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Fakultäts - Kolloquium

Zeit: Mittwoch, 29. 06. 2005, 17.00h
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Learning from Personal Journals

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Abstract

We discuss our ongoing work on a context-aware, user-adaptive mobile assistant in which an extended episodic memory —the personal journal— plays a central role. Our SPECTER system keeps track of its user's actions and affective states, and it collaborates with the user to create a personal journal and to learn a persistent user model. These sources of information in turn allow SPECTER to help the user with the planning and execution of actions, in particular in an instrumented shopping environment. We introduce a new interaction paradigm for ambient intelligence, in which the user can conduct multimodal dialogs with objects in a networked shopping environment. The communicating objects in our framework provide a combined conversational and tangible user interface that exploits situational context and the affective state of the user to compute the meaning of dialog contributions. Our experimental scenario attempts to combine the benefits of both physical and digital worlds in a mixed-reality setting by targeting an in-store scene, but augmented by instrumented devices like a Personal Digital Assistant (PDA) and a shopping trolley with a mounted display. We show how physiological data of a user that are captured by various mobile biosensors are interpreted by dynamic Bayesian networks (DBNs) on the PDA. The approach is based on the representation of a DBN in terms of a multivariate polynomial. We show how procedures for the computation of corresponding polynomials for DBNs can be derived. These procedures permit not only an exact roll-up of old time slices but also a constant-space evaluation of DBNs.

This talk is based on joined work with Anthony Jameson, Rainer Wasinger, Mathias Bauer, Boris Brandherm, Alexander Kröner, Michael Schneider, and Dominik Heckmann.

Gastgeber: Prof. Dr. Bernd Nebel

Alle Interessenten sind recht herzlich eingeladen.

Organisation : Prof. Dr. B. Becker / F. Schmiedle

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