

Humanoids

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You find yourself lost in a building trying to get out with no one to ask for directions from other than a child-sized robot... But you're not sure how to communicate with it. First, you wave, wondering if it notices you. It waves back. Then you smile and manage to say "Hello," not even sure if it will comprehend. To your surprise it returns a greeting and introduces itself as 'ASIMO.' You introduce yourself and explain that you are trying to find the exit. Without hesitation it lays out the path you must follow to get there and asks whether or not you would like it to show you the way. "No thanks," you decline feeling odd enough for having to get assistance from this robot. Minutes later, when you've forgotten the directions and wind up lost again, you manage to run into the same robot. To your amazement, it remembers your face, your name, and where you *wanted* to be headed. This time, however, you allow it to escort you to the exit.

Sounds like something out of a science fiction novel, right? Well, currently technology is not too far off. In fact, Honda Corporation has already manufactured a highly technologically advanced robot (more specifically 'humanoid') that will do just that. A humanoid is any being that takes on human form. Honda's 'ASIMO' or 'Advanced Step in Innovative Mobility' humanoid can remember up to ten names and faces, move as commanded, interpret hand gestures, and has internet capability (can answer news, weather, sports information). So in the above scenario, when you finally reached the exit and to your dismay it was raining, well ASIMO could have already told you what to expect had you asked.

Another corporation involved in the manufacturing of humanoids is Sarcos. They specialize in Telerobotics, Prostheses, and Humanoids. There are many situations in which it is quite undesirable to have humans present. Examples would be in the acquisition and

disabling of explosives, the maintaining of nuclear plants, in any process that requires the handling of biohazardous materials, and the cleaning of hazardous sites. Through the study of telerobotics, we are able to control the movement of a robot from a remote location, rather than having to be on site. These robots do require periodic, if not consistent, human input. The company also manufactures prostheses. Two well-known examples of these include the Utah Arm and ProControl. Utah Arm is intended for patients who need above arm prostheses, whereas ProControl is suitable for below elbow applications. Both require only two muscles to be functional and it is reported that learning to use either of these is not difficult. Sarcos also develops humanoids. These tend to be larger in size than ASIMO. The website displays various small (yet entertaining) movie clips in which you can view these humanoids at work juggling, playing paddle ball, air hockey against humans, and even testing out space suits.

An event for humanoid enthusiasts is the RoboCup challenge. In this event, held every year, mature humanoids are recruited to battle each other on teams in a game of soccer. The pace of the game was slow however as running is difficult for a humanoid. A researcher in Japan is determined to design and build a fully autonomous humanoid robot that can out-compete the fittest human (not -oid) athletes by the year 2050. The event has been held every year since 1997. This year's competition was held in Italy with many more to come.

Sources:

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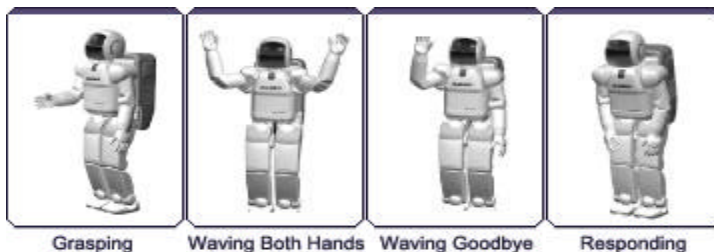
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Left Figures:
ASIMO in action