

Abstract

Biometrics is an authentication method that can be used to replace access protection such as PINs, passwords and identity cards. These access protections have several drawbacks such as we must always remember PINs and passwords, vulnerable to loss and duplication of identity cards. So dynamic biometrics was developed, where features are obtained from a person's behavior such as gaze, voice pattern, and keystroke. In this research, user authentication will be carried out based on Keystroke Biometrics because, its direct use does not require additional devices and is user friendly. Digraph is a feature commonly used in keystroke research obtained from time information when typing by users, there are five namely DD, DU, UD, UU and Duration. This research uses User-adaptive feature extraction and similarity score calculation method from Instance-based area density. Based on the results of the experiments conducted, the lowest Equal Error Rate (EER) value is obtained with the scenario of combining all digraph features, which is 15.1% for the Aalto University keystroke dataset and 18.03% for the Biomey keystroke dataset.

Keywords: Biometrics, Dynamics biometrics, Instance-based, Keystroke, User authentication.