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Mouse-Behavior Data for Static Authentication

:-:-:   Mouse Dynamics Data Set   :-:-:

Accompaniment to "Performance Evaluation of Anomaly-Detection Algorithms for Mouse Dynamics"
(Computers&Security-2014)

Contents:

This webpage is a shared data set for mouse dynamics collected under a tightly-controlled environment. It is a supplement to the paper "Performance Evaluation of Anomaly-Detection Algorithms for Mouse Dynamics," by Chao Shen, Zhongmin Cai, Xiaohong Guan, and Roy Maxion published in the Computers&Security. The webpage is organized as follows:

- 1. Introduction: About this webpage
- 2. The Data: Raw Mouse behavior from a fixed mouse-operating mode for 56 subjects.

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1. Introduction

On this webpage, we share the data, scripts, and results of our evaluation so that other researchers can use the data, reproduce our results, and extend them; or, use the data for investigations of related topics, such as intrusion, masquerader or insider detection. We hope these resources will be useful to the research community.

Common questions:

- Q1: What is mouse dynamics (or mosue biometrics)?
  Mouse dynamics, a procedure for measuring and assessing a user's mouse behavioral characteristics for use as a. Compared with other biometrics such as fingerprint or iris, mouse dynamics is less obtrusive and requires no specialized equipment to capture the biometric data. When a user wants to log into a computer system, mouse dynamics only requires him/her to provide the user name and perform certain mouse operation tasks. Extracted behavioral features are compared with those of the legitimate user. A match authenticates the user; otherwise his/her access is denied. Moreover, the user's mouse behavioral characteristics can be continuously analyzed during the user's subsequent operations to enforce a full session identity monitoring.
- Q2: What is your paper about? What is this webpage for?
  This work performs a benchmark study of the baseline capabilities for mouse dynamics based static authentication. Using the data collected under a tightly-controlled environment, we develop a repeatable evaluation procedure to investigate the performance of this technique at a continuum of authentication times and various classifiers. The results show that the longer the authentication time, the better the accuracy. The equal-error rate reduces from 14.26% to 2.64%, as the

authentication time increases from 11 seconds to 110 seconds. The technique is able to meet the European standard for commercial biometric technology if a longer authentication time is allowed. We also provide a shared data set and discuss a number of avenues for future research, which we believe are necessary to advance the state of the art in this area.

- Q3: How would I cite this webpage in a publication?
  TBA.

2. The Data

The data consist of mouse dynamics information from 56 subjects, each of who accomplish a fixed mouse-operating pattern 200 times.

- [Mouse behavior data under a tightly-controlled environment](#)

Common questions:

- Q1: How were the data collected?
  TBA.
- Q2: How are the data structured? What do the column names mean?
  TBA.

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