Password Protection for Mobile Devices

Description

In order to prevent unauthorized access to various services, password-based authentication has been pervasively used, which has intrinsic weakness in password leakage. This threat could be more serious on mobile devices, as mobile devices are widely used in public places.

We developed a concise yet effective authentication scheme named CoverPad, which is used for password entry on touchscreen mobile devices. CoverPad improves leakage resilience by safely delivering hidden messages, which break the correlation between the underlying password and the interaction information observable to an adversary. It is also designed to retain most benefits of legacy passwords, which is critical to a scheme intended for practical use.

Features

- Leakage-resilient user authentication
- Suitable for small screen devices
- Easy to use

Applications

- Touchscreen Tablets
- Touchscreen Smartphones
- Touchscreen Automatic Teller Machine (ATM)

References

- "Designing Leakage-Resilient Password Entry on Touchscreen Mobile Devices". ACM AsiaCCS 2013, Hangzhou, China.