

DPPG: A Dynamic Password Policy Generation System

Abstract—To keep password users from creating simple and common passwords, major websites and applications provide a password-strength measure, namely a password checker. While critical requirements for a password checker to be stringent have prevailed in the study of password security, we show that regardless of the stringency, such static checkers can leak information and actually help the adversary enhance the performance of their attacks. To address this weakness, we propose and devise the Dynamic Password Policy Generator, namely DPPG, to be an effective and usable alternative to the existing password strength checker. DPPG aims to enforce an evenly-distributed password space and generate dynamic policies for users to create passwords that are diverse and that contribute to the overall security of the password database. Since DPPG is modular and can function with different underlying metrics for policy generation, we further introduce a diversity-based password security metric that evaluates the security of a password database in terms of password space and distribution. The metric is useful as a countermeasure to well-crafted offline cracking algorithms and theoretically illustrates why DPPG works well.

SHIELD TECHNOLOGIES,
2232, 3RD FLOOR, 16TH B CROSS, YELAHANKA NEW TOWN, BANGALORE-64
Mail us: shieldtechnobl@gmail.com / manager@shieldtechno.com
Contact: 9972364704 / 8073744810