NOKIA

Nokia Home Communications
Research
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Position Paper

26 April 2002

1. INTRODUCTION

The home environment is more and more filled with different devices that demand new forms of interaction. Traditional Human-Computer Interaction cannot be applied without changes; the context affects the usage in such a way that new models have to be developed.

The goal with this research is to see how the end user receives interaction with intelligent applications. Especially the help that might be needed to understand complex system. The help and aid could be provided with agents and by building profiles of the user. The focus is on the home environment and the appliances and services that are specific for that context. To reach this knowledge there is important to have basic knowledge about the user and the user behavior in the e-home context. The work is therefore focused on modeling the user and the home environment to see the needs and the wishes on the future home. The research is stretched between different areas such as Cognitive Science, Social Science, Psychology and Informatics.

During the work and literature study that I have preformed in the area I have discovered that one of the best ways to help a user to understand a system is to have the system understand the user. Therefore my work has evolved more and more into how to make profiles of the user and how to maintain these profiles. Since my work is close connected to Nokia Home Communications[1], it has been natural to start to look at profiles for media content and how to create and maintain such profiles.

The goal then becomes to create methods and principle for a system to model a user, with regards to user satisfaction and so that the system can provide the user with sufficient support.

2. RESEARCH CHALLENGES

Moving advanced technology to a home environment is always difficult. A system that builds up a profile of the user that is supposed to be as accurate according to the users behavior creates even more problems. Besides the obvious questions regarding accuracy and reliability is also questions of trust and self-image of the user.

In a media situation the most rational way of building a profile should be to collect metadata from content that the user is known to like and then compare it to the continuous stream of media to help the user to make a selection. This could be done by recording the user behavior; and then compare it to new content and present a suggestion to the user which content that should be interesting. The real problems start when the systems picture of the user doesn't correspond to the user's self-image.

3. KEY ISSUES

1. How to make a profile of the user?

    a. What should the profile be built on? (Metadata...?)

    b. How to collect the profile information?

    c. How to present a complex profile to the user? (UI)

2. How to make the user trust the system?

3. How to create an image of the user that correspond to the users image of him/her self?