UGM Students Make Physiotherapy Robot for Paresis Patients

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YOGYAKARTA - Stroke, traumatic brain injury, and accidents can be the cause for lack of movements of arms and legs or paresis. Most cases - 77,4% - of paresis affect the upper limbs. Paresis can be treated with physiotherapy. Despite the optimal results of the treatment, however, Indonesia is facing the problem of limited physiotherapists, which are only 3012 across Indonesia. This figure is certainly inadequate due to the increasing number of patients.

Students of Universitas Gadjah Mada: M. Andri Firdaus and Irkham Maulana (Mechanical Engineering), Ahmad Khinarto (Electrical Engineering), Avina Alawya (Doctor Education) and Doni Achsan (Industrial Engineering), who joined the ARPIRO (Arm Physiotherapy Robot) team, were inspired to create a physiotherapy robot to treat those patients.

The robot helps patiens do simple mechanic movements, such as swinging the wrist or moving the hand repeatedly. Andri Firdaus, team chairman, said the Arpiro robot has three motors as driver to do three main hand movements. “The design has been made as minimal as possible,” he said on campus, Tuesday (9/6).

A software for the Arpiro robot is currently in the making. The robot will be equipped with medical record features that is integrated with a smart device to make it a portable home therapy for users.

Dr. Eng Herianto, their supervisor, said the tool showed the care of the students that want to give solutions to problems existing in their surroundings. “This work deserves an appreciation from

everyone," he said.

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