**Fly Ranch. LAGI 2020**

Shelter.

**The perfection of the Irregular**

Three Typologies, One System

A forest of surrealistic trees in the middle of a desert area

Dozens of red towers collecting rainwater into Deep Wells

A Hamlet full of terraces and shadow spaces

A community of artists gathered around the fire

All these posibilities, solved used the same material, the same system. Architecture and Art offer the possibility of creating small room units, to be connected once and again in order to achieve our goal. Perfect Irregularities, as life itself shows us every day.

We propose the use of renewable materials such as wood, steel joints and ordinary screws, and recycled materials in coverings and insulation. We propose a simple and practical (yet ambicious) construction system, based on the random union of irregular tetrahedrons. Irregularity will be our ally. The convergence of bars towards metallic nodes constitutes the habitable space units.

This system allows to make floors, pavilions, towers and houses, and much more!

We occupy the desert with a forest of artificial trees. The colorful bush meadows with red rainwater collection towers and dep wells. The flat areas with pavilions for artists gathered around the fire.

**Poetry within reach.**

Our project is grounded on constructability. All the materials that compose our devices can be found in a warehouse, a construction store in any town or city. Wood, regular screws, added to recycled elements such as PET bottles and advertising fabrics, OSB for floors and closing. Our goal is to be able to leave a supermarket carrying with us all the components of our project.

**The Project**

We propose a construction system, with which we will build different devices.

Using 2 x 2 inches standard wood slats, standard screws, we build bars of different length and section. These bars have a steel connection device at their ends. This device is capable of taking any angle, to allow the bar to occupy any direction in space. The main objective of this system of bars and nodes is to create irregular tetrahedrons. Irregular tetrahedrons are perfectly coupled, generating spatial continuities of different proportions and qualities, based on Randomness. Rods and nodes can créate everything you wand and need.

Once combined at Fly Ranch, rods and nodes generate

a. Platforms, paths, ramps and horizontal surfaces.

b. Pavilions for meetings, artistic exchanges and craft activities.

c. Monumental towers, aerial gardens, attractors, water condensers and solar panels.

d. Fully equipped permanent housing.

The bars are composed of 5 wooden slats of square section, grouped in the shape of a Greek cross. This gives them stability and resistance, and allows a lot of flexibility in terms of their length during fabrication. The slats that make up the bars are glued, screwed and waterproofed.

At the end of every bar, a rotating steel head allows the bars to be joined at nodes. The nodes are tightened and welded once they are in their final position. Each node can allow up to 18 converging bars.

The structure formed by irregular tetrahedrons is covered with different materials, depending on their use. It can allow from solar panels to sails made of linen. In other occasions, plants grow, forming actual vertical gardens.

a. Platforms, ramps, paths and horizontal surfaces. They connect the pavilions, houses and towers from the ground, linking every location to the closest road or street. The bars that touch the floor are waterproofed with recycled PET soda bottles, applied through hot air gun. The foundations are driven reinforced concrete piles. The floors are made of reconstituted wood panels, fireproof and waterproofed (OSB)

b. Pavilions for meetings, exchanges and artistic and craft activities. Built on platforms 50 cm from the floor, they are spaces of variable height and dimensions, which allow meetings, work, exchange, performance activities, relaxation, work, etc.

c. Monumental towers, aerial gardens, attractors, water condensers and solar panels. With a height of approximately 25 meters, the towers serve various purposes, depending on the material used to cover them.

d. Fully equipped permanent housing. Composed of a raised wooden floor, a roof made of recycled plastic sheets and wood, a glass box containing ecological bathrooms, kitchen, and a leisure terrace.

**Two locations, One system, Infinite possibilities.**

In the middle zone: Housing. A way to reinforce the existing infrastructure and make possible the growth of the community. Some towers to collect water and solar panels.

In the south zone: An desertic area converted in a surrealistic garden of artificial trees and shadows, a forest of water collection red towers. An area of exchange pavilions, a community in the form of a circle, or a sun, or a flower, with a diameter of 150 meters.

**A short summary of your strategy for on-site prototype development in the event that you are chosen for an honorarium grant**

Due to the simplicity of components, and the random possibility for assemblying, building a prototype is extremly easy, fast and economic. Every material is standard, and used to be constructed on site using regular battery tools as drills and others. Even if the design developed for LAGI Fly Ranch 2020 is 100% original, our constructive system has been proved several times in scale 1:1, performing with big success.

List of the primary materials used in your design and major dimensions

We will use 5 wooden standard slats of square section (2 x 2inches each) to develop our main component (The rod showing greek cross shaped section). Normally the slats are 3 meters long. With our system, we can create longer bars, by accomodating the lenghth of slats along the bar. A 6 mts long bar is easily achieved this way. Screws and other standard iron elements for connection are required. Also some special parts for the endings, very simple, but necessary, should be builded in iron. Unions are to be welded around iron rings. For different coverings, OSB recycled panels, like floors and some walls, glass for the houses, fabric for sailings, recycled plastic fabric (bilbooards are extraordinary for this) for isolation, red glass for towers, solar panels if neccesary. Nevertheless, for a prototype, We would reduce to wood, connectors, screws, and OSB. Everything in standard commercial dimensions.

**Environmental impact summary**

Due to the simplicity of our system, environmental impact is reduced as posible. Using Wood and fabric to build pavillions, houses, sculptures, ramps and gardens, show us the alternative of a sustainable approach in terms of design. Every component is reusable. Every component can become the same building it came from, or just any other. Every component is combinable with any other, based on random criteria. More pavillions can be added, hamlets can be multiplied due to neccesity. Using recycled PET and plastic for isolation of foundations, and roofs, we interrumpt the contaminating cycle of garbage, avoiding these materials to go back to nature soon.