IPRO 311

IIT Sustainability Image & Campus Branding

Statement of Problem:

- Lack of knowledge of IIT's green initiatives already in place
- Poor report card grade
  - Letter "D" on the college sustainability report card
  - Exploring if grade accurately reflect IIT's campus
- Existing problems with campus facilities which prevent us from being know as a "green" and innovative campus

Organization of the Teams & Goals

Marketing and Branding Group

Solar Workstation Group

Facilities and Steam Pipes Group

Marketing and Branding Group:

Goals:

Raising awareness of ways to make IIT more energy efficient and “green”. Promote image of IIT as a sustainable university. Overseeing Administration and general group assignments.

Members: Melissa Toops, Catherine Budzinski, Vinu Mohan and Gabriel Fontes de Faria

Progress Towards Goals

- Logo Competition in progress
  - Gets students and staff involved in identifying how they see IIT as “green”
  - Creates a visual connection for IIT to move forward as a sustainable campus

Progress Towards Goals

- Logo design uses identified:
  - Working with admissions department to produce canvas shopping bags featuring our logo created in the design competition
  - Will be sent to the parents of IIT students
  - Provides an opportunity to advertise IIT's stance in sustainability all over the world

Progress Towards Goals

- Green Speaker Event
  - Lecture given to IIT students, Facility, and Staff
  - Promote IIT's support of sustainability on and off campus
  - Potential Green Speakers identified
  - Currently in the process of contacting the potential speakers

Progress Towards Goals

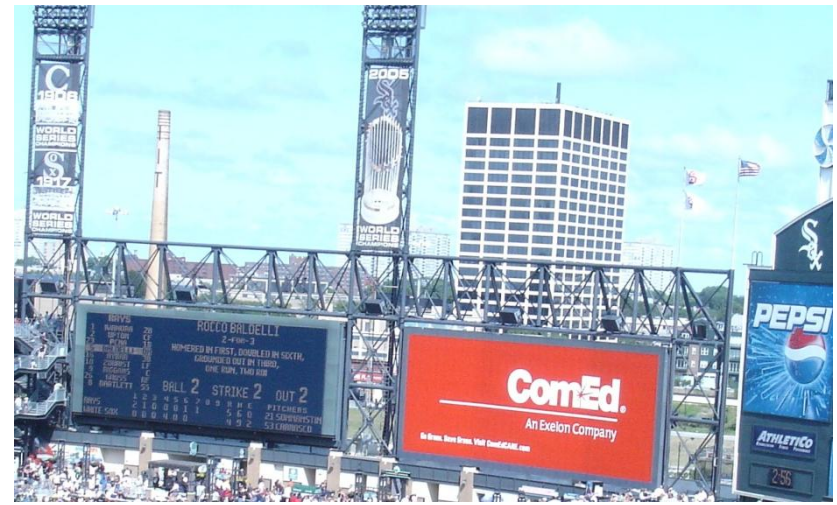
- Donated “We’re into Sustainabiliity” Bags acquired
  - Donated by Admissions department
  - Will be distributed to IIT students and staff
  - Will help promote IIT’s interests in becoming a sustainable campus through the promotion of using of reusable bags

Obstacles Encountered and Solutions

- Budget cuts
  - redistributed funds
  - considered donated materials vs. purchased materials

Anticipated Obstacles

- Green speaker event
  - Date confirmation
  - event attendance
- Solutions to advertising IIT on Main Building in a sustainable way
  - What kinds of alternatives to using non-renewable resources are available
- Realistic solution to the smoke stack beautification
  - Is Ivy the best choice
  - Is it possible structurally

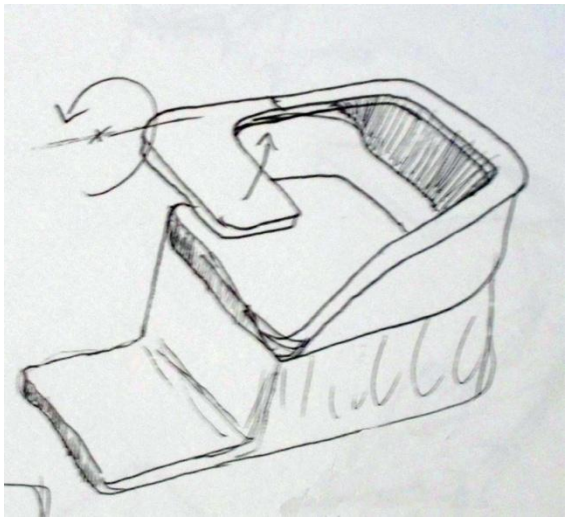


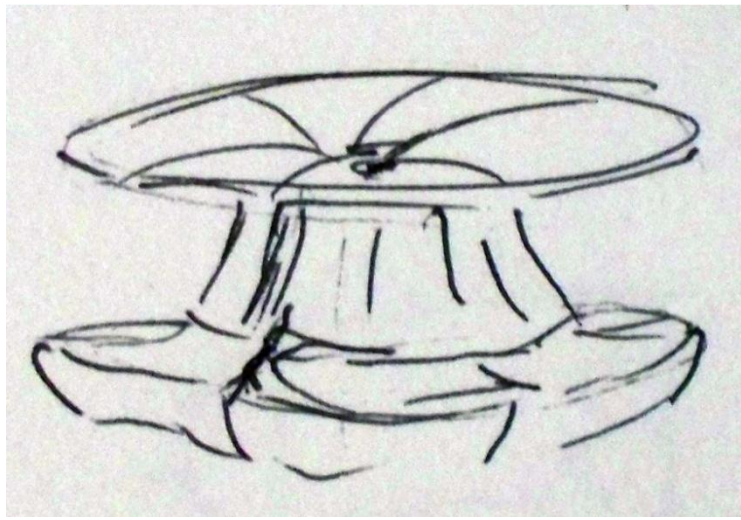
Solar Workstation Group:

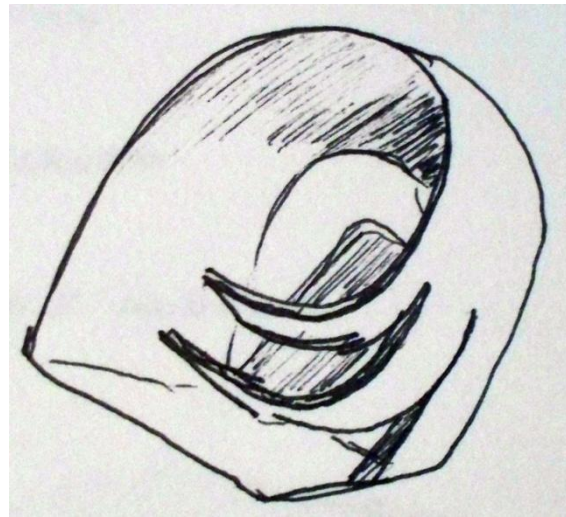
Design and build a solar powered workstation to be placed on IIT's main campus.

Members: Milanko Milesic (Leader), Nor Tanapura, Sacha Roubeni and John Kapecki.

DESIGN PROCESS



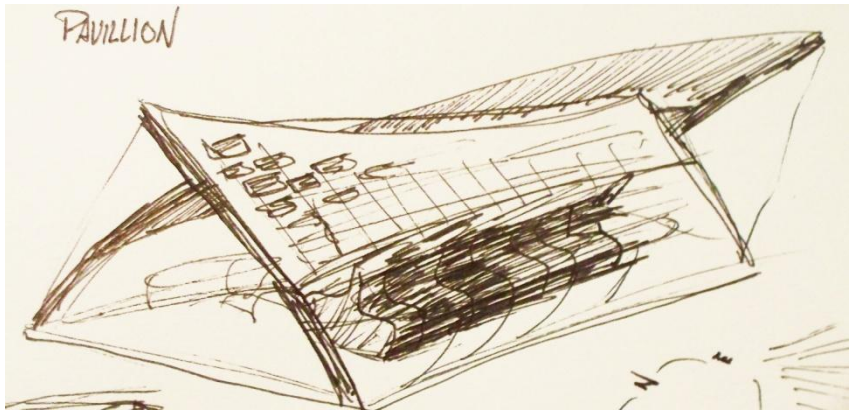


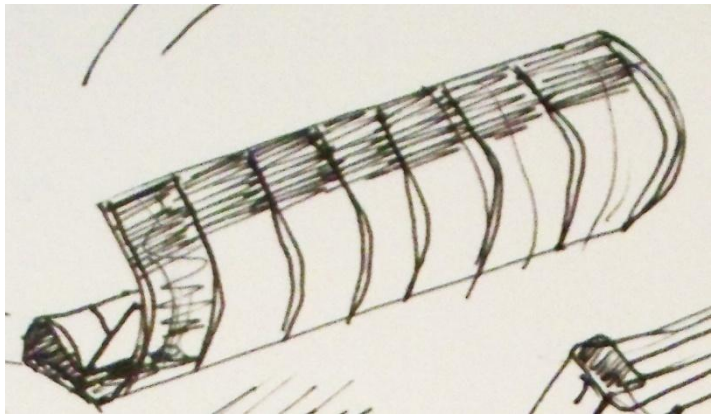


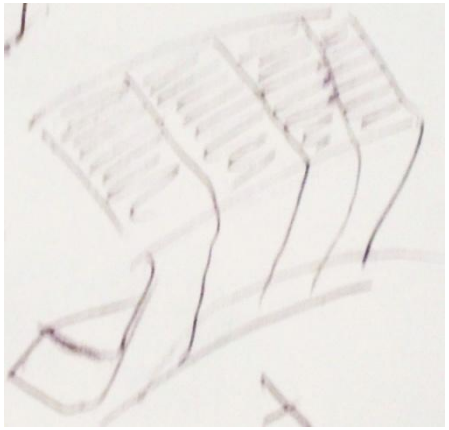
goals

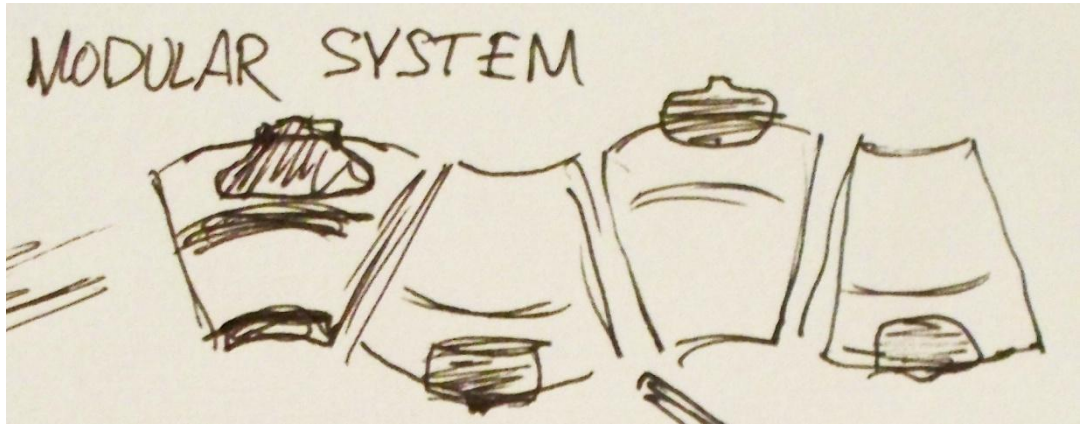
- functional year-round by using it as a light sculpture at night and during winter
- sustainability should show in design through use of light, recyclable materials
- mobile and modular design, where each workstation is made for one person's use, but can be connected to others to form a bigger unit
- marketability to other educational institutions
- all components part of a unified design

DESIGN PROCESS



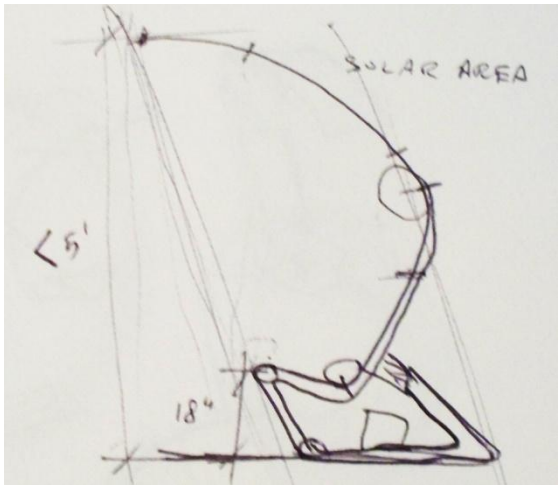


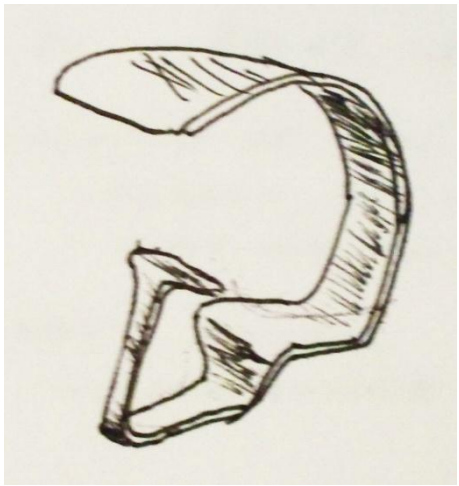




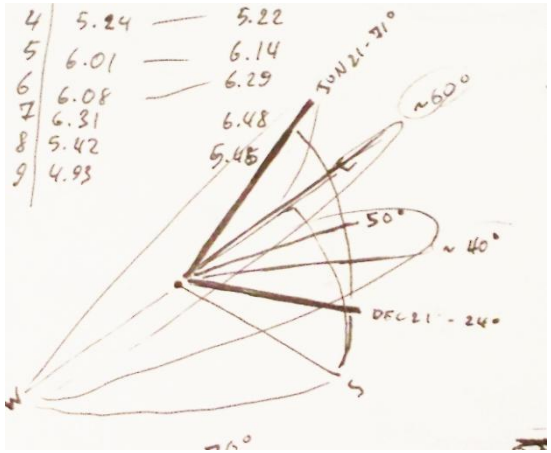
modular design

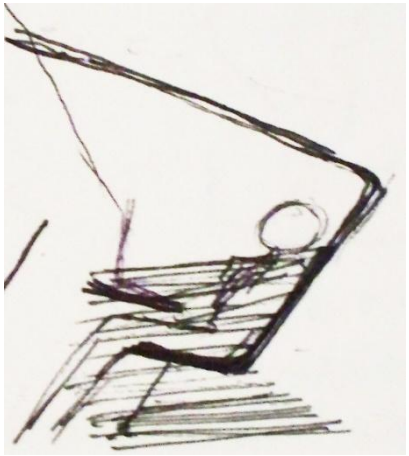
DESIGN PROCESS



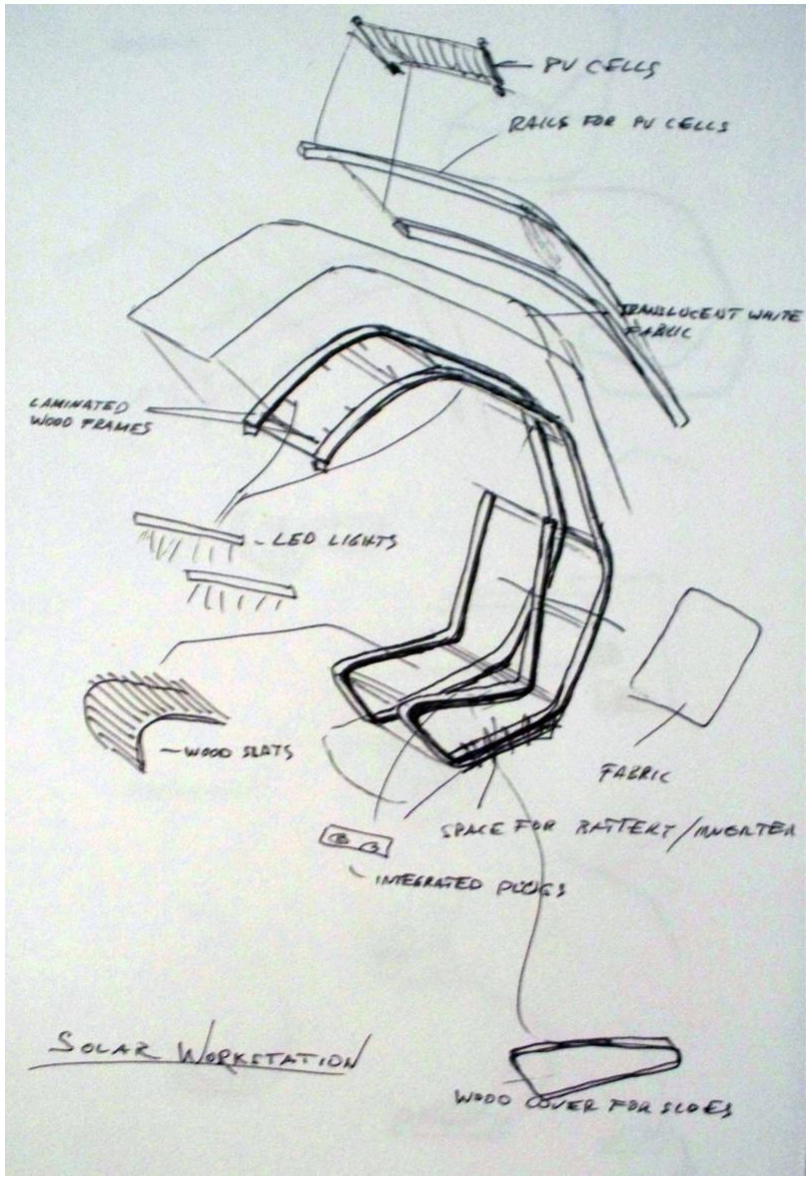


form + material





REALIZATION



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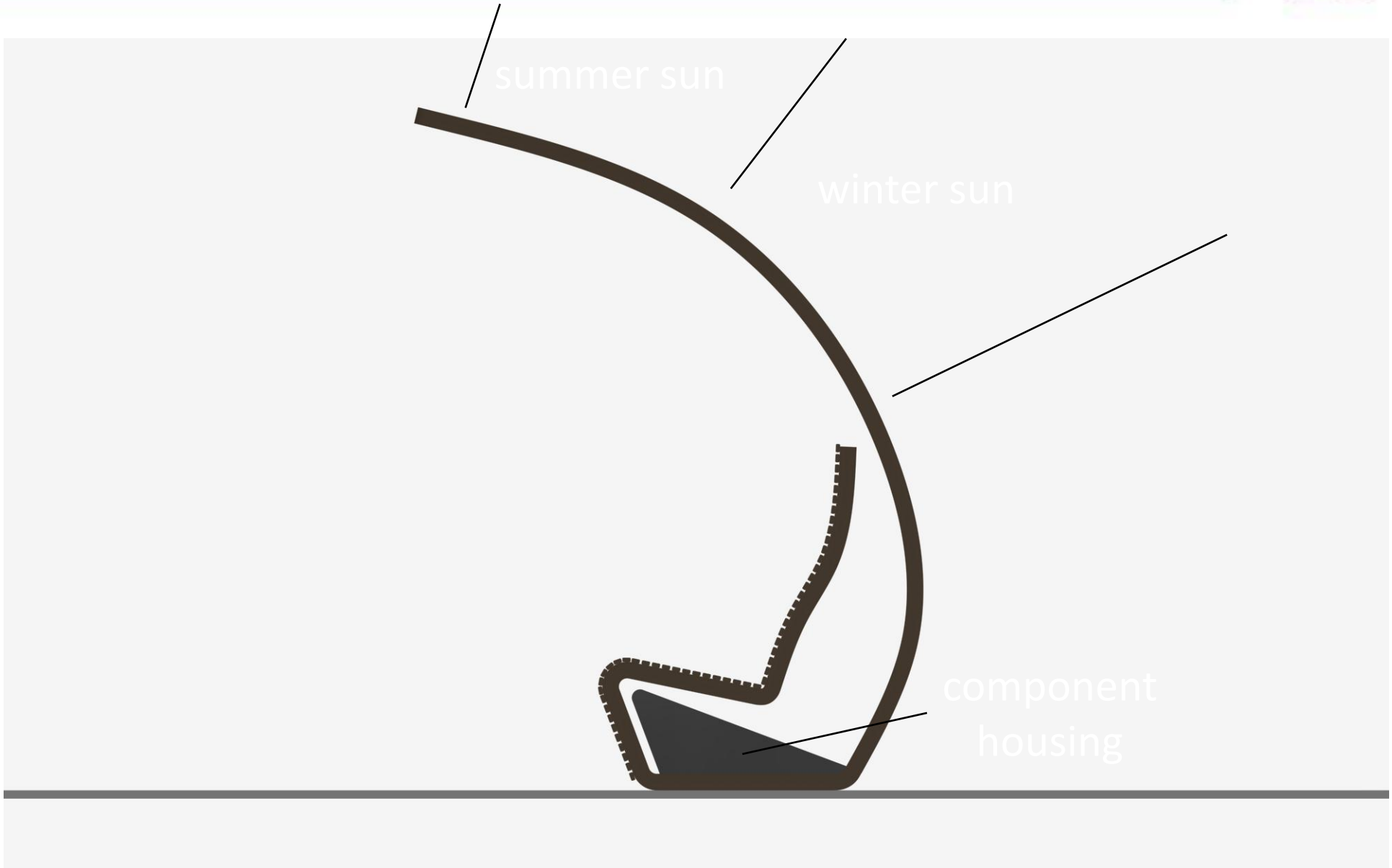
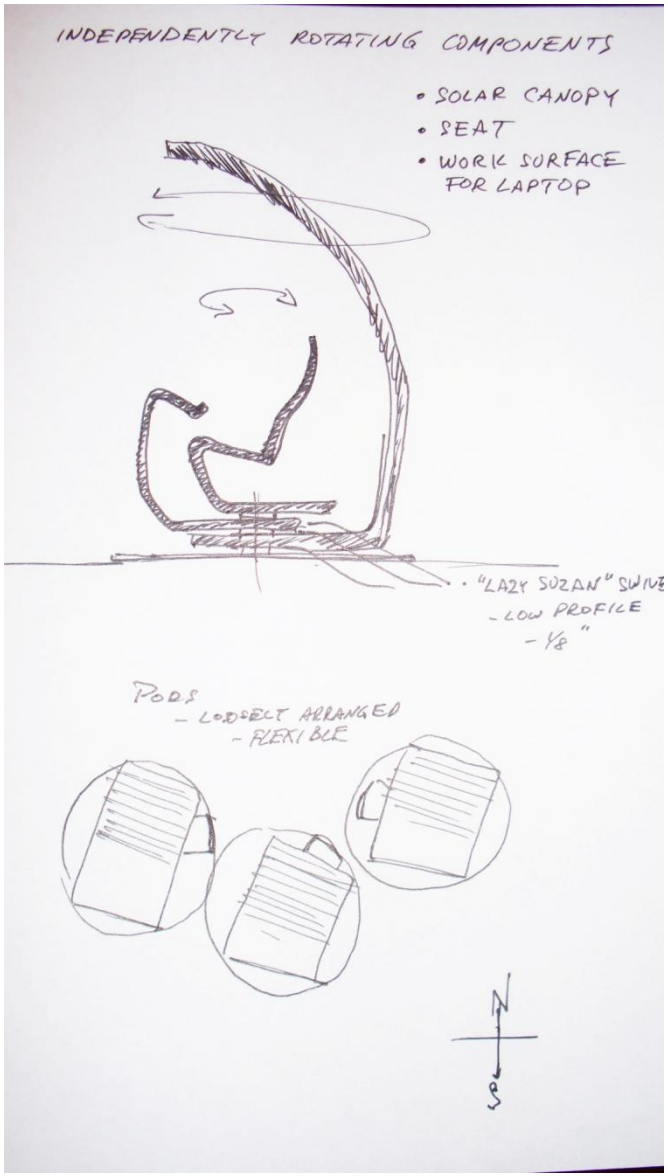


LOOKING AHEAD



anticipated obstacles

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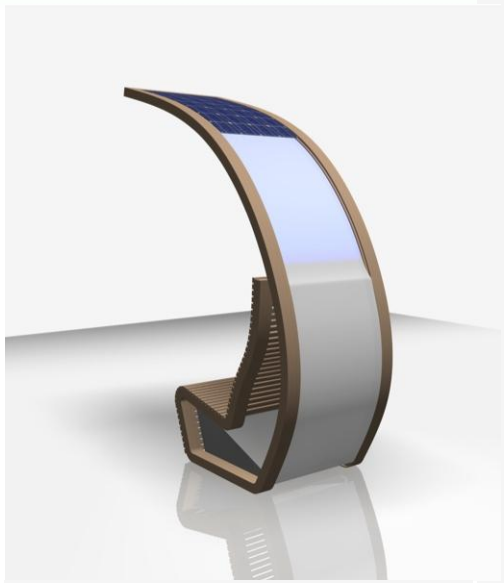
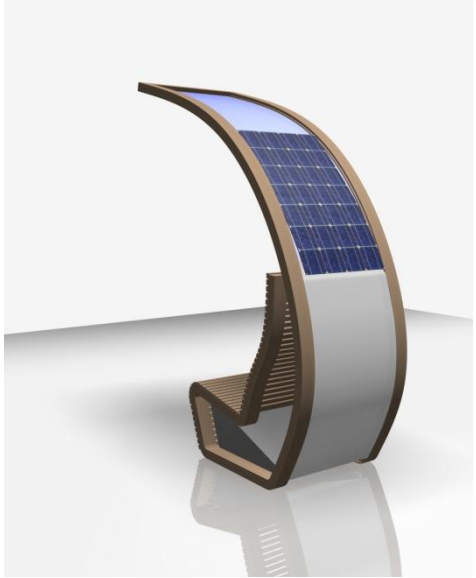
design issues

-





Facilities and Steam Pipes Group:

Work closely with campus Facilities Department to reduce wasted resources.
Design and build art installations to embellish or conceal steam pipes on campus.

Members: Michael Chamales (Leader), Hyeran Um, Shawn Block and Justin Ma.

Progress Towards Goals

- Created a plan and rendering for permeable concrete
  - Installation in high traffic area will draw attention to project
  - Contacted company for pricing
- Researched alternatives to single pane glass
- Found suitable system to fix sprinkler issues
  - Supplier has been contacted
  - IIT's sprinkler maintenance personnel have been contacted with regard to implementation

Progress Towards Goals

- Specifications and design criteria for above ground steam pipes acquired
  - Ideas for blending steam pipes with landscape
  - Rendering of possible solution
- Initial green wall installation design complete

Greenwalls

- Conserve energy by shading west wall of E1
- Lets ambient light in
- Promotes environmental awareness and clean air
- Beautify campus
- Free standing; no need to trim around windows
- Possible use of some PV panels on side to power lighting inside after dark

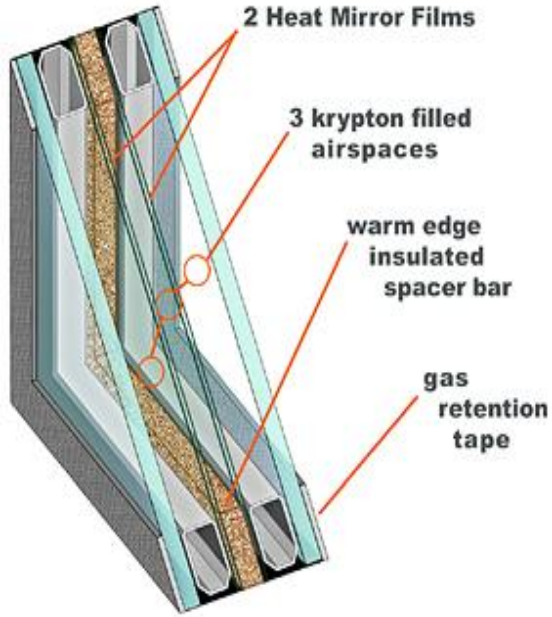
Green Canopy at the day time

Green Canopy at the night time

Window Replacement

- Many windows in campus buildings are single pane
- Increase building efficiency through insulation and save money; heating and cooling
- Use thermal dual or triple pane glass
- Argon or krypton filled
- Use of aerogel glass in translucent applications such as Keating Hall
  - R value is 8 per in.
  - High transmission of diffused light
  - Reduction in noise transmission
  - UV protection
  - 5X more insulating than standard insulated glass

Window Glass Possibilities



Rain sensors for irrigation system

- Rain / Freeze sensor wirelessly alerts timer to shut off during rainfall or during cold temperatures
- Use one sensor per timer (7 timers on Campus)
- Potable water demand is reduced
- Solar powered, that requires no electricity or batteries to operate
- Adjustable settings for rainfall trigger from 1/8-inch to 1 inch

Permeable Pavement

- Permeable pavement significantly reduces surface runoff volume
- Excellent storm water control
- Facilitates drainage in trouble areas
- Promotes sustainability on campus
- Paving of dirt path near E1
- Paving west of Vandercook

Permeable Pavement

Obstacles Encountered and Solutions

- Budget cuts
  - Redistributed funds
  - Eliminated things from original plan
- Ability to contact IIT maintenance personnel and supplier
  - Eventually did contact them
  - Supplier eventually returned call
- Info about steam pipes
  - Info acquired
  - New design made

Anticipated Obstacles

- Getting funds to implement modified sprinkler system
- Meeting specific design criteria for steam pipes
- Getting funds to install permeable sidewalk

Questions or Comments?