Culturally Sensitive Social Robotics for Africa

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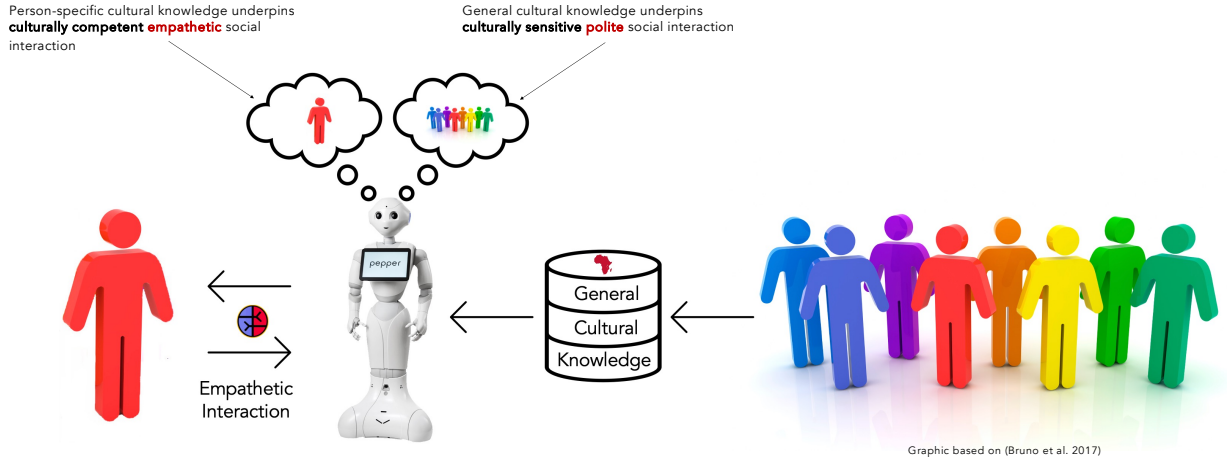
CSSR for
www.cssr4africa.org

CSSR4Africa is a three-year research project to develop culturally sensitive social robotics for Africa. It has the following objectives.

1. Identify the verbal and non-verbal social and cultural norms of human interaction that are prevalent in countries in Africa.
2. Encapsulate them in the behavioural patterns of social robots so that they can engage with African people in a manner that is consistent with their expectations of acceptable social interaction.
3. Demonstrate these culturally-sensitive social robot behaviours in two use cases: one for giving a tour of a university laboratory, and one for assisting and giving directions to visitors at the reception of a university.

In order to ensure that the project objectives can be achieved in the time available, we restrict the scope of the project to the cultures and social practices that are prevalent in Rwanda and South Africa.

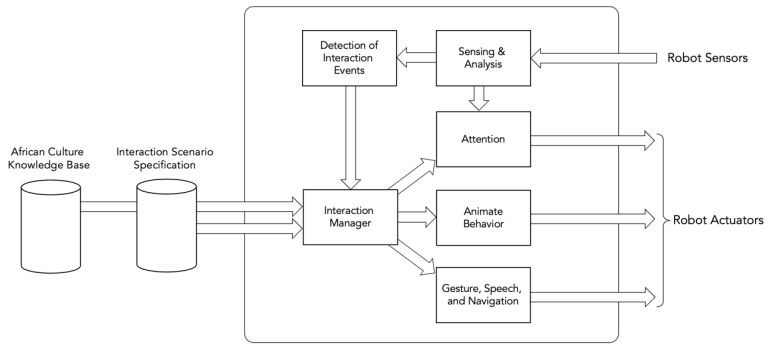


Graphic based on (Bruno et al. 2017)

A sample of the verbal and non-verbal social and cultural norms of human interaction that are prevalent in countries in Africa (Zantou and Vernon 2023).

No.	Socio-cultural Norm or Trait
1	All interactions should begin with a courteous greeting.
5	To show respect, one should bow slightly and lower gaze when greeting someone older.
8	One should use an open palm of the hand to point to people and objects.
10	One should not use the left hand to point to anything.
19	One should not make persistent eye contact with an older person.
21	To show respect, one should shake hands with the right hand and use the left arm to support the right forearm when doing so.
23	One should not walk between two or more people who are conversing; it is considered rude to do so.
25	Behaviours should focus on fostering social connections and relationships; they should not be purely functional.

CSSR4Africa System Architecture.



Publications
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P. Zantou and D. Vernon, "Culturally-Sensitive Human-Robot Interaction: A Case Study with the Pepper Humanoid Robot", Proc. IEEE Africon, Nairobi, Kenya, September, 2023.

P. Zantou and D. Vernon, "Inclusion Drives Sustainable Development: The Case of Social Robotics for Africa", Poster Presentation, ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies - COMPASS, August 2023.

References
B. Bruno, N. Y. Chong, H. Kamide, S. Kanoria, J. Lee, Y. Lim, A. K. Pandey, C. Papadopoulos, I. Papadopoulos, F. Pecora, A. Saffioti, and A. Sgorbissa, "Paving the way for culturally competent robots: A position paper", in 26th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN), Lisbon, Portugal, 2017, pp. 553-560.

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