# three eighty to seven forty

**AD 616 | Yagiz Mungan**

*Three eighty to seven forty* has two aspects. The first one is observing the environment visually and then creating a representation of the environment as a light cone. The second one is recording all the observations. With the light cone, the system reduces the visual environment to a distribution of colors, getting rid of shape, meaning, composition, symbols and other elements. On the other hand, the recordings document the color spectra of the whole exhibition, participants, audience, by passers… Thus, providing the wavelengths for new investigations.

*Three eighty to seven forty* is created by using Processing as a data visualization tool also collects data for future experimentations and discoveries.

The process of creating *three eighty to seven forty* can be explained by Ben Fry's process of data visualization. The process has seven steps that starts with the collection of data and ends with the resulting product. However, for *three eighty to seven forty* the resulting product does further data acquisition to be analyzed, processed and represented.

The data acquired with the system may not be meaningful alone. However when compared with data that is collected in different situations, the system offers a source for visualizing change of color over time in different locations or situations. The process of creation can be simplified by using the steps adopted from Fry:

**Acquisition:** The data is collected via a camera that is connected to the computer. The camera acts as the eye of the system. The data from the camera is latched to the computer once in a second.

**Parsing:** The received data is composed of matrices that have color information, which is the same format that the system uses.

**Filtering:** Even though, what I need is also the color information, I wanted to use only the information from certain pixels having the form of representation in my mind. Thus, I extract the colors of the individual pixels on the diagonal. An additional reason for this processing is it reduces the amount of data. This relaxes the requirements on the computational power.

**Mining:** The acquired data is saved after the filtering step as a decimal number followed by a semi colon. However, for the representation the data, the colors are reordered with respect to their grayscale intensity. This is done by converting the colors into grayscale and reordering them.

**Representation:** The initial representation is a volumetric light cone, which becomes a perfect white cone if the room is all lit white and bright. It becomes total darkness if there is no light/color. The alignment of the light cone can be adjusted depending on the environment it will be displayed. Figure 1 shows different versions of the representation.

Figure 1: Work-in-progress Representational Forms

**Refinement:** The background is kept black. Some artifacts occurred between the edges of the some of the circles. These artifacts removed via additional programming.

**Interaction:** The interaction is simple not really required and/or desired. If the camera sees you, you will be a part of the database and thus the resulted image. However, you can change your color and/or location of certain color items to change the output.

## Gallery Installation

The system was set up in Purdue University Patti and Rusty Rueff Galleries as a part of *dataesthetics*. Figure 2 shows the piece installed in the gallery environment. The gallery was open for five days, part of the data collected can be found in Appendix A.

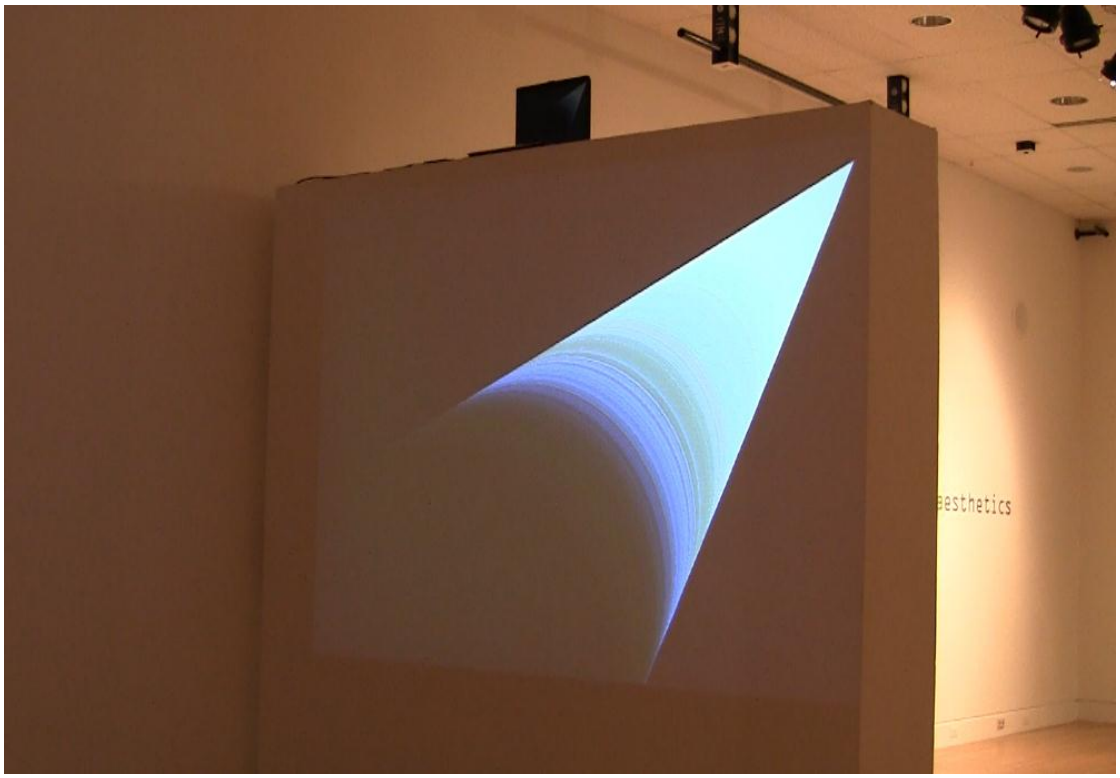


Figure 2: three eighty to seven forty in dataesthetics

More information about the exhibition can be accessed from:

- http://www.cla.purdue.edu/vpa/etb/events/dataesthetics.pdf

Video footage of the installation can be seen in:

- http://vimeo.com/33703716

The next step for this project is gathering alternate data for comparison. For example, an art gallery by its nature has a controlled light that is constantly same as long as the gallery is open. On the other hand an outdoor environment various light conditions depending on many different conditions such as the time of the day, the season and the weather. Or the dynamics generated by the people walking a popular square would be a lot different than that of a gallery situation, where people do not just rush by but take their time to observe.

**Appendix A**

-11375740;-11375740;-10259597;-10259597;-10849396;-10849388;-10849388;-10849380;-10849380;-11371611;-11371611;-11371611;-10847323;-10847323;-11369307;-9208956;-9208940;-10257458;-9730907;-9206636;-9206636;-9730883;-9730883;-9730883;-9730874;-9730874;-9730874;-9730866;-9730866;-9730866;-9728859;-9728859;-9204580;-9204580;-9204580;-9728818;-9728818;-9728818;-9728818;-9728810;-9728810;-9202515;-9202515;-7039860;-7039860;-9200434;-9200434;-8084035;-6511204;-6511204;-5921380;-5921380;-5921380;-5921380;-5921371;-5921371;-5921371;-5921371;-5921371;-5921371;-5921371;-5921371;-5921371;-5921371;-8081954;-5919340;-5919332;-5919332;-5919332;-5919332;-5919332;-5919323;-5919323;-5919323;-5919323;-5395052;-5395052;-5395052;-5919315;-5919315;-5919315;-5919315;-5395044;-5395044;-5395044;-5395035;-5395035;-5395035;-5395035;-5395035;-5395027;-5395027;-5395027;-5395027;-5395027;-5395027;-5395027;-5395027;-5395027;-5395027;-5917284;-5917284;-5395019;-5395019;-5395019;-5395019;-5395019;-5395019;-5395019;-5395019;-5395019;-5395019;-5395011;-5395011;-5395011;-5392987;-5392987;-5392987;-5392987;-5392987;-5392987;-5392987;-5392987;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5392979;-5917242;-5917242;-5392971;-5392971;-6507025;-6507025;-6507025;-4868691;-4868691;-4868691;-4868691;-4868691;-4868691;-4868691;-4868683;-4868683;-4868683;-4868683;-4868683;-4868683;-4868683;-4868683;-4868683;-4866643;-4866643;-4866643;-4866643;-4866643;-4866643;-6502690;-6502690;-6502690;-6502690;-4342347;-4342347;-4342347;-4342347;-4342347;-4342347;-4342347;-4342339;-4342339;-4342339;-4342339;-4342339;-4342339;-4342339;-4342339;-4342339;-4342339;-4340043;-4340043;-4340035;-4340035;-4340035;-4340035;-4340035;-4340035;-4340026;-4340026;-3750219;-3750219;-3750219;-5910809;-5388545;-3750211;-3750211;-3750211;-3750211;-5386530;-5386530;-3750202;-5384498;-5384498;-5384490;-3748154;-3748154;-3748154;-4337945;-4337945;-4860194;-4860194;-4860194;-3223866;-3223866;-4335922;-4335922;-4335906;-4335906;-4335906;-4335906;-4335906;-4335906;-4335906;-4335906;-4335906;-4335906;-4335906;-4335906;-4335906;-3746098;-3746098;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-4335897;-3746082;-3746082;-3746082;-4858137;-4858137;-3746073;-3746073;-4858129;-2697522;-2697522;-2697522;-2697522;-2697522;-2697522;-2697522;-2697522;-2697522;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-2697514;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-3744025;-2697497;-2697497;-2697497;-3744017;-3744017;-3744017;-3744017;-3744017;-3744017;-3744017;-2173209;-2173209;-3219729;-3219729;-3219729;-3219729;-3219729;-3219729;-3219729;-3219729;-2171161;-2171161;-2171161;-3217425;-3217425;-3217425;-3217425;-3217425;-3217425;-3217425;-3217425;-3217425;-3217425;-2693137;-2693137;-2693137;-2693137;-2693137;-2168857;-2168857;-1579033;-1579033;-1579033;-1579033;-1579033;-2691089;-1579025;-1579025;-2691081;-2691081;-2691073;-2691073;-2691073;-2691073;-2691073;-2691073;-2691073;-2691073;-2691073;-1579009;-2166785;-2166785;-2166785;-2166785;-2166785;-2166785;-2166785;-1576977;-1576977;-1576977;-1576977;-1576977;-1576977;-1576977;-1576977;-1576977;-1576969;-1576969;-1576969;-1576961;-1576961;-2164737;-2164737;-2164737;-2164737;