CEN 5016: Software Engineering

Spring 2026

University of Central Florida

Dr. Kevin Moran

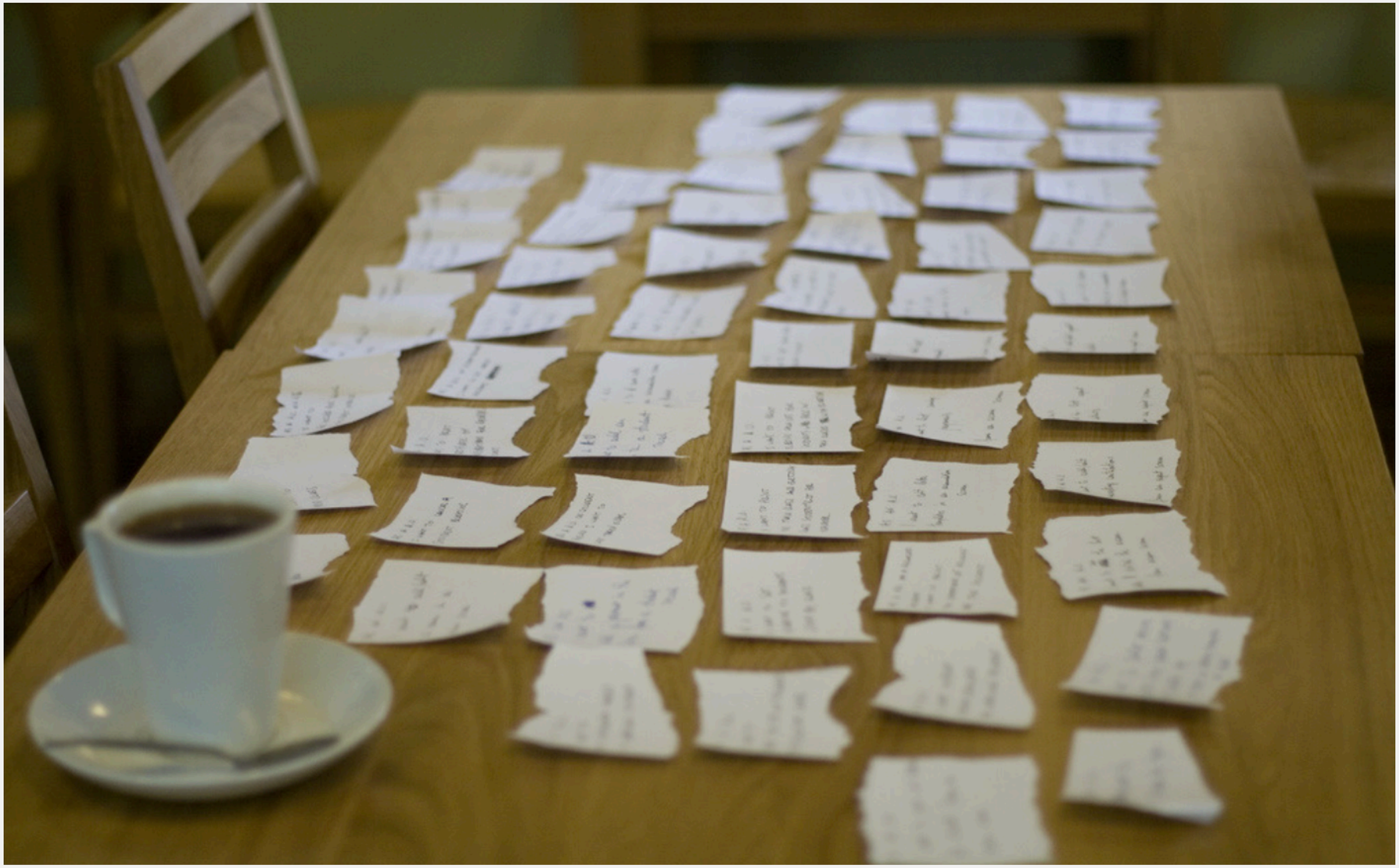
Week 3 - Class 1: Software Teams & Communication Pt. I

Administrivia

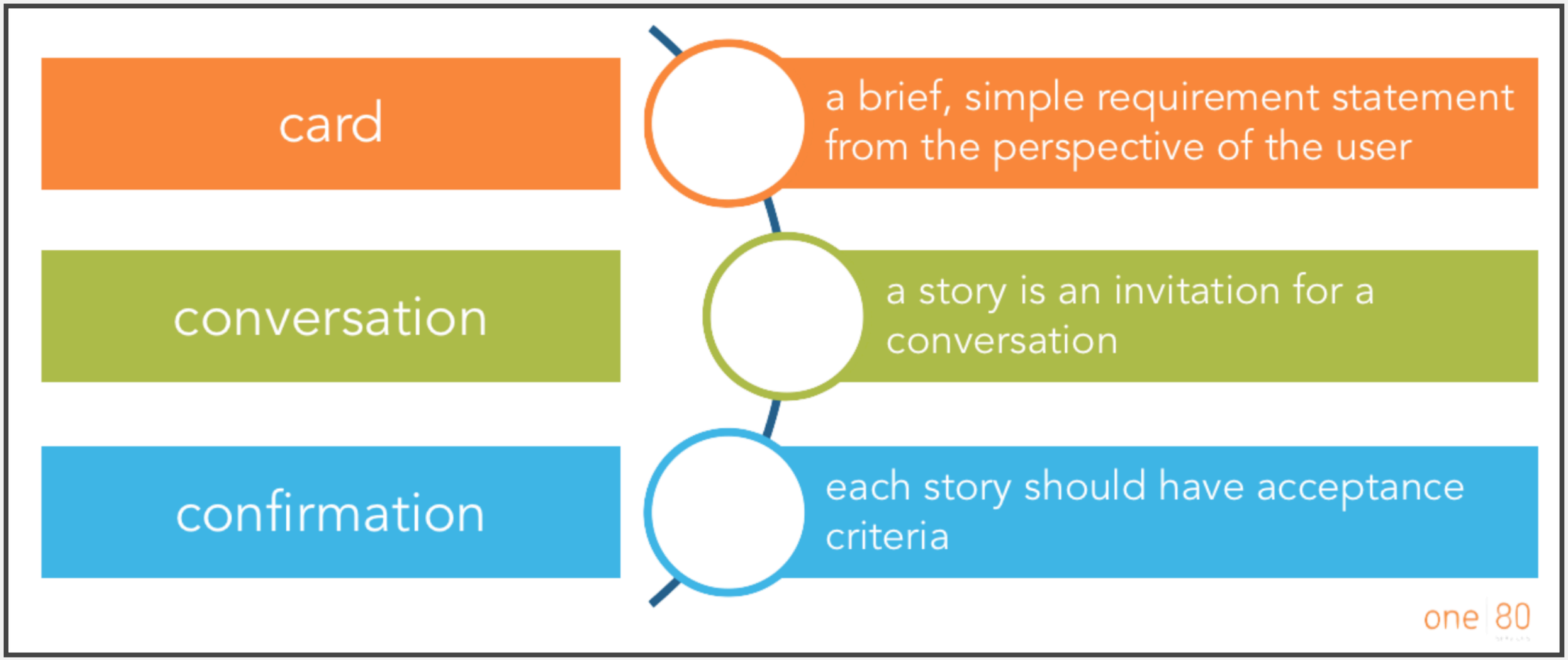
- *Team-forming this week - Due Thursday, Sept 11th EoD!!*
  - Teams of 3 students
  - See Ed Discussions Post
- *Assignment 2 Posted!*
  - See post on Ed and Assignment page on Course Website

Project Planning & Agile Development

User Stories



User Stories



Card

- “As a [role], I want [function], so that [value]”

Card

- What must a developer do to implement this user story?

Confirmation

- How can we tell that the user story has been achieved
- It’s easy to tell when the developer finished the code.
- But, how do you tell that the customer is happy?

How to Evaluate a User Story

Independent

- Schedule in any order.
- Not overlapping in concept.
- Not always possible.

Negotiable

- Details to be negotiated during development.
- A good story captures the essence, not the details.

Valuable

- This story needs to have value to someone (hopefully the customer).
- Especially relevant to splitting up issues.

Estimable

- Helps keep the size small.
- Ensure we negotiated correctly.
- “Plans are nothing, planning is everything” - Dwight D. Eisenhower

Small

- Can be written on a 3x5 card.
- At most two person-weeks of work.
- Too big === unable to estimate

Testable

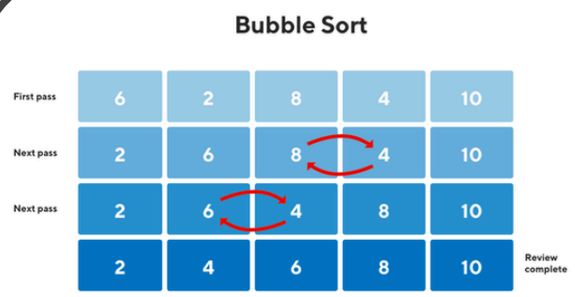
- Ensures understanding of task
- We know when we can mark task “Done”
- Unable to test === I do not understand it

Software Teams & Communication

Learning Goals

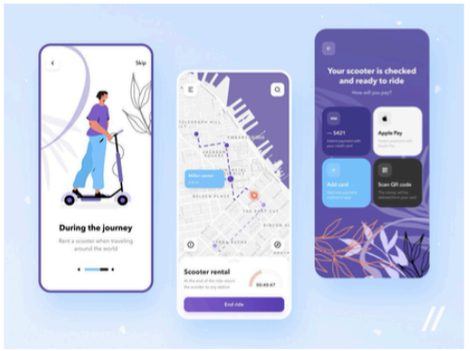
- Describe the pros and cons of working as a team
- Recognize the importance of communication in collaboration
- Recognize the need of having multiple communication channels
- Select an appropriate communication tool for a given communication goal
- Ask technical questions effectively
- Write clear and specific Github issues, pull requests, and comments

We all Work in a Team

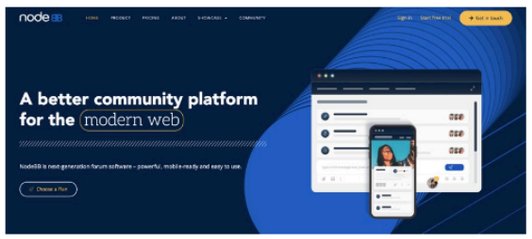


Bubble Sort

Monopoly Game



Scooter App



NodeBB

Autonomous Vehicle

We all Work in a Team

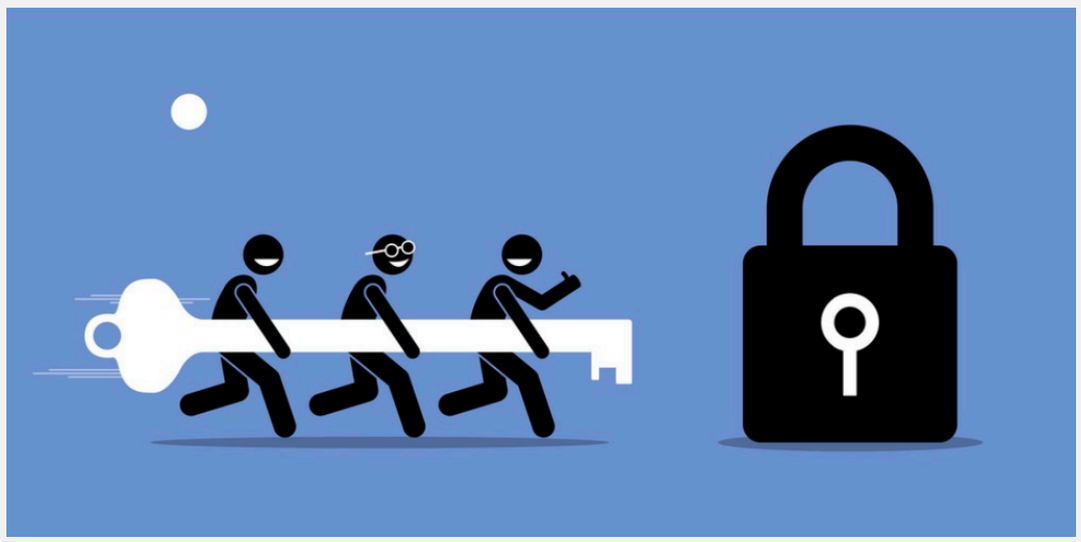
Activity: Working Solo vs. As a Team

- Write down two pros and two cons about working solo on a software project versus working on a team.
- Pair with your neighbor and discuss your answers. Do you agree?
- We will discuss some of your answers!

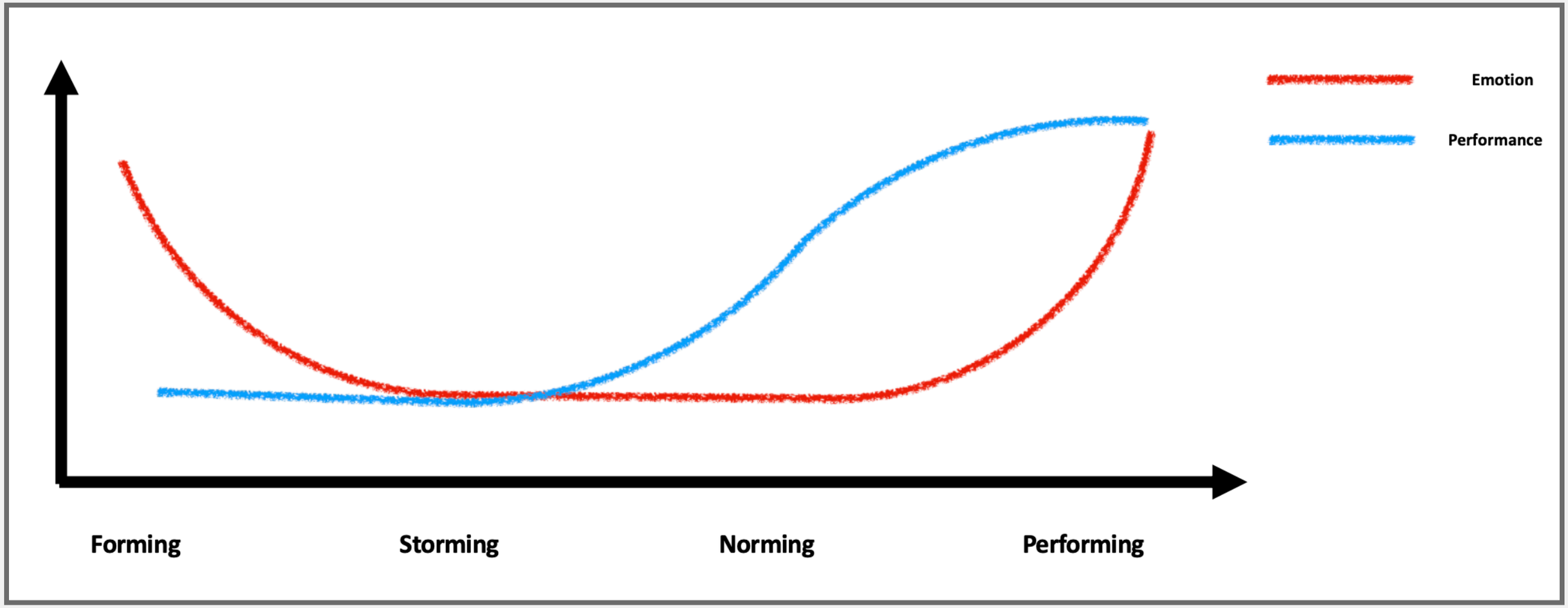
https://tinyurl.com/CEN5016-ACT3-S26

Working as a Team

- Design & implement software
  - Establish a collaboration process
  - Meet with the team
    - Choose a leader
    - Divide work and integrate
    - Share knowledge
    - Resolve conflicts



Stages of Team Formation



Norming

- When working with someone who is remote, how do you like to work together?
- How do you manage your time when you get busy with a lot of tasks?
- How do you feel about chatting by text message, audio call, video call?
    - Exchange phone numbers with your project partner(s) in case your Internet goes out and you still want to work on the project together.
- Negotiate when you can work on the project together outside of class.
- Have you had a positive prior teaming experience?
    - How often did your team meet?
    - Did your team have a leader? If yes, what did that leader do?
    - What was your role on the team?
    - How well did you get along with your teammates related to work, or related to non-work?

What Not to Do 🧐

What Not to Do 🧐

(11) *General Interfere*
Production

(a) Organizations

(1) Insist or
"channels." Never
in order to expedi

(2) Make "sp
possible and at
"points" by long
sonal experiences.
appropriate "patr

(3) When p
committees, for
tion." Attempt to
as possible — nev

(4) Bring up
as possible.

(5) Haggle
munications, min

(6) Refer ba
the last meeting
question of the a

(7) Advocate
and urge your
able" and avoid
embarrassments

(8) Be worri
decision — raise
action as is cont
diction of the gro
with the policy o

(b) Managers and Supervisors

(1) Demand written order

(2) "Misunderstand" orde
questions or engage in long
about such orders. Quibble over
can.

(3) Do everything possibl
delivery of orders. Even though
may be ready beforehand, don'
it is completely ready.

(4) Don't order new wo
until your current stocks have b
hausted, so that the slightest
your order will mean a shutdo

(5) Order high-quality ma
hard to get. If you don't get th
it. Warn that inferior materia
ferior work.

(6) In making work assi
sign out the unimportant job
the important jobs are assign
workers of poor machines.

(7) Insist on perfect work
important products; send back
those which have the least flav
defective parts whose flaws a
the naked eye.

(8) Make mistakes in rout
and materials will be sent to th

(12) Multiply paper work in plausible ways.
Start duplicate files.

(13) Multiply the procedur
involved in issuing instructions
so on. See that three people
everything where one would do

(14) Apply all regulations

(c) Office Workers

(1) Make mistakes in qua
when you are copying orders
names. Use wrong addresses.

(2) Prolong corresponde
ment bureaus.

(3) Misfile essential docu

(4) In making carbon co
few, so that an extra copying
be done.

(5) Tell important caller
or talking on another teleph

(6) Hold up mail until t

(7) Spread disturbing r
like inside dope.

(d) Employees

(1) *Work slowly.* Think
crease the number of movem
your job: use a light hammer
one, try to make a small wre
one is necessary, use little for
able force is needed, and so o

(2) Contrive as many int
work as you can: when char
on which you are working, a
lathe or punch, take needles

(3) Even if you understand the language
pretend not to understand instructions in a
foreign tongue.

(4) Pretend that instructions are hard to
understand, and ask to have them repeated more
than once. Or pretend that you are particularly
anxious to do your work, and pester the foreman
with unnecessary questions.

(5) Do your work poorly and blame it on
bad tools, machinery, or equipment. Complain
that these things are preventing you from doing
your job right.

(6) Never pass on your skill and experience
to a new or less skillful worker.

(7) Snarl up administration in every pos-
sible way. Fill out forms illegibly so that they
will have to be done over; make mistakes or omit
requested information in forms.

(8) If possible, join or help organize a group
for presenting employee problems to the man-
agement. See that the procedures adopted are
as inconvenient as possible for the management,
involving the presence of a large number of
employees at each presentation, entailing more
than one meeting for each grievance, bringing
up problems which are largely imaginary, and
so on.

(9) Misroute materials.

(10) Mix good parts with unusable scrap and
rejected parts.

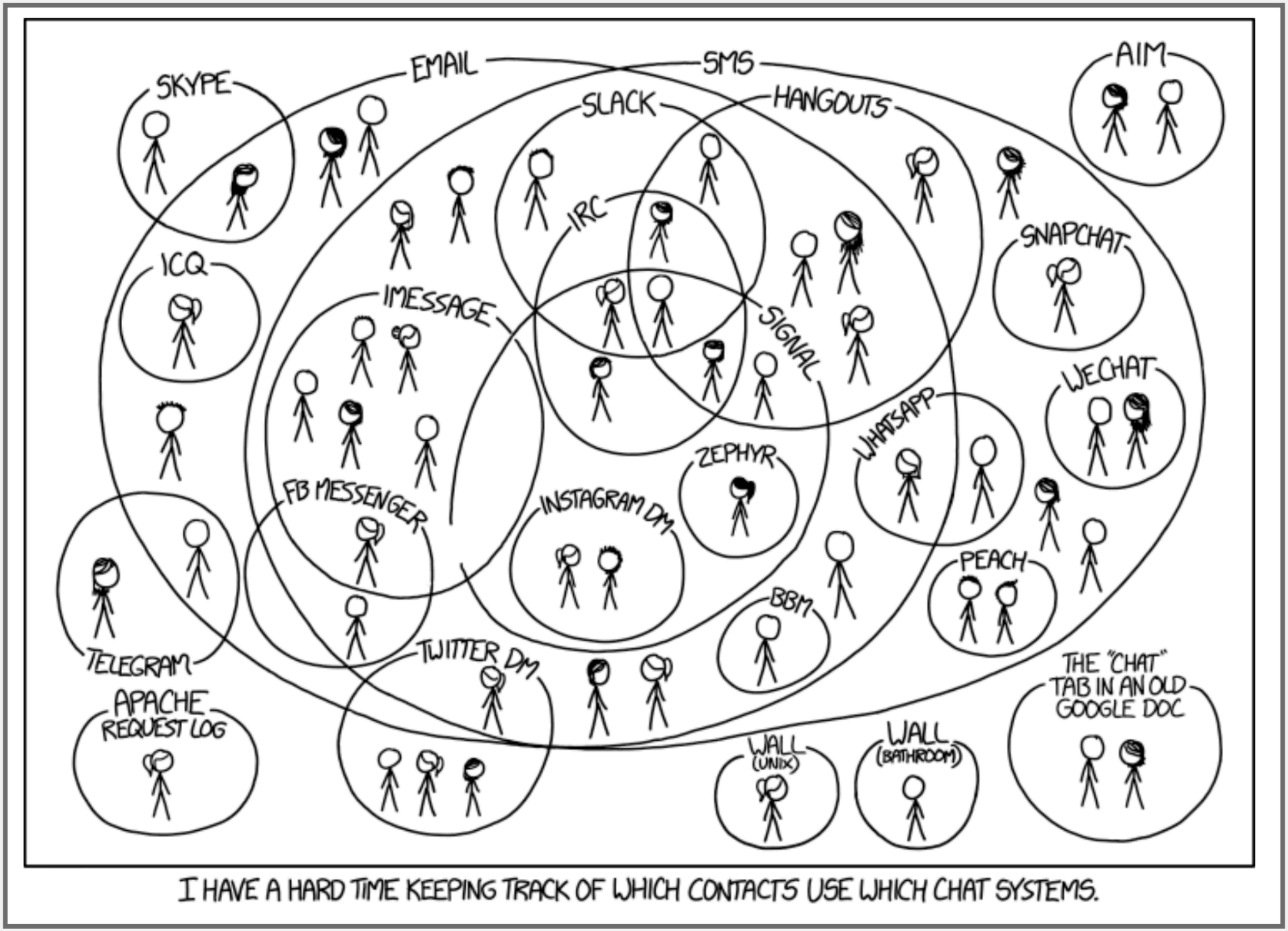
General Devices for Lowering Morale and Creat-
onfusion

(a) Give lengthy and incomprehensible expla-
tions when questioned.

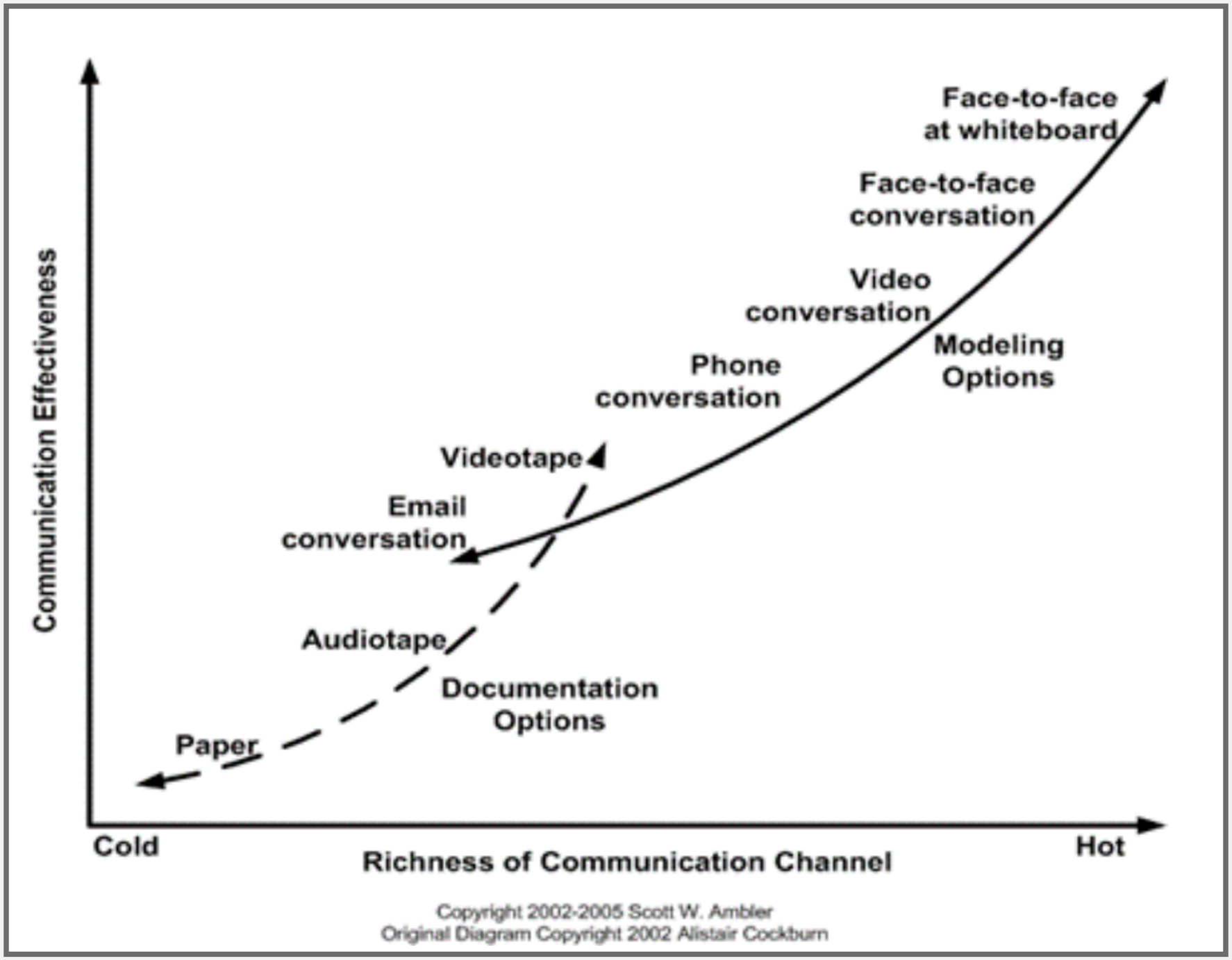
(b) Report imaginary spies or danger to the
tape or police

Establish a Collaboration Process

Communication App Confusion



Select the Right Communication Tools



Establish Communication Patterns

- Asana, Trello, Microsoft Projects, …
- Github Wiki, Google Docs, Notion, ...
- Github Issues, Jira, …
- Email, Slack, Facebook groups, …
- Zoom, Microsoft Teams, Skype, Phone call, ...
- Face-to-face meetings

CEN 5016 Communication Channels

- Ed Discussions
- Regular meeting (Lectures, Recitations)
- Office Hours
- Webcourses
- Course Webpage

Check Out Other Projects

Communication

- Forums: Discuss implementations, research, etc. https://discuss.pytorch.org
- GitHub Issues: Bug reports, feature requests, install issues, RFCs, thoughts, etc.
- Slack: The PyTorch Slack hosts a primary audience of moderate to experienced PyTorch users and developers for general chat, online discussions, collaboration, etc. If you are a beginner looking for help, the primary medium is PyTorch Forums. If you need a slack invite, please fill this form: https://goo.gl/forms/PP1AGvNHpSaJP8to1
- Newsletter: No-noise, a one-way email newsletter with important announcements about PyTorch. You can sign-up here: https://eepurl.com/cbG0rv
- Facebook Page: Important announcements about PyTorch. https://www.facebook.com/pytorch
- For brand guidelines, please visit our website at pytorch.org

Communication Expectation

- Quality of service guarantee
  - How soon will you get back to your teammates?
  - Weekend? Evening?
- Emergency
  - Tag w/ 911
  - Notify everyone with @channel

Running a Meeting

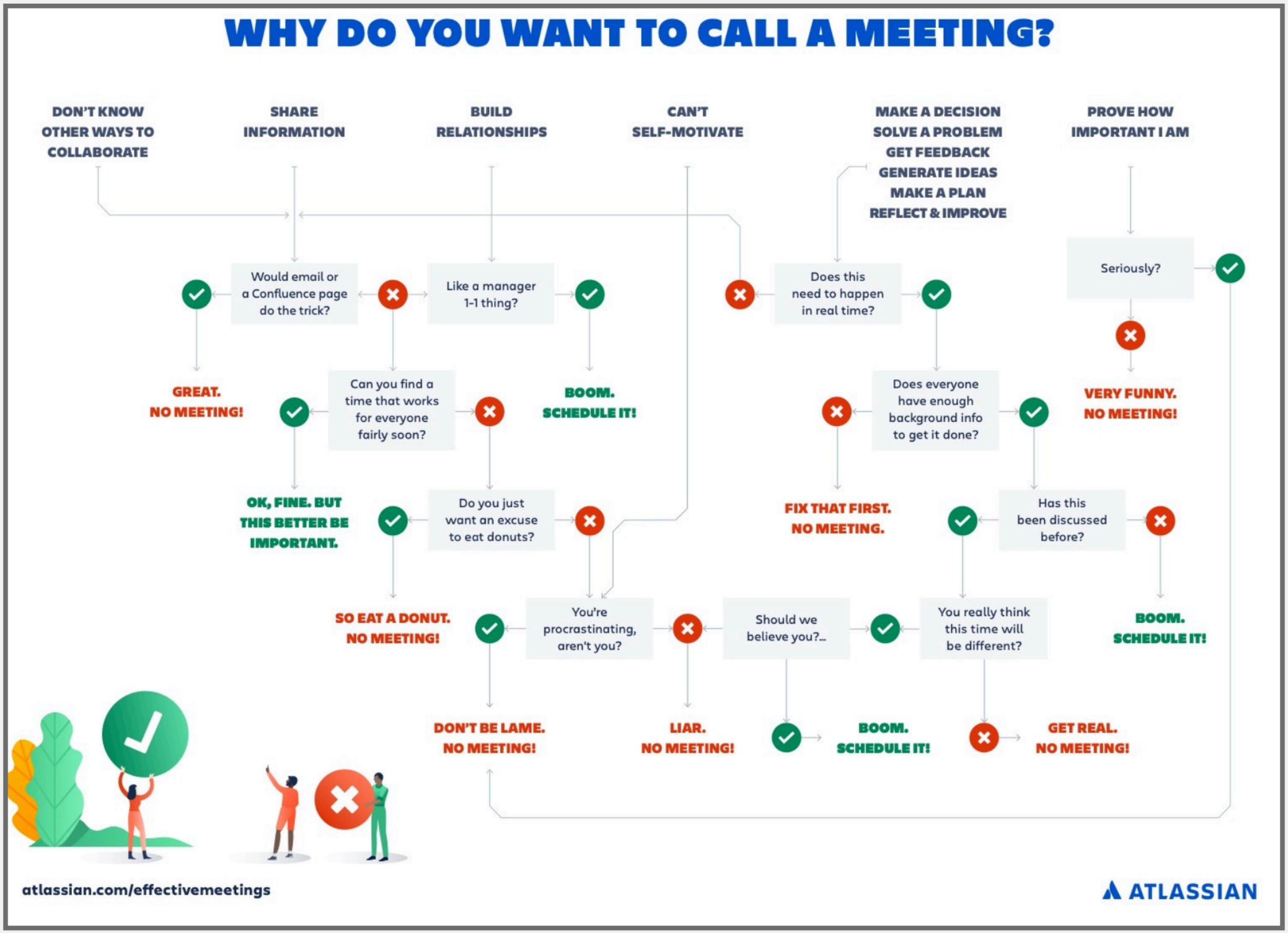
How to Run a Meeting

- The Three Rules of Running a Meeting
  - Set the Agenda
  - Start on Time. End on Time.
  - End with Action Items (and share them - Github Issues, Meeting Notes, ...)

How to Run a Meeting

- Set and document clear responsibilities and expectations
- Make everyone contribute
  - Possible Roles: Coordinator, Scribe, Checker
  - Manage Personalities
  - Be Vulnerable

Atlassian Meeting Flowchart



Every Team Needs a Leader & a Manager

- Note: these are not the same thing.
- A leader inspires with their vision of how everyone could work together.
  - They maintain a positive working environment.
  - They actively create their team culture.
  - They promote fair play among team members.
  - They acknowledge their team members' individuality.
  - They are humble and understand that others may know more than they do.