

# Engineers develop robotic greeter to welcome new arrivals

January 14 2019, by Bob Yirka

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Credit: Media Innovation Lab

A team of researchers at Media Innovation Lab at the IDC Herzliya, Israel, collaborating with a team from Cornell University, has developed a new type of robot with very limited abilities. Its only purpose is to

greet people when it detects their presence. But the robot has no eyes, arms or anything else resembling a person, animal or even other robots. Instead, it has just a single pea-size sphere that it uses to greet people as they enter its view.

The idea of the [Greeting Machine](#) was to find out if such a simple robot could evoke human responses without the use of nonverbal cues such as eye contact. Reports by the developers suggest the answer was yes.

The Greeting Machine is a flat-bottomed, white [sphere](#) about the size of a volleyball— it contains [electronic sensors](#) to detect when a person has come into proximity, and a [control mechanism](#) for an arm with a magnet on the end of it. The magnet moves along the interior surface of the sphere, controlling a much smaller sphere that hugs the outside surface of the sphere. The mechanism is similar to the robot BB-8 from *Star Wars*. The result is a white globe with a small sphere on its exterior that moves as a way to greet people.

The engineers who built the machine consulted a wide range of experts to develop a way for the robot to greet people, including puppeteers, animators, choreographers, and even psychologists. They came up with eight greetings that could be grouped into two categories: avoid and approach. In the avoid group, the tiny sphere rolls around behind the larger sphere (relative to the person looking at it) or stops on its side. In the approach group, the sphere rolls to a position where it can be clearly seen by a person looking at it. Variations on these themes include animation, in which the small sphere vibrated, and not animated, which they called "straight."

The researchers enlisted the assistance of multiple volunteers to test their Greeting Machine, and report that it was very well received when engaging in approach greetings. Most of the volunteers reported that it felt like the robot was looking at them and accepting their presence.

Most liked the animated greetings even better, which many suggested added a sense of excitement. On the other hand, most of the volunteers did not care for the avoid greetings, with volunteers feeling slighted as if the tiny [robot](#) had turned its back on them—rejecting them.



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**More information:** [milab.idc.ac.il/teaching/projects/gimi/](http://milab.idc.ac.il/teaching/projects/gimi/)

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