Beat: Technology

PEPPER - Launched in 2014, is an Engaging Humanoid Robot

La Cite des Sciences et de l Industrie

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USPA NEWS - Launched in 2014, PEPPER is an engaging Humanoïd Robot. It is the first Emotional Robot (understanding & reacting to main humain emotions) and was not designed for an industrial function but to be simply an Assistant. PEPPER was presented during the PEPPER WORLD PARIS on April 20, 2017....

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PEPPER analyzes expressions and voice tones using the latest advances in voice recognition. It is available for everyone in Japan and for Companies in Europe. Already used by the following companies : SoftBank, Nestle, Renault, Carrefour, Costa, Uniqlo... PEPPER can welcome customers, drive traffic, give information about products and services, collect Data and entertain visitors.

No need for a keyboard, mouse or screen simply talk to PEPPER, touch him or even approach him and watch him react. PEPPER was designed to learn and evolve. But PEPPER still requires some assistance : he does not know everything, so you can teach him through discussions to enable to memorize names, faces and moods. His multiple sensors enable him to understand the world around him and adapt accordingly, can move, avoid obstacles, identify sounds, follow you and even recharge independently. PEPPER can express his own 'emotions' through the color of his eyes, his gestures and words he uses.

FEATURES :

* 120 cm high and 28 kg
* 3 omnidirectional wheels for agile mobility
* 12 hours of energy when continuously active. Can detect when his battery is low and will navigate to his charging station
* 1 3D camera to detect humans and their movement from up to 3m away
* 30 innovative patents
* PEPPER is slender and no visible screws.
* His hands are similar to those of a human
* The specialized gears developed for PEPPER give him graceful movement while absorbing noise emittance
* Three wheels at the base form a triangle and allow PEPPER to move smoothly in all directions
* The Robot must be able to be repaired quickly and easily. Arms and head are modular and can be changed in 30 secondes.

STRENGTH AND SAFETY

PEPPER was designed to not be able to harm : rubber parts cover most of the exposed joints, the hips, neck and head, protecting from pinching, rubbing and also absorbing shock. By simply pressing an emergency stop button, you can cut all electrical power to PEPPER. The Robot will turn off but even then will retain his balance through elastomeric strips located at the hip and stop in his center. In addition brakes will allow him to maintain his standing position. On the other hand, in a case where he is shaking hands, PEPPER is able to regain and keep his own balance through a 'push recovery' system where he compensates with his wheels and his inertial measurement units.

EMOTIONS

PEPPER has the ability to interpret basic expressions of emotion on the human face : smile, frown, look of surprise, anger and sadness. He also knows how to understand the intonation of the voice, the context of words, as well as nonverbal language such as the tilt of the head. PEPPER can determine whether the person in front of him is in a happy or sad mood, with a valuation scale between the two states. PEPPER is also gifted with a capacity for sharing through the tablet placed on his heart. PEPPER has a colossal Database of questions and answers and his is able to speak about 20 languages.

The voice recognition capabilities are locally processed then sent to the cloud, in case the Robot does not hear or understand what was said. The programming also allows uses to choose three shades of different voices : playful, neutral or didactic. When PEPPER is alone, he will take the opportunity to control his internal temperature by adapting his movements to avoid overheating of his engines....

SoftBank Robotics is becoming a worldwide leader in Robotics (Paris, Tokyo, San Francisco, Boston, Shanghaï). Over 20 000 SoftBank Robotics robots, NAO, Pepper and Romeo, are used in more than 70 countries worldwide and in the field of research, education, retail, healthcare, tourism, hospitality and entertainment.

Source : Pepper World Paris on April 20, 2017 at La Cité des Sciences et de l'Industrie (Porte de la Villette - Paris) held by SoftBank Robotics

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