Digital Inpainting

Project Code: SP2-04
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What is Digital Inpainting?

Inpainting referred to the interpolation of a 2-D digital image. The objective was to reconstitute the missing or damaged portions of the image in order to make it more legible and restore its unity. This kind of damage in the original painting could be due to aging, scratching, or some other factors.

History of Inpainting

At the very beginning, inpainting was done by artists. However, in this computerized century, digital technology has become more mature, inpainting can be done by some programs which were based on some algorithms. With these kinds of program, damaged images can be recovered without the professional artists.

Project aim

In this project, the aim was to implement the fast, high quality and reliable inpainting algorithm, Vector-Valued Regularization with PDE’s, which was developed by D. Tschumperle and R. Deriche.
In this project, a digital inpainting program base on the algorithm, the Vector-Valued Regulation with PDE’s, was developed. It can delete unwanted objects in the image, remove texts in the image, recover broken parts of the image, etc.

Nowadays, there are still a lot of researches on this topic. They try to develop some other algorithms to improve this technology. In the future development of this technology, research can be focused on the application of digital inpainting on video reconstruction.
Result