

Overview of our research setup

Goal:

The goal of the research is to explore the children's perceptions and preferences regarding a social robot, with a focus on its interactions and appearance. This will help us with looking through their eyes when developing an 'interactive attachment' for the social robot. The interactive attachment is a simple design for either appearance, interaction or both, which can easily be put onto the robot to give a child a heightened sense of comfort.

Session Details:

Date and Time: The research will take place on Sunday 28th of April, in the afternoon, from 13.30 to 15.00h.

Participants: The workshop will be organized for children aged 7 to 13 years.

Activities:

Introduction to Miro-e: Children will be introduced to a social robot named Miro-e and allowed to interact with it under our supervision. This will give them an idea of the possibilities and make the workshop more engaging and interesting for the children. The robot can be seen in Figure 1 and children can interact with it by touching it. Based on this touching, the robot will respond to the children by for example dancing or moving its eyes or head.

Designing their friend robot: We will give the children the assignment to design their friend robot. Children will be provided with a variety of materials to design their own friend robot, encouraging the children to explore different materials and techniques and express their creativity. The children are free to build what they want.

Researchers and volunteers will observe the children during the workshop, documenting interesting creations and behaviors through photographs/videos/audio. The researchers will mainly be involved in the observation, while the volunteers will assist the children in the making process.

Ending: At the end of the session, we would like to ask the children what they have made to get a deeper understanding of their perceptions. After the workshop, researchers might ask the parents or caretakers any further questions about their child's creation.

During the research, questions will be asked to help the children during the process and to gather insights into children's preferences and perceptions. These questions could also be asked at the start to let them think about their friend-robot and give them an idea of what to make. Besides, we try to emphasize to the children that they can use their fantasy and they can create everything in the world.

Example questions that could be asked to the children:



Figure 1 The social robot Miro-e

- How do you want to play with the robot?
- What do you like to do when you are playing with your friends?
- What do you want the robot to be able to do?
- What do you think is the most important part of your robot/what is the most important thing the robot does?

Other things that could be paid attention to while observing:

- Do the children give the robot a name?
- Will they give it characteristics?
- What are the emotions/engagement of the children while making the robot?

Parental Involvement:

- Parents are required to provide consent for their child's participation during the sign-up process.
- No financial burden is placed on the parents for their child's involvement in the research.
- For additional questions that the parents could have, the researchers can be contacted as indicated in the consent form.
- Taking part in the research is voluntary and the child can stop participating at any moment they like.

Safety:

Supervision is present during the workshop and the children will be assisted when making their robot. Although these social robots are used for research into robots for pain regulation, this subject is not involved in this research. The subject of the research will not be mentioned to the children. There will be no physical or mental harm brought to the children through participating in this workshop.

Data:

The video or audio files will be transcribed and the photographs and video will be anonymized. The raw and processed research data will be retained for a period of 6 months. Ultimately after expiration of this period the data will be either deleted or anonymized so that it can no longer be connected to an individual person. The research data will, if strictly necessary (e.g. for a check on scientific integrity) and only in anonymous form, be made available to persons outside the research group.

Conclusion:

Through this research, we aim to gain a deeper understanding of children's perspectives on robot interaction and design, informing us about the development of innovative and engaging interactive attachments for social robots creating a bigger sense of comfort for children aged 7 to 13.