CANADIAN INTERNATIONAL COLLEGE
MAKE IT HAPPEN

Robotic Arm

Under
Supervision of

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1.INTRODUCTION

These days' people always needed additional help systems. With the rapid increase in the flow of information, people are now guided to search for different markets and people have entered the competition to manufacture quality products cheaply.

Automation systems are also needed to realize this. Because standardized automation systems are required to minimize errors as well as to have experienced and well-trained employees for quality products. Because of their physical characteristics,

people needed to use auxiliary machines in places where their strength was not enough. These machines, which are operated with the need for human assistance in advance, have been made to operate spontaneously without the need of human power with the progress of technology. One of the most used components of automation systems is robots. Robotic systems

In the project, researchers have been done and implemented in order to have knowledge about mechanics and software during the operations carried out by the robot arm which is designed to fulfill the tasks determined in accordance with predetermined commands.

Robotic arm made of Android phone or tablet control; it can carry the desired material, mix it up and perform the commands previously determined by a user. If this project is also a designated task; the robotic arm takes a piece of material and brings it to the desired position and then records its movements and lets it do the same action until we stop it. The servomotor is preferred in order to be able to perform these operations properly since the motor to be selected must operate precisely and must be at high torque. The robot arm is composed of 4 servo motors and can move in 4 axis directions with these motors.

In the project, Arduino programmed and servo motor control is provided. Thus, it is possible to perform the

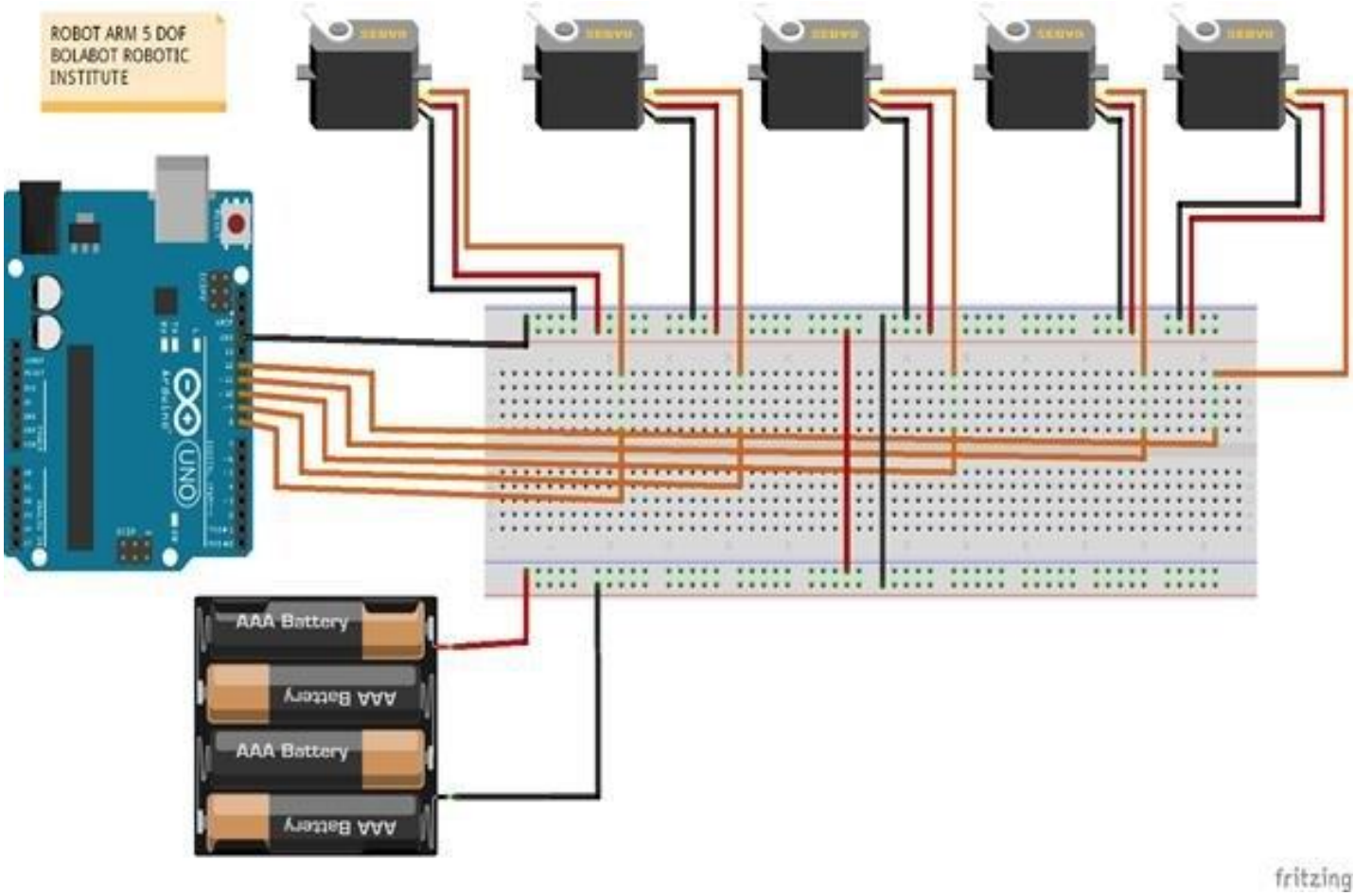
desired operations by means of the elements located on the Arduino without any circuit construction other than the circuit where the servo motor inputs are located.

For the mechanical part, the robot arm is drawn with the SolidWorks program and the dimensions of the robot arm are specified. A 6V power supply is also preferred for the robot to work.

2. Hardware components

- SG90 Micro-servo motor ×4
- 3D Printed Robotic Arm Kit ×1
- Arduino UNO & Genuino UNO ×1
- Bluetooth Module HC-05×1

3. *Circuit diagram*



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