Subjective Experience of Interacting with a Social Robot at a Danish Airport

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Introduction

This study originates from a social robot research project at Aalborg University with the aim of developing and implementing robots in a variety of contexts. This raises questions on how social robots should behave and which variables in a social robot is important. When important variables are eliciteted scales can be developed from these variables which can be use to test a social robot. The study consists of two tests, one where variables are elicitated and one where the scales are used to evaluate the robot.

Method - Elicitation of words

The first test was conducted on Danish travellers who interacted with a social robot in a natural setting. The test was conducted at Aalborg Airport (AAL) after the travellers went through the security check and before they reached the shopping and dining area at the airport. The travellers who interacted with the robot were asked to participate in a semi-structured interview about their first impressions while being observed during both the interaction and the interview.

0.1 Materials

For the test a *Double* robot from Double Robotics Inc with an iPad Air 2 was used. It was decided to change the head mount so that the iPad is angled upwards. The modified *Double* robot is shown on fig:ModificeretDoubleFront and fig:ModificeretDoubleSideClose. The *Double* robot was controlled via a computer and on the screen a developed wireframe to help with wayfinding in AAL was presented.

0.2 Subject Recruitment

30 subjects from the age of 8 to 62 years (M=37.9, SD=17.1) distributed among 16 females and 14 males participated. The subjects were recruited by the robot itself, which was remotely controlled by a present controller. The robot recruitment was chosen because it provide a more ecological and undisturbed interaction between robot and subject. The robot approached potential subjects in the area after the security check. The wireframe on the iPad asked the subjects if it might help them find their way around AAL and presented a "Yes/No" option. If "No" was pressed, the robot wished the traveller a pleasent journey. If "Yes" was pressed, the subjects were presented with four wayfinding options: Food, Shopping, Toilets, or Gate information. The subjects were then kindly asked to follow the robot after they had chosen their preferred option. The robot then led the subjects to an interviewer who shortly informed them of the study and received verbal consent to record audio during the semi-structured interview. In total 18 interviews were conducted of which 11 were on single travellers and seven were on a group of travellers.

0.3 Semi-structured Interview

The interview was a two part semi-structured interview. The first part consisted of probing the subjects for their first impression and experience of interacting with the robot in regard to their thoughts about the robot itself and what they think other travellers might think about the interaction. In addition to the aforementioned conversation topics the subjects were asked about their opinion regarding the robots approach, relevance, and reliability. The last topic of

Results - Elicitation of words

Method - Scale Testing

Results - Scale Testing

Conclusion

Acknowledgements

References