Digital Inpainting

Project ID: Sp2-06

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Introduction

Filling-in missing data in digital images has a number of fundamental applications. They range from removing objects from a scene all the way to re-touching damaged paintings and photographs. The basic idea is to fill-in the gap of missing data in a form that it is non-detectable by an ordinary observer. Nowadays inpainting can be done by some programs perform differently to achieve some particular functions.

Aims and Objectives

We will provide a user interface for the user to reduce noise or repair damaged photos. The project focuses on removing scratches, spots, unwanted texts and small objects from an image because large object may have some large pattern that can’t simply be reformed by using the information beside the mask. Noise filters will be included for removing different types of noises. By combining the previous algorithm with noise filters, it provides users with an alternative method for restoring the image.
System Block Diagram

Choose Filter

Input Damaged Image

Noise Filter Choice
- Input filter size
  - filtering

Inpainting Filter Choice
- Input mask
  - Input speed of inpainting
  - filtering

Replot

Output

Finished
Key Results

Result of maximum filter reducing noise and enhancing brightness

Result of removing texts

Result of removing scratches

Future work

Filling in large area of missing data is also a need for inpainting. So an addition filter can be added to perform filling in pattern in the future.