

Data Gardens Final Project Proposal

Rain Du

Sources of inspiration:

The first main inspiration is our trip to the CMU data center. It was my first time seeing a space being built to host machines, with all the conditions (such as temperature) adjusted to fit the machines' need, and humans only enter the space occasionally, as guests.

The other ones are Reddit's 2017 April Fool's project *Place*, and *The Million Dollar Homepage*. I think both are examples of a space being presented digitally, but they are still literal spaces in a way that we can still use literal terms to refer to locations – through pixel coordinates, for example. Both of these spaces are being presented as images, and both hosted a lot of human activities.

Main idea I wish to present through my project:

I wish to construct a digital space that host machines and machine activities. I know that there are already such digital spaces – the hard drive, or memory disk, for example, but I also want my space to have a window through which humans can peek into. Humans are guests to the space and are able to see what's going on (at least partially).

Brief description of project:

I want to turn my desktop computer into a web server, but instead of just let it run some code and operate silently in the terminal, I want to visualize all of its operations – receiving

requests, data read/write, sending requests, and so on - as an image, that anyone who connects to my server could look at and try to decipher what the server is doing.

I also wish the visualization is done in some semi-legible way. For example, instead of literally using the RGBA channels of the image to store bytes, I want to find a way to transform the information so that the presented image is vaguely legible to humans: ideally, one should be able to visually recognize which chunk of data (part of image) represents a single response object, for example.

Skills and tools I need:

I will first need to figure out how to turn a computer into a server. I also suspect there's going to be quite a bit of server-side programming, which I'd be happy to learn about. I don't know how complicated this process will be, but I'll start with Node and see what tools and libraries are helpful. If this doesn't work out, I can also look at python or C++. If none of these works, I will then brush up on C and do it the hard way.

I know there are a lot of free image manipulation tools out there, but I still need to design a way of presenting the machine activities using images. This is less of a technical challenge than an artistic one, though.