Team meetings will play an important role not only in your work in EDC but in your professional career as well. Researchers who surveyed over one hundred engineers with an average of fifteen years of experience found that “meetings and informal interpersonal situations are the places where a significant amount of engineering work gets done and provide the context for creating and sustaining productivity in daily practice” (Darling, Dannels, 2003, p. 8).

In EDC, class periods don’t give you enough time to work on your project, so your team should meet at least once a week outside of class to plan tasks, analyze information, write reports, and practice presentations. In addition, your team will have formal meetings with faculty to discuss team progress.

Out-of-class team meetings are valuable for the following reasons:

- Members can talk about their skills, interests, and outside commitments so that work can be distributed in the most realistic and productive way.
- Meetings are an incentive to complete your work, knowing you’ll have to report on it at a team meeting.
- They help you figure out answers to difficult questions such as, “What should our objectives be?” and “What kind of user testing should we do?”
- They help clarify team goals, reach consensus on decisions, and bring to the surface and resolve underlying problems that may be hampering the team's performance.
- They spark creativity by having you bounce ideas off each other.

The rest of this chapter explains how to get the most out of these meetings.
13.1 SETTING AN AGENDA

Prepare an agenda, with input from team members, to make the best use of your time. Set the agenda by having team members contribute items. The agenda should include:

- **Meeting date, time, and location.** Make sure all team members can attend and arrive on time. If you are going to be absent or late, let the meeting leader know. Select a location that’s safe and convenient for everyone, or rotate locations.

- **Meeting objective.** Be as specific as possible in your meeting objective so you don’t get off-track. For instance, “Discuss the progress of the project” is too vague, but “Finalize decisions on mockups and assign roles for building them” gives members a clear goal.

- **Key roles.** The leader posts the agenda and facilitates discussion; the scribe takes notes during the meeting and posts the minutes to the team afterward; the time keeper makes sure the team stays within its allotted time for each agenda topic. Consider rotating roles from meeting to meeting to give everyone a chance at each job.

- **Discussion topics.** This may simply be a list of topics or, for formal meetings with your instructors, more detailed.

Below are three different agendas used by a team working on a food-cutting device for stroke survivors. The first agenda was for a meeting held by team members to plan mockups:

**Example 13.1: Agenda for team meeting to discuss mockups**

Team Meeting Agenda

Time/Location: April 22, 2 to 3 p.m., Foster-Walker Complex

Objective: Plan mockups and user testing

Meeting leader: Jessie

Scribe: Nirav

Topics/presenters

- Mockup #1/Nirav
- Mockup #2/Vera
- Mockup #3/Alicia
- User testing/Jessie
- Update RAM and Gantt/Jesse

Below is an agenda for a meeting held with instructors to review progress. The agenda is much more detailed, primarily because faculty will assign an
advisory grade based on the team’s clarity, conciseness, and professionalism. EDC provides a downloadable agenda form for team/instructor meetings, modeled on the best practices in industry.

Example 13.2: Agenda for team meeting with instructors

**Meeting date, time, location:** May 4, 2:30 to 3 p.m., Ford

**Objective:** Get feedback from instructors on mockups and user test plan

**Meeting leader:** Vera

**Scribe:** Jessie

**Timekeeper:** Nirav

<table>
<thead>
<tr>
<th>Topic</th>
<th>Presenter</th>
<th>Time</th>
<th>Outcome</th>
<th>Process</th>
<th>Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review of action items from previous meeting</td>
<td>Vera</td>
<td>2 min.</td>
<td>Instructors know key findings resulting from completion of action items</td>
<td>Oral summary with reference to minutes of preceding meeting and to progress report</td>
<td>Review progress report and minutes of preceding meeting</td>
</tr>
<tr>
<td>Mockups for user testing</td>
<td>Nirav, Alicia, and Vera</td>
<td>10 min.</td>
<td>Instructors provide feedback on mockups</td>
<td>Oral summary with mockups</td>
<td>Review progress report; make sure everyone brings mockups</td>
</tr>
<tr>
<td>Plan for getting users</td>
<td>Jessie</td>
<td>5 min.</td>
<td>Instructors review and offer suggestions for revising email to client asking for users</td>
<td>Copies of email are distributed</td>
<td>Jessie types email and circulates it among team for review; makes copies of edited version for meeting</td>
</tr>
<tr>
<td>User test guide</td>
<td>Jessie</td>
<td>8 min.</td>
<td>Instructors review and offer suggestions for user test guide</td>
<td>Copies of user test guide are distributed</td>
<td>Jessie types guide and circulates it among team for review; makes copies of edited version for meeting</td>
</tr>
<tr>
<td>Questions and comments from instructors</td>
<td>Vera</td>
<td>8 min.</td>
<td>Instructors have opportunity to raise issues and concerns</td>
<td>Discussion</td>
<td>Make sure project notebook is updated and complete in case material is needed to answer questions</td>
</tr>
</tbody>
</table>

Finally, here is an agenda for a team meeting with the client. It was held three weeks before the scheduled final presentation, and its goal was to get the client’s feedback on the final design direction that the team had chosen as a result of user testing. It is less detailed than the agenda used for the meeting.
with instructors because the client does not need to know the planning process used by the team for each topic. However, the time allotted for each topic is included because it is critical that the team adhere to the client's schedule.

Example 13.3: Agenda for meeting with client

Date/time/location: May 15, 9:30 to 10 a.m., Ford Design Building

Objective: Discuss final design concept with client

Meeting leader: Alicia

Scribe: Jessie

Timekeeper: Vera

Topics/time/presenter

- Review of meeting objective and agenda/1 minute/Alicia
- Review of mockups tested with users/5 minutes/Nirav
- Summary of results of user testing/5 minutes/Vera
- Decision matrix used to arrive at final design concept/5 minutes/Alicia
- Review of sketches of final design concept/10 minutes/Jessie
- Next steps/2 minutes/Nirav
- Final presentation time and place/2 minutes/Nirav

Although preparing an agenda may seem like a lot of work for a relatively short meeting, it's well worth doing because it helps members accomplish what they set out to do within the time allotted.

13.2 CONDUCTING THE MEETING

Below is a list of responsibilities for members holding major roles in a team meeting.

Leader

- Set the agenda.
- Send the agenda electronically 24 to 48 hours before the meeting so participants can adequately prepare.
- Make sure the meeting starts and ends on time.
- Keep the discussion focused on the topic and tactfully steer it back when it drifts.
- Encourage everyone to participate by having each person say something on the topic at hand.
• Make sure all agenda items are discussed. If that isn’t possible, ask individual members to circulate material on items that will carry over to the next meeting.

• Help the team reach a consensus. Ask if anyone disagrees with a decision that has emerged from the discussion. If so, ask for further discussion to clarify and resolve the disagreement.

• Help the team identify what actions need to be taken based on decisions made at the meeting, who will be responsible for those action items, and when they will be completed.

• File a copy of the meeting agenda in your project notebook (discussed in the following chapter).

Timekeeper

• Let the facilitator know when discussion time is up for an agenda topic. At that point, the leader, with the concurrence of the participants, can decide to continue the discussion, and thus modify the agenda, or table the discussion and continue with the original agenda.

Scribe

• Take notes on key points of items discussed, decisions reached, and actions to be taken (along with who is responsible for those actions and when they should be completed). Review the action items with the team at the end of the meeting.

• Type up your meeting notes (called minutes) and email them to the team within 24 hours so members can offer additions, corrections, or clarifications. Then post the revised minutes to team members and your instructors. After all corrections are made, file a copy of the meeting notes in the project notebook. NOTE: Meeting minutes are discussed in greater detail in the last section of this chapter.

Topic presenter:

• Prepare the material specified in the agenda and bring it to the meeting. If something unexpected comes up to prevent you from doing that, notify the rest of the team as soon as possible and try to arrange for someone else to prepare the material. If you’ve prepared the material but find you can’t attend the meeting, make sure to get it to a teammate before the meeting.
13.2.1 General guidelines for participation in team meetings

Follow these guidelines to ensure a productive meeting:

- **Have everyone participate.** Management consultant Maureen O’Brien (1995) urges participants to abide by the ground rule, “Everyone must respond out loud.” This “energizes the team, and it confirms agreement or disagreement, which, in the end, helps to clarify decisions” (p. 128). Keeping silent signals to others that you agree or that you’re too angry to say anything, neither of which may be the case. If one or more members are consistently quiet during meetings, experiment with ways to get everyone to contribute: for example, go around the circle and take turns giving ideas, or have team members write down their suggestions.

- **Don’t interrupt.** Even though people sometimes interrupt out of enthusiasm, interrupting is disrespectful and can cause members to become disengaged. If interruptions are a persistent problem at meetings, have the leader or someone else call a “time out” whenever there’s an interruption or come up with another solution that everyone can agree on. If people feel the need to interrupt because one member dominates the discussion, bring that problem up at a meeting.

- **Don’t reject ideas out of hand.** Such behavior can take many forms: insulting (“That's ridiculous”), condescending (“That's an interesting idea, but...”), dismissive (“No, you're wrong”), and devastating (the silent treatment). Abruptly dismissing others’ ideas means that good ideas will be lost and teams will lose valuable perspectives. The best way to respond to an idea with which you disagree is to ask the reasoning behind it.

- **Require consensus, not majority rule, on all decisions.** As Harrington-Mackin (1994) points out, “When we vote, there is a winner and a loser. In addition to the fact that losers usually like to get even, a team with winners and losers is a divided team with two different goals, doomed for failure” (pp. 48-49). Consensus is often difficult to achieve, but is essential for key decisions. For strategies on how to achieve consensus, see the earlier chapter on managing conflict.

13.3 KEEPING MEETING MINUTES

Minutes serve as a record of key ideas discussed, decisions reached, and tasks assigned. In this way, minutes help keep the project on track. Instructors can refer to these minutes (in the project notebook) to make sure everyone on the team is involved in the project. And the team can refer to the minutes when they plan email updates to the client. Meeting minutes shouldn’t be a record of everything that is said at the meeting. Instead, they should include the following information:
• Location, date, and time of meeting.
• Names of people present and absent.
• Name of scribe.
• Topics discussed, plus a brief summary of the major points and decisions made in regard to each.
• Actions planned, the names of team members assigned to them, and the deadline.

The minutes should be posted shortly after the meeting for review and use by team members.

Here are minutes written by the team designing a food-cutting device for stroke victims.

Example 13.4: Team meeting minutes

Location, date, and time of meeting: Tech Express, May 12, 2:30 to 3:45 p.m.

Attending: Entire team (Jessie, Vera, Alicia, Nirav)

Scribe: Jessie

Topics, key points, and decisions

• Review of user testing procedures: Jessie and Nirav followed the user interview script we developed for our three mockups with two users at RIC. They took 33 digital photos during the tests.
• Features liked by users:
  – Mockup 1: sponge-grip handle; 45-degree-angle handle
  – Mockup 2: spring mechanism
  – Mockup 3: safety lock; rounded edges
• Features disliked by users:
  – Mockup 1: shortness of blades
  – Mockup 2: awkward angle of handle
  – Mockup 3: difficulty of getting fingers through holes in handle
• Concept for design review: Using a decision matrix, we decided to build one mockup for the design review. It will have a blade length of approximately six inches with rounded tips for safety, and sponge handles at a 45-degree angle. Because the safety lock and spring mechanism will add to the cost and make the device difficult to clean, we will leave those features out. Instead, we will mock up a different kind of screw connection of the blades (yet to be determined) and a carrying case, probably leather for safety.
• Tasks to prepare for design review (and deadlines):
  – Type RAM chart: Jessie (5/15)
  – Buy mockup supplies: Vera (5/16)
– Build mockup: Jessie and Vera (5/20)
– Prepare design review slides and questionnaire: Nirav and Alicia (5/20)
– Practice design review: everyone (5/21)

Writing and posting minutes usually takes no more than 15 minutes if the scribe has taken good notes at the meeting. The payoff is a valuable reference for the team and the instructors.

13.4 CONDUCTING MEETINGS WITH INSTRUCTORS

In spring quarter, each team will conduct at least two half-hour meetings with their instructors. The purpose of these meetings is to review team decisions, plans, and questions so that your instructors can offer constructive advice for your project work and evaluate your project management and teamwork.

The team is responsible for planning and conducting the meeting. As you do that planning, keep in mind the following guidelines:

• **Focus the meeting on key design decisions and plans for the upcoming weeks.** Your team will have submitted a progress report to instructors the day before the meeting, so there is no need to rehash its contents. You should focus the meeting on where your design stands now and what your planned next steps are. Structure the meeting so that it will lead to developing action items that move the project forward.

• **Have team member take an active and equal role in the meeting.** This means assigning roles beforehand, as described above in the sections on setting the agenda and conducting the meeting. It also means that everyone on the team should know not only what he or she will discuss but also what the others will. If one person dominates the meeting and others are foggy on project details, your instructors are likely to question the effectiveness of your project management and teamwork.

• **Review action items from the previous meeting.** A major purpose of the meetings is to develop a list of actions that the team should complete in the upcoming weeks. By the time of the next meeting, make sure that you’ve completed those action items. Near the start of the meeting, briefly go over each item. If there are good reasons why you have not completed some of them—they are no longer relevant to your project or the people you need to contact are unavailable—you should explain those reasons and your plans regarding the actions.

• **Meet as a team beforehand to develop an agenda.** Discuss what you need to cover at the meeting with your instructors, and assign roles and necessary preparation. Someone should post a draft of the agenda
for team review and revision. Then post the final version of the agenda to your team and instructors, and bring copies for everyone to the meeting.

- **Bring all support materials to meeting.** These include copies of the agenda and progress report, updated Gantt and RAM charts, project notebook, drawings, mockups, and anything else that you plan to discuss or that your instructors may ask to see. Before the meeting, review the Gantt and RAM charts to make sure that your team is on schedule and has completed all the tasks it should have.

### 13.5 REFERENCES


