

German team creates robot ape (w/ Video)

June 25 2013, by Bob Yirka



The four-legged robot in DFKI's artificial crater environment. Credit: Daniel Kühn, DFKI GmbH

(Phys.org) —Researchers at Germany's Research Center for Artificial Intelligence are working on a project they call iStrut—its purpose is to create robots that more closely resemble their natural counterparts. To that end, they have created a robot imitation of an ape—it walks on its back feet and front knuckles. Impressively, the robot ape moves without cables connecting it to something else and is able to walk forwards, backwards and even sideways. It can also turn itself in a new direction.

Robots that imitate real animals (and humans of course) are nothing new; what's new in this effort is the target—an ape. In actuality, it appears to more closely resemble a gorilla than a chimpanzee or other ape. Also new is the approach the team is taking in attempting to replicate the way a real ape moves. Each part of the body is seen as both a single entity and as a part of a larger system. Thus, each body part has been designed to accomplish certain goals as both a single unit and as a part of a larger whole system. The back feet, for example, each have pressure sensors, rather than simple joints. Those sensors provide information to the Control and Information Processing Compartment which relates what the feet are "feeling" to information coming in from other parts of the body.

The initial result is a robot that has the shape of an ape and walks roughly like one. The team notes that they are only still in the beginning stages of development of the robot. The plan is to refine all of the robot's parts to gradually remove the stilted movements with the smooth transitions seen with real animals. One of those changes will be replacing the current rigid spine with an accentuated [spinal column](#). This will allow the robot to twist as it turns, and perhaps, to stand up on two legs and pick fruit from trees at some point in the future.

The robot ape is part of a larger overall program funded by the Agency of the German Aerospace Center. Still unclear, however, is if the ultimate goal of the program is to create a [robot](#) that can serve aboard a spacecraft, or perhaps one day, even take on the role of pilot instead of the more expensive option—a human astronaut.

More information: [robotik.dfki-bremen.de/en/rese ... rojects/istruct.html](http://robotik.dfki-bremen.de/en/research-projects/istruct.html)

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Citation: German team creates robot ape (w/ Video) (2013, June 25) retrieved 6 May 2024 from <https://phys.org/news/2013-06-german-team-robot-ape.html>

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