Translucent Concrete Display
Objective

- To create a prototype LED display to be placed behind a translucent concrete block.

- Using Persistence of Vision technique.
Features

- NI-LabVIEW control system
- Arduino as Micro-controller
- 40 P-Channel MOSFETs
- 400 LEDs
Circuit 1 - Power Control
Circuit 2 – LED Control

...to Pin 20

R1=820Ohm
Circuit 3 – Analog Sensor

[Diagram showing a circuit with a PhotoResistor and a 10K resistor]
Mechanical Design
Mechanical Design
Mechanical Design
LabVIEW
Matlab Script

VI-Input/output dictates that this variable is designated as input or output within labview

inputpath=VI-Input
level=VI-Input
image=imread(inputpath,'jpeg');
imresized=imresize(image,[20,20]);
BW=im2bw(imresized,level);
b=double(reshape(BW.',[],1)); %VI-Output
imshow(imresized);
imshow(BW);
output=[];
for i=1:8:400
    bit=b(i:i+7,1);
    byte=sum(bit*[128;64;32;16;8;4;2;1]);
    output=[output;byte];
end
output  %VI-Output
Arduino Code
Future Implementation