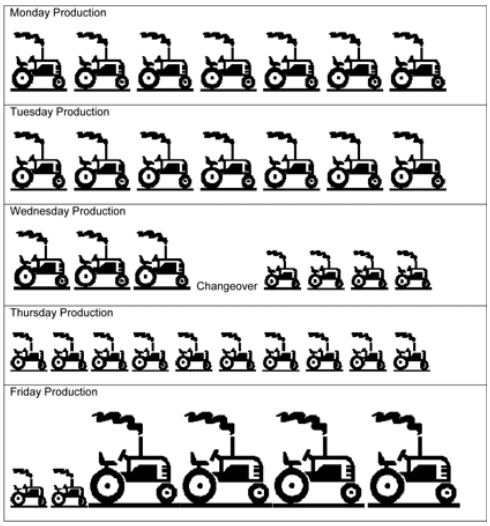
Homework 4 Project Schedule

Fall 2019



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Abstract

This is a brief description of how our team applied perform balancing and load-leveling utilizing MS Project.

Perform Balancing

To balance the project, we evaluated our team's skill set and assigned tasks to our team accordingly. Nikolay and Artem have the most software experience, having taken multiple computer engineering courses. Ignacio has extensive experience with designing PCBs. Artem and Ignacio are capable of designing advanced electrical circuits. Lance has experience with mechanical modeling. We assigned Artem and Nikolay to the software, Ignacio, Artem, and Lance to the PCB design, Lance and Nikolay on the mechanical design, and everyone to the homework. The software part of the project focuses on creating the code to control addressable LEDs. The PCB portion involves the creation, review, and assembly of the circuit boards. The mechanical design includes the PCB placement in the cube. The homework will be divided equally between all members of the group.

Load-leveling

Load-leveling is a technique of resource optimization that prevents conflicts of over-allocation occurring during the project. In the project planning phase, our team deliberately avoided assigning people working on too many assignments at the same time through resource balancing. The group distributed tasks evenly among the team members or split the duties or delayed them to avoid over-allocation of work resources, generic resources, and committed resources.

The resources responsible for writing the LED drivers and the hardware are not allocated simultaneously, avoiding committing to tasks that can exceed the team's resource capacity. Hence, all duties were assigned based on the team's ability for each time slot of the project. Another example of applying load-leveling is the performance of the hardware team and the mechanical team. Both groups are working simultaneously in parallel until the last few days of the project, where everything is put together; however, we try our best to have no members working on multiple teams at the same time.

- **Perform balancing** = assign the right resources to projects based on skill sets

- **Load-leveling** = make sure resources are allocated such that the project flows smoothly i.e., any task dependencies are meeting schedules as not to hold up the next tasks.