

# Use of Robots in Accessible Customer Services

Mada Center

Mada Center 2019 – 2021 strategy highlighted two strategic sectors to support ICT accessibility in; education and culture. The culture sector includes many sub-fields dealing with various settings including entertainment and retail. Mada Innovation Program has the task of supporting new innovations in the Arabic language and always keeping an eye on the latest development and best practices in the field amongst which one might name robots and artificial intelligence solutions.

Accessible service robots are taking the spotlight as the demands for cost-effective, fast and accurate customer services are increasing over time. The introduction of professional service robots to the market that directly interact with customers have paved the way for the utilization of automated humanoid & non-humanoid systems to be an integral part of the customer service sector. The possibilities of automation in improving cost-effective, high quality, fast and accurate services within this market segment are boundless.

The customer segment of Artificial Intelligence (AI) based products have been increasing steadily over the last decade. The growing popularity of solutions like Siri, Alexa and Google Home is not only exclusive to the regular population but also has a significant impact on people with functional limitations (PFL) as such solutions significantly contribute towards independent living by automating actions through voice commands. The proliferation of such technologies has recently extended towards developing customer service robots to perform client facing tasks. These robots come in both humanoid & non-humanoid forms and can systematize most of the primary tasks in customer service.

As the world focuses on improving the accessibility, independence and quality of the life of PFL, the role of accessible robotics and AI has been of great significance. Robot based solutions are increasingly being built to enhance PFL's customer experiences by allowing the solutions to assist in most basic tasks like assisting customers in finding an item, completing a task or directing towards a service. A robotic workforce can increase the productivity in banks, shopping malls, entertainment centres, events, airports, retail and wholesale stores, and many other places where the types of customer interactions are standardized and monotonous in nature.

The key potential areas of accessible robots offering customer services in relation to PFLs are:

## **Automated Sign Language**

Accessible Robots can provide automatic sign language translation which can be integrated into their system. With an artificial intelligence-based platform, this could potentially happen automatically, which would be of great benefit for people who are deaf or with hearing loss.

## **Multiple Interaction Modes**

The multiple modes of interactions integrated into various applications like voice, text, vision and action with synergies and coordination make the PFL interactions more flawless and humanlike, which significantly enhances the user experience.

## **Automated Translation and Captioning**

Robots can provide language translation services and caption for people with hearing loss. This will also break the language barrier were PFL's with the different mother tongue can speak directly to the machine and can acquire an optimised service as requested.

## **Image and Speech Recognition**

Robots provide automatic image recognition system and alternative text to speech for people who are blind. One of the most common issues with accessibility are the lack of alternative text to speech for images, which leads to misplacement of valuable information for PFL's.

## **Accessible Information**

Robots could help to make information more accessible to recognize for people with reading difficulties. With a highly integrated system, it could provide information access to users while maintaining the simplicity of the information provided.

## **Way Finding and Guided Navigation**

Autonomous path planning with obstacle avoidance in cluttered environments will be possible with the use of robots which can provide indoor and outdoor accessibility at ease.

Customer service robots can be utilized in a variety of ways. The market is expected to progressively rise as industry alliances accelerates technological advancement with time. As their ability to interact with customers and collect data progresses, robots are expected to become an increasingly regular part of the day to day customer service process.

Since 2010, several Service robots have stood out with their excellent features such a Romeo Robot, Care O Bot4, Pepper Bot, HOVIS Genie or Honda Asimo. While

each version is rolling out with improved features, it is highly noted that to make it an affordable solution for the customer service industry, the cost of these robots are yet to go down.

Although automated machine/solutions can be an intelligent, effective and efficient option, many still opt to have the human element during the customer service process and believe that instead of replacing humans with robots in the service industry, companies should focus on other technologies to support their customer service representatives in providing the best service experience for the users.