



SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING



# FrugalInnovationHub

SANTA CLARA UNIVERSITY SCHOOL OF ENGINEERING

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## Warm up questions:

How many of you are interested in working with a “real world client” for your Senior Design Project?

How many of you have an idea of the “area of expertise” within your degree that you would like to apply for your Senior Design Project?

How many of you are interested in an engineering project with social or environmental impact?



## International Journal of Engineering Education: Enhancing Senior Engineering Projects by Incorporating Needs Assessment, Manufacturing Engineering, and Pilot Testing

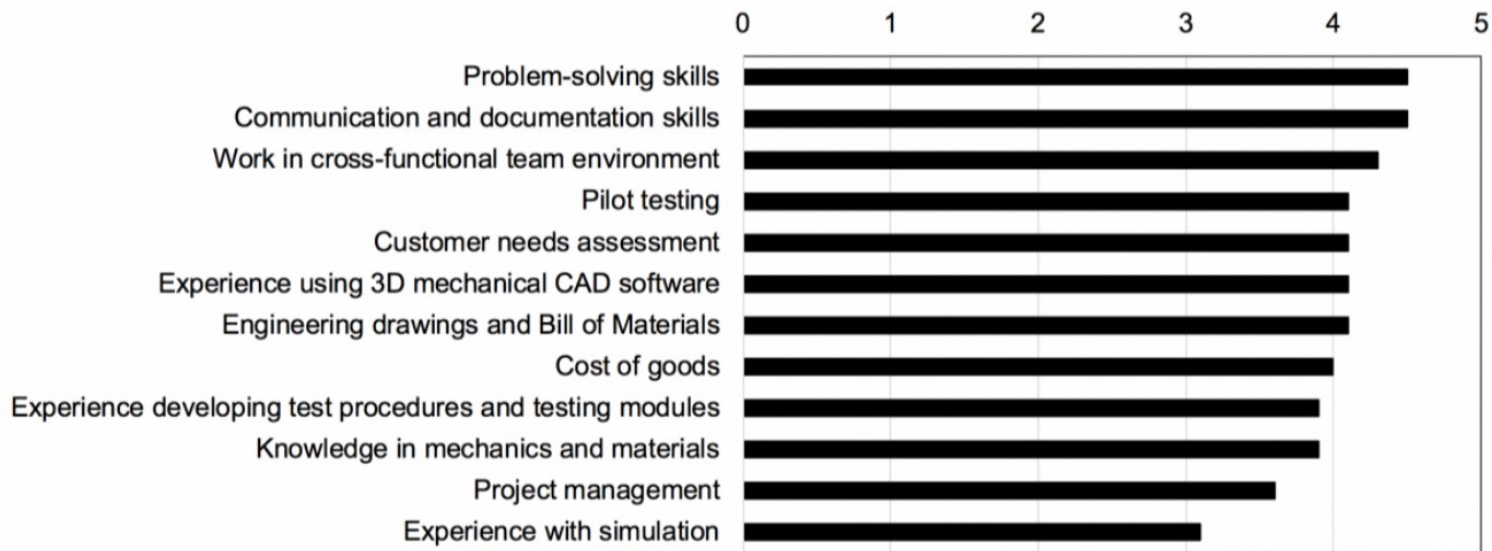


Figure 1. Engineering Skills Needs. Average Likert scores (1 = not important to 5 = very important) for twelve engineering skill areas, informed from interviews with hiring engineering managers.



# What do we do for you ?

- We offer social and environmental projects located locally and internationally
- We work as the liaison between clients, students and faculty.
- We provide project management support, funding options, and guidance for deploying project on-site
- We ensure a balance between the academic experience and project impact
- Provide academic tools to improve projects (Frugal Innovation Gigs)





# Who do we work with?

- YOU!
- Faculty
- Nonprofits organizations, social entrepreneurs, governmental organizations, and companies
- Potential project collaborators





# Frugal Innovation Gatherings (FIGs)

- **Special events**
- **4 mandatory workshops:**
  - Frugal Innovation for Senior Design Projects
  - Understanding the need of your client
  - Product manufacturing\*
  - Piloting your solution\*





# Loyola University (Dominican Republic)

## The need:

Provide farmers from D.R. with an automated irrigation control system for greenhouses

## The Customer:

Small to midsize farmers located in rural D.R.





# Sabore's Well (Kenya)

## The needs:

- An alternative source of energy for the school
- Water\*

## The Customer:

Sabore's Well







# Sayap Africa-USA (Cameroon)

## The need:

- Develop of a hybrid solar/micro plant for a community/local school
- Alternative analysis

## The Customer:

- Sayap Africa

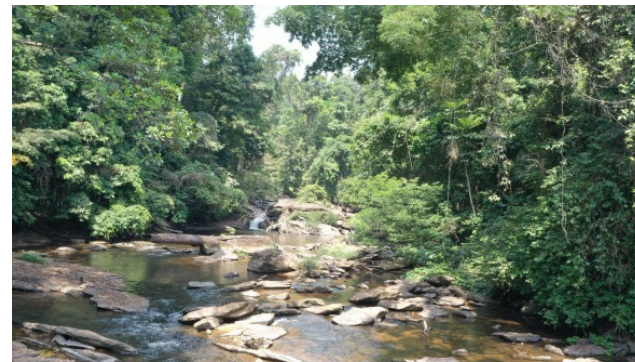


Fig. 1: Small waterfall at the area of the project.



Fig. 2: Villagers and sustaining the project during site identification



# Shonaquip (South Africa)

## The need:

- Solar assisted/powered electric wheelchair
- Powered sit-on scooter for those with disabilities to drive others

## The Customer:

- Shonaquip



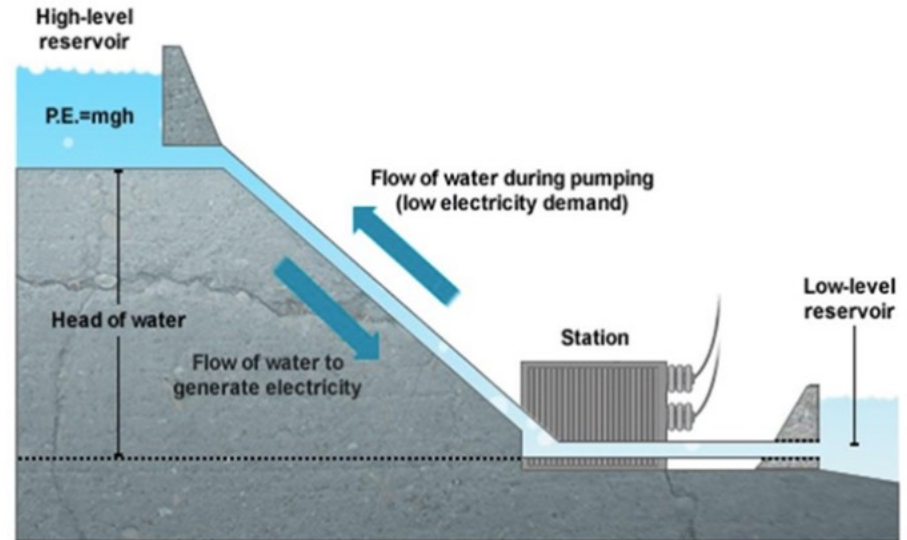


# Pumped-hydro storage (PSP)

The need:

- Pumped-hydro storage (PSP)

PSPs in India





Attention:

# ENGINEERING JUNIORS



Are you looking for a **Senior Design** project that includes:

 Technology for Social Good

 Real World Clients

 Project Management

 Project Deployment

## Interested?

Come over to FIH and let's  
discuss options

*"If only I knew about the Frugal Innovation Hub before..."*  
- One disappointed student to another at the Eng. quad

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School of Engineering