

## **PROJECTS at GUSAC**

Apart from projects for technical fests, GUSAC goes big and takes social responsibility by undertaking major live projects making a direct impact on the day to day lives of the common and poor people. GUSAC believes in sustainable technical advancement right up to the grass root level.

### **1. Hydrel Powered Pump- Project at Srikakulam.**

This is evident from our first Mini project taken up at small village in Srikakulam district. Mr.P. Laxmi Narayana, 3rd year Mechanical Engineering student took charge and was on his toes daily working at the unit. It was solely his dream to install a power generation unit at that location and GUSAC contributed to a great extent to make his dream come true.

The day it all started when a group of 12 students from GUSAC visited the unit on 17<sup>th</sup> June 2011 and analysed the situation and came out with prolific solutions. Power is being generated using a turbine which rotates on the force exerted by water from a downstream. There were enormous results obtained during their initial trip itself. The turbine started rotating at a speed of 23 rpm. The students were left dumbstruck observing the torque generated by shaft connected to turbine being 58 N-m.

Later, many developments were made like installing pulleys which gave a power sufficient to rotate a centrifugal pump of 5HP (3.5 KW) and ultimately resulted in delivery through 2.5 inch water pipe, which is sufficient to irrigate 30 acres of farmland.

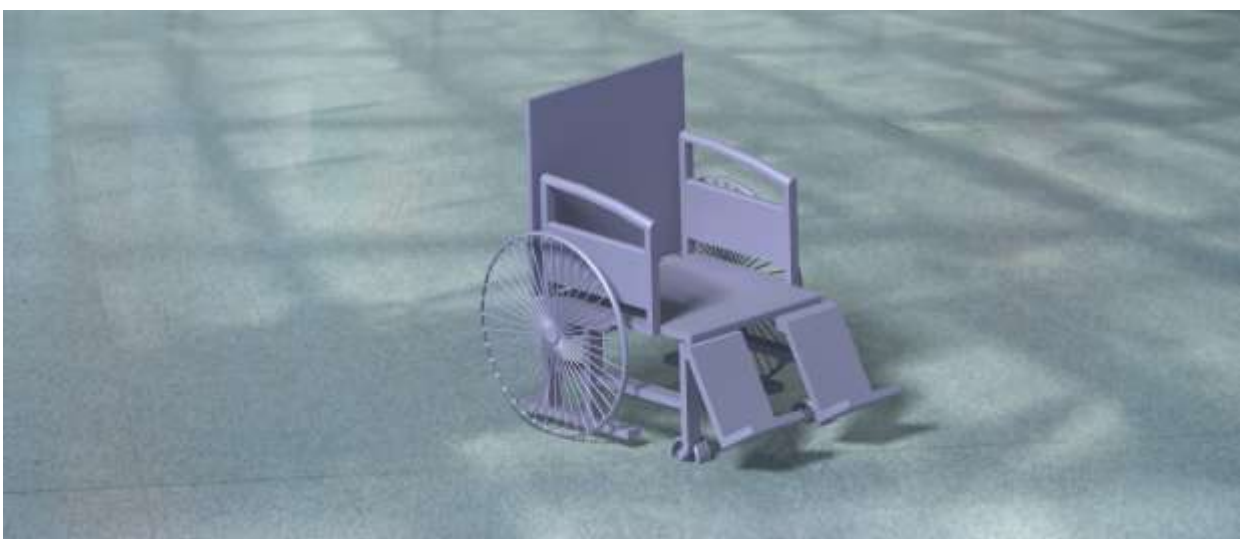
Observing convincing results from the inputs, the project was a huge success and is now focussing on development techniques. The students are storming their brains for better and optimum solutions for greater electricity outputs to maximise the efficiency.



## 2. Wheel chair for the disabled:

Taking Ergonomics as the concept and keeping disabled people in mind GUSAC starts a new project to make their lives far more comfortable by designing a **wheel chair** which will be low of cost and easy to handle. The project is being undertaken by **Rudra Pratap 3/4 Mechanical Engineering**.

The main idea is to make a wheel chair with materials of high strength and less cost and involving good engineering principles for increasing the efficiency of the chair.



## 3. Portable Chilly drying machine:

Considering the wavering prices of the chillies, Team GUSAC takes an initiative to contribute its technical part by designing a portable chilly drying machine which will help in drying the chillies in a fast and economical way and this model is yet to be patented. The project is undertaken by B. Raja Kumar of 4/4 Mechanical Engineering.

#### **4. Concentrated Solar Power:**

Observing the depletion of non renewable resources it's our prime duty to start extracting energy from renewable resources, Team GUSAC takes solar energy as its concept and has designed and implemented a technique to harvest solar energy in a far more efficient way. The project is undertaken by Pruthvi Krishna of 3/4 Mechanical engineering.

#### **5. Hand held touch and wireless enabled easy job cards creation device for plant maintenance of apple ipad app.**

#### **6. Virtual Eyes for the Blind**

#### **7. Copy protection of E- Book:**

This project provides a solution for E- book piracy. It allows only a single instance of a copy of an E- book to exist at any given time thereby providing DRM to E- Books. This project is undertaken by K. Bhargav Reddy of 4/4 IT.

#### **8. Virtual GITAM:**

It is a 3D social networking site with GITAM campus where students can have fun, learn and explore the college and chat with all the other students of GITAM. It also contains all virtual classrooms, library etc. This project is undertaken by the animation team of GUSAC.

#### **9. Aero rest arm:**

When a person works with a mouse while using the system for a longer period of time, his arm will be strained. To avoid this, a rest is given to the arm by giving 360<sup>0</sup> rotation to it. This project is undertaken by Vikas Kumar Singh of 4/4 MMM.

#### **10. Bio-disc: An economic diagnostic tool:**

To design a low cost multiple diagnostic tools which can diagnose multiple diseases, simultaneously, without compromising on efficiency and sensitivity. The diagnostic tool will be reusable and will be able to diagnose multiple patients, thus, saving a lot of money and effort without the problem of waste disposal. This project is undertaken by GUSAC Team.

#### **11. Evaluation of SCP production from Chlorella and Spirulina strains grown in autotrophic, mixotrophic and heterotrophic conditions:**

Chlorella and spirulina are essentially phototrophs but their mixotrophic or heterotrophic growths can lead them to thrive in the dark by getting energy from glucose, etc. chlorella and spirulina species are one of the best algal strains for high cultivation of SCP. Here we discuss the best growth conditions for both algae for optimum SCP production using all mentioned methods. Highest specific growth rates are evaluated and kinetic growth models are proposed. This project is undertaken by Divya Kriti of 4/4 Biotech.