The Challenge Design Exercise (CDE) is an opportunity for you to think individually about design before you begin to work with a group. We accept that you will not be able to produce a complete design. Rather, we ask you to consider what you know and what you need to learn, anticipate problems, and generate questions for exploration as the term proceeds. Then, write a brief document describing your assumptions, your approach, and your design choices in as much detail as you see fit.

**Audiences:**
This document is to be written for yourself, your instructors, and (eventually) your team.

**Purposes:**
This document has several purposes:

1. To get you thinking about the technical attributes of your design;
2. To begin a planning process for how to accomplish it;
3. To help identify aspects of the Challenge which you don’t yet know;
4. To anticipate problems you may encounter; and
5. To help your instructors assess your knowledge, thinking, and writing.

**Outcomes:**
A successful document will provide a concrete way to share ideas with your teammates. It will give your instructional staff a realistic indication of your technical and writing needs. Finally, it will help you clarify your goals for the class, including skills to develop and strengths you bring to your team.

**Essential Structure** (you may add sections as needed):
- Problem statement
- Your assumptions
- High-level description of your approach
- System block diagram (modules, inter-module connectivity)
- Description of each essential module
- Milestones and implementation plan
- Conclusion

**Specifications:**
- Due Sunday, February 10, at 11:59 pm
- Individually written
- Should be about 5-7 pages
- Figures as needed, each numbered and labeled
- Each section formatted with a section heading
- Each page with a footer containing name, date, and page number
- Submitted filename named as: Firstname_Lastname_CDE.pdf
- Turn-in instructions TBD (do not email as attachment)

**Resources:**
- RSS Course Challenge description from 2012
- Syllabus with list of lab exercises
- Lab assignments from previous years