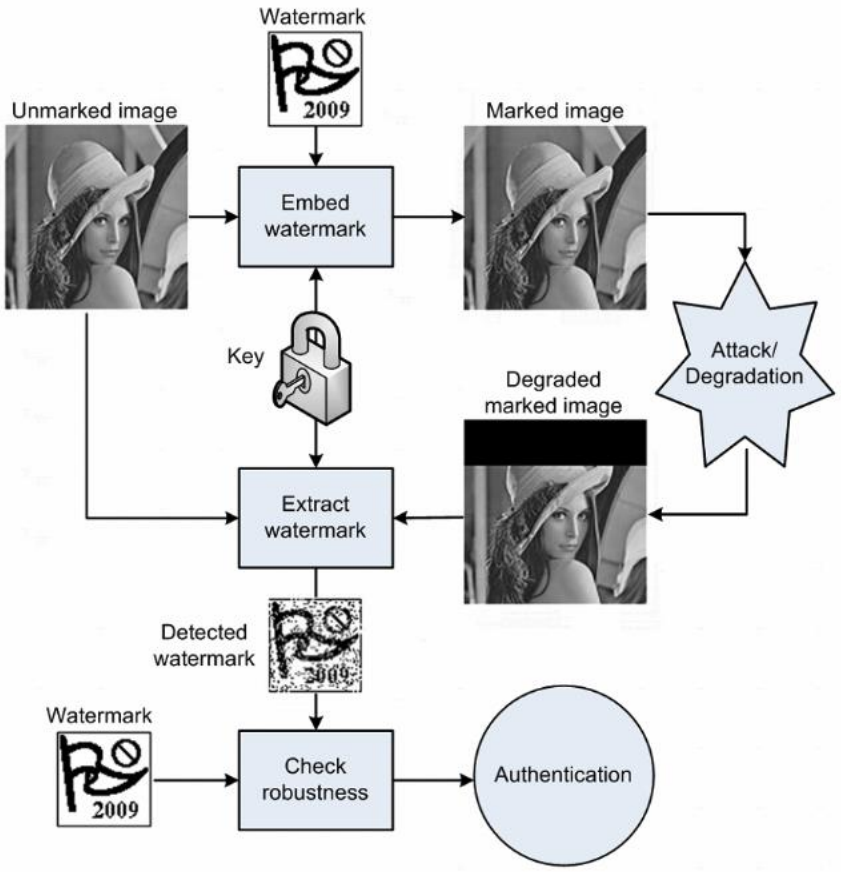
Digital Image Processing (2022)

Homework 4

{Watermarking}

Deadline: 111.5.23

Flowchart



To do:

1. **Hide a watermark in an image, where the watermark needs to be invisible, and design a robust algorithm to extract the watermark.**
2. **Several attacks were conducted on the marked image. Extract the watermark from the attacked images.**

Level 1 attack: noise Level 2 attack: blurring Level 3 attack: compression

The performance metrics:

1. The performance of watermarked image quality is measured by evaluating PSNR and SSIM (structural similarity index).
2. The authentication of the extracted watermark is based on the Bit Error Rate (BER).

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Homework Rules and Grading Policy

Homework will be graded by:

1. Correctness
2. Algorithm description
3. Discussion

Upload:

[web] E3

[File Name] hw4_StudentID.zip (ex: hw4_1234567.zip)

Remind:

1. Your C, C++, python or Matlab code with comments.
2. Your report in the format of .pdf.
3. ReadMe.txt file which describes how to run your program.
4. Please find a partner to form a team.
5. Deadline:

   If you have a late submission by 1 to 7 days, you will only get 70% of the score.

   We DO NOT accept any late submission after 7 days after the deadline.