

Research Assistant Behavioral Authentication

“Demonstrator”

Background

Passwords are used for securing computer systems for a long time. Although they are still many times the only protection, people (re-)use short and weak passwords for their own accounts that can easily be guessed or may be revealed by big identity leaks. Apart from possession-based mechanisms like hardware tokens or access cards, behavioral biometrics are usable to verify claimed identities of persons, too and could provide a higher security and usability. Typical examples are the verification by the way a person walks (gait), by the way a person types on a keyboard or touchscreen (keystroke/touchstroke) or by routines based on the browsed webpages, app interaction, or visited locations. Within our research we found out many nice things that are typically shared via research papers with others.

Problem

While (our) research papers are quite extensive, we often need some nice demonstration of (our) related work for fairs or our presentation to potential project partners. Summarizing your paper on some powerpoint slides is OK, but boring as hell, isn't it? Often a short demo like “Person A, please shake your phone..and now, Person B, please shake your phone” and a nice jit visualization of that (processed) data and certain features could be the shortcut. To the best of our knowledge no general demonstrator is existing for that but is hardly needed and requires some nice features such as offline-capabilities, robustness, different interfaces (demonstrator, random participant) and devices (notebook, mobile) etc.

Goal

As a research assistant, you should develop and evaluate such a demonstrator:

- Requirements analysis and demonstrator vision
- Hardware evaluation and Software evaluation (there is so much nice os stuff)
- Demonstrator implementation based on latest research results
- Integration into upcoming “demo-corner” at sec-eng area@hpi

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