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Supporting medication intake of the elderly with robot technology

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**SHORTEST SUMMARY**

- **AIM OF THE STUDY**
  - To develop a robot interface to assist the elderly with their medication intake.
  - To investigate whether the target group is willing to accept medication intake assistance from a robot.

- **MEDICATION INTAKE INTERFACE**

- **THE ROBOT RITA**
  - RITA is an intelligent, moving wooden table.
  - RITA accompanies people in their own home.
  - RITA helps in daily activities.
  - RITA continuously monitors the client.
  - RITA can serve food and drinks to clients and visitors.
  - RITA can be operated directly by using the touch screen on the front of the robot.

- **MAIN RESULTS OF USER STUDY**
  - **Usability test**
    - Participants found it difficult to work with more advanced interface settings.
    - Users rated usability positively.
    - Mean score of 3.9 (between ‘Neutral’ and ‘Agree’).
  - **Robot Acceptance**
    - User accepted help from the robot.
    - Mean score of 3.5 (‘Agree’).

- **CONCLUSIONS & RECOMMENDATIONS**
  - **Conclusion**
    - The basic functionality of the interface was easy to use for the elderly with the medication intake task.
    - Elderly are willing to accept assistance of a robot with this task.
  - **Recommendations**
    - Interfaces for the elderly should really be as simple as possible.
    - Testing of usability aspects during the design process is vital for a well-designed robot.

**REFERENCES**


**BACKGROUND**

- Medication intake can prove to be a complicated task for the elderly.
- Roughly 50% of all prescribed medication is taken incorrectly (MacLaughlin et al., 2005).
- Simplification of this task might have beneficial effects on this group’s general health and society’s healthcare costs.
- Together with Enacer Company we developed an assistive robot for the elderly, called RITA (the Reliable Interactive Table Assistant).

**DESIGN PROCESS**

**Interviews with caregivers**

- Main result:
  - it is especially important to check whether the elderly actually take their medication.

**Focus group of elderly**

- feedback on the clarity of the design.

**Interface development**

- Font size should be increased for optimal utility.

**User study**

- **Usability test** of the interface on the touch screen.
- The interface was developed in HTML5.

**REFERENCES**