



SOCIAL ROBOT FOR KIDS USING A SMARTPHONE

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Abstract : There are many kids who have autism since the birth and have social anxiety to get along with other kids and joining them. They Keep away from the social conditions in which they are probably the point of interest or stand proud of others, for example asking or answering questions in class. Sometimes, they might even be able to talk properly to their parents. For these kids, their parents are worried. They don't share their thoughts and emotions. Kids are very tender to handle, one can't put pressure on or force them to talk to people, which might affect their mental and physical bodies. They need a companion with who they can feel better, talk, express, learn, etc.

Here comes the topic of this paper, "Social Robot". Through relatively short daily interactions, it can help kids improve their social-emotional and communicational skills. Social Robot helps these kids to not miss their childhood having fun, learning, expressing, understanding, etc. Social Robots can help children overcome social anxiety and autism.

IndexTerms - social robotics; assistive robotics; artificial intelligence; human-robot interaction.

INTRODUCTION

We often view as granted the actual fact that our friends and family acknowledge once we walk into a room. Or that they will browse our facial expressions and apprehend if we're frustrated, worried, happy or excited. Or that they smile and roll their eyes if we are saying one thing outrageous or exaggerated. Social robots are providing social, emotional and learning support to kids and adults who play, speak and even snuggle with them like they might a pet.

This article examines the particular qualities of our emotional relationship to mobile phones and how it compares and contrasts with the parallel evolution of social (and sociable) robots. A detailed discussion of methods of generating artificial emotions and building robots is beyond the scope of this paper, but rather how humans create their own personalized social robots by appropriating and manipulating a particular machine in their daily lives to express their emotions and to manage themselves.

A social robot is a term that has many definitions with seemingly limitless boundaries, from elevator sensors that respond to a presence to autonomous humanoid machines that perform complex domestic or industrial functions. Social robots are developed using artificial intelligence and are often equipped with sensors, cameras, microphones and other technologies so that they can respond to touch, sound and visual cues just like humans.

LITERATURE SURVEY

Picard's (1997) seminal analysis on emotional computing and also the continued discourse on emotions and robots has highlighted the complexities of understanding and decoding human actions in ourselves and in translating these into the look of robotic machines. What happens, however, if the every day and constant interaction with a machine – a portable – permits the user to feel, share, manage and interpret their emotions through victimization of the device? These electronic emotions (Vincent & Fortunati, 2009) stay among the human user however are solely created, lived or relived once interacting with the mobile phone.

This volte-face when human feelings initiate the mechanistic flip is central to our discussion during this paper; it's not a couple of machines that has been designed (with emotions) to be social robot however instead is about a machine that seems to possess all the properties of a social robot only combined with its human user.

As Picard notes within the introductory quote on top of despite our endeavours, we have a tendency to still don't extremely understand or understand ourselves nor have we found the simplest way or technology to create a robot which may severally feel emotions. though this technological and emotional impasse has thus far prevented humans from making a mechanism that's 100 percent human, social robots are created that act with explicit facial or physical actions and specifically programmed emotions.

Researchers have come up with various terms to define social robots in the HRI literature such as

- **Socially evocative:** Robots depend upon the human tendency to anthropomorphize and capitalize on emotions evoked, when people nurture, care or contain their “creation”.
- **Socially situated:** The robot is socially situated in a social environment that it perceives and reacts to. Socially situated robots can distinguish between social agents and various objects in the environment.
- **Sociable:** Robots that proactively interact with people with the purpose of fulfilling inner social aims (drives, emotions, etc.). These robots require deep fashions of social cognition.
- **Socially intelligent:** The models of human noesis and social competence were derived from the capabilities of robots to have social intelligence similar to those of humans.
- **Socially interactive robots:** Robots for which social interaction plays a key role in peer-to-peer HRI, in contrast to other robots that involve "traditional" HRI, such as B. those used in teleoperation Scenarios.

SMARTPHONE ROBOT DESIGN AND ARCHITECTURE:

In general, Smartphones converged to a minimum set of devices, which are available within their hardware architectures. All those devices provide the capability to be explored in Robotics. The following are these devices.

- **Processor:** The processors that have been used in smartphones are embedded and can perform high-end functions, which can also help process the functions required for the Assistive Robot.
- **Display:** This is the most important part to understand the Robot. This is where all the understanding of the children or users stands. All smartphones feature an LCD(Liquid Crystal Display) or AMOLED(Active-Matrix Organic Light-Emitting Diode) display, capable to show colored pictures to the users.
- **Touch-Screen:** It is an interface to interact with the Smart Phone. This provides a capacitive display able to track, with precision.
- **Camera:** One of the important devices to capture, Navigate and recognize user face or emotions.
- **Audio:** Smartphones has audio input called microphone and audio output called speaker. This device can be used for speech recognition and putting out some sound to the user using speaker.
- **Wireless-Communications:** It is used to get connected to other devices to get information or give out information. We can use Bluetooth, Wifi, etc.

Examples of applications where social robots were used

STUDY	ROBOT	RESEARCH GOAL/APPLICATION
Hood et al.	Nao	Handwriting Learning
Vogt et al.	Nao	Second Language Learning
Schicchi et al.	Pepper	Vocabulary Enhancement
Ismail et al.	LUCA	Analysis of attention
Anzalone et al.	Nao	Environment perception
Huijnen et al.	Kaspar	Making Contact and catching attention
Filippini et al.	Mio Asimo	Accessing the emotional state of robot interlocutor

CONCLUSION

In this paper, we've explored the ways in which peoples’ emotions are aroused and mediated over their itinerants and the way they use feeling rules to manage these electronic emotions that are created or lived via their mobile phones. In distinction with different social golem devices that additionally attend to the emotional desires of their users. The Smartphone permits the user to explore their emotions and how the combined impact of the mobile phone machine and also the human interaction with it results in the personalization of the device.

This is why we trust that the interplay of the cellular smartphone and its consumer has co-built a new customized social robot; a device imbued with our particular digital emotions that we flip to in moments of loneliness, happiness, crisis, boredom and daily lifestyle revel in comfort, solace, help and guidance.

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