The research leading to these results has received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 288146.

www.hobbit-project.eu
Why HOBBIT?

It is no secret that our society is getting older. The EU is moving from four working persons per person aged over 65 years to two people in two decades. This raise in old people will stress the health care system and economy. Falling at home is the single most critical factor for older persons to need extensive care and institutionalization. Hence, HOBBIT sets out to

- prevent falls in the first place: HOBBIT cleans the floor from objects, carries a heavy bag, learns and brings objects, and
- motivate for activity: water the flowers together, go a round the flat together, and help with fitness training and physical exercises.

And, if a fall happens nevertheless, HOBBIT is there to reduce the consequences to a minimum by reacting rapidly. Users of HOBBIT will not fall and be not recognised in their home, fall detection will initiate an emergency procedure.

Fall prevention and fall detection will increase your feeling of safety at home significantly.

Approach

HOBBIT is conceptualized, designed, and evaluated following a user-centred approach for guaranteeing high usability and user acceptance. To this end we conduct user trials in Austria, Greece and Sweden.

HOBBIT Fall Prevention and Detection

HOBBIT has an arm to be able to do physical actions in the home. HOBBIT can clear the floor from objects and assist the user by bringing objects (medicine, glasses) and picking up objects from the floor when the user feels dizzy. HOBBIT makes sure you do not fall over a pen or other obstacle. And HOBBIT will detect when you fall and raise alarm.

HOBBIT – The Robot Functions

- Camera
- Speaker
- Backpack for personal belongings
- Tray, placement area
- Arm
- Wheels
- Bumper
- Help button
- Microphones
- Touchscreen
- Turntable
- Gripper
- Face with emotional feedback

ROBOT COMMANDS

**HOBBIT, Learn Objects**
You can teach HOBBIT objects that you want it to remember

**HOBBIT, Bring me X**
HOBBIT can bring you Object X (e.g. X = aspirin)

**HOBBIT, Clean up**
HOBBIT can pick up things from the floor

**HELP**
HOBBIT will assist you in an emergency situation. You can press the SOS button on the touchscreen, the physical button on the robot, make the help gesture or say “help me”.

HOBBIT will also detect if you fall and initiate an emergency procedure.

**PLAY GAMES**
Choose from different games, music and videos to entertain you or keep you mentally fit

**SURPRISE ME**
Try out and see what happens

**TELEPHONE**
HOBBIT will connect you to your friends and relatives

**INFORMATION**
Read the news, see the local weather forecast or surf favourite website

**REWARD**
“HOBBIT, well done!” Reward HOBBIT if it pleased you

**ENTERTAIN ME**
HOBBIT can play music, videos and games