An enhancement on passface graphical password authentication

Abstract:

The Passface is one of the most usable algorithms among recognition based graphical password category which suffer from vulnerabilities of shoulder surfing attack and teasing the user by using several steps during login. The main objective of this study is to implement a Secure Passface (S-Passface) algorithm by changing the method of selecting the password during login phase. In the Passface algorithm, selection of a password is done by mouse while in the SPassface, it is replaced with entering random characters corresponded to each face. Also for resistance, two passwords is used for the user that can be applied alternatively. In order to analyze security, a shoulder surfing attacking session done in company with questionnaire utilized the user’s feedback on security of both algorithms. The results show that S-Passface algorithm can effectively balance the two symbiotic pillars of usability and security by increasing resistant to shoulder surfing attack. The usability of the algorithm is validated by gathering feedback from participants who tested the two algorithms in a web based interface. These finding reveal that, the S-Passface algorithm is usable in some features while it decreases in others.