	Meeting Location	Meeting Frequency	Meeting Tools	Meeting Location	Meeting Frequency	Meeting Tools	Meeting Location	Meeting Frequency	Meeting Tools	Meeting Location	Meeting Frequency	Meeting Tools	Meeting Location	Meeting Frequency	Meeting Tools	Meeting Location
Intermediate	Small (less than 100 employees)	Information Technology	about 50%	more than 3 meetings a week	3	Hangout/Windows Live Messenger/Slack, Tablet server connected to the display, Audio or	small (3-5 people)	Windows laptop, Android tablet	Brainstorming, Information Exchange	Technical difficulties with equipment, Personal engagements, Ask follow-up questions after meetings	good	in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Intermediate	Medium (100-999 employees)	Administrative	20% ~ 50%	more than 3 meetings a week	2	Screening tools— e.g. Skype/FaceTime/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	medium (6-10)	iPhone	Status Updates, Information Exchange	Meetings focused and on track, Remote participants, Make notes during meetings, Attend meetings	EXTENSION OF TIME	in-person meetings, one person shares content on a screen, remote meetings												
Intermediate	Medium (100-999 employees)	Education	less than 20%	I rarely attend meetings.	5	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	Android smartphone, Pen/Pencil + Notebook	Decision making, Reviews, Brainstorming, Planning	Meeting follow-up, Technical difficulties with equipment, Make notes during meetings, Meeting doesn't take place, Speaker sharing technology, in-person meetings, one person shares content on a display via multiple wired connections, in-person														
Senior	Medium (100-999 employees)	Information Technology	50% to 80%	more than 10 meetings a week	4	Screening tools— e.g. Skype/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	medium (6-10)	Windows laptop	Brainstorming	Keeping meetings focused and on track, Ask questions/make comments during meetings, Saying something again and again, Multiple people share content on a display via multiple wired connections, in-person														
Entry/Junior	Small (less than 100 employees)	Photographer	less than 20%	1-2 meetings a week	4	Screening tools— e.g. Outlook/Google Calendar, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	Apple laptop, iPad, Android smartphone, Pen/Pencil + Notebook	Reviews, Status Updates, Brainstorming, Planning	Meeting focused and on track, Personal engagement, Make notes during meetings, Ask follow-up questions after meetings, Greeting for 10 Mins		in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Entry/Junior	Small (less than 100 employees)	Design	less than 20%	1-2 meetings a week	5	Screening tools— e.g. Skype/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	medium (6-10)	Android smartphone	Reviews	Getting everyone to engage/participate, Start with an agenda	boring presentation	in-person meetings with no collaboration technology, in-person												
Intermediate	Large (more than 1000 employees)	Information Technology	20% ~ 50%	more than 3 meetings a week	3	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	laptop, Android smartphone, Pen/Pencil + Notebook	Reviews, Status Updates, Planning, Information Exchange	Post-meeting follow-up, Getting everyone to engage/participate, Participants without interest, a display via multiple wired connections, in-person														
Intermediate	Medium (100-999 employees)	Human Resources	20% ~ 50%	more than 10 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	small (3-5 people)	Windows laptop	Decision making, Reviews	Meeting focused and on track, Getting everyone to engage/participate, Ask questions/make comments during meetings, good character		in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Intermediate	Small (less than 100 employees)	Information Technology	about 50%	more than 3 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	iPad, iPhone, Pen/Pencil + Notebook	Reviews, Status Updates, Brainstorming, Information Exchange	Meetings focused and on track, Getting everyone to engage/participate, Read slides/presentations after meeting, everyone is not on the same page as content on a screen, in-person meetings, multiple people share content on a display via multiple wired connections, in-person														
Entry/Junior	Small (less than 100 employees)	Education	less than 20%	I rarely attend meetings.	1	Documentation/Note-taking — e.g. wiki, Traditional white board	small (3-5 people)	Windows laptop	Planning	Lack of preparation by the participants, Start with an agenda	delays	in-person meetings with no collaboration technology, in-person												
Intermediate	Medium (100-999 employees)	HR	more than 80%	1-2 meetings a week	4	Documentation/Note-taking — e.g. wiki, PC or server connected to the display, Audio or web conferencing	small (3-5 people)	Pen/Pencil + Notebook	Status Updates, Planning	Keeping meetings focused and on track, Start with an agenda	Cell phones	in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Senior	Large (more than 1000 employees)	Engineering	about 50%	more than 3 meetings a week	4	Screening tools— e.g. Skype/FaceTime/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	Apple laptop	Status Updates	Meeting follow-up, Keeping meetings focused and on track, Read slides/presentations after meeting, Your thinking		in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Entry/Junior	Medium (100-999 employees)	Human Resources	less than 20%	1-2 meetings a week	2	Screening tools— e.g. Skype/FaceTime/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	small (3-5 people)	laptop, iPad, Android smartphone, Pen/Pencil + Notebook	Reviews, Status Updates	Meeting focused and on track, Getting everyone to engage/participate, Ask questions/make comments during meetings, Personal dissatisfaction with the comparison meetings with no collaboration technology, in-person														
Senior	Medium (100-999 employees)	Research	20% ~ 50%	more than 3 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	Windows laptop	Decision making	Technical difficulties with equipment, Start with an agenda	improvement quality.	in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Intermediate	Medium (100-999 employees)	Information Technology	20% ~ 50%	I rarely attend meetings.	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	Android smartphone	Decision making, Reviews, Status Updates	Lack of preparation by the participants, comments during meetings, Ask follow-up questions after meetings, prepared or just a busy meeting that is not on a screen, in-person meetings, one person shares content on a display via multiple wired connections, in-person														
Senior	Medium (100-999 employees)	Administrative	less than 20%	1-2 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	Apple laptop	Status Updates	Coming to decisions, Ask follow-up questions after meetings	OPINIONS	in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Intermediate	Small (less than 100 employees)	Information Technology	20% ~ 50%	more than 3 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	small (3-5 people)	Apple laptop	Status Updates	Post-meeting follow-up, Make notes during meetings	yes	in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Intermediate	Small (less than 100 employees)	Administrative	less than 20%	1-2 meetings a week	3	Screening tools— e.g. Skype/FaceTime/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	medium (6-10)	Windows laptop	Decision making	Lack of preparation by the participants, Start with an agenda	yes	in-person meetings with no collaboration technology, in-person												
Senior	Small (less than 100 employees)	Sales	less than 20%	1-2 meetings a week	3	Screening tools— e.g. Skype/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	medium (6-10)	Apple laptop	Decision making	Lack of preparation by the participants, Start with an agenda	6	in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Entry/Junior	Small (less than 100 employees)	Information Technology	about 50%	more than 3 meetings a week	4	Screening tools— e.g. Slack, Presentation tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	laptop, iPad, Android tablet, Pen/Pencil + Notebook	Decision making, Status Updates, Planning	Coming to decisions, Slides/presentations after meetings, Stand Up meeting	Meet face to face	in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Intermediate	Small (less than 100 employees)	Engineering	20% ~ 50%	more than 3 meetings a week	2	Screening tools— e.g. Skype/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	small (3-5 people)	Android tablet	Reviews	Coming to decisions, Make notes during meetings	6	remote meetings via audio/web conferencing, in-person												
Entry/Junior	Small (less than 100 employees)	Sales	less than 20%	1-2 meetings a week	3	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	iPad	Reviews	Post-meeting follow-up, Slides/presentations prepared ahead of time	yes	in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Intermediate	Large (more than 1000 employees)	Design	less than 20%	more than 3 meetings a week	3	Screening tools— e.g. Outlook/Google Calendar, Multi-projector display setup	small (3-5 people)	iPad	Decision making	Keeping meetings focused and on track, Slides/presentations prepared ahead of time	5	in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Intermediate	Medium (100-999 employees)	Information Technology	20% ~ 50%	more than 3 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	Android tablet, Android smartphone, Pen/Pencil + Notebook	Decision making, Reviews, Status Updates, Planning	Personal engagement with participants after meetings, Make notes during meetings, punctuality		in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Entry/Junior	Small (less than 100 employees)	Education	less than 20%	1-2 meetings a week	2	Screening tools— e.g. Skype/FaceTime/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	medium (6-10)	Android smartphone, Pen/Pencil + Notebook	Status Updates, Planning, Information Exchange	Personal engagement with participants, make comments during meetings, Ask follow-up questions after meetings, No agenda/purpose		in-person meetings, one person shares content on a screen, remote meetings												
Intermediate	Small (less than 100 employees)	Engineering	20% ~ 50%	1-2 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	small (3-5 people)	Windows laptop	Reviews, Planning	Meetings focused and on track, Personal engagement, Make notes during meetings, Ask follow-up questions after meetings, Communication		in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Entry/Junior	Medium (100-999 employees)	Sales	about 50%	1-2 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	Pen/Pencil + Notebook	Decision making, Reviews, Status Updates, Information Exchange	Meeting focused and on track, Getting everyone to engage/participate, Start with an agenda	Joking around	in-person meetings with no collaboration technology, in-person												
Entry/Junior	Small (less than 100 employees)	Administrative	20% ~ 50%	1-2 meetings a week	3	Screening tools— e.g. Skype/FaceTime/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	medium (6-10)	Windows laptop	Decision making	Lack of preparation by the participants, Start with an agenda	yes	in-person meetings with no collaboration technology, in-person												
Entry/Junior	Small (less than 100 employees)	Sales	less than 20%	I rarely attend meetings.	5	Documentation/Note-taking — e.g. wiki, Traditional white board	small (3-5 people)	Windows laptop, Android smartphone	Planning	Coming to decisions, Meeting less than 5 people, Meet face to face	lack of interest	in-person meetings with no collaboration technology, in-person												
Entry/Junior	Medium (100-999 employees)	Human Resources	50% to 80%	more than 3 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	iPad	Reviews	Post-meeting follow-up, Slides/presentations prepared ahead of time	yes	in-person meetings with no collaboration technology, in-person												
Entry/Junior	Small (less than 100 employees)	Administrative	50% to 80%	1-2 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	small (3-5 people)	Pen/Pencil + Notebook	Status Updates, Planning, Information Exchange	Post-meeting follow-up, Ask questions/make comments during meetings, distractions from phone calls		in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Senior	Medium (100-999 employees)	Design	about 50%	1-2 meetings a week	3	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	laptop, Android smartphone, Pen/Pencil + Notebook	Decision making, Planning	Post-meeting follow-up, Coming to decisions, Make notes during meetings, Ask follow-up questions after meetings, Tardiness, people not attending, one person shares content on a display via multiple wired connections, in-person														
Senior	Medium (100-999 employees)	Engineering	20% ~ 50%	more than 3 meetings a week	3	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	iPad, Android tablet, Wacom Tablet, Android smartphone	Decision making, Reviews, Status Updates, Planning	Technical difficulties with equipment, Read slides/presentations after meeting, some distractions		in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Senior	Small (less than 100 employees)	Information Technology	50% to 80%	1-2 meetings a week	4	Screening tools— e.g. Hangout/Windows Live Messenger/Slack, Tablet server connected to the display, Audio or web conferencing	large (more than 10 people)	laptop, Android smartphone, Pen/Pencil + Notebook	Decision making, Brainstorming, Planning, Information Exchange	Personal engagement with participants, Technical difficulties with equipment, comments during meetings, Ask follow-up questions after meetings, I don't want, not worthy and not attending, multiple wired connections, remote meetings														
Intermediate	Medium (100-999 employees)	Administrative	about 50%	1-2 meetings a week	4	Screening tools— e.g. Outlook/Google Calendar, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	iPhone, Pen/Pencil + Notebook	Reviews, Brainstorming, Planning	Getting everyone to engage/participate, External distractions, Ask questions/make comments during meetings, time people ask silly and unrelated questions, in-person		in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Intermediate	Medium (100-999 employees)	Engineering	50% to 80%	more than 3 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	Apple laptop	Brainstorming	Keeping meetings focused and on track, Slides/presentations prepared ahead of time	Laziness	in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Entry/Junior	Small (less than 100 employees)	Engineering	20% ~ 50%	more than 3 meetings a week	5	Screening tools— e.g. Slack, Presentation tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	small (3-5 people)	Windows laptop, Android smartphone	Decision making, Reviews, Brainstorming, Planning	Meeting focused and on track, Technical difficulties with equipment, questions/make comments during meetings, NO IDEA		in-person meetings, one person shares content on a screen, in-person												
Entry/Junior	Large (more than 1000 employees)	Sales	20% ~ 50%	1-2 meetings a week	4	Screening tools— e.g. Skype/FaceTime/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	Android smartphone, Pen/Pencil + Notebook	Reviews, Status Updates, Information Exchange	Getting everyone to engage/participate, Technical difficulties with equipment, Make notes during meetings, Ask follow-up questions after meetings, When people talk over each other		in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Entry/Junior	Medium (100-999 employees)	Administrative	20% ~ 50%	1-2 meetings a week	4	Screening tools— e.g. Skype/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	medium (6-10)	laptop, Android smartphone, Pen/Pencil + Notebook	Decision making, Status Updates, Planning	Personal engagement with participants, Ask questions/make comments during meetings, Ask follow-up questions after meetings, Not paying attention or looking at phone, remote meetings via audio/web conferencing														
Senior	Medium (100-999 employees)	Engineering	50% to 80%	more than 3 meetings a week	5	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	Windows laptop	Reviews, Status Updates, Planning, Information Exchange	Technical difficulties with equipment during meetings, Stand Up meeting, Meet face to face	Not Attend the meeting	in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Senior	Medium (100-999 employees)	Information Technology	more than 80%	1-2 meetings a week	5	Screening tools— e.g. Skype/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	Apple laptop, iPad, iPhone	Decision making, Reviews, Status Updates, Planning	Technical difficulties with equipment during meetings, Ask questions/make comments during meetings, not attend the meeting		in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Senior	Small (less than 100 employees)	Sales	20% ~ 50%	1-2 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	laptop, Android smartphone, Pen/Pencil + Notebook	Decision making, Brainstorming, Planning, Information Exchange	Getting everyone to engage/participate, Eggs, Ask questions/make comments during meetings, participants are not responsive and cooperative		in-person meetings, one person shares content on a screen, in-person												
Intermediate	Large (more than 1000 employees)	Sales	50% to 80%	I rarely attend meetings.	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	small (3-5 people)	Android tablet, Pen/Pencil + Notebook	Reviews	Post-meeting follow-up, Meet face to face	15	in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Senior	Medium (100-999 employees)	Information Technology	20% ~ 50%	more than 3 meetings a week	4	Screening tools— e.g. Hangout/Windows Live Messenger/Slack, Tablet server connected to the display, Audio or web conferencing	medium (6-10)	Apple laptop, iPhone	Decision making, Brainstorming	Getting everyone to engage/participate, External distractions, Make notes during meetings, distracted by side issues, wasting time, in-person		in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Senior	Medium (100-999 employees)	Sales	about 50%	more than 3 meetings a week	3	Screening tools— e.g. Outlook/Google Calendar, PC or server connected to the display, Audio or web conferencing	medium (6-10)	Windows laptop, iPhone	Status Updates	Technical difficulties with equipment during meetings, Ask questions/make comments during meetings, Make notes during meetings		in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Director	Medium (100-999 employees)	Sales	about 50%	more than 3 meetings a week	4	Screening tools— e.g. Outlook/Google Calendar, Single projector display	large (more than 10 people)	Windows laptop	Decision making	Post-meeting follow-up, Ask questions/make comments during meetings, TIME DEFICIENCY		in-person meetings with no collaboration technology, in-person												
Entry/Junior	Small (less than 100 employees)	Human Resources	20% ~ 50%	more than 3 meetings a week	4	Screening tools— e.g. Skype/Google Hangout/Windows Live Messenger/Slack, PC or server connected to the display, Audio or web conferencing	small (3-5 people)	Windows laptop, Apple laptop, iPhone	Reviews, Brainstorming	Meeting focused and on track, Getting everyone to engage/participate, Ask questions/make comments during meetings, Stand up meeting, distracted by side issues, wasting time, in-person		in-person meetings with no collaboration technology, in-person												
Senior	Small (less than 100 employees)	Health Care	about 50%	1-2 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	Windows laptop, Android tablet, Pen/Pencil + Notebook	Decision making, Planning, Information Exchange	Personal engagement with participants, Keeping notes during meetings, Ask questions/make comments during meetings, and a lack of frame by the person meetings with no collaboration technology, in-person														
Intermediate	Medium (100-999 employees)	Administrative	about 50%	1-2 meetings a week	4	Screening tools— e.g. Hangout/Windows Live Messenger/Slack, Tablet server connected to the display, Audio or web conferencing	small (3-5 people)	Android smartphone, Pen/Pencil + Notebook	Planning	Getting everyone to engage/participate, Ask questions/make comments during meetings, duration		in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Senior	Medium (100-999 employees)	Engineering	about 50%	more than 3 meetings a week	3	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	small (3-5 people)	Windows laptop, iPad	Brainstorming, Planning	Coming to decisions, Keeping meetings focused and on track, Attend meeting less than 5 people, Meeting face to face	distractions	in-person meetings, multiple people share content on a display via multiple wired connections, in-person												
Entry/Junior	Large (more than 1000 employees)	Sales	50% to 80%	more than 3 meetings a week	3	Screening tools— e.g. Hangout/Windows Live Messenger/Slack, Tablet server connected to the display, Audio or web conferencing	medium (6-10)	Android smartphone, Pen/Pencil + Notebook	Reviews, Status Updates, Brainstorming	Getting everyone to engage/participate, have less meetings	having too many of them	in-person meetings, one person shares content on a display via multiple wired connections, in-person												
Intermediate	Large (more than 1000 employees)	Information Technology	20% ~ 50%	1-2 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	medium (6-10)	Android tablet, Android smartphone, Pen/Pencil + Notebook	Reviews, Status Updates, Planning, Information Exchange	Personal engagement with participants, Coming to decisions, Technical difficulties with equipment, Slides/presentations prepared ahead of time, Make notes during meetings, without face to face like phone conferencing, remote meetings via audio/web conferencing														
Director	Medium (100-999 employees)	Information Technology	about 50%	more than 3 meetings a week	4	Screening tools— e.g. PowerPoint/Keynote/PDF/Google slides, projector display, PC or server connected to the display, Audio or web conferencing	large (more than 10 people)	Windows laptop, Android smartphone	Decision making, Planning, Information Exchange	Coming to decisions, Technical difficulties with equipment, Read slides/presentations after meetings	Be punctual	in-person meetings, one person shares content on a display via multiple wired connections, in-person												

Survey Result

Information Technology	about 50%	more than 3 meetings a week	4	Keynote/PDF/Google slides, Document	projector display setup, Electronic white board	large (more than 10 people)	Windows laptop, Android smartphone	Decision making, Planning, Information Exchange	to decisions, Technical difficulties with equipment, Read slides/presentations after meetings	Be punctual	meetings, one person shares content on a display	very likely	Yes	
Information Technology	20% - 50%	more than 3 meetings a week	3	Presentation tools— e.g. Powerpoint/Keynote	PC or server connected to the display, Audio or video conferencing	medium (6-10)	laptop, Android smartphone, Pen/Pencil + Notebook	Decision making, Status Updates, Information Exchange	Coming to decisions, Personal engagement with meeting content, Read slides/presentations after meetings	Amber of people, less face to face interaction on a display wirelessly, in-person meetings	one person shares content on a display	It depends		
Information Technology	20% - 50%	1-2 meetings a week	5	Presentation tools— e.g. Powerpoint/Keynote	PC or server connected to the display	medium (6-10)	laptop, iPhone, Android smartphone, Pen/Pencil + Notebook	Reviews, Brainstorming, Planning, Information Exchange	Getting everyone to engage/participate, Ask questions/make comments during meetings, Read slides/presentations after meetings	Attention and Conclusion	in-person meetings, one person shares content on a display	like a bonding between two people	Yes	
Education	50% to 80%	1-2 meetings a week	3	Keynote/PDF/Google slides, Document	Electronic white board	large (more than 10 people)	Windows laptop, iPhone	Status Updates, Brainstorming, Planning	in by the participants, Getting everyone to engage/participate	meetings, Make notes during meetings, Ask questions/make comments during meetings	not attending or being active in the meeting	one person shares content on a screen, in-person meetings	It works well for me.	Yes
Engineering	20% - 50%	more than 3 meetings a week	4	Keynote/PDF/Google slides, Document	Multi-projector display setup	medium (6-10)	Apple laptop	Reviews	Post-meeting follow-up	Read slides/presentations prepared ahead of time	in-person meetings, one person shares content on a display	It's fine	It depends	
Administrative	less than 20%	I rarely attend meetings.	1	Documentation/Note-taking — e.g. wiki.	Traditional white board	small (3-5 people)	iPhone, Pen/Pencil + Notebook	Reviews, Status Updates, Planning, Information Exchange	Personal engagement with meeting content, Attend meeting less than 5 people	Meetings that should have been just email	in-person meetings with no collaboration technology	It's fine	It depends	
Information Technology	less than 20%	I rarely attend meetings.	3	Presentation tools— e.g. Powerpoint/Keynote	Electronic display (e.g. television), Single projector	small (3-5 people)	Android smartphone, Pen/Pencil + Notebook	Status Updates, Information Exchange	in by the participants, Keeping meetings focused ahead of time, Ask questions/make comments during meetings	lost time in non relevant discussions	multiple people share content on a display via remote meetings	Much	No	
Sales	more than 80%	1-2 meetings a week	4	Keynote/PDF/Google slides, Document	PC or server connected to the display, Traditional white board	small (3-5 people)	laptop, Android smartphone, Pen/Pencil + Notebook	Decision making, Status Updates, Planning, Information Exchange	External distractions (emails, messages), Ask questions/make comments during meetings	distractions	in-person meetings, one person shares content on a display	like to see other people faces	It depends	
Sales	less than 20%	1-2 meetings a week	4	Keynote/PDF/Google slides, Document	PC or server connected to the display	medium (6-10)	iPhone, Chromebook	Reviews, Brainstorming, Information Exchange	Getting everyone to engage/participate, External distractions	Start with an agenda	Getting distracted and off topic	in-person meetings, one person shares content on a display	fine	No
Administrative	20% - 50%	more than 3 meetings a week	2	Keynote/PDF/Google slides, Document	Electronic display (e.g. television), Single projector	small (3-5 people)	Windows laptop	Reviews, Status Updates, Planning, Information Exchange	Preparation by the participants, Coming to decisions, Attend meeting less than 5 people	Not getting materials on time	in-person meetings, one person shares content on a display	None - very ineffective.	It depends	
Sales	20% - 50%	1-2 meetings a week	4	Keynote/PDF/Google slides, Document	Multi-projector display setup	small (3-5 people)	Apple laptop	Reviews	Coming to decisions	Read slides/presentations prepared ahead of time	GOOD	GOOD	Yes	
Human Resources	about 50%	more than 3 meetings a week	3	Keynote/PDF/Google slides, Document	PC or server connected to the display, Audio or video conferencing	small (3-5 people)	Apple laptop, iPhone, Pen/Pencil + Notebook	Status Updates, Brainstorming, Planning	used and on track, Getting everyone to engage/participate	engaged in the meeting, Paying attention	one person shares content on a display wirelessly, remote meetings	none is able to look at the same time	Yes	
Design	less than 20%	more than 3 meetings a week	3	Keynote/PDF/Google slides, Document	Electronic display (e.g. television), Audio or video conferencing	medium (6-10)	Apple laptop, iPhone, Android smartphone	Decision making, Reviews, Status Updates, Planning	Getting everyone to engage/participate, Ask questions/make comments during meetings	two people who are leading the meeting	on a screen, remote meetings via audio/web conferencing	of meetings trying to set up the meeting	No	
Engineering	20% - 50%	1-2 meetings a week	4	Keynote/PDF/Google slides, Document	PC or server connected to the display, Traditional white board	small (3-5 people)	laptop, Android smartphone, Pen/Pencil + Notebook	Status Updates, Planning, Information Exchange	Engaging/participate, Personal engagement with meeting content	ahead of time, Ask questions/make comments during meetings	with the personal phones turned on	in-person meetings, multiple people share content on a display	(there's room for some improvement)	I don't know
Administrative	about 50%	more than 3 meetings a week	4	Keynote/PDF/Google slides, Document	Audio or video conferencing	small (3-5 people)	Apple laptop	Decision making, Reviews, Brainstorming, Planning	ing meetings focused and on track, Technical difficulties with equipment	Read slides/presentations after meetings	need be	in-person meetings with no collaboration technology	no	I don't know
Research	20% - 50%	1-2 meetings a week	3	Keynote/PDF/Google slides, Document	PC or server connected to the display	small (3-5 people)	Windows laptop, Pen/Pencil + Notebook	Reviews, Planning	used and on track, External distractions (email, messages)	Attend meeting less than 5 people	less concentration on meetings	in-person meetings, one person shares content on a display	In a good manner	Yes
Sales	20% - 50%	1-2 meetings a week	4	Keynote/PDF/Google slides, Document	Electronic display (e.g. television), Electronic white board	medium (6-10)	Apple laptop, iPhone, Pen/Pencil + Notebook	Decision making, Reviews, Status Updates, Planning, Information Exchange	Post-meeting follow-up, Coming to decisions/ask notes during meetings, Ask follow-up questions on previous topics	People not wanting to share content on a screen, in-person meetings, one person shares content on a display	and to have relevant content to share	I don't know		
Engineering	20% - 50%	more than 10 meetings a week	3	Keynote/PDF/Google slides, Document	Audio or video conferencing	small (3-5 people)	iPhone, Pen/Pencil + Notebook	Planning	Personal engagement with meeting content	Attend meeting less than 5 people	Lack of a clear goal	one person shares content on a display	I think it is very productive	It depends
Administrative	about 50%	1-2 meetings a week	5	Scheduling tools— e.g. Outlook/Google Calendar	PC or server connected to the display	small (3-5 people)	laptop, Android smartphone, Pen/Pencil + Notebook	Decision making, Status Updates, Planning	ing the participants, External distractions (email, messages)	Attend meeting less than 5 people	distractions, time of day	in-person meetings with no collaboration technology	more personalized meetings	No
Education	50% to 80%	I rarely attend meetings.	3	Keynote/PDF/Google slides, Document	PC or server connected to the display	medium (6-10)	iPad, Android tablet	Decision making	Keeping meetings focused and on track	Ask questions/make comments during meetings, Attend meeting less than 5 people	None	in-person meetings, multiple people share content on a display	I think it is good.	It depends
Purchasing	20% - 50%	more than 3 meetings a week	3	Keynote/PDF/Google slides, Document	Traditional white board	small (3-5 people)	Windows laptop, Pen/Pencil + Notebook	Decision making, Status Updates, Planning	ing meetings focused and on track, External distractions during meetings, Ask follow-up questions	work whilst in the meeting so not to miss anything	in-person meetings, one person shares content on a display	ing information on a screen - all information is shared	It depends	
Human Resources	50% to 80%	more than 3 meetings a week	4	Keynote/PDF/Google slides, Document	PC or server connected to the display	small (3-5 people)	Windows laptop	Decision making, Reviews, Status Updates, Planning	Keeping meetings focused and on track	Start with an agenda, Meet face to face	boredom	one person shares content on a screen, remote meetings	I like the web conferencing	It depends
Engineering	about 50%	more than 10 meetings a week	4	Keynote/PDF/Google slides, Document	Single projector display	medium (6-10)	Apple laptop, iPhone	Decision making, Planning, Information Exchange	to decisions, Technical difficulties with equipment, Ask questions/make comments during meetings	Meetings	LESS PRODUCTION	technology, in-person meetings, one person shares content on a display	VERY LIKE	Yes
Sales	20% - 50%	1-2 meetings a week	5	Keynote/PDF/Google slides, Document	Multi-projector display setup	small (3-5 people)	Apple laptop, iPad	Reviews, Status Updates, Planning	Preparation by the participants, Post-meeting follow-up	Attend meeting less than 5 people	No	in-person meetings with no collaboration technology	Cool	I don't know
Education	less than 20%	I rarely attend meetings.	4	Keynote/PDF/Google slides, Document	Audio or video conferencing	medium (6-10)	Pen/Pencil + Notebook	Reviews	Remote meeting	agenda, Make notes during meetings, Ask questions/make comments during meetings	Motivation by the person organizing the meeting	in-person meetings, one person shares content on a display	face-to-face meetings compared to remote meetings	No
Information Technology	about 50%	more than 3 meetings a week	4	Messaging/Keynote/PDF/Google slides, Document	PC or server connected to the display, Audio or video conferencing	large (more than 10 people)	Windows laptop, Apple laptop, iPhone	Status Updates, Brainstorming, Planning	one to engage/participate, Technical difficulties with equipment	Ask questions/make comments during meetings, Read slides/presentations after meetings	prepared with the agenda of the meeting	on a display wirelessly, in-person meetings	good	It depends
Administrative	more than 80%	more than 10 meetings a week	3	Keynote/PDF/Google slides, Document	Single projector display	small (3-5 people)	Windows laptop, Pen/Pencil + Notebook	Decision making, Status Updates, Planning	ing follow-up, Keeping meetings focused and on track	Read slides/presentations prepared ahead of time, Ask questions/make comments during meetings	people being passive aggressive, in-person meetings, one person shares content on a screen, remote meetings	as much as possible. I feel it's hard to get things done	I don't know	
Marketing	more than 80%	I rarely attend meetings.	2	Keynote/PDF/Google slides, Document	Flat panel display (e.g. television)	small (3-5 people)	Windows laptop	Decision making	Lack of preparation by the participants	Read slides/presentations prepared ahead of time	none	in-person meetings, one person shares content on a display	none	No
Human Resources	less than 20%	I rarely attend meetings.	2	Keynote/PDF/Google slides, Document	Personal white board, Passed out copies of presentation	medium (6-10)	Android smartphone, Pen/Pencil + Notebook	Reviews, Brainstorming, Planning, Information Exchange	decisions, Keeping meetings focused and on track	Ask questions/make comments during meetings, Read slides/presentations after meetings	getting important documents, off-line meetings with no collaboration technology	It's okay	I don't know	
Education	about 50%	1-2 meetings a week	5	Keynote/PDF/Google slides, Document	Audio or video conferencing	large (more than 10 people)	Android tablet, Android smartphone, Pen/Pencil + Notebook	Decision making, Planning, Information Exchange	Technical difficulties with equipment, External distractions	Ask follow-up questions after meetings	Avoiding interactions	in-person meetings, multiple people share content on a display	Extremely liking	Yes
Information Technology	50% to 80%	1-2 meetings a week	2	Documentation/Note-taking — e.g. wiki.	Traditional white board	large (more than 10 people)	Pen/Pencil + Notebook	Status Updates, Brainstorming, Planning	Personal engagement with meeting content	None	too many people	in-person meetings with no collaboration technology	keep it simple	It depends
Administrative	50% to 80%	1-2 meetings a week	4	Keynote/PDF/Google slides, Document	Audio or video conferencing	medium (6-10)	Windows laptop, Android smartphone	Decision making, Reviews, Status Updates, Planning	Participants, Coming to decisions, Personal engagement with meeting content	Ask follow-up questions during meetings	Lack of concentration	in-person meetings, one person shares content on a display	several people we can know	It depends
Engineering	about 50%	more than 3 meetings a week	5	Keynote/PDF/Google slides, Document	PC or server connected to the display, Audio or video conferencing	large (more than 10 people)	Android tablet, Android smartphone, Pen/Pencil + Notebook	Status Updates, Brainstorming, Planning, Information Exchange	ing everyone to engage/participate, Personal engagement with meeting content	Read slides/presentations after meetings, Ask questions/make comments during meetings	when not participating with full energy	in-person meetings, one person shares content on a display	it makes the meeting productive	Yes
Information Technology	about 50%	I rarely attend meetings.	4	Scheduling tools— e.g. Skype/FaceTime/Google Calendar	PC or server connected to the display	small (3-5 people)	Windows laptop	Decision making	Getting everyone to engage/participate	Make notes during meetings	DECISION	in-person meetings, one person shares content on a display	KNOW THE VALUES	Yes
Sales	less than 20%	1-2 meetings a week	4	Scheduling tools— e.g. Outlook/Google Calendar	Electronic display (e.g. television), Traditional white board	small (3-5 people)	Android smartphone, Pen/Pencil + Notebook	Reviews, Status Updates, Planning, Information Exchange	Participants, Coming to decisions, Technical difficulties with equipment	Read slides/presentations after meetings, Make notes during meetings	Concentration on meeting	one person shares content on a screen, remote meetings via video conferencing	It depends	
Information Technology	20% - 50%	1-2 meetings a week	4	Scheduling tools— e.g. Outlook/Google Calendar	Audio or video conferencing equipment	medium (6-10)	Windows laptop, Android smartphone	Decision making, Status Updates, Planning, Information Exchange	Technical difficulties with equipment, Read slides/presentations after meetings	Attend meeting less than 5 people	to improve the business	in-person meetings, one person shares content on a display	spent more time on it	It depends

Survey Result

Research Population

1. People across different sizes of companies (evenly distributed)
2. Junior, Intermediate and senior

(Focus on 3-5 people meeting)

Synchronous

Findings:

1. Only 8% people rarely attend meeting.
2. People generally express satisfaction with meeting experience, yet they still have significant complaints.

Rating under "3" means they want immediate change.

Rating above "3" means they can live with it, yet not completely satisfied.

3. It is the most common to have a meeting with 3-5 people.
4. Most of people brings pencil/pen, notebook instead of technology tool.
5. People need to attend "Decision making", "status updates", "reviews", and "planning" frequently. (People generally need to attend more than one type of meetings)
6. "keep meeting focus and on track" and "coming to decision" are the most common challenge during the meeting. (43.3%, 38.3%)
7. Question 13 need to be visualized
8. People collaborate in meeting both by face-to-face and remotely, yet meeting face-to-face is much more common.
9. Most of people prefer in person meeting.

Insights:

1. Meeting attendees tend to have trouble understand each other because they share different knowledge and background.

People don't have enough information to agree or disagree with each other leading to excessive discussion.

Different domain knowledge among meeting attendees results in different interpretation of the topics, which leads to longer discussion in the meeting.

2. People will use personal devices to do things that are irrelevant to meeting when they are not engaging.

3. A clear purpose might structuralize the meeting.

4. (People prefer free hand recording tool)? - bring notebook/pen instead of technology device

5. People prefer to have the access to the same content in same medium at the same time so they know they are on the same page.

(Individual use of electronic devices dissects attendees into multiple spaces)

6. When people get distracted by personal matters, it's hard for them to get back on track of the main topics.

7. Varied consumption of meeting content causes misaligned perceptions of the meeting's value.

Assumptions (need to be verified during interviews)

1. When one or two people take over the conversations, attendees feel less engaged in the meeting and might just work on their laptops/smartphones. When these people are distracted for a while, it would be difficult for them to get back to the conversation and others feel they have to repeat what they've discussed earlier.

~~2. Individual use of electronic devices dissects attendees into multiple spaces~~

3. People can't remember what they read and write and keep repeating.
4. Distractions lead to misaligned perception of the meeting's value.

Interesting quotes

1. "I like the visual aspect of it. So everyone is looking at the same data." (88)
2. "I like being able to see the content being discussed, whether it is on a larger screen (so i don't have to have my computer open, where more distractions are), or remotely via Skype." (26)
3. "I think the best way for collaboration is for their to be one big screen in the room where every single person in the room can remotely screen-drop on to the screen (unplugging and plugging cords into USB ports is a waste of time, and can kill the momentum of the meeting)" (30)
4. "Taking notes that everyone can see and access and refer back to" (69)

User Interview Script

User Interview Script

Start

Hi, I'm [interviewer] and this is [note-taker] and [photographer]. Thank you so much for taking the time to do the survey and talk with us about the meeting experience. Today, I'll be talking with you, [note-taker] will be taking notes, and [photographer] will be taking some photos to help us remember what you've told us. We'll let you review these photos at the end. If you ever need to take a break please let us know. We can stop the session at anytime. We'd like to record this interview, is that still alright with you? Can you sign this form? It says that you're giving us permission to use the photos we take for our project. It also says that you're giving us permission to record this conversation, but that the recording won't be shared with anyone else. Do you have any questions? Would you like to use the restroom or get a drink/snack before we start?

Background Questions

Before we talk about the meeting experience, we have some questions about you.

1. Which company are you working at? What city?
2. Which team do you work at and what's your role?

Process of Meetings

1. Recall your last week of meetings - how many meetings did you participate?
2. Tell us **ONE** of the meetings that you remember most (what happened? What was the meeting for? How did it go? Why?). (**Note:** Facilitator should find the right timing to ask questions relevant to "memories capacity and recalling issues." If not, ask "Do you have experience reminding or being reminded of something you've discussed earlier during the meeting? ")
3. In the meeting, how did you involve in the decision making process (or reviews, or planning)? **How did you and your colleague come to an agreement?**
4. Can you remind us what tool/equipment did you use during the meeting? (Taking notes, photos, scheduling, sharing...) Why do you use them?
5. What kind of notes or records do you make during meetings?
 - How do you use the notes?
 - Do you share them with others?
 - Why or why not?
6. Do you typically engage in post-meeting follow-up (e.g. sharing slides, planning next-steps, summarizing key takeaways)? If so, how do you go about this?

7. Do you ever multitasking in the meeting? (check emails, reply message) Why were you multitasking? After the multitasking, do you feel it is difficult to get back to the conversation?
8. Did you ever remotely join the meeting before? How often do you do that? How do you like that experience? How would you like to change it?
9. What is your ideal communicate scenario in the meeting?

Conclusion

Is there anything else you'd like to tell us?
Thank you so much for spending time with us. Those are all the questions we have! We hope you enjoyed the experience as much as we did. Here is a small thank you from us. <Give gratuity.> Please sign this form to acknowledge that we've given this gift to you along with our contact information.
Again, thank you for your time. Here is our contact information if you have any questions.

