Lessons Learned from the Design and the Evaluation of Mobile Authentication Mechanisms

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In my talk, I will discuss usable security and privacy issues from an HCI perspective and present lessons learned from performing many years of usable security research inside and outside of the lab. I argue that only an in-depth understanding of both problem space and design space allows for the development of practical solutions which match user needs and fit in the context of use. Using examples from my past research projects, I will illustrate how we can rethink common interaction models to design novel security concepts which exploit specific human abilities to enable secure and usable human-computer-interaction. For example, I will show how rethinking the PIN-pad can support efficient and observation-resistant PIN-entry.

To conclude my talk, I will illustrate how the results of basic research and design-oriented applied research can be combined to support a systematic goal-oriented development process which can be adapted to problems beyond authentication on mobile devices.