Journal Report 11
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Period 1, White

Daily Log

Monday, December 2

Continued trying to use grab cut from OpenCV to extract foreground from background and better isolate objects and shadows in foreground. Still not working very well.

Tuesday, December 3

Gathered new images to test current programs for shadow and object identification. Found a new research paper on detecting objects.

Thursday, December 5

Continued to read and attempt to understand the research paper on locating objects in images. It seems a good implementation considering accuracy and complexity, but I'm still very confused about the details and specifics.

Timeline

Date	Goal	Met
November 17	Implement a feature-based shadow detection and a region-based shadow detection.	Yes. The feature-based detection used gradients of object outlines, which I combined with a previous kmeans implementation, which I then also combined with a color model analysis.
November 24	Determine the most accurate shadow detection method	Yes. I've decided to stick with the LAB analysis paired with a log function, and started working towards identifying objects in images.
December 1	Identify all objects with shadows in the image	No. My current object locating program is extremely inaccurate, and I'm attempting to implement a different object locating algorithm from the research paper.
December 8	Identify all objects with shadows in the image	
December 15	Pair shadows and respective objects together	
Winter break goal	Associate objects with their shadows on the image	

Reflection

From the new image test set, I've discovered that the shading of an object is also classified as part of the shadow. If I can locate objects, then knowing where it is shaded will help with finding the light source location too. Locating the objects in the image is harder than I expected. All my current attempts at locating objects are extremely inaccurate. Usually a large region of the image, including the object and portions of the background, is highlighted as the 'object.' I also need to consider adding stricter criteria to my test images, because my programs all have trouble in images where the only objects casting shadows are trees.