

* 512 pixels. The system adopted here give good results compared with other methods in time of execution and number of iterations, but it can be more precise if we apply other parameters issued from fuzzy logic [18] to add the membership degree of each class.

4. Conclusion

We applied several experiments to categorize the content of images old documents. The determination of number of classes in an image document was achieved by K-means. We tried also to categorize images through a global approach with the fractal dimension. We were able to identify portions of images belonging to the same classes. Given the variability of the content of the images we are dealing with, as well as their huge number, we decided to combine the approaches with holistic approaches local descriptors using points of interest.

With the Harris detector, we could apply the wordspotting on the pseudowords images of ancient documents, then we calculated the errors between the query images and target images using the XOR function and algorithm "Euclidian Distance Map» (EDM). The disadvantage of this method is mainly the execution time, since we work with local approaches on a huge image database. We also applied the SIFT descriptor with images of old documents. This phase was carried out after the first stage of rejection distant images of the query image based on the fractal dimensions. The choice of this approach is due to its overall discriminating power, but also to the execution time which is rapid in comparison with the other methods.

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