

## Design Exercise in “Minimal Existence”

Upon entering architecture schools, many students bring along preconceived and mostly conventional conceptions of architecture and design. Concerning “home” and “housing” this often means wooden single-family homes with pitched roofs. Most young students do not think in terms of space or form, but rather in terms of functions like living room, bedroom, kitchen, and bathroom. This certainly is understandable because most beginning students have not been exposed to spatial training, different living environments, housing forms, social classes, or to different cities, landscapes or climates.

It is, however, important to break up these preconceived notions and to widen the students’ horizons already in the beginning of their studies. The “Minimal Existence” exercise can act as an icebreaker and furthermore initiate a process of becoming a creative design individual. This does not necessarily mean that students should be solely trained to work in the field of shelter or minimal housing in the future. Naturally, a one-week assignment is unable to achieve this. But the creative thought process and the broad outlook on architecture and design lead the students to ask unconventional questions and look for alternative answers and design solutions that go beyond what a home improvement store has to offer.

This one-week-assignment makes the design students think about the minimum we need to live or to exist. Do we really need a “dining room” to exist? Do we have to separate uses and to monofunctionalize spaces as we do in standard housing? What is the essence of human existence as far as space is concerned? What can we learn from this concerning architectural design in general?

In order not to overwhelm the beginning student, this exercise has a manageable scale. The student herself or himself, the human body, its measurement, the conditions and the activities that every human needs to exist and is able to bear and to improve provides the scale.

With this in mind students designed a minimal object that went beyond architecture. It could be a tool, a machine, a device or a cover – a “thing” or “medium” to ensure minimal existence in the extreme condition they were designing it for. This assignment crossed borders between architecture and landscape design, product design and technology; even biology and sociology; it walked the line between the vernacular and high tech.

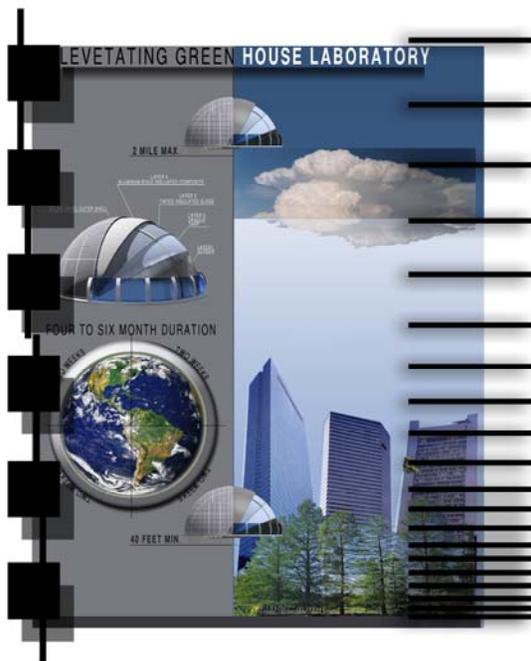
The driving factors behind the design approaches and solutions had to be:

1. Climate
2. Placement
3. Basic human needs

In this context students imagined extreme scenarios. They considered different climates dominated by heat, cold, rain, flood or drought. They designed for sites and places in water, under water, in the earth, above the earth, moon, sky, and universe. The basic activities and needs like sleeping, eating, communicating, covering, and moving had to be accommodated. The human body has a certain length, and it has to be able to lie down in order to get sound sleep. This can define the minimal space and lay the foundation of its measurement. Humans need to drink and to eat. In an extreme scenario, where does the food come from? How can fetching or growing food be an integrated design feature? People have to be able to communicate with each other. How can this be accommodated in minimal spaces? How do people congregate, do they still meet face to face, or has verbal communication been substituted? Cover is needed in almost every climatic condition; shelter from rain, snow, ice, and sun or from danger can be a point of departure for the design. Movement is essential in order to stay healthy and to survive. Movements can include going, running, swimming, or flying depending on the place.

Therefore students had to prove that their design allowed and supported the described necessary factors: climate, place, and the basic needs sleeping, eating, communicating, covering, and moving.

### City Location

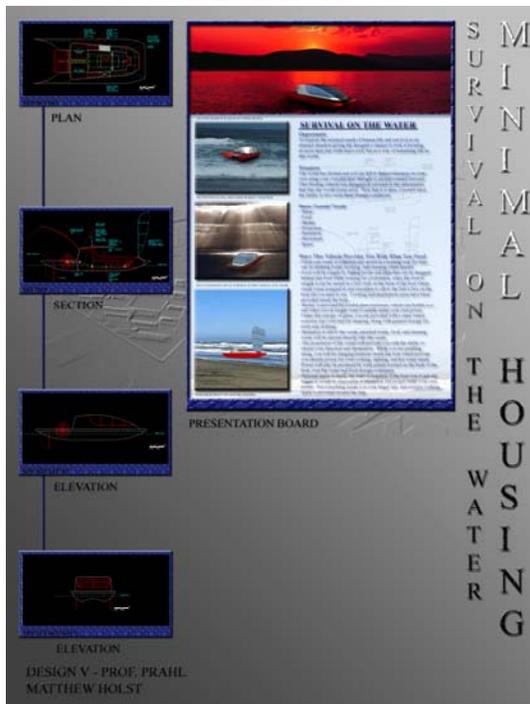


The “Green House Laboratory” suggested covering parts of the existing city under a multi-layered dome, which was adaptable to different climatic situations.

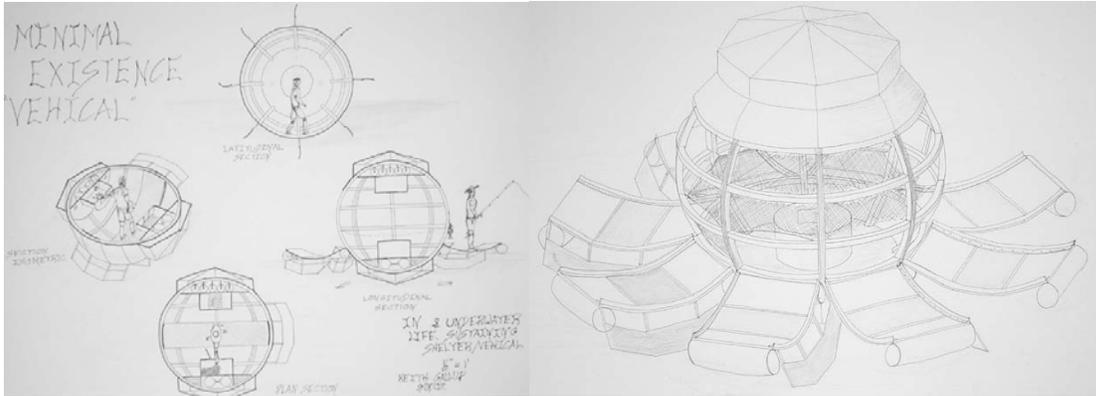


This design also took the real city as a point of departure. A set of shelters could be arranged in different ways for different purposes. It could cover a person from acid rain or provide a cover for sleeping.

### Above Water Location

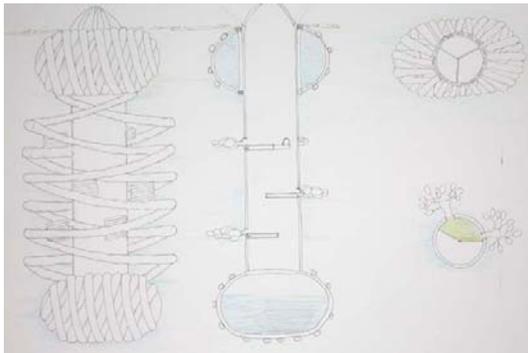


This floating vehicle was designed under the assumption that the world had been flooded to a large degree. The boat-like device provided for the basic human needs. Fresh rainwater could be collected and stored. Fishing hooks and nets could catch food. Shelter was provided by a solid glass enclosure, which could double as a sail. Sanitation was left to the ocean. The propulsion of the vessel could provide the user with the ability to choose direction and destination. While paddling, batteries would be charged. While inside the space all devices were at the fingertips, exterior walking space was provided around the ship.



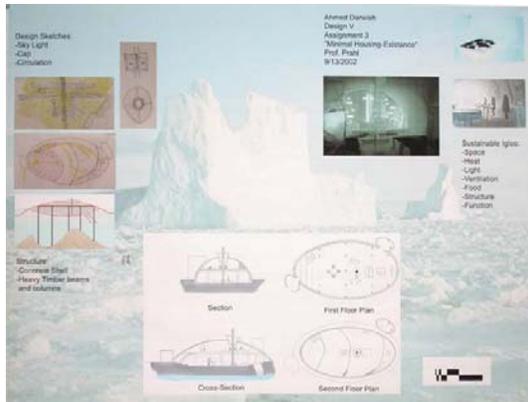
Living on water also was the scenario of this minimal existence vehicle. An all self-powered device was developed to be self-sustainable in this harsh living condition. The scale of this vehicle was developed according to the physical height of a person. It could be moved through muscle power by walking like on a tread mill while cooking devices were easy to reach. Folding walls doubled as platforms for fishing.

### Under Water Location



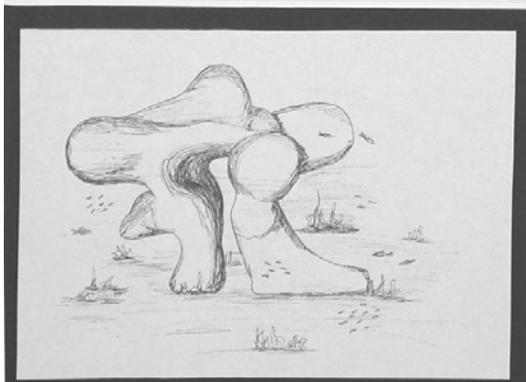
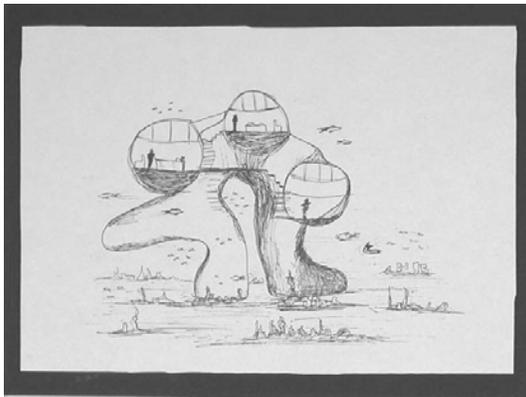
After the assumed destruction of the earth this student envisioned living under water. In this design, different platforms were attached to the inside of a linear core, and they reached into the water to grow algae for nutrition. Walkways that enabled the residents to do exercise revolved around the core. Oxygen for breathing was gained from above water level. Seawater was transformed into drinking water in the bottom tank.

### Ice Location

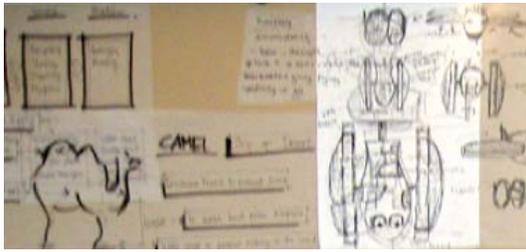


The eternal ice was the extreme situation this student designed for. An encapsulated egg shape provided an artificial island. This "sustainable igloo" provided space, heat, light and ventilation. Certain annexes were designed to claim water and food.

## Desert Location

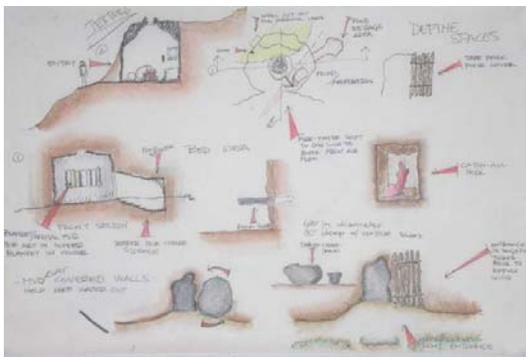


"Living on Mars" was the departing point of this design. Capsules removed from the ground, at the same time independent and connected with each other provided shelter for individuals or groups.

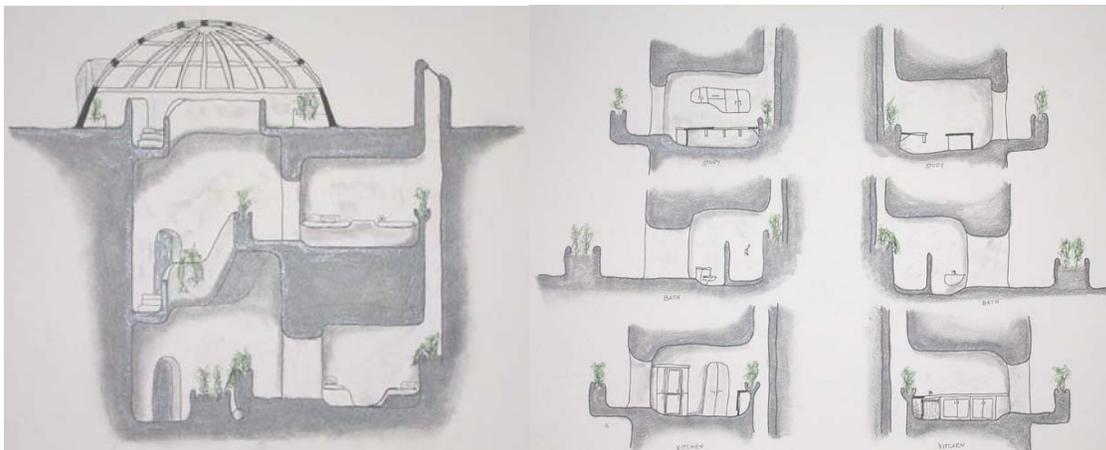


Since a desert is extremely dry and hot during the day and cold at night, this student studied camels to understand how a living being could exist in this extreme climate. He then took elements from this desert animal and integrated them into his design: long “legs” to keep away from the hot ground, “fur” to insulate, “flat feet” to prevent sinking into the sand, and “fat storage” as energy source.

### Under Earth Location



Providing shelter under the earth for “hermits” showed parts of vernacular architecture in a cave like space. Found objects like rocks or wood were used as doors, enclosures or shutters.



Living inside a rock showed the opportunity to gradually enlarge the living space. The heights of the single spaces were carved out according to their use. Plants as a source of nutrition were an important design factor.

Other design examples included a harness inspired by paragliding or parachuting for a person living in a tree; a tree house for a researcher living in the tropical rain forest; a space laboratory; a diving bell bubble; and an environment protection suit.

Students considered whether minimal existence could be seen as a design problem and how they as architects could play a role in this context, as there is a constant need for help and for shelter in many regions in the world that are struck by natural or by human forces.

But most importantly, this minimal existence exercise exposed the student to methods of inquiry that sought to clarify the relationships between human behavior and the physical environment; to expose the student to a diversity of needs, values, behavioral norms, and social and spatial patterns that characterized different environments, and to expose the student to basic organizational, spatial, structural, and constructional patterns.

Students thought about design and architecture in a rigorous, creative, and imaginative way, they were stimulated to explore an innovative approach, and to examine alternative ways of seeing, alternative ways of designing, and alternative technologies. During this week they were also encouraged to develop their own capabilities, to set their own goals, and to clarify their own values and commitments in an atmosphere that encouraged a combination of skill, critical judgment, energy, and motivation. Therefore this approach went beyond an academic exercise. It generated a certain mindset.