Solar Tracking Progress Presentation

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Overview

- Introduction
- Design Progress
- Problems we ran into
- Gantt Chart
- Conclusion

Project Introduction

- Need
 - Current solar tracking systems are intimidating to students
- Objective
 - Design and build a system that enables students to experience the fundamentals of solar tracking systems
- Sponsor
 - Dr. Tom Acker
- Testing Environment
 - Will be tested using fixed solar panels at solar shack

Final Design



Solar Panel Frame Progress



Bottom Support Progress



Pivot Holes Drilled



Pivot point



Worm Gears and Shafts



Hydraulic Stabilizer



Hydraulic Installation



Mounted Bearing



Adjustable feet cut and ready to attach



Problems ahead

- Shafts not welded yet due to questions about gear and bearing spacing.
- Bearings and hinges not attached yet due to motor placement questions.
- Currently wondering how to move the entire system to the shack.

Previous Gantt chart

Spring 2014 Shcedule	Week3	Week4	Week5	Week6	Week7	Week8	Week9	Week10	Week11	Week12	Week13	Week14	Week15	Week16	Week17
	1/12/14	1/19/14	1/26/14	2/2/14	2/9/14	2/16/14	2/23/14	3/2/14	3/9/14	3/16/14	3/23/14	3/30/14	4/6/14	4/13/2014	4/20/2014
Final Design Modification	-														
Purchase Materials			-												
Write a program for tracking					_		•								
Build				-				\rightarrow							
Frame				-											
Gear and Motor						5	→								
L Shaft and Panel							8								
Testing								_							
<mark>∣ P</mark> rogram															
L Structural															
Spring break											→				
Analysis											r				
Return on investment															
Energy efficiency											4	_			
Final Report and Presentation	1														
Operation Manual															\rightarrow

Updated Gantt Chart

Spring 2014 Shcedule	Week3	Week4	Week5	Week6	Week7	Week8	Week9	Week10	Week11	Week12	Week13	Week14	Week15	Week16	Week17
	1/12/14	1/19/14	1/26/14	2/2/14	2/9/14	2/16/14	2/23/14	3/2/14	3/9/14	3/16/14	3/23/14	3/30/14	4/6/14	4/13/2014	4/20/2014
Final design modification					•										
Purchase Materials									⇒						
Build										→					
Frame (80% so far)									\rightarrow						
Gear and Motor						44	05			⇒					
L Shaft and Panel (90% done))				Har				>						
Spring break											*				
Testing										i i	-	•			
∣ Program												•			
L Structural											-	•			
Analysis															
Return on investment															
Energy efficiency															
Final report and presentation															•
Operation Manual															

Conclusion

- Covered the project needs, objective, sponsor and testing environment
- Overview of modification final design
- Design fulfilled the requirements approved by client and instructor
- 90% of the design and build progress done
- Updated Gantt Chart
- The mistakes we made and problems we met

Questions