

UPEM : user-centered privacy evaluation model in pervasive computing system.

ABSTRACT

The fact that pervasive systems are typically embedded and invisible, making it difficult for users to know when these devices are collecting data. Consequently privacy appears as a major issue for persuasive computing applications and several privacy models proposed for pervasive environments. The rapid growth of privacy models in pervasive environments gives rise to the need for some standard benchmarks and evaluation models to evaluate and compare these privacy models. In this paper we review privacy evaluation models in pervasive environments and presents their evaluation results. Then we propose an evaluation model that evaluates privacy models based on user control over private information, expressiveness of privacy policies and unobtrusiveness of privacy mechanisms and represents the model privacy level in a matrix. Finally we evaluate several privacy models using the proposed privacy evaluation model.

Keyword: Privacy; Pervasive computing; Ubiquitous computing; Privacy evaluation.