Phase Maintenance Inspection (PMI) Software for Rotary Wing Aircraft

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Sponsor: Major Curtis Bew, US Army
Commander, B/209th ASB, 25th Combat Aviation Brigade (CAB) Hawai'i

Proposal:

Purpose: This project was to develop a basic interface PMI Scheduler which could help organize and keep track of military aircraft as it goes through its maintenance inspection

Background Information: After visiting on base and learning about their systems regarding Phase Maintenance Inspection we decided together that the best software we could develop would be a scheduler. Eliminating confusion in scheduling since they currently use a variety of ways to track their maintenance from paper to excel which heavily rely on workers to track.

What We Accomplished:

Features:
- Simplified Design
  - Our sponsor wanted a software that was visually easy to use where you could just click and add a PMI event
- Scheduler listed time
  - With this feature you can adjust how you see the scheduler based on your time frame(day, month, quarter, year)
- Adjustability of PMI Events
  - Adjustability was an important feature as our sponsor wanted the ability to drag and move PMI events as the total days increase
- Change Phase Lane Names
  - This feature gives the user the ability to change how each phase lane is titled
- Add Phase Lanes
  - Phase lanes are no longer stagnant and can be added to the bottom of the scheduler
- Displays Basic PMI Information
  - Hovering over the PMI events will show basic information needed to keep track of the PMI Schedules
- Begin Non-Working Days Page
  - As seen in the navbar we have begun work on a page where a user could input new holidays or other non-working days which would in the future connect to be seen on the main scheduler page

Our Scheduler:
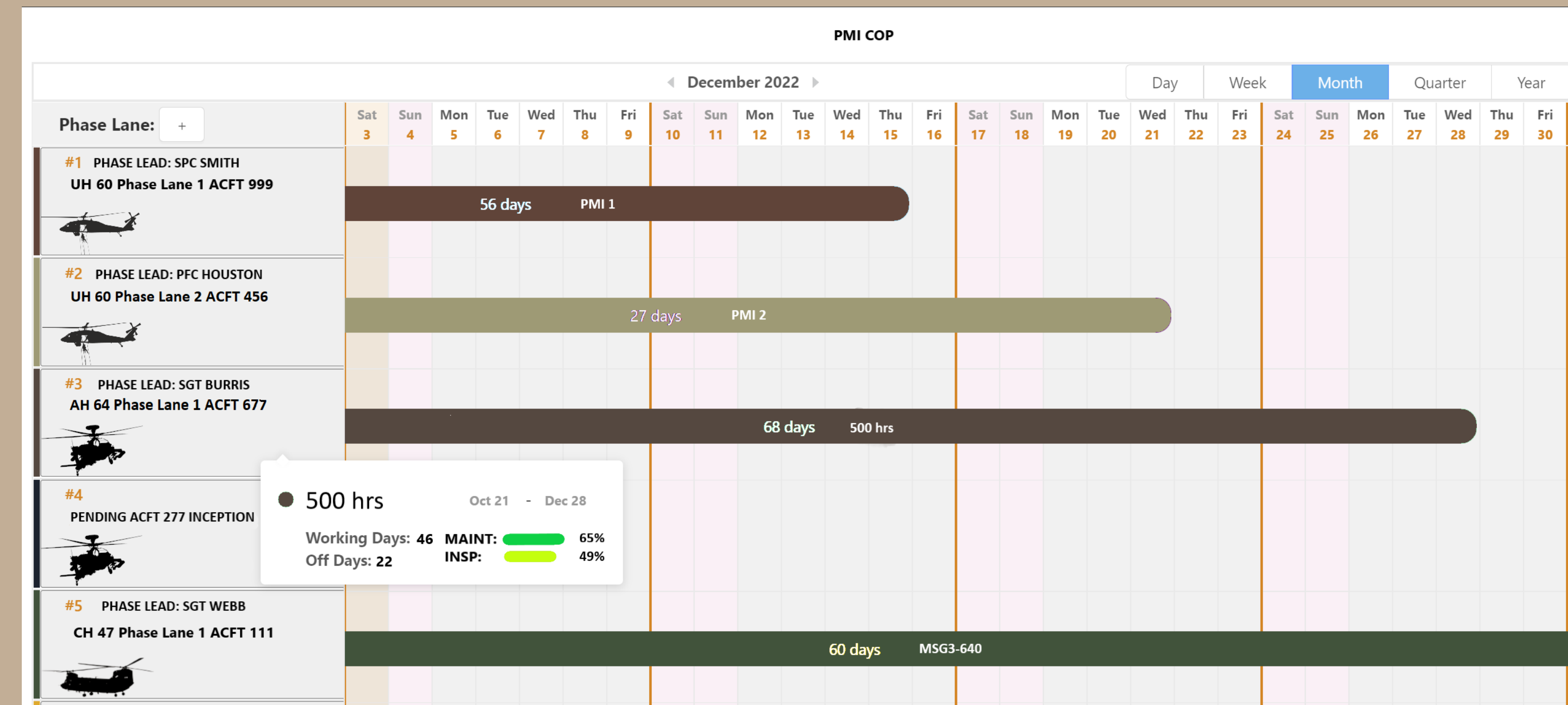
Process:

Visiting: We first started the semester by visiting the Schofield base where we learned more about what was expected, and the kind of projects we could work on. From there we learned about the PMI process and decided the best place our project could help would be with a scheduler.


Meetings: Then we developed a schedule for ourselves, which consisted of a meeting weekly with our sponsors at 6:15 pm every Wednesday. As well as weekly in person meetings as a group on Thursday's at 12:00 pm - 1:30 pm to discuss issues we may be having and spend time working on our current goals.

Steps: The steps we took for this project began with our setup, where we looked at various scheduler templates and started out GitHub organization where we'd work. We created issues which we worked on and as we made progress we continued to share our goals with our sponsor. Finally, the last step was to wrap up the work that we've done and prepare for our final presentations.

Learnings: Looking back on this project, there were a lot of great takeaways that we've gotten. We've now gotten experience in a variety of things such as working with a client, developing ways software can meet a need, and cooperating as a group to reach a goal.

Technology Utilized:
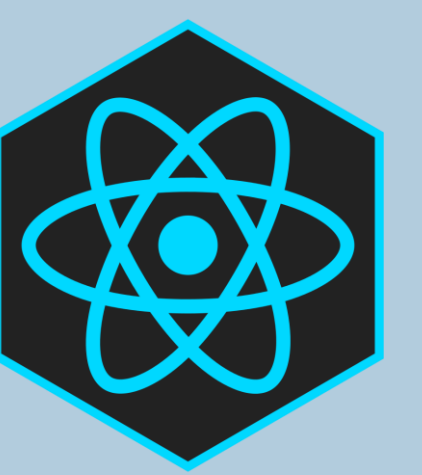
HTML, Javascript, CSS & React

Issues:

- **Time:** this played a large role in our project and due to the limited time we had starting the semester it led to difficulties completing some of our goals
- **Security:** because of the military and their security protocols we had to consider what information could be made public
- **Database:** due to the security issues and lack of time, we decided not to use a database. This however meant our data was hardcoded and would be removed when the site it refreshed

Next Steps:

- **Add Functionalities**
  - Delete Phase Lanes & PMI Events
  - Edit PMI Events Information
  - Display calculated Working Days and Off Days
  - Make adjusting a previous PMI affect following events
- **Add Database**
- **Merge in Phase Team Logs(data) done by sponsor**
- **Finalize Fully Integrated Interface**