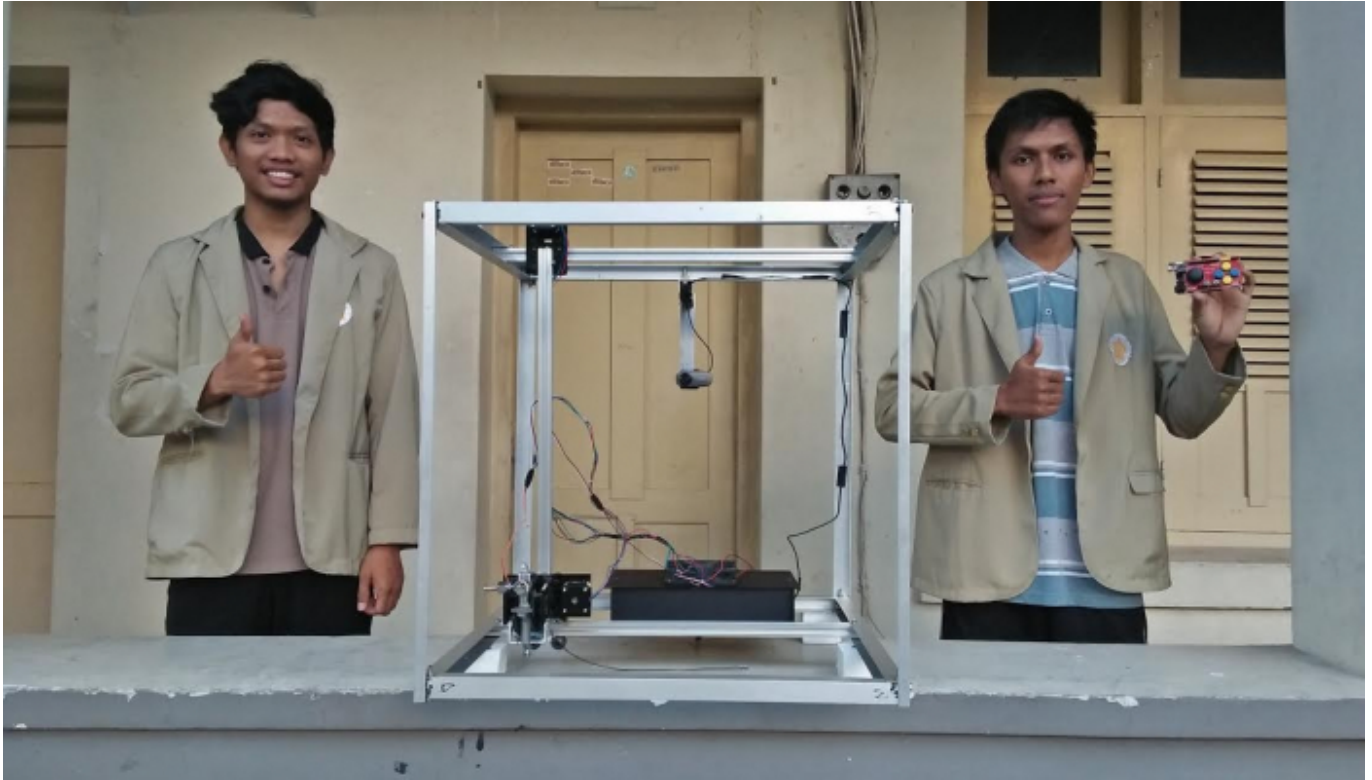


Robot to Paint Storied Building Walls by UGM Students

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Data from Manpower Agency (BPJS Ketenagakerjaan) said that until November 2016 there were 101,367 cases of occupational accidents with 2,382 fatalities.

Seeing this condition, students of UGM have developed a robot to do the painting of external walls of storied buildings to make the paint work easier.

These students are Arifandhi Nur M and Habib Astari A from Faculty of Mathematics and Natural Sciences), Pa'at Wahyu K S (Vocational School), Imroatul Mufidah (Faculty of Medicine), and Istria Rimba S (Faculty of Engineering). The robot is developed in the Student Creativity Programme for Creation under the guidance of Andi Dharmawan S.Si., M.Cs.

"The robot can replace human work and hopefully it can minimise the number of accidents at work," Arifandhi Nur M, team chairman on Friday (16/6) at UGM.

Arifandhi explained the robot prototype used arduino and single board computer to control its movements. The robot can paint two dimensional construction on the required size as instructed by

the operator.

"The painting tool is a spray with a column that has two degrees of freedom, which is X and Y as its axis," he said.

The operation of the robot is easy. The operator needs only to input the size of the painting area and the colour. Afterwards, the camera sensor will catch the image of the wall to be painted. If it finds a wall unpainted, the spray will move to spray that area. After it finishes, the robot will do scanning to check the quality of the painting work.

"The robot can paint the wall at a maximum size of 2x2 meter," he said.

With this robot, Arifandhi said the operator was able to know how long it would take to paint accurately, because the speed of spraying can be adjusted as necessary. The painting process can be done continuously and constantly.

"Hopefully, the robot can be implemented in real life, hence minimising accidents at construction works," he said.

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