COGNITIVE MULTI-GOAL NAVIGATION

Abstract:

One of the goals of SHARE-it is to develop assistive technology to enhance individual's autonomy through mobility help. Different mobile platforms (wheelchair and walker) have been built in order to face this issue. Additionally, hardware tools need support that comes from typical AI research areas: sensor-based environment perception, knowledge acquisition and representation, high-level reasoning and goal seeking behaviours in a real world.

First part of this seminar will be focused on a brief description of all this topics and how those have been confronted in the SHARE-it project. Then, a particular question will be introduced. As a result of tracking user's activities of daily living (ADL) the system could know beforehand what the user wants to do during the day and establish an optimal planning of the different tasks to be executed. For example: going to bed may involve at a given time visiting the bathroom, taking some medicine, setting an alarm clock and dressing in pyjamas in no particular order. How should the system decide which is the best sequence to perform?

Major part of the seminar is conceived as a brainstorming among attendants in order to take benefit from their expertise. Thus, at the end the seminar will engage an open discussion around questions like task decomposition in simple orders, complex task planning using ADLs and quasi-optimal route planning.