

Supplemental Notes: A Meeting Toolbox

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January 4, 2018

This web page describes ideas to help Capstone teams have more productive meetings. There are no magic formulas or agenda templates that, by themselves, are guaranteed to make meetings better. Effective meetings require a lot of ingredients, including the committed engagement of all participants.

Being able to organize and participate in effective meetings is a skill that has cumulative professional benefits. Developing and practicing those skills now will make your Capstone experience more productive and enjoyable. Using and refining those skills throughout your career will help you be successful and be a valued member of any team.

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Preparing for and Running a meeting

To prepare for a meeting:

- Create an agenda – see below
- Have necessary people attend
- Gather and prepare materials to be used (report summaries, sticky notes, slide decks, . . .)
- Designate roles

Running the Meeting

All participants should work to make the meeting run smoothly. The organizer (or convener or moderator) directs the flow of the meeting to keep participants on-task.

Everyone should help with these steps

- Arriving early and starting on time
- Reviewing the agenda – Do this quickly because the agenda was distributed in advance
 - ▷ Affirm goals
 - ▷ Remind participants of time limits
 - ▷ Allow for adjustments: split, add, defer or cancel items.
- Acting professionally
 - ▷ Listen attentively to others
 - ▷ Don't use personal comments or attacks
 - ▷ Be open to having your mind changed by facts and/or reason
 - ▷ Accept the decision of the group

Individuals should schedule some free time both before and after the meeting. Before the meeting stop other tasks in advance so that you can arrive on time. After the meeting, Cal Newport recommends <http://calnewport.com/blog/2016/04/15/schedule-meeting-to>

1. Process what happened at the meeting
 - Clarify new obligations (add items to your calendar or to-do system)
 - Close any open loops to avoid dragging the meeting into the next task
2. Catch up on anything you missed during the meeting
3. Do some short tasks – quick items that don't require prep
4. Take a break to refresh

The point is to make room in your schedule to transition to and from the meeting.

Roles of Participants

Cameron Herold, author of *Meetings Suck* (Chapter 9) identifies five roles for meeting participants

- Moderator
- Note taker: Herold calls this person the “parking lot”.
- Timekeeper
- Participants
- Closer

Herold uses these roles to discuss a variety of business meetings. For weekly capstone team meetings you might decide to assign multiple roles to a single person. For example, the moderator might also be the closer, or the parking lot might also be the time keeper.

1. Moderator

The moderator may or may not be the person who called the meeting or set the agenda. The moderator keeps the focus of the discussion on the agenda. The moderator works with the timekeeper to monitor agenda progress. Having a separate timekeeper allows the moderator to focus on the group interactions and the effectiveness of the group communication.

The moderator needs to keep participants on-task, which may require

- Interrupting a person who is long-winded or off-topic
- Encouraging the group to reach closure on an agenda item within the allotted time
- Drawing out non-participants

Moderating a meeting can be stressful, especially when there is conflict, or when participants are acting unprofessionally. Because of the potential for stress, moderators should take time for an after-meeting break.

Everyone should take turns as moderator.

2. Note taker

Everyone should be taking notes at the meeting, especially to record information relevant to an individual’s responsibilities.

The note taker records information relevant to the group as a whole. Do not record everything – the goal is not to create a transcript. (See advice, below.) Rather, listen for and record these key ideas

- Decisions made, including individual commitments

- Open loops: items not resolved
- Upcoming issues: prepare for the next meeting
- Key information sources: point to shared repository, web sites, etc.

The note taker should also notice and record topics that are either not germane or cannot be resolved within the time and agenda constraints of the current meeting. Herold refers to this as putting items in the “parking lot”. At the end of the meeting, parking lot items are brought to the attention of the group. At that point, the group decides whether to pursue the issues at a future meeting.

After the meeting, the note taker should make a clean (digital) version of the notes, and store this document in the group’s shared repository. Send an email to the group with a link to the meeting minutes. Be careful that any corrections to the meeting minutes are (1) brought to the attention of everyone at the meeting, and (2) included in the store version in the repository.

Some general advice on note-taking: Research has shown that long term retention is enhanced by recording notes by hand on paper, not by typing a laptop or electronic tablet. Although it is possible to record information quickly by typing, the act tends to result in the mindless creation of a transcript. Because taking notes by hand is slower, it forces you to process the information you are hearing. The result is filtering, prioritizing and synthesizing the information as it arrives. Consult these references

- Scientific American: <https://www.scientificamerican.com/article/a-learning-secret-don-t-take-notes-on-a-laptop-or-tablet/>
June 2014
- Harvard Initiative for Learning and Teaching: <https://hilt.harvard.edu/blog/note-taking-tools-a-revolution-in-classroom-learning/>
October 2014
- NPR: <https://www.npr.org/2016/04/17/474525392/attention-students-put-your-laptops-away>,
April 2016

3. Timekeeper

The timekeeper watches the time for each agenda item. Participants should expect the timekeeper to point out time limits and to alert the group when it strays to off-topic discussions. The timekeeper should not usurp the role of moderator.

4. Participants

All participants need to arrive on time and be prepared. All participants should be engaged and behave professionally.

To help with engagement, the team might want to have a policy of having all mobile phones turned off or stored in an inaccessible place.

5. Closer

Herold recommends that a participant is designated as a “closer”. For regular work-group meetings, the moderator can perform this role. Regardless of who is the closer, the meeting agenda should have time for closing the meeting.

To close a meeting:

- Summarize outcomes
- Makes sure that all action items have person and due date
 - ▷ Clarify what actually needs to be done
 - ▷ Get public commitments: Out loud, reiterate “Yes, I will do X by Y (date).”
- Identify a date and time for a follow-up meeting (if necessary).
- Designate a person to moderate the next meeting
 - ▷ Arrange a time and place
 - ▷ Draft and circulate the agenda in advance

Meeting Types

According to Cameron Herold, author of *Meetings Suck*, there are three types of meetings

1. Information sharing
2. Problem-solving
3. Decision-making

A single meetings can have more than one of these types of activities. However, in preparing an agenda, be realistic about what can be accomplished in the available time.

1. Information Sharing

An information sharing meeting involves reports by one or more participants. The information is predominantly one-way: the person or persons with the information is delivering it to the rest of the participants. Of course, some question-and-answer is appropriate, but be mindful that extensive back-and-forth between participants will shift the purpose to problem-solving and decision-making. A careful meeting moderator will keep the focus on information sharing until, and when, the group as a whole moves to one of the other two modes.

In preparing information to be shared at a meeting, be careful to make your discussion (or presentation) efficient.

- Focus on top-level info: provide details in supplemental materials that, ideally, were distributed in advance of the meeting.
- Make sure you are clear about the most important points, and that you emphasize those points to the other meeting participants.
- Avoid rehashing prior information and decisions.

In general, the recommended approach to information sharing is consistent with the advice for making effective presentations. This is no surprise since many information-sharing sessions involve formal presentations.

2. Problem Solving

Herold calls these types of meetings “Creative discussion”.

Unlike information sharing meetings, where one person has prepared an efficient and effective presentation of information, a problem-solving meeting involves multiple participants more or less equally, and the communication between participants cannot be organized in advance.

- Set time limit in advance (or limits for different phases)
- Identify note-taker
- Use divergent and convergent processes
 - ▷ Divergent: brainstorming, brain-writing, SCAMPER, design heuristics, ...
 - ▷ Convergent: prioritize, multivoting, decision-matrices ...
- Respectful debate
 - ▷ Listen
 - ▷ Assume others have the same good intentions as you
 - ▷ Take turns
 - ▷ Be open to new ideas
- Closure
 - ▷ Summarize outcome
 - ▷ Identify next actions
 - * Decisions to be made (at the next meeting)
 - * Key questions requiring more work to resolve
 - * Identify any open loops: information gaps that do not have defined questions or mechanism for answering those questions

Avoid getting involved in detailed analysis during a problem-solving session. Meetings are not effective when the entire group is involved in work that could be (and should be) delegated. In particular, analysis associated with convergent thinking, e.g. use of decision-matrices, are difficult to do efficiently in a group. The group should establish the broad parameters of the analysis and then assign the task of completing the analysis to a member of the team.

3. Decision-making

Herold calls this type of meeting “Consensus Decision” to distinguish it from a hierarchical decisions that may have happened in another meeting – usually at a higher level of authority – that is conveyed to participants in the meeting as information.

Key features:

- Agree in advance on the process (majority vote, consensus)
- Clearly identify what is being decided
 - ▷ Prep work may be crucial: You don’t want the meeting to devolve into an argument about *what* is to be decided.
 - ▷ State decision and get agreement to focus on that item
 - ▷ Break into smaller decisions if necessary
- Agree in advance that the group members will all accept the decision and all work to implement it
- Identify next actions and persons responsible for implementation

Managing Conflict

- Meeting organizer goes last
 - ▷ Encourage others to speak up first
 - ▷ Pay attention to who is speaking
 - ▷ Don’t repeat: If someone else talks about an idea that you have, state your agreement and move on
- Disagreeing over an idea should not be personal
 - ▷ Disagreement is important to bring into the open
 - ▷ The idea is not the person
- Goal is to move the design (or more broadly, the team goals) forward
- Contributing to progress is the goal
- Being “right” is not the goal
- Be mindful of who is quiet

Being Mindful of the Purpose(s) of the Meeting

The nature of the three meeting types seems straightforward, and involves a common, shared experience: we've all shared information, engaged in group problem-solving, and group decision-making. Naming the three different types of activities gives us perspective on the purpose and effectiveness of our time spent in meetings. Consider these corrective comments that could be made by the meeting facilitator or any of the participants.

Example: Keeping the discussion focused on information sharing.

“Bob, thanks for sharing your opinion of manufacturing costs. However, the purpose of the meeting is to understand how the new design features that Nancy is describing will affect performance. We're not able to make decisions about manufacturing costs today.”

Example: Name the shift from information sharing to problem-solving

“OK, now that Larry is finished with the test results, it's time for us to brainstorm on ways to change the design to improve performance. Let's take a quick break and shift from information sharing to problem solving”

Example: Keeping the focus on decision-making

“Yes, Sue, it would be nice if we had more customer survey data, but in order to keep on schedule, we have to make a choice about the suspension system today. We don't have time to gather more data and also meet our deadline for the next prototype.”

Meeting Agendas

A meeting agenda is a tool for both preparing and running the meeting.

- Make the agenda at least one day in advance of the meeting
- Distribute the agenda in advance
- For weekly Capstone team meetings, use a template so that the format is familiar
- Distribute a hard copy to people in attendance

Benefits of Preparing an Agenda

Preparing *and distributing* a meeting agenda before the start of the meeting has several advantages.

In developing the agenda, meeting organizers get clarity on who needs to attend. To state the obvious, *only invite necessary participants*. For weekly capstone team meetings, the whole team needs to attend because information sharing and decision-making needs involvement from everyone.

The agenda is a draft of work to be done.

- Set realistic goals: limit topics to those that can be meaningfully addressed and resolved.
- Review and allocate time needed
- Gather materials needed

Distributing an agenda in advance allows team members to personally prepare for the meeting. There should be no surprises. Participants should have their support materials ready. It is extremely frustrating when a meeting grinds to a halt because a participant does not have some key information that should have been brought to the meeting.

Finally, distributing the agenda in advance gives team members to suggest changes before the start of the meeting

- Omit unnecessary topics, e.g. a topic that is not yet “ripe” for discussion
- Avoid derailing the meeting at the start by debating the contents of the agenda

Specific Advice for Agendas

Agendas can and should be brief: One page will do. When writing an agenda, include/consider the following.

- Create a concise title to indicate the purpose. **Be more specific** than “Weekly Team Meeting.”
- Use bulleted lists instead of dense paragraphs
- Leave details, e.g. results of engineering analysis, in support documents, not the agenda.

If the goal of the meeting is decision-making, then list the expected outcomes (kinds and topics of decisions).

GWR TO-DO:

- Make agenda template
- Link to Capstone meeting rubric

Weekly Capstone Meetings

Weekly Capstone meetings can be any of the three basic types – information sharing, problem solving, decision making – or a combination. For example, information sharing may be a precursor to problem solving or decision making.

Rotate Roles

Everyone should have several turns at preparing the agenda, leading the meeting, being notetaker (parking lot), timer, closer.

Everyone should be prepared for information sharing because everyone is expected to be making contributions (progress) *every* week.

For Information sharing

Discourage “working on” reports. Report what you finished, not what you are doing. Ask for help or information. For complex tasks or dense information, or information that is not readily available, arrange for a time after the meeting to continue the work.

Focus on information that other people need to know

- Are you on schedule?
- Do you need information or help from other team-mates?
- Do you have new information that might change the work of others?

Make your dense information sources, viz. engineering analysis, CAD models, data sets, available in a shared (digital) repository. Bring highlights to the meeting.

For problem-solving

- Make the objective clear: today we will generate ideas ...; today we will set up our decision-making criteria; ...
- Assign someone to be notetaker
- Have tools (post-it notes, markers) and space (whiteboard, isolation from distractions) ready
- Set a time limit

Warning: Avoid the hazard of doing engineering work at a meeting

For decision-making

- Make the objective clear: today we are going to decide ...
 - Make sure everyone has the necessary information
 - Make sure the mode of decision-making (consensus, majority voting, deferral to expert) is clear in advance
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The Hazard of Doing Engineering Work at a Meeting

We're all familiar of the cartoon image of many workers standing around watching one or two people doing work. Yet we also assume that our work habits are better.

{:.center}
Meetings can devolve into work sessions when

- Meeting participants did not accomplish assigned tasks before the meeting
- The meeting agenda lacks a clear purpose
- The team lacks discipline to stay on task
- The team is confused about what to do, so they revert to work that is familiar

The hazard is that **we confuse looking busy with being on task**. Meetings are about communication and decision-making by a group. Engineering work, be it design, analysis, testing, or report writing, is more efficient when done alone or in *very* small groups.

If you are doing engineering work in a meeting, ...

1. Stop.
 2. Decide whether this work really needs all participants. Most likely, it doesn't.
 3. Assign the work to a smaller group, say one or two team members.
 4. As a group, agree on the person(s) responsible, the deliverable(s), and the due date.
 5. Return to the agenda for the meeting.
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Figure 1: water main repair
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References

1. Cameron Herold, *Meetings Suck: Turning one of the Most Loathed Elements of Business into One of the Most Valuable*, 2016, Lioncrest Publishing

[PDF version]({{ "/notes/pdf/meeting_toolbox.pdf" | absolute_url }})