



(X)TENSION

LAMO & NANO | Architecture and robotics workshop
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Keywords

Human-plant interaction

Robotics

Installation

Arduino

Computer art

Parametric Design

Client

CAC4 - 4th International Computer Art Congress

Website

<https://vimeo.com/127316023>

<https://vimeo.com/104191104>

Workshop developed by LAMO3d (Laboratory of 3d Models and Digital Manufacture - UFRJ) with Digital Fabrication machines, parametric design, to develop a sensitive shelter.

The project was designed by algorithms through visual programming (grasshopper) thinking about the sensory interfaces that activate the movements. The signals arrive through several sensors to an electronic interface, in this case the Arduino, which is in charge of transmitting the data to the computer where the algorithm is. Instructions and activate the motors that spin sprockets, and computer simulations are activated by the sensors plugged into the Arduino, creating a responsive design.

XTENSION arises from the tension between cables and rods, which results in a tensioned structure in modules within the principle of "tensigrity". The expansion movement of the bars in the direction of the center of the circumference causes the whole structure to be reconfigured. The human interaction with the plant causes the plant to send signals that are read by the computer. This station sends commands to the engine, causing the structure to move. This movement represents a metaphor, amplification for the voice of plants, which can not be heard by us.









