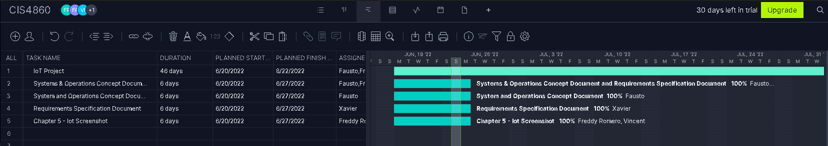
**Software Development History**

1. **Introduction -** The purpose of the project is to create an IoT platform that will be able to scale both upwards and downwards. This is because as the website gets more users, we will need it to scale upwards so that it does not crash and when the website does not have a lot of users, we can scale it downwards to save money.
2. **Historical overview** 
   1. **Requirements –** The requirements were brought up by the development team from discussions concerning the project requirements. The listed project requirements are:
      * Must be able to hold 100+ wireless connections
      * Closed gateway
      * Connect to cloud services
      * Able to scale for signal strength
      * Must be able to route signals/message
      * Message broker must handle 25 messages per second
      * Cloud instance must support IoT processes
      * Cloud instance must have 2GB+ of RAM
      * Cloud instance must have 50GB+ Storage space
      * Required operating system is Ubuntu
      * Use Apache as webserver
      * MySQL will be utilized as DBMS
      * Must use SSH
      * Must use SSL
      * Require the use of usernames and passwords

During this phase of the project, the Requirements and specifications documents, project description, and System Operation Concept were conducted. The IoT project development had progressed and had completed developments from chapter 5. This phase lasted 5 days.

* 1. **Requirement Analysis –** During the requirement analysis phase, the software development/management plan and requirement analysis report were created. The IoT project development had progressed and had completed developments from chapter 6. In addition, the NFT 1 deliverable was also completed. This phase lasted 5 days.
  2. **Preliminary Design –** During the preliminary design phase, the preliminary design report was created and delivered. The IoT project development had progressed and had completed developments from chapter 7. This phase lasted 3 days.
  3. **Detailed Design –** During the detailed design phase, the detailed design document was created and delivered. The IoT project development had progressed and had completed developments from chapter 8. Additionally, the critical design review was also conducted and documented. This phase lasted 5 days.
  4. **System implementation and testing –** During the system implementation and testing phase, the build design review, test plan outline, and system description were created and documented. The IoT project development had progressed and had completed developments from chapter 9. In this phase, the team built the basic IoT platform and utilized the test plan outline to test the different blocks of the IoT platform. This phase was the longest phase of the project development cycle as it lasted about 10 days.

1. **Project data** 
   1. **Personnel and organizational structure –** 
      * Freddy Romero (Project Manager)
      * Vincent Cheung (System Developer)
      * Fausto Vidrio (Documentation/ Assistant Developer)
      * Xavier Colin (Documentation/ Assistant Developer)
   2. **Schedule -**



1. **Lessons Learned**
   1. **Planning –** The planning of the project was the foundation to how successful the result would be. We did not encounter many major issues during preparation and planning. The required resources for the project were accessible and weekly milestones for the project had been discussed before beginning the project.
   2. **Requirements –** The requirements for the project were discussed as a team prior to the building of the IoT platform. The requirements of the project were understood by all team members but were modified on one occasion later prior to the development. Due to time constraint, we were not able to provide additional functionalities that we had planned for the project and therefore had to modify the project requirements. Our recommendation for future projects is to conduct more thorough requirement analysis and ensure that there is enough time available for all initial requirements to be met.
   3. **Development –** By following the development plan, requirements and specifications documents, and the guidelines provided for the project from the book *Build Your Own IoT Platform* by Anand Tamboli, the development of the project did not encounter many major issues. However, as mentioned earlier, some modifications were made to the requirements. This had cost us a little bit of some time for development and some confusion. The recommendation for future projects is to research and utilize development strategies that support adaptability.
   4. **Testing –** The team did not encounter major issues or conflicts while testing all different blocks of the IoT platform. All testing sessions were conducted based on the guidelines provided in our test plan outline. We believe that the issue we had for testing is that we needed more time. Therefore, we believe that it is best to allow more time for testing sessions in future projects.
   5. **New Technology –** Although the technology has been out for quite some time, cloud computing has given us a lot of benefits for this project. With the growing potential of cloud computing, this project was able to be developed online without the need to buy the required hardware. Nor did the team have to consider travel expenses for meeting and developing the project. In that sense, the use of cloud computing for the IoT platform had a positive impact in eliminating costs for hardware, easier resource management, and scheduling the different tasks that needed to be completed. We believe that the improvement of the cloud may provide more benefits for future projects to come.