

Humanoid from BITS Pilani wins accolades abroad

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JAIPUR: Humanoid AcYut 4, developed by students of BITS Pilani, has won prizes at Robocup Iran 2011 and Robogames 2011. The Robocup was held in Teheran from April 5 to 9 and Robogames 2011 in San Francisco from April 15 to 17.

AcYut 4 won a special technical award in Robocup Iran 2011, while in San Francisco the BITS humanoid grabbed silver medals both in autonomous and non-autonomous categories. Robocup was or-

ganised by Qazvin Islamic Azad University, Teheran. Robogames is the biggest robotics competition in the world. Engineers from 17 countries participated in around 50 events in it this year.

"We have achieved a walking algorithm that is closer to human being. One of the major technologies that has enabled us to do this is a six-axis inertial measurement unit that detects the external forces which the humanoid experiences from the environment and it balances ac-

ordingly," explains AcYut team leader Akash Gupta.

In Teheran, where over 35 humanoids from various countries participated, AcYut 4 successfully completed the challenge of walking three meters, detecting the white line autonomously and then returning to the starting point. AcYut 4 was the only humanoid robot to complete the challenge. The walking algorithm which was presented by the AcYut team was highly appreciated by the technical committee.

At Robogames, AcYut 4

participating in the autonomous category had to detect the weightlifting bar, lift it by itself and walk with it for 30 cm and then lift it to its head high and walk for another 50 cm.

In non-autonomous (free-style), AcYut had to get up from the lying position and walk at different speeds.

The AcYut team comprising Akash Gupta, Tushar Agrawal, Apoorv Shrivastava, Deepak Gopinath and Dhairya Seth received the medals standing behind the waving Indian Tricolour amid loud

applause.

AcYut now runs with the help of two embedded microprocessors, giving it a processing power of about 1.72 GHz.

"One of the microprocessors is used for image processing so that the humanoid can detect objects of different colours and shapes. After it processes the surrounding environment, it passes the information in the form of data packets to the other microprocessor which accordingly decides the movements of the robot," says Mr. Gupta.