



Home Network User Interface

motivation

Imagine a network that cares about configuring, healing, optimizing, managing, protecting and securing autonomously given high level tasks: You do not have to spend time on those issues while having them very well accomplished – great.

We are currently developing a framework that should enable us to explore how we can get closer to that vision. There are many technical challenges to meet. A very important one is the Human-Machine-Interface which will be in the focus of this work.

outline

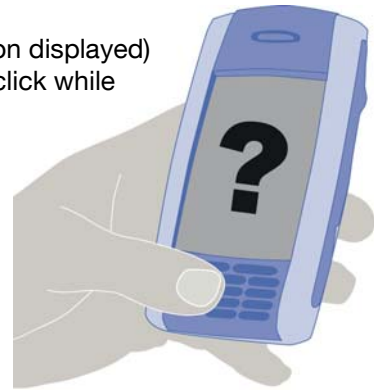
The task mainly separates into two subtasks:

- Research towards an appropriate user interface
- Implementation of such an interface

The first part will probably be more time consuming.

Many things have to be considered:

- In which ways do we need situated views?
 - Different users (with different skills)
 - Different locations (with different needs for information displayed) (e.g. the shower has not to be controllable with one click while being inside the garage)
 - Different display units (e.g. PDA, Monitor, TV, ...)
 - Different interaction possibilities (e.g. with touch screen, without buttons etc.)
 - ...
- What is already available on the market according to automation
 - What are the pro's and the con's of selected interfaces
 - ...
- Which technology is appropriate to use, keeping in mind the point risen above?
 - Java?
 - A webinterface?
 - ...



In the second part an interface will be implemented according to the research results in part one. Here it is very important to create a consistent (e.g. in all situated views) and intuitive way for the users to interact with the technology. The user interface is a key component for our project since it is the contact point to the user!

For the implementation not every possible case has to be attended. A prototype class for dialogs should be implemented. This class should also be usable for announcements and configuration issues. Logging of events should be allowed. Besides the direct interaction passive notification should be implemented. The position of the components should be visualized (e.g. on a floor plan) and their state should be noticeable. More points will arise during the research phase.

preconditions

Interest and basics in human-machine-interaction and interface design, Programming skills (Java/ HTML), Joy to work cooperatively in a team of motivated scientists and students.

keywords

Home automation, human-machine-interaction, GUI-design, autonomous computing, network management, Government plane

