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Humanoid Assisted Therapy for Children with Special Needs

by Nur Hamizah Mohd Radzi
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RISe Research & Innovation in the Spotlight

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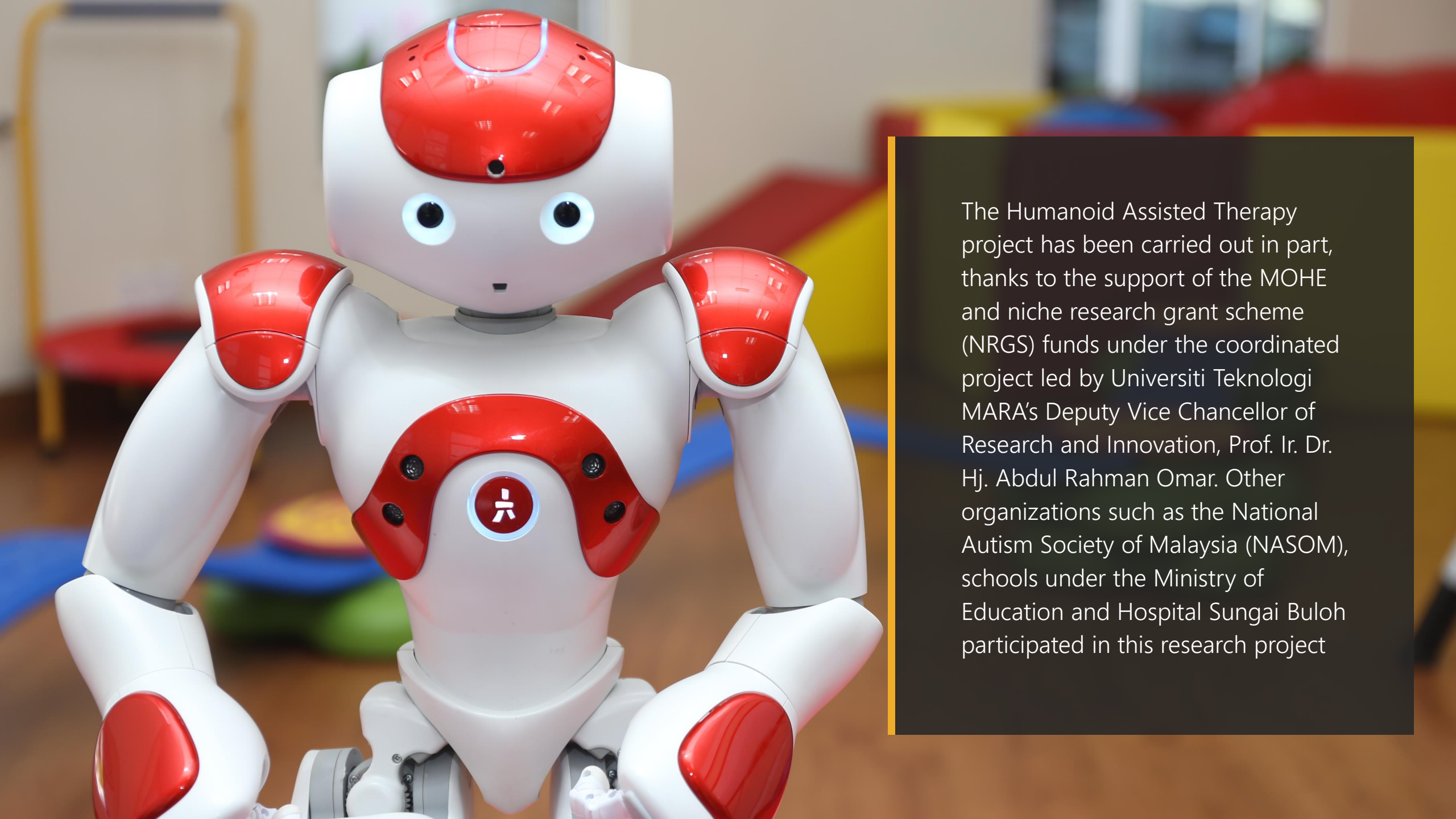
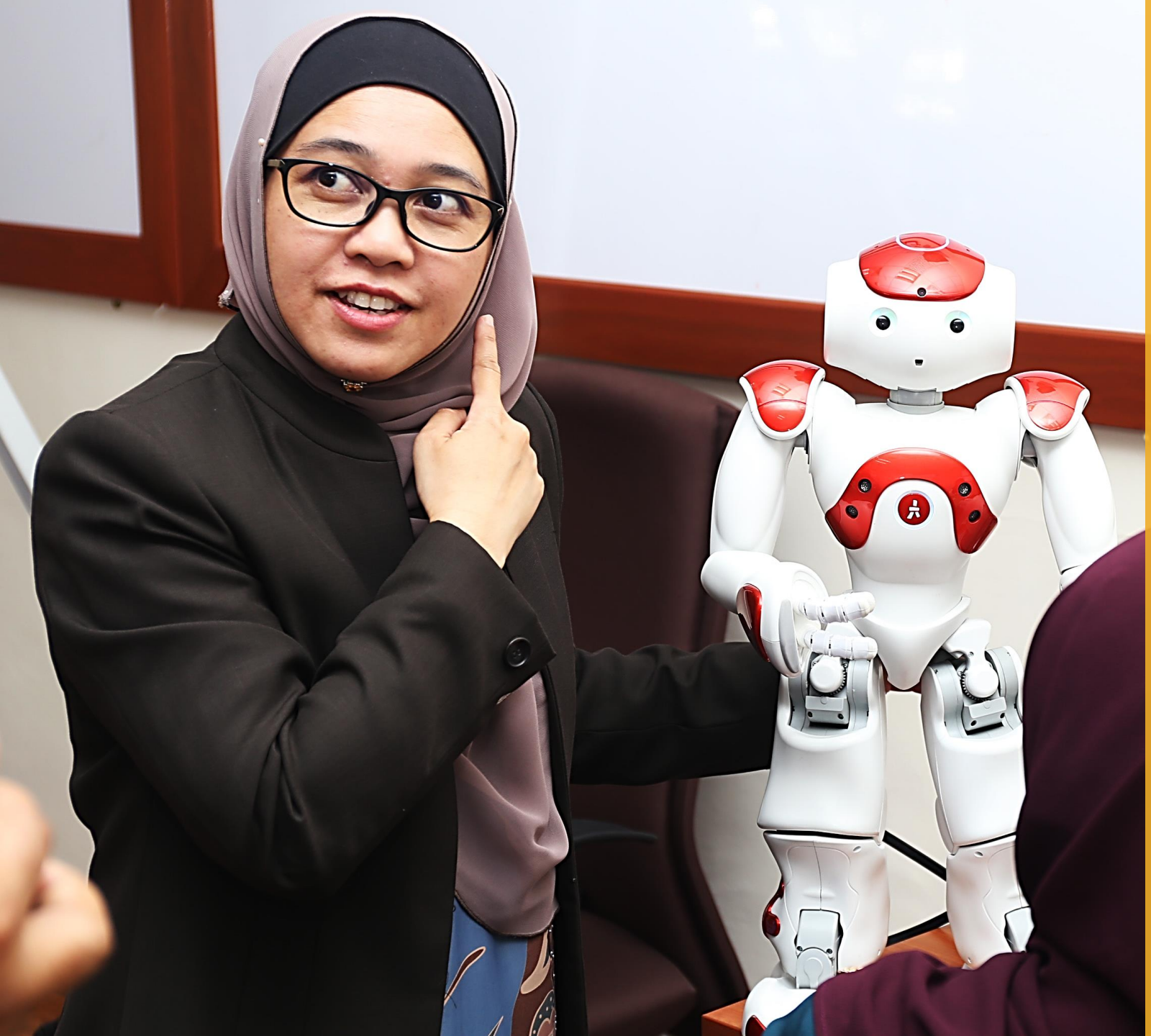


The Humanoid Assisted Therapy project has been carried out in part, thanks to the support of the MOHE and niche research grant scheme (NRGS) funds under the coordinated project led by Universiti Teknologi MARA's Deputy Vice Chancellor of Research and Innovation, Prof. Ir. Dr. Hj. Abdul Rahman Omar. Other organizations such as the National Autism Society of Malaysia (NASOM), schools under the Ministry of Education and Hospital Sungai Buloh participated in this research project



Recent research has suggested that children with special needs are more comfortable interacting with humanoids than humans, in part because robots are more predictable and can be controlled.

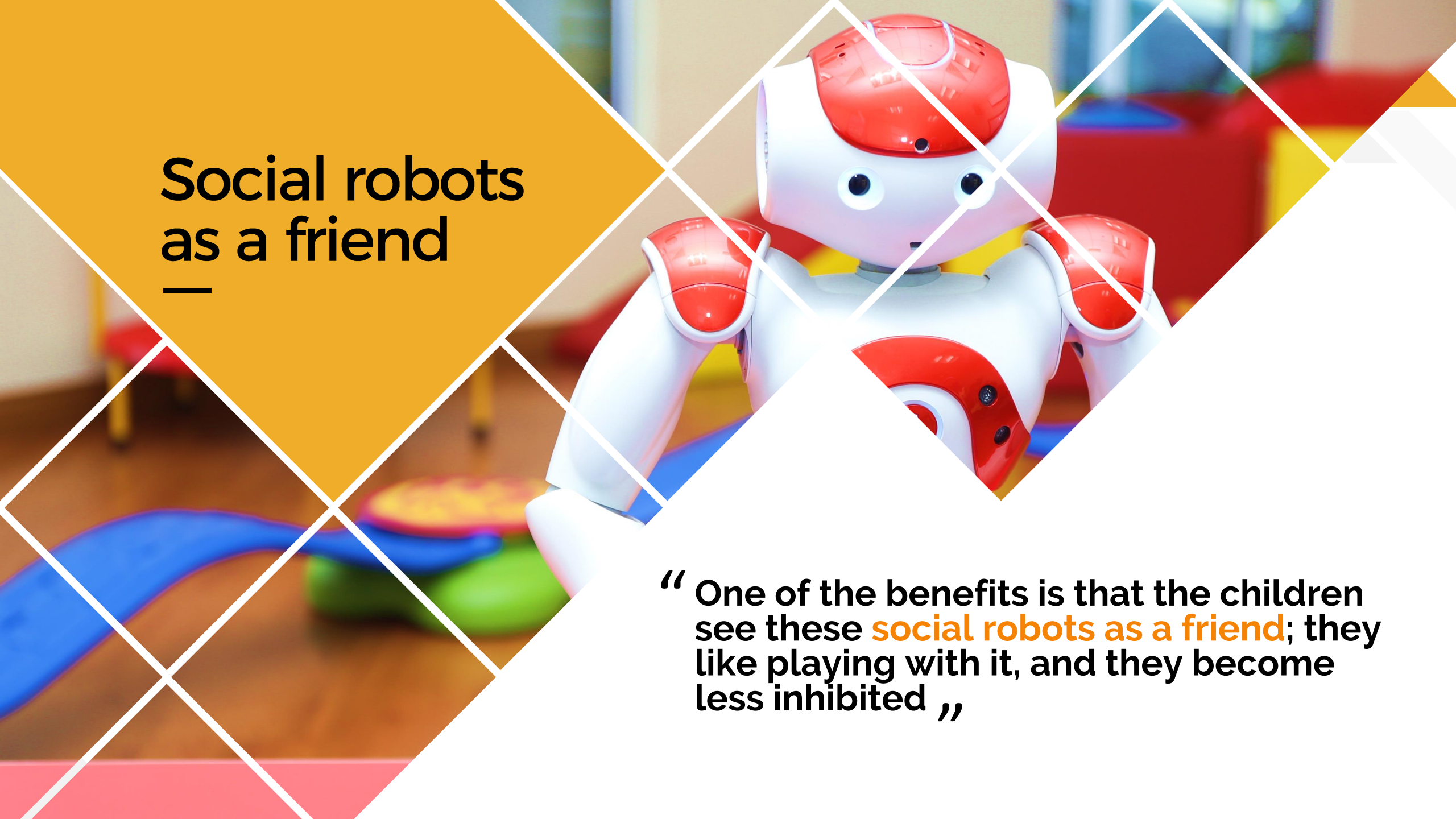
The humanoid appears to help increase the attention level and has a positive influence on the triadic interaction between the child, therapist, and humanoid. The humanoid also shows the potential to act as a mediator for joint attention between the child and therapist during therapy.

Rehabilitation Program

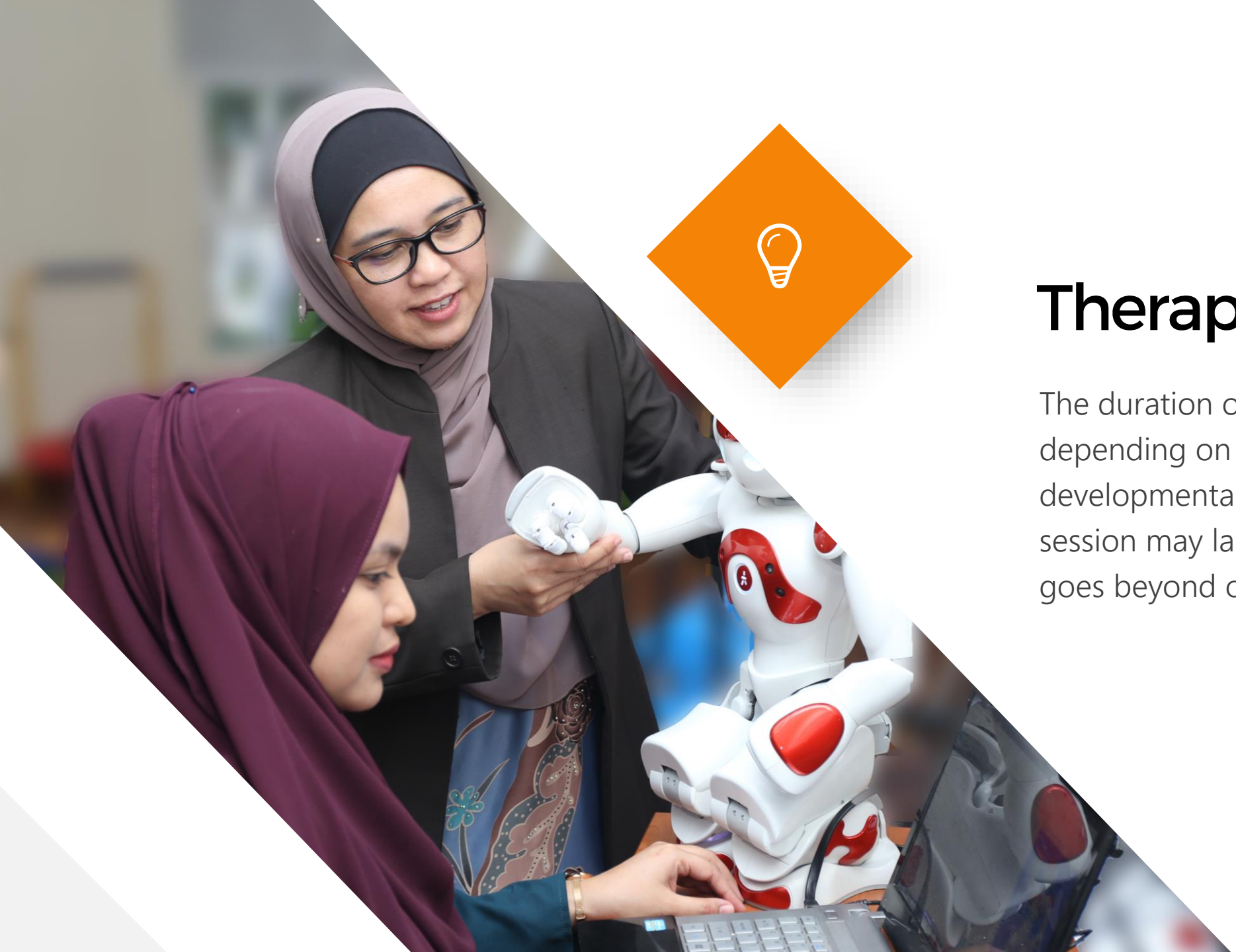
All rehabilitation programme is tailored to the need of the individual. Therapy requirement will also depend on the disabilities, abilities, and goals of the individual. As the appearance of the humanoids is attractive to a child, and the programme executed by the humanoid can be tailored to suit the therapy objectives and goals, the use of social robots can be a great tool to assist in the treatment.

Dr. Fazah were assisted by Pn. Rabiatul Adawiah Abdul Rahman (MSc in Physiotherapy) and Pn. Norjasween Abdul Malik (MSc in Mechanical Engineering).

Social robots as a friend



“ One of the benefits is that the children see these social robots as a friend; they like playing with it, and they become less inhibited „

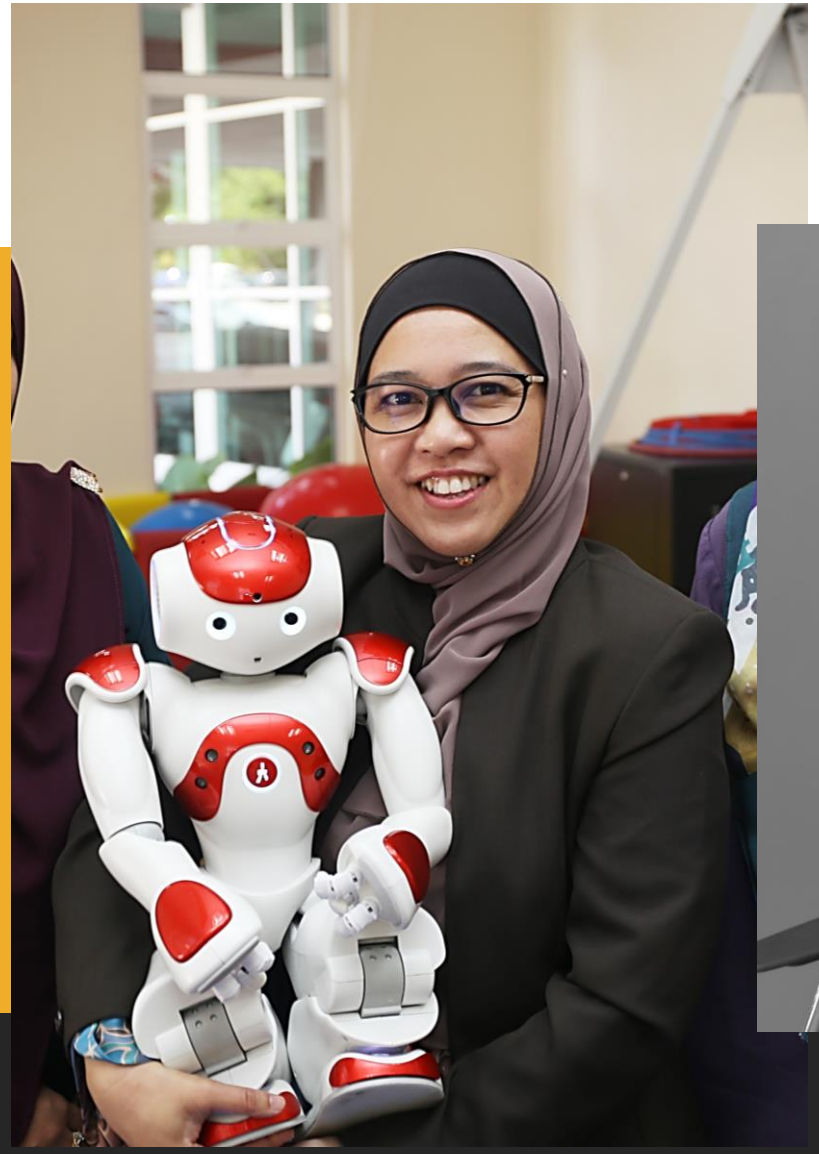


Therapy Session

The duration of a therapy session varies, depending on the level of the child's developmental abilities. On average, a session may last 30 minutes and rarely goes beyond one hour.

Challenges

"Of course it is not easy to conduct a clinical research like this. The hardest I would say is breaking the skepticism and the doubts about the idea of humanoids as assistive technology in augmenting rehabilitation. However, these challenges excite me and are my mode of motivation to continue with the research. Alhamdulillah, we have broken many barriers, with clinicians and healthcare providers gradually accepting the idea," said Dr. Fazah, the winner of UiTM 2013 Best Researcher Award.



Amazing Future

To date, children with special needs who were exposed to the humanoids are those with autism, traumatic brain injury and cerebral palsy. The use of humanoids as a socially assistive robot has not yet come to the level of conventional therapy, but the research is promising in promoting a better outcome.

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For further information on the Humanoid Assisted Therapy for Children with Special Needs, please visit http://nrgs-brain.uitm.edu.my/

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