

Project Kickoff

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Outline

Final Project

- Overview
- Scope
- Budget
- Deliverables

Scope

- Be creative!
- Should be larger than a 1-week lab but small enough to be doable
- Your project should:
 - Meaningfully use both the MCU and FPGA in new ways (i.e., develop new designs for both)
 - Do something useful or interesting
 - Lots of past examples on the course webpage and across the web.

Budget

- \$50 **team** budget to purchase additional supplies not in your kit or in the E155 cabinet.
- Order through Sydney whenever possible using the engineering department order form. List me as the approver.

<https://www.hmc.edu/engineering/current-student-information/department-forms/>

Deliverables

- Project proposal
 - 2-page proposal
 - What are you going to build?
 - Be clear about deliverables, no stretch goals or wiggle room.
 - Include a budget for supplies
 - Initial documentation for the design (e.g., block diagrams, code flow)
- Status report
 - 4-page report (plus appendices)
 - Joint team checkoff
- Problem Design Review Presentations
- Project Demonstration

Deliverables continued

- Problem Presentations
 - 12-minute presentations in class
 - In-depth focus on specific technical problem that you are working on but have not yet solved.
- Project Demonstration
 - Demonstrate a working project to me in a checkoff slot.
 - You must show that your project meets spec.
 - Will be asked technical questions about the operation of your design.
 - Fail final project if no functional system is demoed by Friday.

Deliverables continued

- Final Report Website and Demo Video
 - Quarto website and GitHub repository as portfolio
 - Clearly explain how your design works
 - Detail any specific techniques that would be useful for students in the future
- Demo Day
 - Show-and-tell style demonstration of final projects using demo videos
 - Will try to send some of the best projects (maybe a class vote) to be highlighted in HMC news or social media

Grading

All specs are listed on the project webpage.

Project Ideation Activity

Overview

- Break into randomly assigned teams
- Warm up: “Yes, and...”
- Ideation activity
 - Focus on quantity, not quality
- Group mixing: get together in groups of three and think about what you might create together.

Ideation

- Log on to Miro board
- Get into groups based on card color (groups of no more than 4, preferably 3)
- Round 1 [5 min]: Generate as many crazy final project ideas as possible.
- Round 2 [2 min per board]: Rotate to the next board and “yes, and…” ideas with the secondary color post-it notes.
- Round 3 [2 min]: Go back to your board and vote for the **most delightful** ideas with dots (3 votes per person).
- Round 4: Mix in groups where no one has the same color card as you and consider what it might look like for you to do a final project together.