

MOAS Project: Wind Energy Demonstration

A large white wind turbine stands in a field with mountains in the background. The turbine is the central focus, with its three blades extending outwards. The background features a range of blue mountains under a cloudy sky. The foreground is a green field with a fence line.

Members

Nicholas Bembridge Victor Fontecchio

Bradley Kroger Michael Sheehan

Suzanne Shepherd

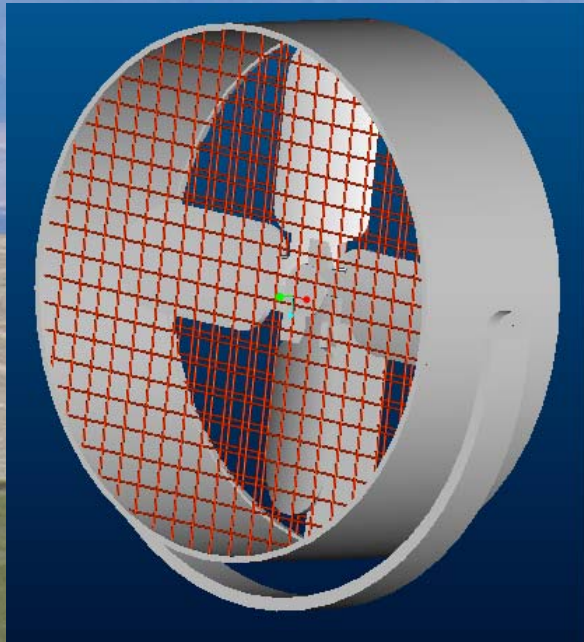
Components of the Exhibit

A large white wind turbine stands on a grassy hill. The foreground is a green field with a fence line. Behind the turbine is a wide, plowed field with curved furrows. In the background, there are blue mountains under a cloudy sky.

- Wind Generation
- Power Generation
- Exhibit Casing
- Electronics

Wind Generation Selection

- Qmark LDC20 - 20" fan
 - 3 speeds
 - 110V wall source compatible



Power Generation Selection

- No small scale wind powered generators could be found so we will construct them ourselves
- Turbines, Gearing, frame work, and windmill can all be purchased from Hobby Town USA and can be easily constructed

Power Generation

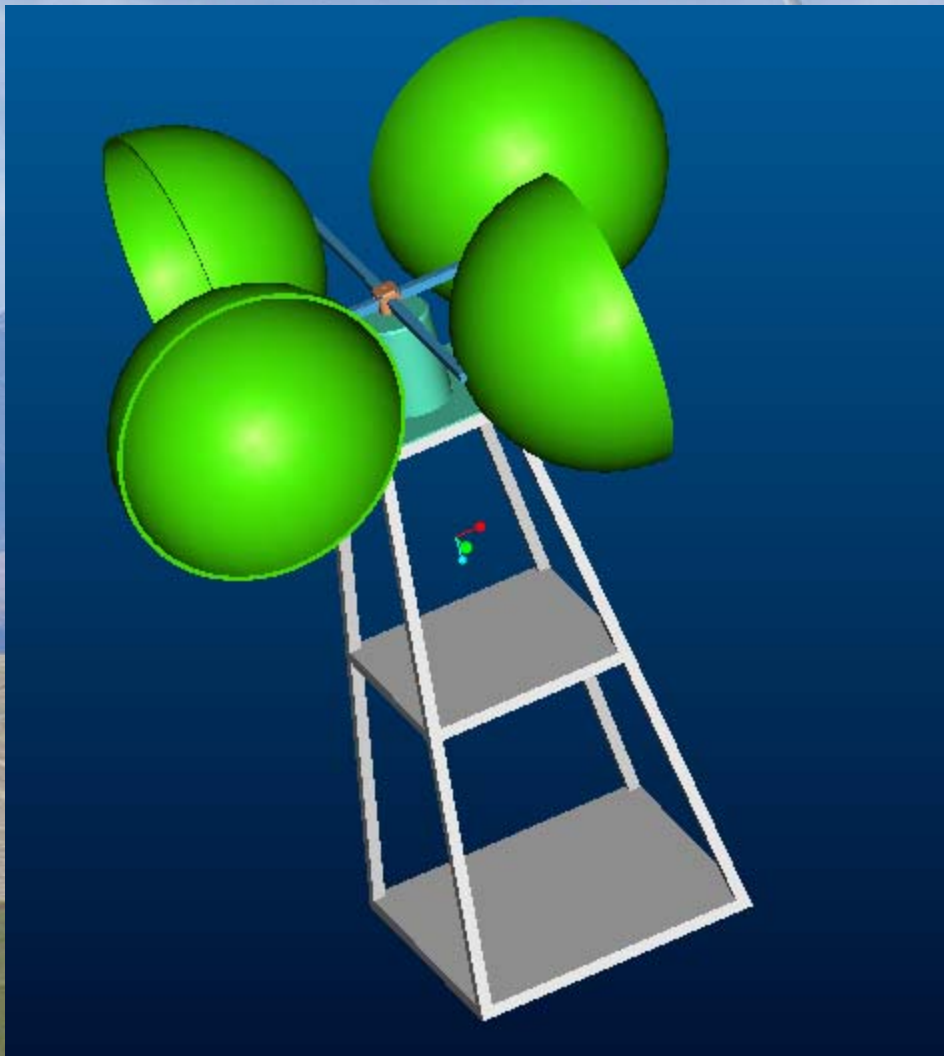
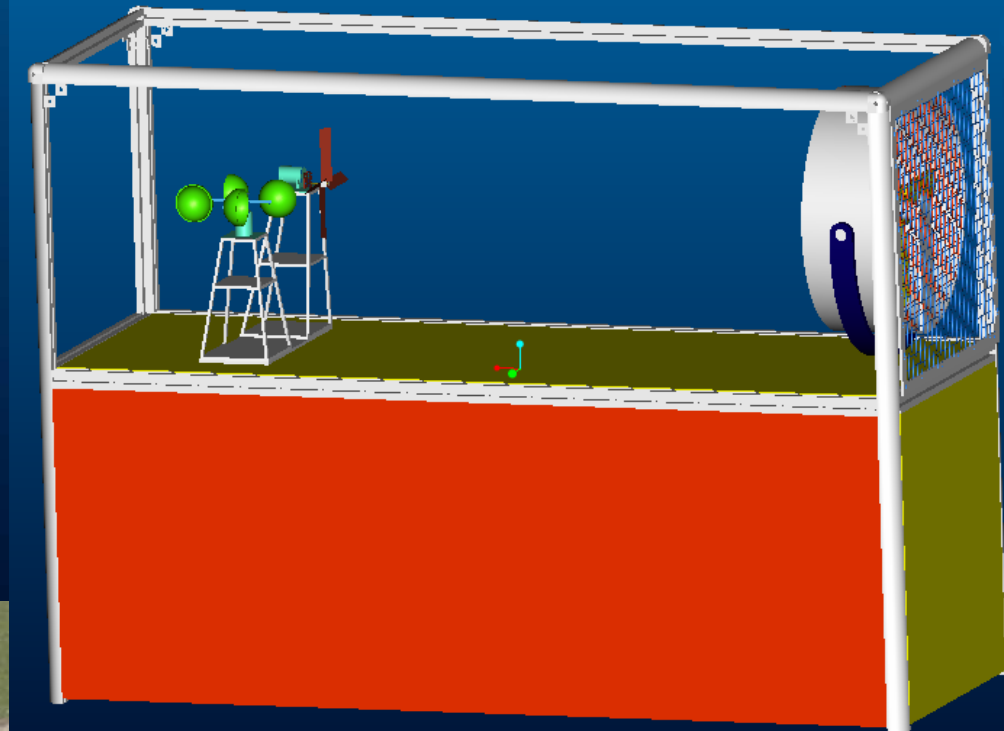
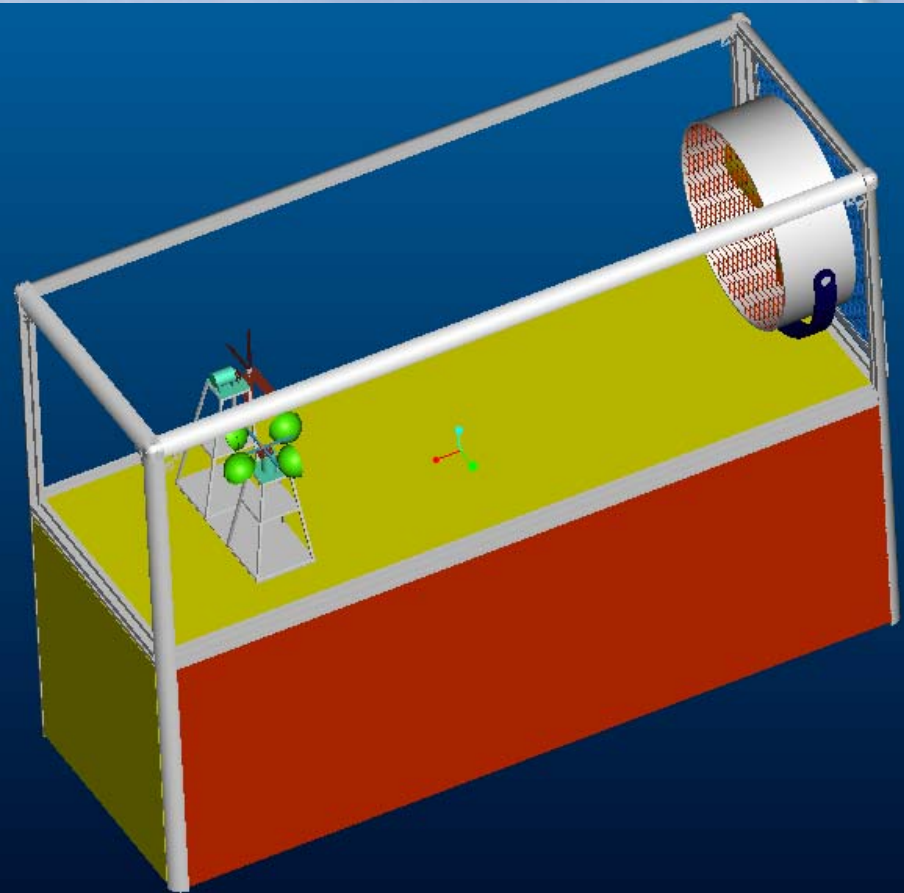


Exhibit Casing Selection

- 80/20 – Aluminum Frame Manufacturer
 - Metal Frame
 - Plastic Sheets
 - Leveling supports
 - Wire Mesh

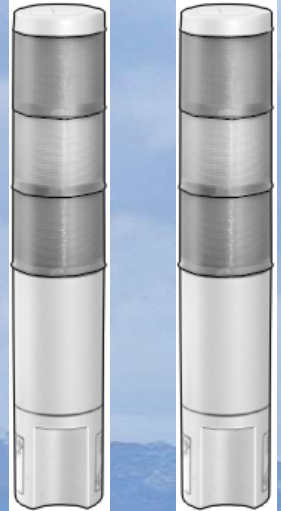


Concept Design



Electronics Selection

- Power meters
 - Light Towers from McMaster
- Anemometer
 - EXTech Hot Wire Anemometer
- Kill Switch
 - Macromatic Time Delay Watchdog



Budget Analysis



Wind Generation	\$450
Power Generation	\$550
Exhibit Casing	\$1,500
Electronics	\$1,650
TOTAL	\$4,203

Direction of Future Work

- Formal Written Proposal for MOAS TBD!
 - Present Proposal to the museum to approve of our design concept, budget, and schedule of completion
 - New specifications have been added to the exhibit casing and need to be addressed.
- Complete Pro/E Design
- Start to order parts for next semester