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Providing relevant background information in smart environments.

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Summary: In this paper we describe a system, called GAIN (Group Adapted Interaction for News), which selects background information to be displayed in public shared environments according to preferences of the group of people present in there. In ambient intelligence contexts, we cannot assume that the system will be able to know every users physically present in the environment and therefore to access to their profiles in order to compute the preferences of the entire group. For this reason, we assume that group members may be i) totally unknown, ii) completely or iii) partially known by the system. As we describe in the paper, in the first case, the system uses a group profile that is built statistically according to the results of a preliminary study. In the second case, the model of the group is created from the profiles of known users. In the third situation the group interests are modeled by integrating preferences of known members with a statistical prediction of the interests of unknown ones. Evaluation results proved that adapting news display to the group was more effective in matching the members' interests in all the three cases than the in the non-adaptive modality.

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