

Proposal Brief

Husam Nasser

Thank you for considering me to be part of the team working on the tractor development project for the summer of 2013. My hope is to spend 8 weeks this summer with Open Source Ecology at the Factor e farm designing, documenting, and improving the Lifetrac prototype.

During the first two weeks of the program, I will be learning and developing Lifetrac models in Google SketchUp 3D. While my experience in Google SketchUp is limited, I am currently taking a class in AutoCAD Inventor and Chief Architect and consider myself to have basic proficiency with those programs that I am sure will easily carry into SketchUp. During these two weeks, I will also be creating assembly and fabrication models as documentation. The process of design may take the majority of our time in ensuring correct and efficient design of our prototype models and modifications.

Two to four weeks at Factory e Farm will be spent working on the fabrication process using a CNC torch table along with other metal fabrication methods, as well as gaining experience in hydraulic, electronic, and power system design and implementation. I hope to apply some of my mechanical experience gained from working with boats and engines commercial salmon fishing in Alaska, as well as at the Berea College Farm and Woodcraft in this fabrication process.

Approximately 10% of my time will be spent learning video editing software as it is vital in the documentation process. Every step of the design and assembly process will be documented to allow us to share it on the web for anyone interested in replicating the design and building it him/herself.

After building the tractor, we will be testing it on the farm and possibly adding improvements which may include, but are not limited to: metal wheels, a wheel drive gearhead unit, upgraded wheel tracks, an articulated joint on the tractor, a bulldozer blade module as well as modifications needed for bulldozer duty.

The process of designing and building the tractor will require many problem solving skills that my studies of physics, math, technology and design at Berea College have provided me with. I feel confident that I will be able to contribute and learn much working with the Lifetrac prototype team this summer, and hope to bring back this valuable experience to Berea College for our Lifetrac building project in the fall of 2013, as well as to my home country in the long-term.