



ARCH 3691
2013

Advanced Design and Building Information Modeling February

| | |
|--|--------------|
| Your Name: | Meisha Guild |
| Name of Project: | Flex house |
| Preference: | |
| | |
| Use of Passive Solar Strategies | |
| Continuous glazed walls on north and south side with Cypress louvers to control amount of sunlight allowed inside house | |
| Use of Sustainable strategies | |
| LED and Fluorescent lights | |
| Use of Technology | |
| "Smart" appliances used in the house | |



Use of materials

Materials were chosen based on its durability, maintainability, recyclability, origin, energy efficiency, and toxicity over their life cycle

Photovoltaic strategy

PV panels
Solar thermal concentrating panels

What strategy would you copy? What is the greatest strength?

Smart home features

What is the greatest weakness of the entry? What would you avoid?

Additional comments?



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| | |
|--|----------------|
| Your Name: | Meisha Guild |
| Name of Project: | Hale Pilihonua |
| Preference: | |
| Use of Passive Solar Strategies | |
| | |
| Use of Sustainable strategies | |
| They Combined Louvers system and solar panels. They Also used solar thermal collectors for hot water and an Aquaponics system for saving energy. | |
| Use of Technology | |
| Louver system, Energy saved LED lights and, Rounded-shape structure | |



Use of materials

The fiber reinforced polymer is used to cover and protect the exterior structure from harmful factor.

Photovoltaic strategy

The solar panels are along with tube shape main structure. This arrangement isn't only for accumulating solar energy, but also used to decrease main building temperature by shading.

What strategy would you copy? What is the greatest strength?

Louver system

What is the greatest weakness of the entry? What would you avoid?

Not enough living space.

Additional comments?



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|---|--------------|
| Your Name: | Meisha Guild |
| Name of Project: | Living Light |
| Preference: | |
| | |
| Use of Passive Solar Strategies | |
| The students maximized the open space and covered it with a louver system that helps the house to keep an average annual temperature. It also controls the amount of the sun light coming in. | |
| Use of Sustainable strategies | |
| It is very energy efficient because the louver system shades in summer season and allows sun rays to reach the deep side of the building during the winter season. | |
| Use of Technology | |
| House has a double facade system. Energy-saved Pumps that reduce usage of the electricity. Unit Design allows dweller to move anywhere easily. Phone application can control temperature and light with one click of the button. | |



Use of materials

The sun rays are reflected because of the wood and milky glasses that they used.

Photovoltaic strategy

Cylinder-shaped solar panels and flat reflector helped to accumulate solar energy more efficiently. The bottom side of the solar panels uses the captured sun rays so it can produce more energy than general solar panels.

What strategy would you copy? What is the greatest strength?

The cylinder shaped solar panels.

What is the greatest weakness of the entry? What would you avoid?

Additional comments?



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|--|----------------|
| Your Name: | Meisha Guild |
| Name of Project: | Solar roof pod |
| Preference: | |
| Use of Passive Solar Strategies | |
| Produces 2 times the amount of energy needed | |
| Use of Sustainable strategies | |
| Outdoor Garden Heat storage tank | |
| Use of Technology | |
| Heat storage tank | |



Use of materials

Wood cladding
Shaded glass
Rendered glass

Photovoltaic strategy

Thermal tubes
Micro inverters

What strategy would you copy? What is the greatest strength?

Roof pod idea

What is the greatest weakness of the entry? What would you avoid?

Additional comments?



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|--|--------------|
| Your Name: | Meisha Guild |
| Name of Project: | Tide Water |
| Preference: | |
| Use of Passive Solar Strategies | |
| This project is built up by a specific colored material, because the dark color made it easy to absorb the solar energy during a day time. | |
| Use of Sustainable strategies | |
| 10 Gal Drain reservoirs contains the heat energy during the day. The heat energy is emitted and then used at night time, this can reduce the maintenance cost significantly. | |
| Use of Technology | |
| Silent processing system, HVAC system, and High performance window system | |



Use of materials

They used a lot of wood in this building and took advantage of dark colored materials ability to hold heat.

Photovoltaic strategy

The Bosch Solar Module converts solar energy into electricity, this device even meets Leed standard because on its high performance rate.

What strategy would you copy? What is the greatest strength?

Drain reservoir system.

What is the greatest weakness of the entry? What would you avoid?

Additional comments?



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|---|-----------------|
| Your Name: | Meisha Guild |
| Name of Project: | Water shed home |
| Preference: | |
| Use of Passive Solar Strategies | |
| PV panels South glazing –winter sun / shading device –summer sun | |
| Use of Sustainable strategies | |
| Green Roof Vertical garden | |
| Use of Technology | |
| Gray water system Liquid Desiccant wall Solar thermal wall | |



Use of materials

Triple 3x4 wooden studs
Thermo-treated wood clad walls
Soy-based spray foam insulation
Liquid applied-air and water barrier
Extruded Polystyrene ridged insulation

Photovoltaic strategy

PV panels with micro inverters
Micro inverters convert DC to AC to maximize efficiency on PV panels
PV panels give power to lighting, appliances, water pumps and garbage disposal

What strategy would you copy? What is the greatest strength?

Green roof

What is the greatest weakness of the entry? What would you avoid?

Additional comments?



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|---|--------------------|
| Your Name: | Meisha Guild |
| Name of Project: | Y- Container House |
| Preference: | |
| Use of Passive Solar Strategies | |
| This project has a higher energy efficiency because it uses a vacuum insulation. The Vacuum reduces the speed of transfer energy. It also has a water collecting system on the deck not only waters plants but is used for domestic uses. | |
| Use of Sustainable strategies | |
| The water collecting system that stores the water and uses it for growing the plants around house makes it is easy to manage the green areas. | |
| Use of Technology | |
| Split Air Condition System, Collecting water system, and vacuum Insulations | |



Use of materials

This house used containers and retractable wooden screens.
The use of containers increased the mobility of the house.

Photovoltaic strategy

This house used PVC panels which changes the sun rays into electricity. The solar panels are laid horizontally on Y-shaped roof.

What strategy would you copy? What is the greatest strength?

The use of containers.

What is the greatest weakness of the entry? What would you avoid?

Having to build up your own bedroom might be too much of a hassle.

Additional comments?