

# The SantaBot Experiment — A Pilot Study of Human-Robot Interaction

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## ABSTRACT

The video shows how an autonomous mobile robot dressed as Santa Claus is interacting with people in a shopping mall. The underlying hypothesis is that it is possible to create interesting new living spaces and induce value in terms of experiences, information or economics, by putting socially interactive mobile agents into public urban transit area. To investigate the hypothesis, an experiment was carried out using a robot capable of navigating autonomously based on the input of an onboard laser scanner. The robot would detect and follow random people, who afterwards were asked to fill out a questionnaire for quantitative analysis of the experiment. The presented video is the corresponding video documentation of the experiment used in the evaluation. The results showed that people were generally positive towards having mobile robots in this type of environment where shopping is combined with transit. However, it also showed harder than expected to start interaction with commuters due to their determination and speed towards their goal. Further it was

demonstrated that it was possible to track and follow people, who were not beforehand informed on the experiment. The evaluation indicated, that the distance to initiate interaction was shorter than initially expected, but complies with the distance for normal human to human interaction.

## Categories and Subject Descriptors

I.2.9 Robotics, Autonomous vehicles; J.2 Physical Sciences & Engineering, Electronics; J.7 Computers in Other Systems, Command and control.

## General Terms

Experimentation, Human Factors.

## Keywords

Human-robot interaction, Mobile robotics, Pilot study, Transit space.