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Advanced Design and Building Information Modeling February

Your Name:	Anil Dipu
Name of Project:	Hale Pilihonua A Sustainable and Floatable Home
Preference:	Sustainable Home
Use of Passive Solar Strategies	
<p>Solar paneling is integrated with the canopy of panels and shading louvers that cloaks the main structure of the house, harvesting energy, filtering daylight, and giving the house its distinctive form. The house is curved and smoothly morphs from one end of the house to the other. The main feature is that this house has adjustable louvers which can allow natural light in during the day which can save energy in tropical climates.</p>	
Use of Sustainable strategies	
<p>One of the sustainable strategies used in this house is natural objects that are bio based. The functional nature of the Hale Pilihonua is demonstrated by an integrated aquaponics system that enhances the atmosphere and supports sustainable food production. The structure itself gets natural resources of water from the natural rainfall that occurs in tropical weather while also providing water for grown vegetation. This method enables the Hale Pilihonua to have its own farm which they can collect water and grow crops.</p>	
Use of Technology	
<p>Sustainable innovation and use of technology is greatly used in the Hale Pilihonua since it uses both stored water and light. The high efficiency LED's can be controlled with the desired brightness of the house. One part of the house will glow due to the motion detector and recognition technology to make it energy efficient. When there is no occupants in the house the motion detector will detect and will shut the lights automatically.</p>	



Use of materials

The Hale Pihonua consists of insulation mounted on a thermally broken steel frame and sandwiched between two layers of fiber-reinforced polymer skin. This gives it a translucent well-insulated tubular shell that enables natural daylight of the house without expelling thermal performance. The natural lighting of the house can be controlled by the external canopy of operable louvers which are made of aluminum frames..

Photovoltaic strategy

This house photovoltaic panel is concealed with shading louvers which is used to harvest energy and filter daylight into the house. With the use of harvesting energy this energy can be converted into heat energy for later use. The shape of the Hale Philhonua provides the effective use of the integrated solar array which can be concealed and fitted within the exterior of the house.

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

The Hale Philhonua great survivability depends on the forces of nature that resists against the house. Water, wind, and earth are resistant against the Hale Philhonua since the house have great buoyant force that is capable of floating in a flood event. Lateral Forces has been a major issue of houses and the design of the Hale Philhonua can withstand most forces of nature.

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

The Hale Philhonua is a tubular structure that already has rooms configured in a linear shape. This provides occupants to easily circulate inside and knowing which room to go to.

Additional comments?

The Unique characteristics of the Hale Philhonua is that it has a great survivability rate compared to most house today since most structures fail under flood and wind. The Hale Philhonua is capable of withstanding the effects of nature since it can float during an event of a storm. The house utilize its design so that it cannot get destroyed under lateral loads.