Participant Information Sheet

Appropriate Robot Reaction to Error Situations in Human-Robot Collaboration

Online User Study

Introduction

Thank you for the interest in this study. Before you decide to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and ask if there is anything that is not clear or if you would like more information. Please take time to decide whether or not you wish to take part.

What is the purpose of the study?

Collaborative robots are required to cooperate side by side with humans in an unstructured and dynamic environment. To achieve that goal, robots need to have technical skills such as the ability to monitor the environment conditions and dynamically plan their tasks to suit the collaboration condition. On top of that, robots need to possess social skills such as awareness of human intention and make appropriate reactions to unprecedented situations. This study aims to investigate appropriate robot reactions to error situations during Human-Robot Collaboration. The result of this study will be utilised to develop an integrated software architecture for collaborative robots which is able to detect error situations and react appropriately to rectify the situations.

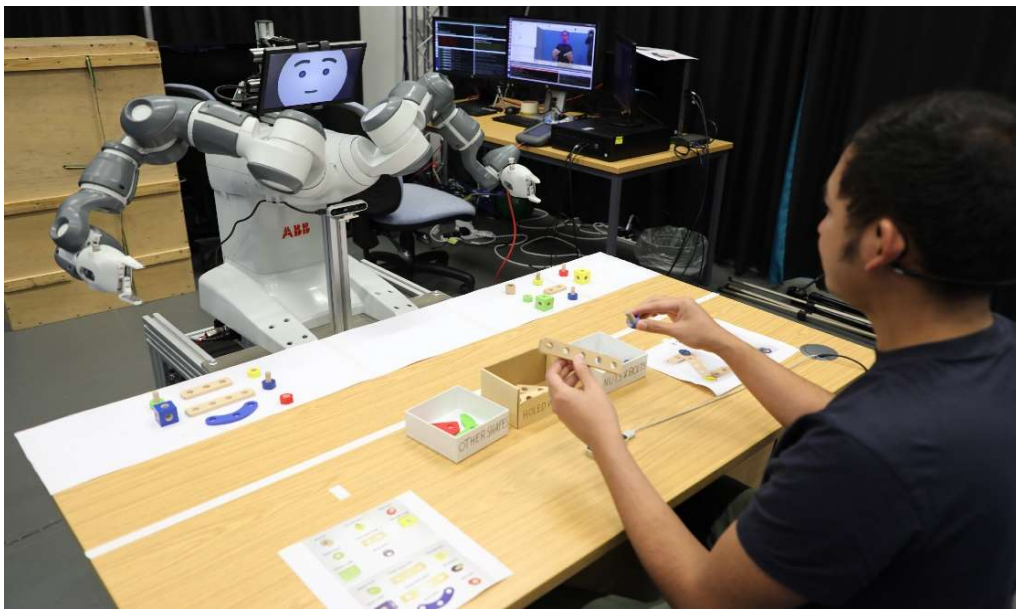

Fig 1. Example of Human Robot Collaboration

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Do I have to take part?

It is your choice whether or not to participate. There are no known risks associated with this study. If you do decide to take part, you will be given this information sheet in a digital format and you will be asked to agree to all the points in the consent form. You are free to withdraw at any time before/during the study and without giving a reason. After your participation in the study, you have **3 days** to request the withdrawal of your data. This cut-off allows us to minimise the possible impact of the removal of your data on the ongoing data analysis and write-up of the project. After this point (3 days), it may not be possible to withdraw your data from the study.

What happens in the study?

At the beginning of this study, you will be asked to fill in demographic and personality questionnaires. After that, you will be asked to watch three short videos of people collaborating with a robot in which the robot created different types of error situations. After each collaboration video, you will be shown eight different robot reactions to handle the error situation. After each robot reaction, you will be asked several questions about the possible effect of that particular robot reaction to the people interacting with it and to the following interaction. The whole study will take around 30 minutes to complete.

What will happen with the data collected in this study?

The personal information collected in this research project will be processed by the University of the West of England Bristol in accordance with the terms and conditions of the 1998 Data Protection Act. We will hold your data securely and not make it available to any third party unless permitted or required to do so by law.

All the data will be stored under an anonymous identifier and used on a confidential basis. The recorded task data and the resulting analysed data will be held for as long as it retains research value although this is unlikely to exceed 10-years. The anonymised data may be made available for further appropriately approved research at the University.

The findings from this research may be used in publications, academic journals and also presentations at academic conferences or teaching purposes by the researchers of this study and other researchers in the related field. All published data will be completely anonymised with no identifying information about individual participants.

Who do I contact for further information?

Should you have any questions about this research, please contact the researcher conducting this research below.

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