Title: “Watermark Evaluation Testbed”
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WET is a web based watermarking benchmark. The goal of the project is to provide a system for evaluating image watermarks based on several different criteria such as their robustness against certain types of attacks and the CPU time needed for embedding. WET consists of 9 different watermarking algorithms which embed watermarks in the luminance component of images to make the watermark as invisible to the eye as possible. The system also has a set of attacks which are mostly based off of the Stirmark3.1 and 4.0 benchmarks. Both the watermark and attack algorithms are implemented as Gimp (GNU Image Manipulation Program) plug-ins. WET also has an extensive MySQL image database of over 1,300 images that can be used in the tests.

The web front end of WET allows a user to select what type of watermark to test and which attacks to run. The user can then run the test on one image or run a batch of tests over a large set of images. Once the images have been attacked the watermark is either detected or not detected based on a preset threshold of error.

My work this semester consists of four different parts. First was creating a web interface for users who want to upload a custom watermark or attack algorithm to be used in the tests. Second was porting the WET system from a Linux system to a Mac OSX system. Third was to implement a convolution attack filter based on a Stirmark4.0 algorithm. The filter was implemented as a Gimp plug-in and integrated with the rest of the system. And fourth was to create a script for adding a large amount of images into the image database at once.