

ROUGH TERRAIN WHEELCHAIR

CHALLENGE

To design a hydraulic system and the mechanical linkage that gives the required output.

PARTNER

Rotary Club



Rotary International is an international service organization whose stated purpose is to bring together business and professional leaders in order to provide humanitarian service and to advance goodwill and peace around the world.

TEAM

- Community Partner Project Lead: Mr Peter French
- SEPT Project Lead: Dr Robert Fleisig
- Student (M.E.D): Inian Sunder

MILESTONES & OUTCOME

- Identifying the problem by interviewing the stakeholders.
- Narrowing the scope of the project.
- Designing the hydraulic system.
- Calculations related to the design.
- Iterations of the mechanical linkages.
- Final design of the Wheelchair.

VALUE

Rough terrain wheelchair will provide the people with mobility issues to move over the rough terrain easily. Providing the user with better control of the wheelchair over the slopes.

NEXT STEPS

- Building the prototype of the wheelchair.
- Selection of materials, fasteners and bearing.
- Optimization of the design.

STUDENT REFLECTION

- Key learnings – CAD software, hydraulic systems and FEA.
- Many iterations to get the best solution.
- Design process – interviewing stakeholder, empathy and utilizing all the concepts learned in the Design thinking and Human centered design.

