

# Master's Thesis: Mobile Signature Recognition



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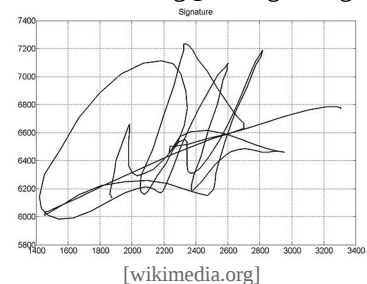
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## Motivation

Signature recognition [1] is a form of biometric recognition [2] that distinguishes people by their signatures. Signature recognition can be used to identify users, as well to recognize if signatures are genuine or forged [3-6]. In this thesis, we focus on dynamic signatures (drawn on digitizing surface) for mobile devices [7,8]. We are interested in successfully identifying people using their signature drawn on mobile devices – e.g. on the screen of a mobile phone. We are also interested in determining if the signature is genuine (has not been forged by somebody else). Thereby, we want to evaluate both signatures being drawn using fingers only and using additional hardware (e.g. capacitive pen).



## Goals

- A suitable signature recognition approach should be selected, prototypically implemented and demonstrated to work on existing signature data (e.g. publicly available signature database).
- A mobile signature sample database should be recorded. Therefore, a signature recording Android App should be implemented. The DB should contain multiple users doing their signatures and trying to fake signatures of other users - using fingers only as well as using additional hardware (capacitive pen). It should be used to evaluate and fine tune the already implemented signature recognition approach for mobile data.
- The final, evaluated signature recognition approach should be implemented as Android App (e.g. by extending the previously built recording App).

## Research question

- Which signature recognition approaches are suitable for mobile signature recognition?
- Can this approach be applied on both signatures that are drawn with fingers only and using additional hardware, or are separate approaches required?
- Using the implemented approach: which recognition performance can realistically be expected in mobile signature recognition and fraud detection using fingers and using additional hardware (in contrast to using non-mobile signature data)?

## Literature

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