

A Comparative Study to Evaluate the Usability of Context-based Wi-Fi Access Mechanisms

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Abstract.

This paper presents a comparative study of six different tag and context based authentication schemes for open Wi-Fi access. All of the implemented methods require only a smartphone and an HTML5 capable webbrowser, making them interchangeable and easy to incorporate into existing infrastructure. We recruited 22 participants for the study and used two standardized questionnaires as well as additional metrics to assess whether further investment in a systematic usability analysis seems prudent. The evaluation shows that suitable alternatives for Wi-Fi authentication exist and points out their limitations and opportunities.

Keywords: Universal Access, Practical Security, Usability, User Experience, User Study, Interfaces, Device Association, Authentication, Wi-Fi,