Reading 3

Skills:

- Details

- Scanning

- Connect information

Getting started: Will humans and robots be interacting naturally in 50 years time?

PEPPER, THE HUMANOID ROBOT

Pepper is a semi-humanoid robot manufactured by SoftBank Robotics (formerly Aldebaran Robotics), designed with the ability to read emotions. It was introduced in a conference on 5 June 2014 and was showcased in SoftBank Mobile phone stores in Japan beginning the next day. Pepper's ability to recognize emotion is based on detection and analysis of facial expressions and voice tones.

The robot's head has four microphones, two HD cameras (in the mouth and forehead), and a 3-D depth sensor (behind the eyes). There is a gyroscope in the torso and touch sensors in the head and hands. The mobile base has two sonars, six lasers, three bumper sensors, and a gyroscope, which allows him to learn about his environment and surroundings.

Standing 120cm tall, Pepper has no trouble in perceiving his environment and entering into a conversation when he sees a person. The touch screen on his chest displays content to communicate messages, and it supports speech. Her curvy human-like design ensures danger-free use and a high level of acceptance by users.

If you own a business, Pepper can become your brand ambassador. No matter if you run a restaurant, a hotel, a bank or a medical office, Pepper's futuristic presence will advance your customers' experience to the 21st century. It is especially great with engaging your visitors, hosting and entertaining them and collecting information allowing you to understand behavioral patterns. It can present any location-related information (such as menus, company presentation, onboarding speeches, open support tickets, etc.) and automate a lot of the repetitive tasks humans do while servicing your visitors and customers.

This is Pepper:

- 20 joints (like in arms and hands) for natural and expressive movements

- Speech recognition and dialogue through speakers available in 15 languages

- Perception modules to recognize and interact with the person talking to him

- Touch sensors, LEDs and microphones for multimodal interactions

- Infrared sensors, bumpers, an inertial unit, 2D and 3D cameras, and sonars for omnidirectional and autonomous navigation

- Open and fully programmable platform

- Omnidirectional wheels allow him to go around and explore different spaces

Adapted from https://business.robotlab.com/pepper-robot

Complete the labels in the picture based on the information you find in the text:

Four _____ 1
detect which direction
sound originates from.

A pair of HD colour video
2 _____ works together
to give him close and
long-range vision.

3 _____
Speaks multiple languages,
including English, French,
Spanish and Japanese.

Depth-perceiving _____ 4
Infrared camera gives Pepper 3D
"sight" of his surroundings, up to a
distance of 3 metres (9.8 inches).

pepper

5 _____
With anti-pinch
articulations that
let him make fluid
and expressive
movements.

6 _____
Used to communicate
along with voice and
gestures; displays abstract
visual representations of
his feelings.

Internal _____ 7
Feeds him information
about the position of
his body and how it is
moving in space.

8 _____
Equipped with
touch sensors
for getting his
attention, but
unable to pick
up objects.

Base _____ 9
Three bumper
sensors, a trio of
paired laser
sensors and a
sonar range finder
help Pepper judge
distances.

10 _____
Enable him to move
around freely, including
reversing and rotating
on the spot, at speeds
up to 3km/h (1.9mph).

**HOW IT
WORKS**

86

LIVEWORKSHEETS