Project Architecture Report Specifications

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The PAR: Discovery by Writing

"Just *do something.*

When a design problem is so overwhelming as to be nearly paralyzing, don't wait for clarity to arrive before beginning to draw. Drawing is not simply a way of depicting a solution; it is itself a way of learning about the problem you are trying to solve."

- Matthew Frederick, *101 Things I Learned in Architecture School*

Audience is self, instructors, team members. You don't have to reiterate the Grand Challenge, but you should remind us why you are saying/including things. ("Because the shelter needs to be constructed quickly, the robot will…")

Purpose: To organize and clarify your ideas about design; to help you think in terms of what you want the design to do and accomplish and how to get there; to help you identify what you don't know or aren't sure of; to give you practice in: creating diagrams, thinking "how to get there from here," estimating time, anticipating potential problems and roadblocks.
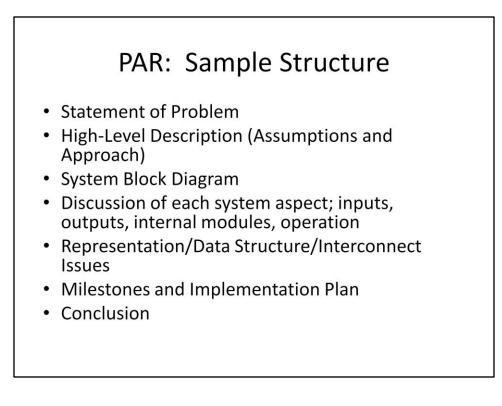
Outcome: A 5-7 page report that reflects your understanding of the Grand Challenge; articulates your assessment of the technical problems and constraints; gives you a concrete basis for sharing your ideas with teammates. (Time spent sitting with the ideas and what you know helps you clarify your own goals, uncover skills you want to develop, understand what strengths and skills you bring to the team.)
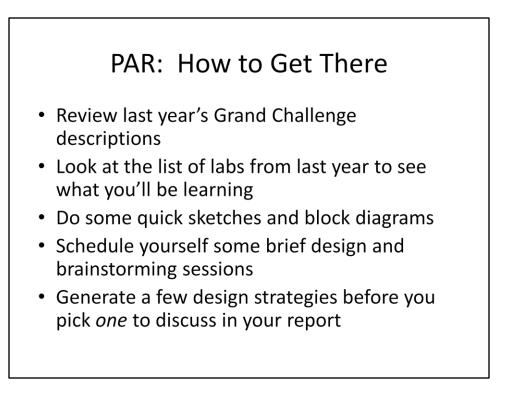
Why Write Before You Design

The Project Architecture Report (PAR) is a chance for you to think individually about design before you begin to work with a group. At this stage, we do not expect a finished design. Rather, we are asking you to consider what you already know, think about what you need to learn, anticipate possible problems, and generate questions to explore in the design process.

PAR: Specifications

- Individually written
- 5-7 pages
- Graphics: machine-drawn, numbered, labeled, and integrated with running text
- Pages numbered
- Title page with name, date, team
- Section headings and structure that guide readers, aid in skimming.
- Table of contents is not necessary

PAR: Sample Structure

- Statement of Problem
- High-Level Description (Assumptions and Approach)
- System Block Diagram
- Discussion of each system aspect; inputs, outputs, internal modules, operation
- Representation/Data Structure/Interconnect Issues
- Milestones and Implementation Plan
- Conclusion

You can include other sections or combine under different headings as needed

PAR: How to Get There

- Review last year's Grand Challenge descriptions
- Look at the list of labs from last year to see what you'll be learning
- Do some quick sketches and block diagrams
- Schedule yourself some brief design and brainstorming sessions
- Generate a few design strategies before you pick *one* to discuss in your report

We want you to discuss one design, but don't be afraid to work through a few ideas before settling on a design.

PAR Submission

- **Due February 18 at 5:00**
- **Report should be a .PDF file**
- **Name the report LASTNAME_PAR.pdf (for identification)**
- **Post the report to the RSS wiki**
- **Email a link to rss-staff**
- **Please do not send the report as an email attachment**