Oral Presentation 2: Subsystem Performance Review

Due Date: April 30th. Value: 19%
(60% Team; 40% Individual)

By the end of term, your team will have assembled your subsystem, tested its performance, and determined if you might successfully integrate it with other subsystems to create a working radio. In industry, this would be a decisive moment for your company: should your design be sent to mass production? For OP2, you will present a recommendation to a CI (product manager) and a TA (engineering manager) for how your company should proceed. Your recommendation should be based on an analysis of your test results.

A successful presentation is not contingent on positive or negative M3 results or radio integration. Successes and challenges have equal merits for the presentation. Your task is to explain them compellingly and credibly. As with OP1, one of your goals should be to make your presentation memorable.

What You Need to Do:

Using slides, you should plan to present and explain your fully assembled subsystem, key performance metrics and unit testing results. To support your explanation, you might consider addressing the following:

- Test results and what they say about your design
- Final design *concepts* and any changes you made after M1 and M2
- Design decisions you made to support physical hardware development or radio integration, addressing how relevant subsystems would interact
- Successes and challenges or decisions implementing designs as physical hardware
- Radio integration prospects / results. If you attempted integration, what happened? If integration was likely but you did not attempt it, explain why. If integration was not likely, explain why not. What happened?
- What would be your next steps?

If you are able to achieve radio integration you are welcome to address this *briefly* in the presentation. If you do, consider presenting on high level functions like geographic reach of radio contact. In a nutshell, what can the radio do? If you are unable to get your subsystem operational, be prepared to debug and analyze what went wrong and use measurements to support your explanation. What does your radio do if it's partially working?

Following your presentation, your TA and CI will lead a Q/A with an opportunity for other teams in the audience to ask questions. Your assessors will direct questions to each individual presenter (1 from your CI and 1 from your TA)

Subsystem Results – Positive or negative; both are ok!

When designing new circuits, even with design reviews, issues can get through and can limit performance in the first revision of a design (sadly, even in revision 2 and 3 as well…). OP2 will not be graded on how successful the subsystem performs, but instead on how well the subsystem team understands the design they built.

Ideally, the subsystem assembly is smooth, and the results of the testing meet the requirements from the ICD. If this is the case for your team, highlight the results and detail the testing that was conducted. Share with the audience ***why*** the subsystem performs as expected.

If there is an issue with assembly of the circuit, or if test results don't meet the ICD requirements, don't worry! Dig into the root cause of the issue(s) and share with the audience ***why*** the subsystem doesn't perform as expected, and what you could do to improve the results. Test results, even if they don't meet system requirements, are still valid!

A subsystem that fails to perform is not considered a failure in this course. A subsystem team that does not understand why the subsystem failed is an issue. OP2 is focused on sharing with the audience ***why you have achieved the results you have.***

Logistics:

Timing: 13–17-minute presentation + 10–15 minute Q/A. Each team member should contribute equally during the presentations. There will be a hard cut-off at 17 minutes with a warning signal provided at the 16-minute mark.

All teams scheduled for a block (i.e., morning / afternoon) should be present for its full duration.

Assessment: Assessed by CI and TA. CI will assess individual delivery.

Slides: Complete slides for the presentation must be submitted on Quercus by 9:00 AM, April 30

References: Cite any references you use at the bottom of your slides or with a numerical citation and a concluding "References" slide.