

The Giving Tree

2007 Burning Man Grant Proposal

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Philosophical Statement:

The Giving Tree is an interactive installation that forces us to rethink our communication with nature by reversing the terms on which we assume we interact with our environment. It may be only too obvious to the environmentally-minded that what we take from nature affects it, and to give back to it—greening the burn, for example—marks an attempt to balance the books, so to speak. The matter is not, of course, quite so simple as that; our behaviors derive from our mental and linguistic habits, and it is only by reconfiguring these that our practical efforts become truly efficacious. Setting aside the more straightforwardly economic aesthetic of environmental rehabilitation, our project employs a more linguistic model to emphasize the larger, more dynamic relationship in which what we learn from our environment is mirrored in the way that nature learns from and responds to us. The language that we speak with nature is the product of our mutual efforts, and what we choose to add to that shared vocabulary is a matter that changes the world itself. The Giving Tree provides a literal instantiation of this concept. By allowing participants to literally change the language that nature speaks—and speaks back to us—the Giving Tree asks that we rethink, whether gravely or in celebration, our awesome power to change, and change with, the world around us.

Physical Description:

The installation's focal point is a tree made out of plywood. To support it, we will build a square frame of 24' x 24'. The treetop will be around 25' in diameter and have a clearance of 10', allowing people to walk under it; the trunk will be 5' in diameter. The top will be comprised of three layers of branches reaching a total height of 17'. Each branch will be made out of an 8" tapering cylinder of wire mesh, stretching from the center out to the edge of the support frame, each containing around a 5° arc. The branches will be wrapped in colored burlap to allow sway, support, and decoration. There will also be sub-branches protruding off of each individual branch to give a more natural look. The first layer will contain seven branches, the second will contain five, and the third three. This tiered effect will create an immersive tree-like canopy.

Located within the trunk of the tree will be a computer and a car battery to power all of its electronic components. Two signs located approximately 34' away from the base of the tree (on opposite sides) will display instructions to guide interaction with the tree, as well as a philosophical statement about

the project. Randomly distributed throughout the treetop will be twelve "I/O points." Each I/O point will be a coupling of a microphone, white LED, red LED, and a speaker. The wires of each I/O point will follow its containing branch, returning to the central computer within the trunk. Also distributed throughout the tree top will be several strings of green LEDs, which will be used to attract participants when the tree is not currently active.

When inactive, the tree will slowly pulse these green LEDs to announce itself to participants from a distance and encourage them to investigate. Once a person is under it (it will detect this via infra-red sensor), the tree will attempt to communicate with the user by playing a string of randomly recorded samples through any one of its I/O points. The tree will then calculate whether it "*likes*" or "*dislikes*" the person. This calculation will be determined by several variables, such as amplitude, speed, pitch, and the motion of the person. These parameters are what all animals use to determine whether an incoming contact is helpful or threatening. If a person is calm and clear in his (or her) communication, the tree will "like" him; if he is abrasive and hyperactive, the tree will "dislike" him. The tree will then mimic these parameters in its communication, as well as additional effects (such as distortion, reverb, reverse, and delay), to convey its approval or disapproval of each new person.

If the tree decides it "likes" the participant, a white LED will shine down from one of the I/O points. After detecting a person underneath the LED (via infrared sensor,) a red LED will replace the light from the white LED. This indicates that the tree is now recording five seconds of audio. Once complete, the entire tree will blink several times to signify that the audio was accepted into its database. The computer will trim out excess audio by detecting the transients of the words recorded and will then begin communicating by compiling sentences from previously recorded words in its database. It will continue a call-and-response-like interaction with the participant until it detects that the person has left or that a new person has entered. On the other hand, if the tree decides it "dislikes" the participant, it will distort, speed up, and vary its recordings to be unintelligible and slightly abrasive. The tree will then shut down for a period of two minutes and play nature sounds in an attempt to soothe the person whose behavior so alarmed it.

The software will be developed in Max/Msp and will connect with an analog-to-digital converter box. This box will control the incoming infrared sensors, as well as the outgoing LEDs. The microphones and speakers will interact with the computer via a multi-channel sound card. The tree will be

accessible via wifi, so troubleshooting will not have to be done in close proximity. Also, the startup and shutdown will be on a timer, synchronized with sundown and sunup. Once the tree is *birthed*, or activated for the first time, it will be self-sufficient and begin to grow its own language based upon its interactions with participants.

Timeline:

Feb-April	Development of interface software
May-June	Physical construction of the structure
July-Aug.	Testing, prep
Aug. 27- Sept. 3	<i>The Giving Tree</i> is active

Itemized budget:

Software

Max/MSP license

Programming

Structure

Wood

Tree Shell Decorations

Hardware

Mac Mini

Monitor

Analog-to-Digital Converter

Speakers

Sound Card

Sensors + LEDs

Microphones

Transportation

Car Battery

TOTAL

Leave No Trace:

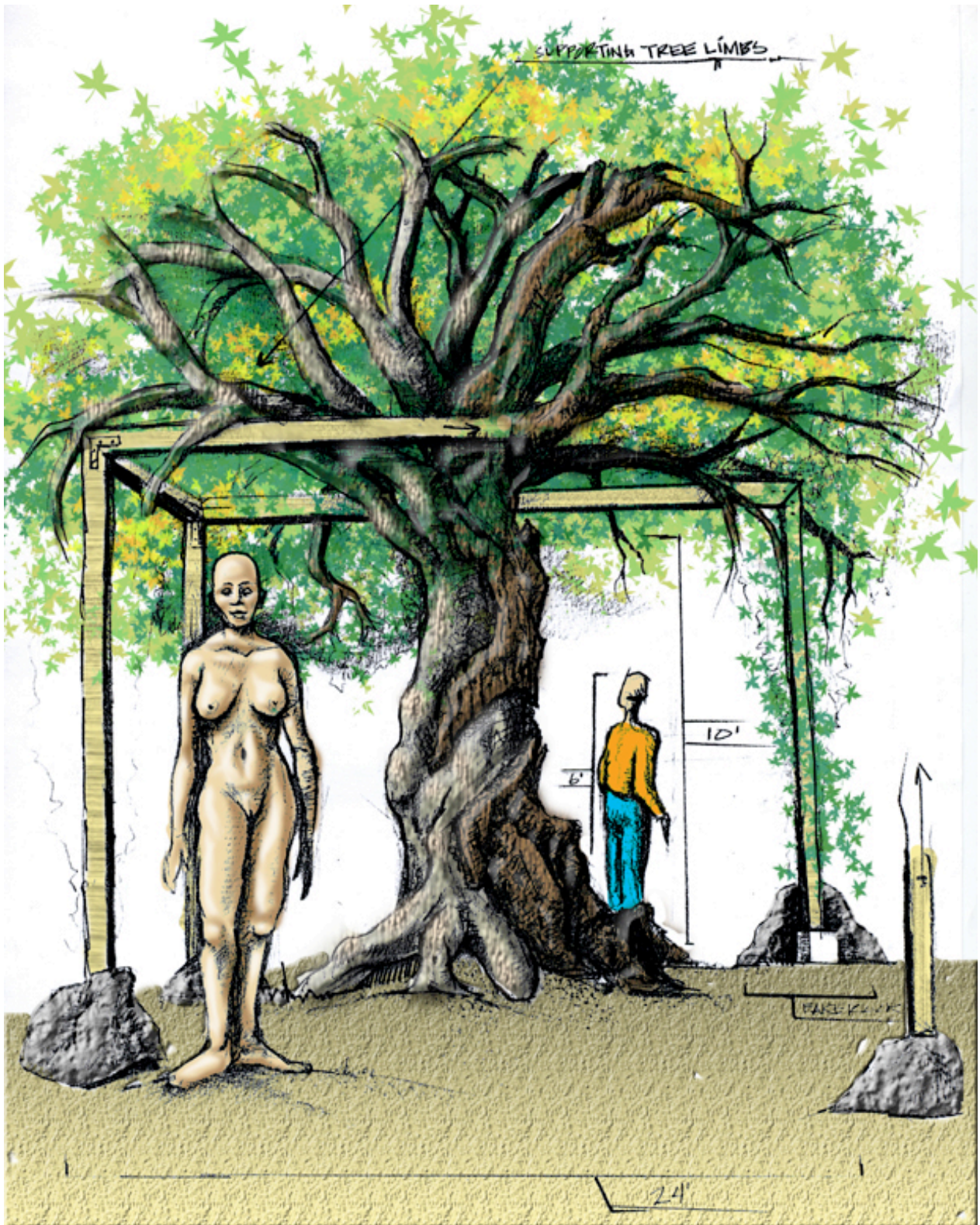
All construction of the tree will be done beforehand by our crew of ten and transported to Burning Man in modular pieces. Therefore, the only work that will need to be done onsite is reassembly and disassembly; this process will not create any MOOP, as it will be a simple matter to transport the tools for assembly and the modular parts of the tree to and from Burning Man in the moving truck. Nothing will be burned for this piece, nor will there be any debris that will require cleanup. Because the tree will be constructed in a modular manner, we hope to be able to install it at future events, so that it might continue to build a complex interactive language.

Location Requirements:

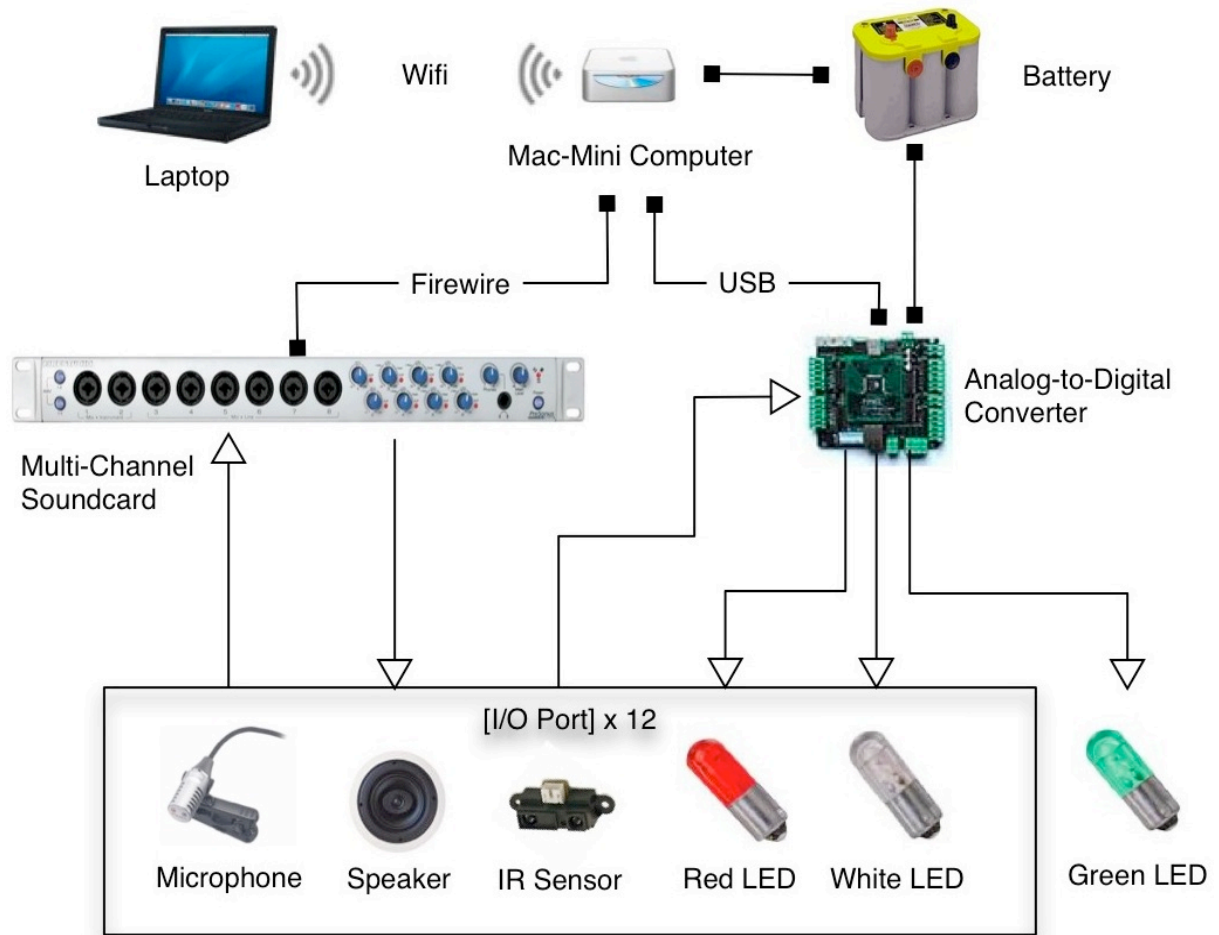
Given the dimensions of the tree and the placement of the signs, we will require a 44'-diameter space. While we require access for a moving truck to install and remove the tree on the first and last days of Burning Man, there are no other maintenance requirements, as we will provide all power and support. As far as placement is concerned, it would be ideal for the tree to be in the most uncrowded and quiet area possible to provide a more personal, immersive interaction with the tree and to prevent the microphones from picking up too much sound from neighboring camps and installations.

The Giving Tree team consists of a seasoned collective of artists, musicians, programmers, and crewmembers experienced with carpentry and set design. The crew has previous involvement with Burning Man organizing and creating art installations for theme camps such as IGS, Fandango, and Friends and Family.

Artist Rendering:



Hardware Setup:



Software Flow Chart:

