

Teamwork - A Primer

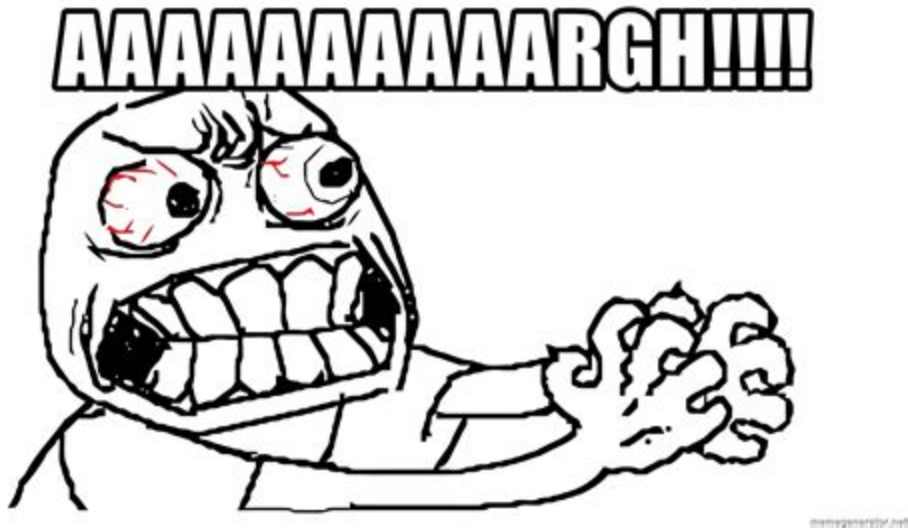
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The Importance of Teamwork

- Virtually all software projects are done in teams
- ML-enabled projects need to bring together team members with different backgrounds
- Good teams make it fun to work together
- Learn from each other
- Limited influence in selecting/firing team members in most organizations
- Peer performance evaluations common in industry (e.g. [Google's Process](#))

Who has had bad experiences in teams?

Student teams? Teams in industry?



Some past complaints

- "M. was very pleasant and would contribute while in meetings. Outside of them, he did not complete the work he said he would and did not reach out to provide an update that he was unable to. When asked, on the night the assignment was due, he completed a portion of the task he said he would after I had completed the rest of it."
- "Procrastinated with the work till the last minute - otherwise ok."
- "He is not doing his work on time. And didnt check his own responsibilities. Left work undone for the next time."

Common Themes of Frustrations in Student Teams

- No visible progress until last minute
- Late work
- Incomplete or low quality solutions at integration
- Unresponsive team members
- Passive, uninterested team members without initiative
- Needs lots of reminding and help

Common Sources of Frustrations in Student Teams

- Priority differences ("10-601 is killing me, I need to work on that first", "I have dance class tonight")
- Ambition differences ("a B- is enough for graduating")
- Ability differences ("incompetent" students on teams)
- Working style differences (deadline driven vs planner)
- Communication preferences differences (avoid distraction vs always on)
- In-team competition around grades (outdoing each other, adversarial peer grading)

How would you handle...

One team member has very little technical experience and is struggling with basic Python scripts and the Unix shell. It is faster for other team members to take over the task rather than helping them.

How would you handle...

You divide the work and but when you try to integrate on the evening before the deadline you learn that one team member has failed to complete their part. They tried the day before, but got stuck with a compatibility problem.

How would you handle...

After last minute stress at the last assignment, you team agrees to start earlier and to integrate at a milestone days before the deadline to leave a buffer. Yet you see little progress from half the team in GitHub and hardly anybody responds in Slack. Little is done at the agreed milestone. The work gets done before the deadline, but with the same stress as in the last assignment.

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This homework is low priority for one team member. They rarely contribute beyond the bare minimum at the last minute.

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The rest of the team grudgingly compensates and achieves full points. You do not feel comfortable criticizing the student as it may negatively affect their grade.

Summary: How would you handle...

1. One team member has very little technical experience and is struggling with basic Python scripts and the Unix shell. It is faster for other team members to take over the task rather than helping them.
2. You divide the work and but when you try to integrate on the evening before the deadline you learn that one team member has failed to complete their part. They tried the day before, but got stuck with a compatibility problem.
3. After last minute stress at the last assignment, you team agrees to start earlier and to integrate at a milestone days before the deadline to leave a buffer. Yet you see little progress from half the team in GitHub and hardly anybody responds in Slack. Little is done

Teamwork Policies and Support in this Course

- Teams can set their own priorities and policies -- do what works for you, experiment
 - Not everybody will contribute equally to every assignment -- that's okay
 - Team members have different strength and weaknesses -- that's good
- We will intervene in *team citizenship* issues!

Team Citizenship

- Be responsive and responsible
- Come to meetings on time, participate actively
- Stick to commitments, work on assigned tasks
- When problems, reach out, replan, communicate early, be proactive
- (Replanning and dealing with mistakes is normal)

We will adjust grades if complains about:

- Lack of communication
- Disrespectful or dismissive communication
- Not attending team meetings (without excuse)
- Blowing internal deadlines without communication
- ≡ • Failing to complete agreed tasks without timely communication

Peer Grading Process

Avoiding Adversarial Peer Grading

- Peer grading focuses only on team citizenship
- Comments are required and read by instructors
- Instructor may follow up individually or with the group, especially in tricky cases; instructor listens to nuance and appeals, may request/collect evidence
- *Avoid avoiding conflict:* Set high standards and give honest feedback to avoid mounting frustration and spiraling problems

Step 1: Establish Communication and Meeting Patterns

Step 2: Maintain Accountability

- Team members have different strength and weaknesses -- that's good
- Make use of individual strength of team members
 - Split responsibilities and work,
 - Onboard, pair up, ...
- Usually somebody will take responsibility for team management tasks, consider rotating
- **Write down explicit deliverables**
 - *Who does what by when*
 - Be explicit about expected results, should be verifiable
 - Track completion, check off when done

Recall: Common Sources of Conflict

- Different team members have different working patterns and communication preferences
 - e.g., start early vs close to deadline
 - e.g., plan ahead vs try and error
 - e.g., react to every notification vs reduce distractions and read email once a day
 - *discuss and set explicit expectations; talk about conflicts*
- Different abilities, unexpected difficulties
 - work in pairs, plan time for rework and integration
 - replan, contribute to teams in different ways
 - *work around it, it's the team's responsibility*
- Unreliable team members, poor team citizenship

Meeting Tips

- Regular 1h meeting, assign moderator who keeps time
- Longer work/integration meeting with needed team members as needed
- If using zoom: Use video, muting often not needed in small groups
- Use Slack/chat deliberately
 - consider chat ephemeral, don't expect everybody to catch up on all old messages
 - explicitly tag people if you need their input
 - separate social communication from work communication, urgent from not urgent
 - discuss non-urgent, long-term things outside of chat associated with topic (issue tracker, Google doc, ...)

Now: First Team Meeting

- Sending teams into breakout rooms
- Say hi, introduce yourself
 - Name? SE or ML background? Favorite movie? Fun fact?
 - Find time for first team meeting in next few days (remote/in person?)
 - Agree on primary communication until team meeting
 - Pick a movie-related team name
 - Post team name as a group on slack