



Enhancing teamwork in group projects by applying principles from Project Management

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Outline

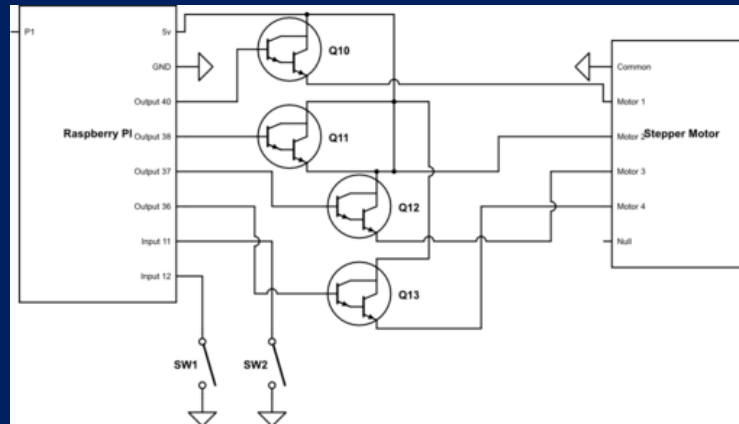
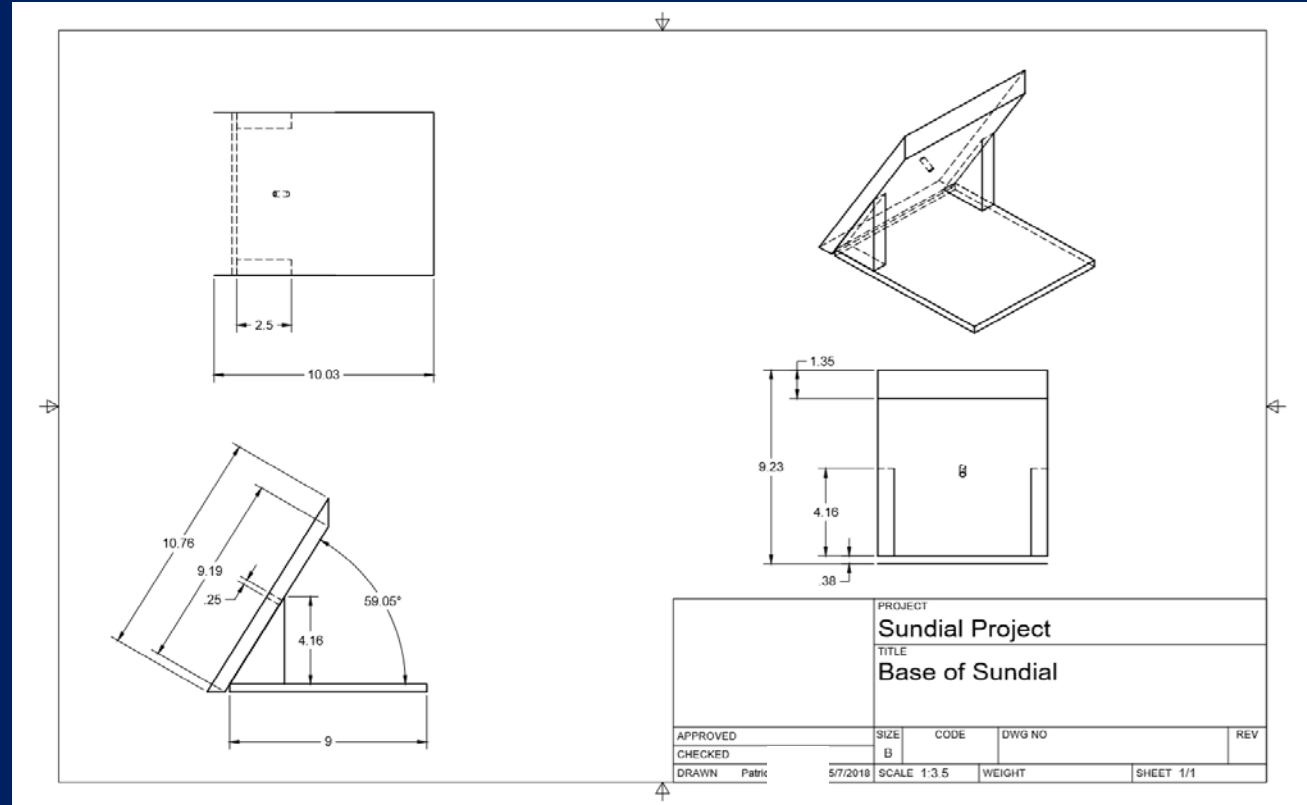
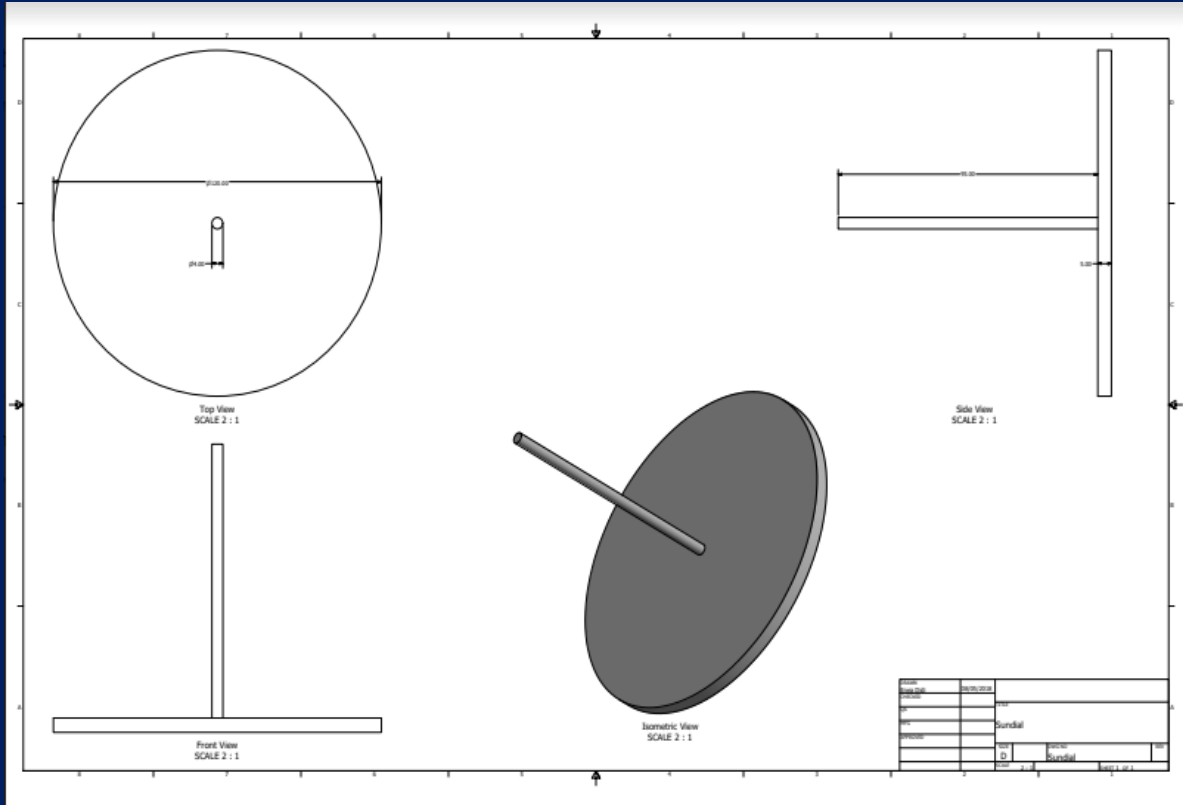
- My class
- Basic principles from Project Management (PM)
- Applying basic principles from PM to group projects
- Conclusions



My class

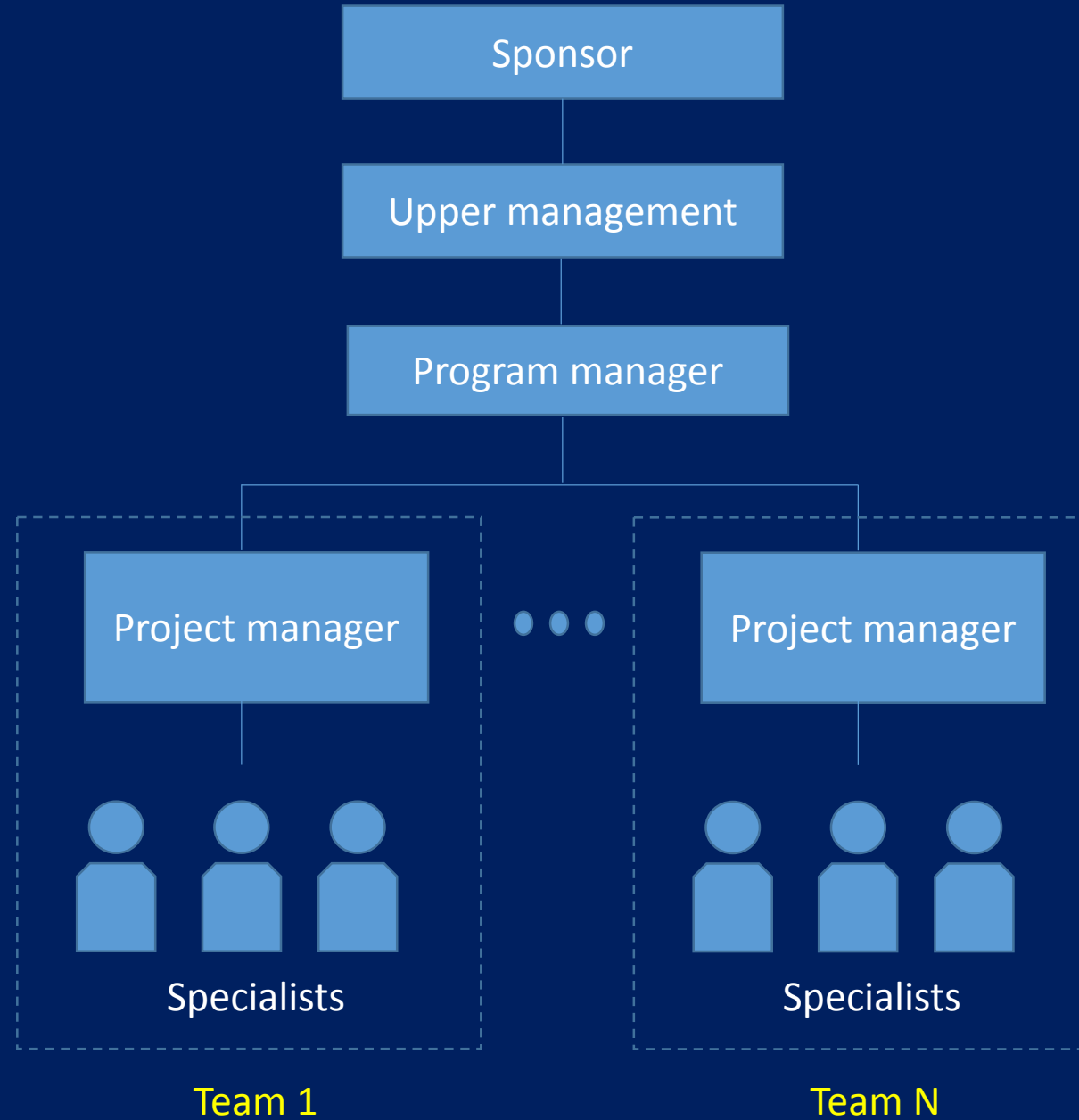
- Introduction to Engineering
- 100 students, mostly first year
- Major semester-long group project stressing teamwork – ABET requirement
- 25 groups of 4 students
- All team members get the same grade

Example Group Project: Programmable Sundial



Basic principles from Project Management

Basic framework for Project Management (PM)





Key principles

- The team is the fundamental unit.
- The team consists of a project manager and specialists.
- One of the specialists could be the project leader, especially on big projects.
- Each member of the team has at least one primary role (probably secondary role too).
- Team members must all agree to take on a particular project.



What a project manager is NOT!

- The boss
- The owner
- The project leader

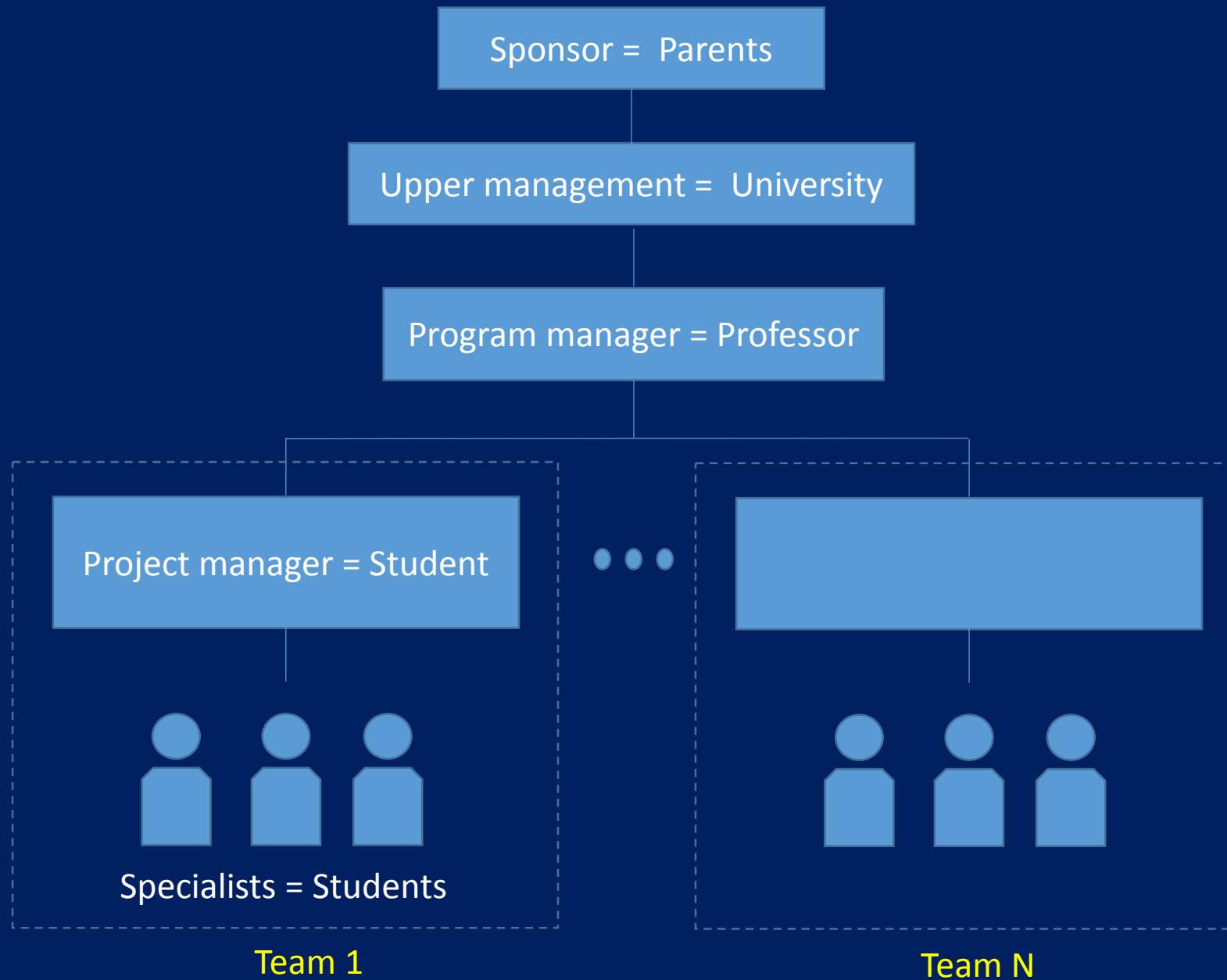
Applying basic principles from Project Management
to group projects



What can go wrong with group projects

- The team is disorganized
- A team member doesn't contribute
- One person does all the work
- The team can't finish on time

Application of PM to group projects



Roles of group members in my class

Role	Responsibilities
Project manager	Managing, Planning, Presenting Leadership role, but not the only leader Interfaces with instructor
CAD leader	Leader of computer-aided design (CAD) drawing
Project engineer	Leader of design and assembly. On big projects, would be project leader.
Documentation leader	Leader of reporting interim and final results

Project managers have got to want it!





How the project manager helps

- Makes project schedule
- Makes sure resources are available
- Coordinates group meetings
- Compares progress with schedule
- Keeps instructor informed



How to apply it to other fields

- Choose projects with clear-cut roles.
- Allow for team creativity in choosing the project topic.
- Explain the roles and responsibilities clearly, especially those of the project manager.
- Get volunteers for project managers, in public.

Example: English/History

Describe a key influence of one author on one aspect of society in a given time period.

Possible topics chosen by teams:

Team 1: Jane Austen, courting customs, Victorian England

Team 2: Augustine, church government, Medieval Europe

Roles

One student for each sub-topic. Must consider status quo before, during, and after.

Project manager coordinates timing and combines into final presentation.

Conclusions

- Group work can benefit by applying some basic principles from the field of Project Management
- Groups are teams in need of a project manager.
- Empower the project manager by explaining the role clearly and asking for volunteers in public.
- All team members must agree from the outset on the project topic and on their respective roles.