MAS 961
numerical photography

Problem Set 1: FFT-PAINT

Description:

In this problem set you will implement a basic paint system which with the flip of a button lets you edit the frequency spectrum representation of the image you are editing. And of course flipping back to the spatial representation at will. Emphasis will be placed upon the frequency spectrum mode, where you should design special brushes that emphasize various characteristics of the frequency domain.

Part 1: Basic Paint System

In an applet of maximum size 600 pixels wide by 400 pixels high, design a simple paint program that allows you to load and edit a grayscale image.

Part 2: Frequency Domain Conversion

Add a button to your applet that takes the contents of the image, and converts it to a frequency domain representation (also a graylevel image). When that button is pressed, you should flip back to the spatial domain, and so forth.

Part 3:

Design one special painting mode that allows you to play with the frequency domain in a special way that relates to the spatial domain.