STUDY OF MOBILE PHONE UNLOCKING PATTERN BASED ON DICTIONARY ATTACK

Shivani Bhargava

Amity University, India

Abstract

Android pattern authentication is one of the types of authentication method available for the user to gain access to their device and protect it from other's interference. Pattern locks are used by simply drawing pattern on a 3x3 grid on the mobile phone screen. Most people use the graphical pattern locks instead of PIN or alphanumeric codes as they provide better memorability and for a small screen of mobile, they can be easily used and drawn. The use of pattern locks is immense but there are only few studies which corelate the human factors and their relation with the type of graphical pattern drawn on a 3x3 grid. In this research, Android pattern locks are analyzed based on the human factors such as age, gender, the hand used to operate the device etc. The correlation of these factors with the type of pattern drawn by the user is conducted. The choice of association elements (use of alphabet/number) as pattern is analyzed in this project and a dictionary is formed based on the patterns. This can further help the law enforcement people to unlock the mobile device of culprits containing pattern lock when the software can't bypass it.

Biograph :

Shivani received her B.Sc. degree in Forensic Science from Amity University, India in 2018, M.Sc. in Forensic Science with specialization in Cyber Forensics from LNJN National Institute of Criminology and Forensic Science, MHA, India.

Her primary research interest is cyber forensics, cyber security and network security. She had also gained hands-on experience in Ethical Hacking and Forensic related courses