

Notification No: CoE/Ph.D/COMPTSC/69/2020

Date of Award: 12-11-2020

Name of the Scholar- Amanpreet Kaur Chandok

Name of the Supervisor- Prof Khurram Mustafa

Name of the Faculty -Natural Sciences

Name of the Department- Department of Computer Science

Topic of Research - Security Assurance by Efficient Password Based Authentication

KEYWORDS: PASSWORD, EFFICIENCY, AUTHENTICATION, BIOMETRIC, SECURITY

In this thesis, we sought to investigate the efficiency of password- based authentication and filled an important gap in the improving the authentication performance. The initial problems of how to manage the large number of passwords that have been causing havoc on users' security behavior the considered a factor to improve user efficiency. It was also determined that neither any password-based schemes have evaluated the efficiency parameters regarding user centric as well as machine centric design nor there is any efficiency metric for the measurement of efficiencies. This work has been undertaken to provide significant contribution to the field of efficient password authentication. The considerable benefits of password authentication suffice why it is still not able to be replaced by one scheme (Bonneau et al., 2012). Should researchers rely on other categories of authentication (Biometrics, hardware tokens); though they incur significant economic and resource effort, we believe that our efficiency layered model, efficient authentication quantification model (EAQ-model) and preference based password authentication scheme (PPA) could be extended to include forms that are accessible to most population with minimal cost and high efficiency.