



Tracks from the first drives of NASA's Curiosity rover are visible in this image captured by the High-Resolution Imaging Science Experiment (HiRISE) camera on NASA's Mars Reconnaissance Orbiter. (NASA/JPL-Caltech/Univ. of Arizona)

Today:

The Challenge Design Outline

&

Collaboration as a way of listening

The Challenge **Design** Outline



(will change)

The purposes of the Challenge Design **Outline**

1. Agree on a mental model ...
 2. that meets the spec for the Challenge, and
3. communicate it effectively to us.

4. Each of you learn something,
about
collaboration and about writing.

The audience for
the Challenge Design **Outline**

1. Your team
2. Prof T
3. Ms C

The sections of the Challenge Design **Outline**

1. Overview of this project (team-written)
2. Problem statement (team-written)
3. Assumptions (team-written)
4. Technical approach (individually written, author identified)
 - Carve out one technical section per team member.
 - Each section should be a substantial effort
5. Concrete capability milestones (team-written)
6. Decision-making process(es), division of labor (team-written)
7. CI self-assessments: what did you learn? (team-written)

The elements of the Challenge Design **Outline**

- Informative headings and sub-headings
- Full-sentence key points
- Key graphics in draft form

The due date of
the Challenge Design **Outline**

Friday, March 21*
1:00 pm

*no class that day



Tips for writing the Challenge Design **Outline**

1. Give crisp high-level descriptions before delving into detail.
2. Link sections to sub-sections with full sentences that lay out the purpose of each sub-section; don't expect us to figure out how things connect.
3. In addition to a coherent high-level plan, describe a realistic division of labor and a clear set of milestones.

Formatting of the Challenge Design **Outline**

Team number and names on the title page
and in a footer

Sections and subsections numbered

FIGURE

Figure #. Title. Caption explaining what's
important about it or how to interpret it.

Submitting the Challenge Design **Outline**

team#_CDO.pdf

Send us a [link](#).

Questions about the
the Challenge Design **Outline?**

People have always said I'm a terrible listener. I always thought they meant I should *shut up* more. But I just realized they meant I should...you know... *listen!* And find out what other people *really mean!*

MIT undergraduate in 6.141,
Robotics Science and Systems

The five conversations of collaboration

What really matters?
(values, context, long-term objectives)

How are our relationships?
(trust, empathy, openness)

How are we going to do that?
(process, roadmap, teamwork)

Where are we going?
(goals of this project, planning)

What do we need to do now?
(tasks, actions)

The five conversations of collaboration

BINGO

COOKIE CRITERIA

The value of the COOKIE CRITERIA.

crispy
chocolate
no metal parts

big
crunchy
many

Discover **common ground**.

Ask questions that will help:

- understand what the underlying values are
- figure out what interests are shared

Discover **common ground**.

What is the issue?



What about that is the problem?



What is it about [that] that concerns you?



How does that affect you?



What would you rather have?

If you could get [value] in some other way than [X], could that satisfy you?



So what matters to you is [value]?



And what would having that do for you?



What would having that do for you?



Discover common ground,
for wiser agreements.

