

SDP22

Lecture 4

20 September 2021

PDR Logistics & Guest Alumnus



UMass Amherst Electrical and Computer Engineering Alumni & Friends

 Listed group

PDR Coming Soon

PDR
27 Sep – 1 Oct

Agenda

- PDR Rubric
- Details (presentation, gantt charts, budgets, rehearsals)
- Scheduling PDR (evaluators and advisor)
- Reserving conference rooms

PDR Rubric (1)

- **10% Presentation**
 - Includes Problem Statement
 - Teamliness
 - The team scheduled the review in a clear and professional manner
 - Evidence that the presentation was rehearsed
- **10% Survey of Similar Existing Solutions**
 - Extensive survey of relevant solutions (including partial solutions)
 - References and citations provided (include links)
 - Comparisons drawn and implications for the project
- **20% Preliminary Goals, Specifications & Testing Plan**
 - Goals are design-agnostic
 - Quantitative, testable system specifications
 - Justifiable benchmarks/thresholds
 - What are you measuring and how will you measure it

PDR Rubric (2)

- **40% Preliminary Design**
 - Clear and compelling
 - Hardware block diagram(s)
 - Software block diagram(s)
 - Describe the proposed custom PCB
- **10% MDR Deliverables** (the integrated system the team proposes to build for MDR)
 - Proposal of working integrated system that will be delivered at MDR
 - Defines the critical aspects of the integrated system as deliverables for MDR
 - How working system will be demonstrated at MDR

PDR Rubric (3)

- **5% Project Expenditures (Projected)**
 - A well-described and complete projected expenditure list
 - Remember to include items such as: prototyping costs, PCB orders (multiple revisions), contingencies
- **5% Project Management**
 - Gantt Chart (to MDR)
 - Team Responsibilities
 - Specify the team coordinator
 - Describe the technical responsibilities for each team member

Presentation

Presentation/evaluation schedule:

- Team presentation: 30 min (uninterrupted)
- Evaluators Q&A: 20 min (advisor silent)
- Team leaves conference room
- Advisor/Evaluator huddle
- Evaluator feedback sent to advisor
- Advisor shares feedback with team

Details (Gantt Chart)

- Gantt Chart illustrates:
 - Tasks (What?)
 - Responsibilities (Who?)
 - Timelines (When?)
- Gantt chart time interval: Post-PDR to MDR

Example (SDP21, Team Amped-Up)

Task Name	Start Date	End Date	Team Member(s)	Week 6 (Post PDR)				Week 7				Week 8				Week 9 (Check In 3)				Week 10				Week 11				Week 12				Week 13 (MDR)							
				M	T	W	TH	F	M	T	W	TH	F	M	T	W	TH	F	M	T	W	TH	F	M	T	W	TH	F	M	T	W	TH	F	M	T	W	TH	F	M
Hardware																																							
Enclosure	9/28	10/9	CC	█				█																															
Knob control unit prototype	10/12	11/6	CC									█				█				█				█				█											
Knob control unit semi-final	11/2	11/20	CC & RY																	█				█				█											
Daughter-board prototype	9/28	10/23	RY & CC	█				█				█				█				█				█				█											
Daughter-board verification	10/26	11/6	RY & AH													█				█																			
Mainboard prototype	10/12	10/23	RY & CC					█				█				█				█				█				█											
Mainboard verification	10/26	11/6	RY & AH													█				█																			
Software																																							
Basic Nodal Network & Design User Interface	9/28	10/2	AH & CM	█																																			
Develop User Interface	10/1	10/9	AH & CM					█				█																											
Implementation of Knob Config Data Structure	10/12	10/16	AH & CM									█				█																							
Nodal Network->Custom Function Conversion	10/16	10/23	AH													█				█																			
Real Time Processing Setup	10/16	10/23	AH & CM													█				█																			
Communication between amp controller and other device	10/26	10/30	CM													█				█																			
Programming motor controller daughter board	10/26	10/30	AH													█				█																			
Programming Verification	11/9	11/13	AH & CM																					█				█											
				9/28/2020 - 10/2/2020				10/5/2020 - 10/9/2020				10/12/2020 - 10/16/2020				10/19/2020 - 10/23/2020				10/26/2020 - 10/30/2020				11/2/2020 - 11/6/2020				11/9/2020 - 11/13/2020				11/16/2020 - 11/20/2020							

Project Expenditures (Projected)

Item	Predicted Cost
Teensy 4.1	\$30
Mechanical Parts(Stepper Motors/screws/rails):	\$150
3D Printed Parts(Sourced from M5)	\$0
Early PCB Revisions	\$170
Final PCB Revisions	\$100
AC-DC 12 V Power Brick	\$20
Cloud Computing Service	\$30
Amplifier(Using team members existing one)	\$0
Totals:	\$500

Rehearsals

- Create slide deck
- Team rehearses (1)
- Team rehearses before advisor (2)
- Revise slide deck incorporating feedback
- Team rehearses (3)

Scheduling Responsibilities

- Teams schedule PDR (evaluators & advisor)
- Teams reserve conference room

Teams schedule PDRs (evals & advisor)

- Use email (to: evaluators & advisor; cc: team)
- Example email

Dear Team xy Evaluators,

I'm reaching out to the Evaluators and Advisor for MDR scheduling. Presently, Team xy is hoping that we can have our MDR presentation on **November 19, Thursday, 18:30**. As of right now, with other classes' final exams taken into consideration, Thursday works the best for Team 29.

If the time doesn't work, we're also available any time after 17:00 until 20:00. If the date does not work, please let me know and I will speak with the team to figure out a better day.

Sincerely,

Team xy

- Team confirms date/time and conference room location with evaluators and advisor
- Day before: Team sends out reminder email to evaluators and advisor.
- Day of: Team emails copy of slide deck to evaluators and advisor.

Teams reserve conference rooms

- Available conference rooms:
 - KEB 109
 - KEB 209
 - KEB 309
 - Marcus 201
 - Marcus 215
- Reserve conference rooms through staff members (visit or email)
 - Terry Bernard, Marcus 201G, tbernard@ecs.umass.edu
 - Jenn Pease, Marcus 201G, jpease@admin.umass.edu

Good Luck on PDR

Tom Kopec

UMass Amherst ECE Alumnus

BSECE - 1980 - with Microwave Engineering Concentration

MS - 1985 - Electrical Engineering and Computer Graphics



