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## - Bachelor thesis -

### Analysis of a Tracing Algorithm for Fingerprint-Watermarking

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#### CASED

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#### Motivation & Goal

Digital Watermarking is an accepted technology to discourage illegal distribution of multimedia. Using a traitor tracing scheme such as Transaction Watermarking one is able to trace a distributed copy back to the responsible person. One both strong and easy to create attack that aims to manipulate the Transaction Watermark Messages is called Collusion Attack. Here several watermarked copies of the same content are compared in order to detect the positions of the watermark message. One promising solution is given by an advancement of the Transaction Watermarks, the so called Collusion Secure Fingerprints. These are binary codes able to trace back a distributed copy yet after a Collusion attack. However the provided results show that there is still need for optimization. Especially the length of the codes and the according error probabilities cause problems if the code is applied to real world watermarking algorithms. Several tracing algorithms for Collusion Secure Fingerprints facing this problem have been proposed. The goal of this thesis is to analyze and implement one selected state of the art algorithm and to design a significant testbed showing possible approaches for optimization.

#### Tasks

- Analysis of a state of the art tracing algorithm for Collusion Secure Fingerprints;
- Implementation of the tracing algorithm;
- Evaluation of the scheme and carrying out a significant testbed showing approaches for optimization;

#### Requirements

- Programming skills in either C, C++ or Matlab

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