Solar Tracking Progress Presentation

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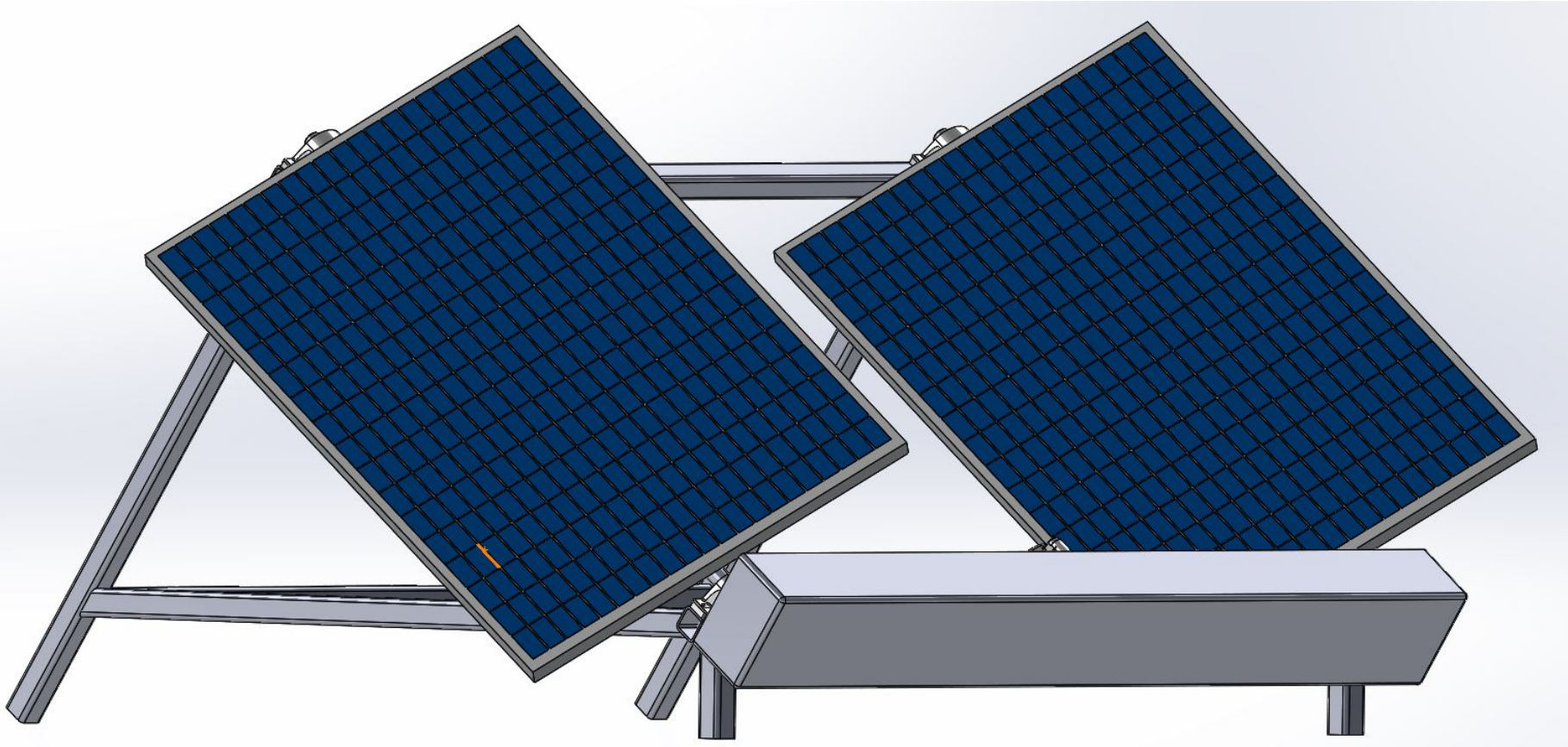
Presentation Outline

- Project introduction
- Old design
- New design
- Design changes
- Task break down
- Gantt Chart
- Conclusion

Project Introduction

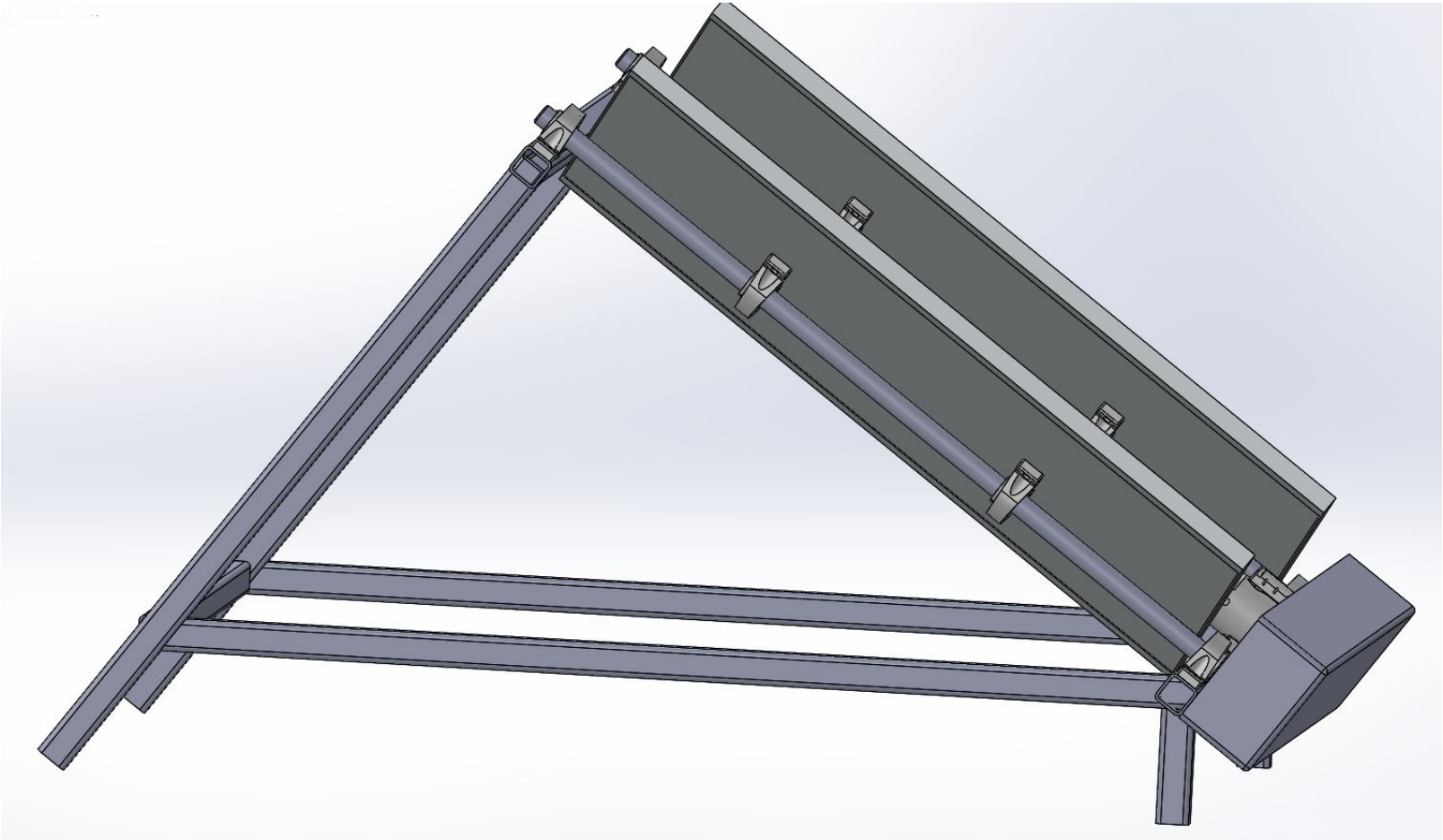
- Need
  - Current solar tracking systems are intimidating to students
- Objective
  - Design a system that enables students to experience fundamentals of solar tracking systems
- Sponsor
  - Dr. Tom Acker
- Testing environment
  - Will be tested using fixed solar panels

Fall 2013 Solar Panel Array Design

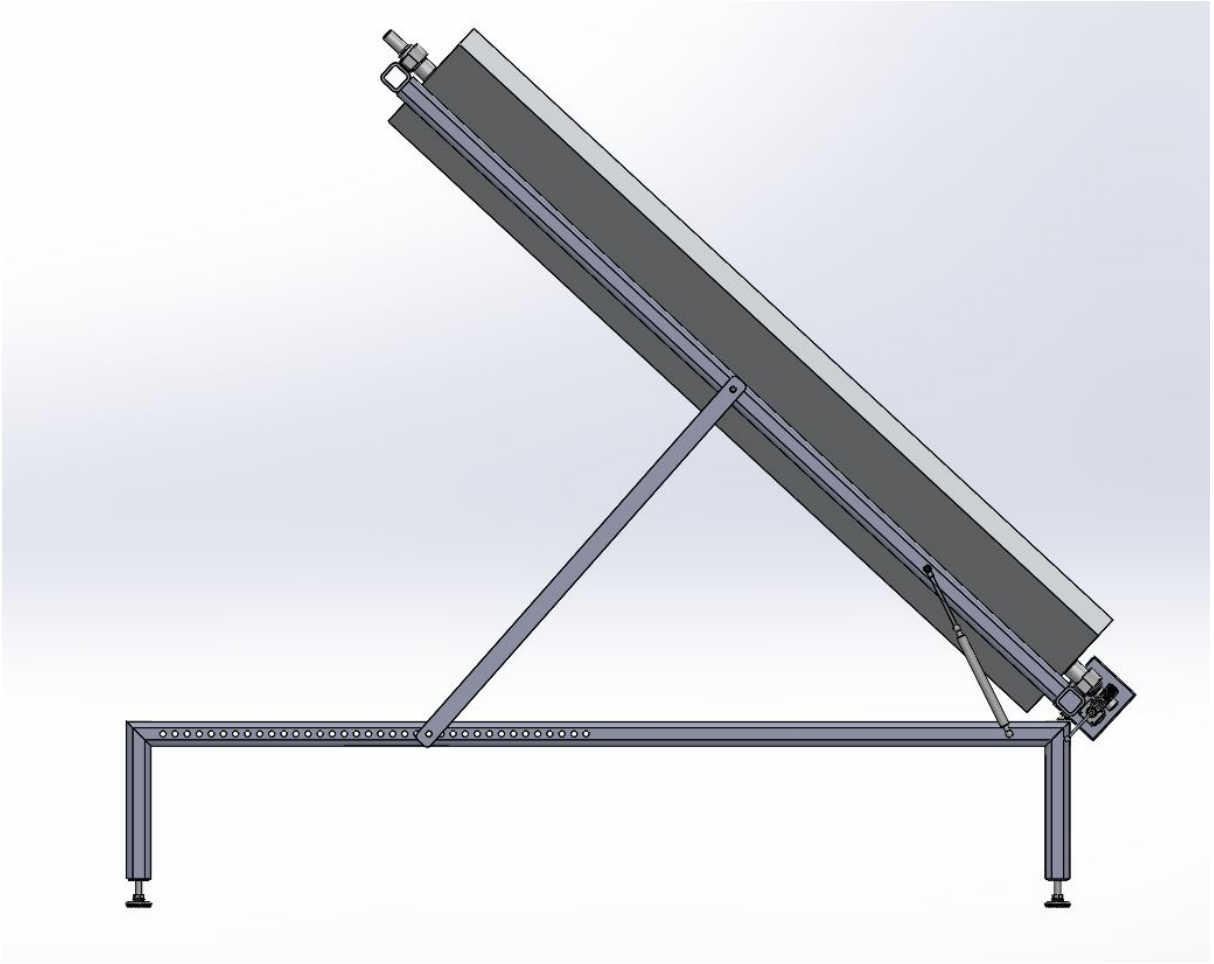


Spring 2014 Solar Panel Array Design

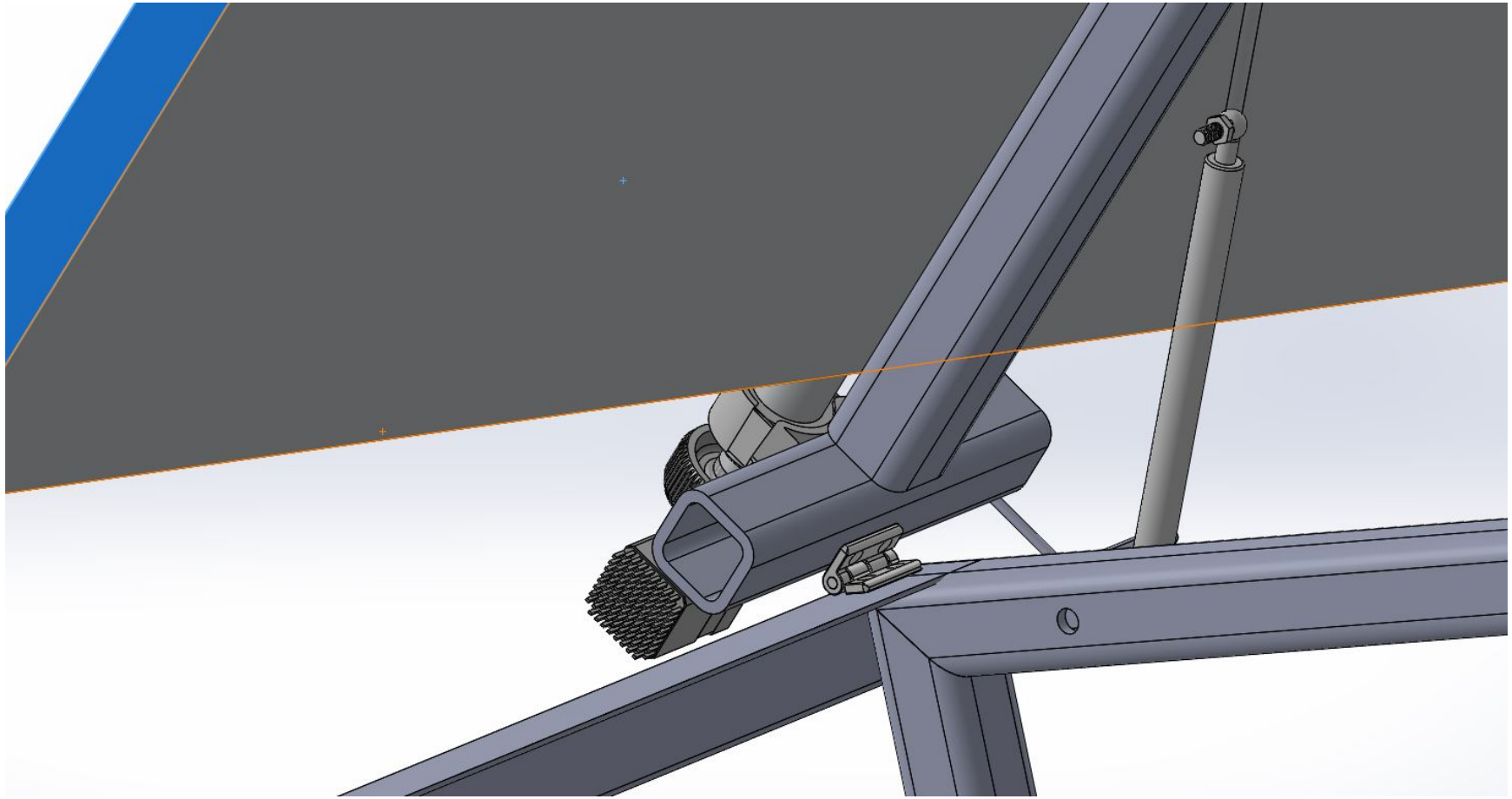
Original design side view



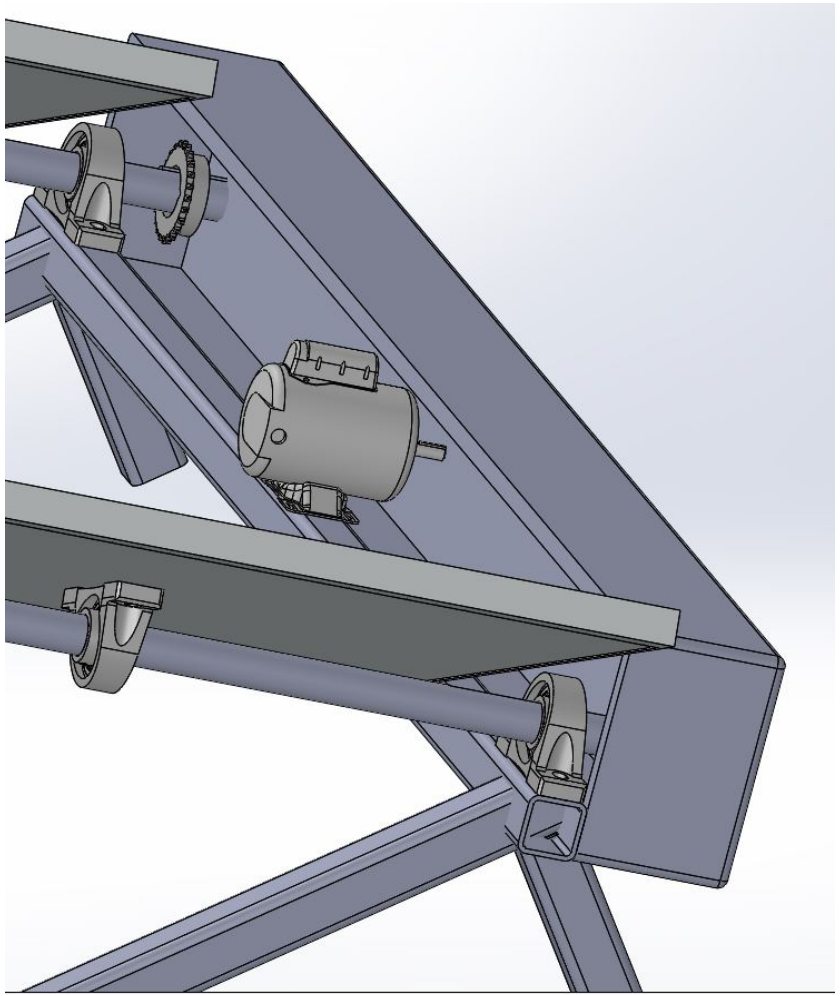
New design side view



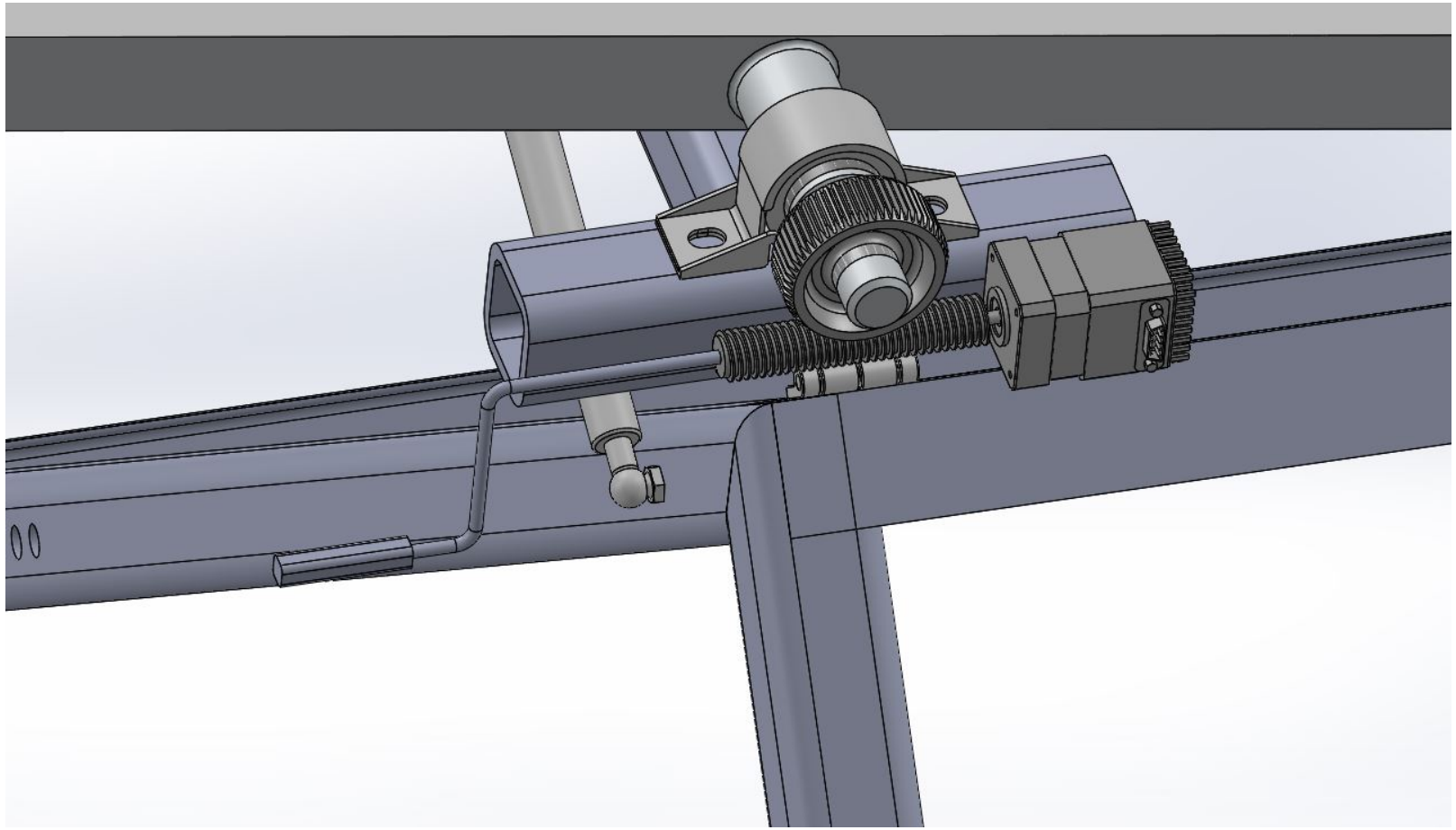
New Hydraulic Stabilizers



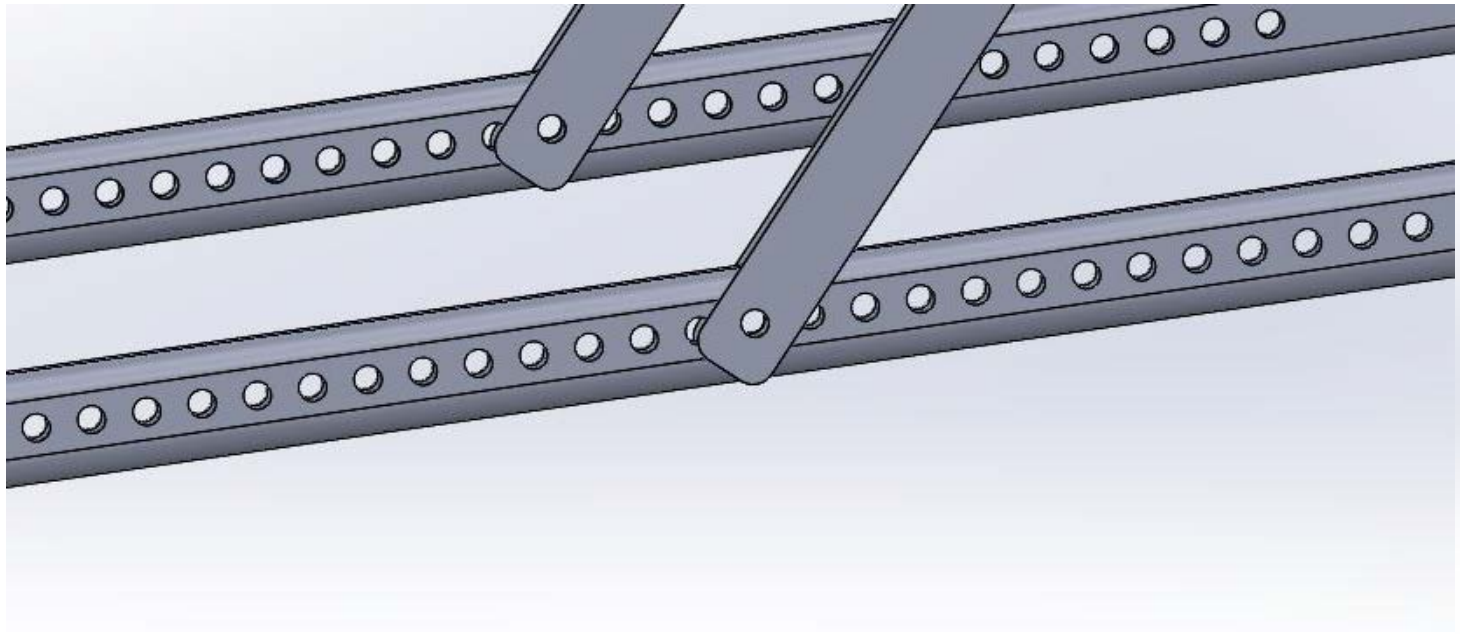
Old motor design

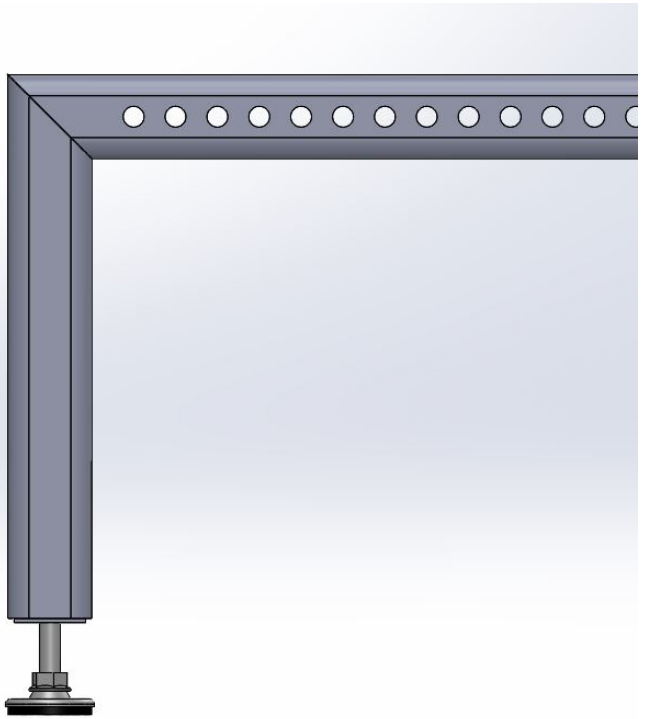


New motor design



New design elements





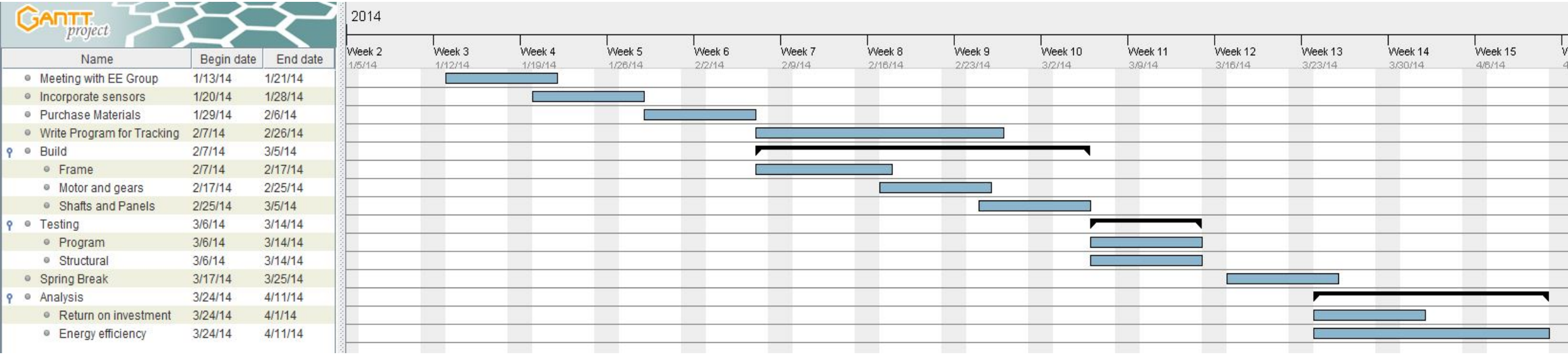
Design changes

- One motor for each solar panel
- Hydraulic stabilizers
- North and South pivot points
- Adjustable feet stabilizers
- Shaft welded and bolted to frame of solar panels
- Worm gear

Task Break Down

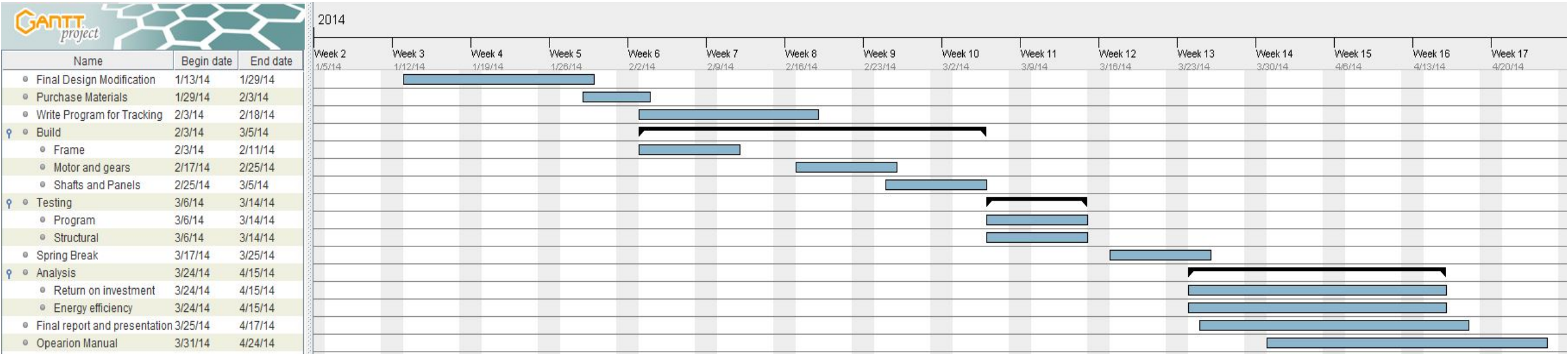
Task	Lead Members of Task
Purchasing materials for frame	Joshua, Jiayang
Bottom frame construction	Micah, Travis
Control system set up	Pengyan, Anthony
Purchase gears and motor	Jiayang, Travis
Tray and stand for panels	Joshua, Micah
Gear and motor assembly	Anthony, Travis
Test control system	Jiayang, Pengyan
Analysis return on investments	Anthony, Joshua
Analysis energy efficiency	Pengyan, Micah

Original Gantt Chart for Spring 2014



Name	Begin date	End date
Meeting with EE Group	1/13/14	1/21/14
Incorporate sensors	1/20/14	1/28/14
Purchase Materials	1/29/14	2/6/14
Write Program for Tracking	2/7/14	2/26/14
Build	2/7/14	3/5/14
Frame	2/7/14	2/17/14
Motor and gears	2/17/14	2/25/14
Shafts and Panels	2/25/14	3/5/14
Testing	3/6/14	3/14/14
Program	3/6/14	3/14/14
Structural	3/6/14	3/14/14
Spring Break	3/17/14	3/25/14
Analysis	3/24/14	4/11/14
Return on investment	3/24/14	4/1/14
Energy efficiency	3/24/14	4/11/14

Updated Gantt Chart for Spring 2014



Name	Begin date	End date
Final Design Modification	1/13/14	1/29/14
Purchase Materials	1/29/14	2/3/14
Write Program for Tracking	2/3/14	2/18/14
Build	2/3/14	3/5/14
Frame	2/3/14	2/11/14
Motor and gears	2/17/14	2/25/14
Shafts and Panels	2/25/14	3/5/14
Testing	3/6/14	3/14/14
Program	3/6/14	3/14/14
Structural	3/6/14	3/14/14
Spring Break	3/17/14	3/25/14
Analysis	3/24/14	4/15/14
Return on investment	3/24/14	4/15/14
Energy efficiency	3/24/14	4/15/14
Final report and presentation	3/25/14	4/17/14
Opearion Manual	3/31/14	4/24/14

Conclusion

- Presented the design of our system at the end of last semester.
- Due to a change in what the client wanted we modified our design over winter break.
- We went over the changes from the old design to the new design.
- The upcoming tasks were assigned to each group member and Gantt chart was updated.

Any questions?