Journal Report 12

12/08/19-12/15/19

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Period 1, White

Daily Log

Monday, December 9

Read the texton article again, but still do not understand what is going on.

Tuesday, December 10

Began researching other ways to identify texture boundaries. Implemented the Gabor filter from OpenCV to do this, which works fairly well.

Thursday, December 12

Downloaded a large online image segmentation dataset from the Berkely CS Department to test and tweak the Gabor filter implementation.

Timeline

Date	Goal	Met
December 1	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 8	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 15	Identify all objects with shadows in the image	Yes, in that I can isolate objects based on a border. However, I don't label the object region, only the texture borders are labeled.
December 22	Associate objects with their shadows on the image	
December 29	Associate objects with their shadows on an image with multiple objects	
Winter break goal	Associate objects with their shadows on the image	

Reflection

Right now, I identify the texture boundaries of the object. I will need to work on finding a way to identify all the pixels enclosed in the boundary, and set criteria to determine which are boundaries for the object of interest. At the moment, I'm only working with images where there is one primary object in the main focus of the picture. So, once I can identify the object, I will be able to match it to its shadow by linking the shaded part of the object identified by the shadow identification program to a part of the object identified by the gabor filter.

Depending on the accuracy I get with identifying the object region, I may try to find a direction along which the light source is located before attempting to do it on an image with multiple objects and shadows. However, when there is more than one object, pairing objects with its own shadow may prove to be mroe challenging.