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Programming Art
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Project 1: Review 1

Abstract:

Using a whiteboard to display information to an audience can become cumbersome as the presenter is required to stay in contact with the board. That is, staying close to the board to write words, symbols and create drawings and pictures. This can lead to overhead, loss of time and labor for the presenter. Our group aims to relieve this tedious process by creating a simple Java Processing application that will allow the user to use a laser pointer to draw on a canvas that will be displayed to the audience. This will minimize the amount of time the presenter needs to stay close to the audience board and can focus on what information is being presented.

Purpose:

Our team plans to modernize digital art by capturing a laser pointer and drawing it on a canvas. This will encompass the use of a digital camera, Java Processing, and the OpenCV libraries. With this application, users will no longer need to be in direct contact with the presentation media, as the camera shall be able to detect and draw the laser pointer in a predefined space.

Functional Description:

Upon execution of the Java Processing application, two windows will appear. One window is defined as a black drawing canvas and the second is defined as a camera view window. Whenever the application detects pixels over a certain color and size threshold, the same pixels in the drawing window will be filled, mimicking the act of drawing on a board. The user will have the ability to change color and size of the brush, as well as a way to save and or clear the canvas. There will be a menu of brush status, where information like current color and brush size so that the user will know what they are drawing with.

Project Timeline:

Below is an estimated project timeline for this software application.

ID	Task	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
1	Set up Capture Video and Canvas	███						
2	Set up OpenCV Library	███						
3	Display both video and black canvas to user	███						
4	Set up Draw function and threshold for ambient light		███	███	███	███		
5	Work with keystrokes to change color			███	███			
6	Work with keystrokes to change size of brush			███	███			
7	Work with keystrokes to use shapes			███	███			
8	Work with keystrokes to partial erase (different from resetting canvas)					███	███	
9	Identifier at bottom of canvas notifying user what they are currently using						███	███
10	Save picture of current canvas						███	