

RUET students develop bomb-disposal robot for Bangladesh Army

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Online Desk: A team of students from the Mechatronics Engineering Department of Rajshahi University of Engineering and Technology (RUET) has developed a remote-controlled bomb disposal robot for the Bangladesh Army. The robot, named Hades-X-ZeroThree, draws inspiration from Greek mythology.

‘Hades’ is the name of the Greek god of the underworld, while ‘X-ZeroThree’ signifies the initial development stage of the robot. According to the team, this robot can locate and retrieve bombs and traverse diverse terrains, including high and low roads, fields, and mud. The project, guided by Roknuzzaman Rana, Dean, Faculty of Mechanical Engineering and Feroze Ali, Chief Assistant Professor, Mechatronics Engineering, was led by Kazi Atif and included Md. Al Tasdeed Ul Haque, Yashsir Arafat and Ariful Islam.

The robot has the capacity to lift and carry objects exceeding three kilograms and can be controlled using radio waves from a distance of one kilometer. It employs a specially designed hand for safe bomb defusal. The integrated wireless cameras and microphones enable real-time video and audio transmission to the operator and it is also equipped with night vision and headlights for both day and night operations.

The team mentions that the construction cost is minimal as the robot has been built domestically. Therefore, compared to commercially available robots with similar features, Hades-X-ZeroThree is significantly cheaper, costing only a fraction of the market price.

The team also faced significant challenges during development, primarily due to time and resource constraints. Limited funding further necessitated resourcefulness, says the team. In order to overcome this hurdle, they manufactured most of the components themselves, from the chassis and robotic arms to the wheels. This required utilising local workshops as the university’s machine shop was closed during the Ramadan holidays.

Hades-X-ZeroThree was successfully handed over to the Bangladesh Army on April 19, at the Qadirabad Cantonment in Natore. Army representatives thoroughly evaluated the robot’s functionalities and expressed interest in collaborating on future advancements, says the team.