Smart STEM Challenge

Automatic hand sanitizer

Chhun Paulen, Pan Chansonaza
Preah Moniving High School
Battambang, Cambodia

Category: Technology & Robotics

Age Group: ☒ **Senior (Grade 10-12)**

ABSTRACT:

- Introduction: Nowadays, all countries over the world and Cambodia are struggling with COVID-19 which is a deadly disease, also known as a global disease. Since the late 2019, about 1.81 million lives has been taking all over the world. Day by day, this disease is quickly spreading from people to people if we don't keep yourself clean. Direct exposure with people who were infected or touching things that used by people who infected, also lead us to infect the coronavirus as well. In order to protect yourself from this disease, we must wash our hands with alcohol or hand sanitizer properly. To make our lives easier during the pandemic, we come up with idea to create an automatic hand sanitizer by using our technology.
- Procedures: We join Cambodian Children Trust(CCT) in learning programming our Lego Mindstorm EV3. For creating this brick we need a hand sanitizer, a set of Lego Mindstorm EV3, Large Motor, Ultrasonic Sensor and more Lego. To run the EV3 we need to run the program on our brick then the Ultrasonic Sensor will detect our hand. If our hand is in front of the sensor 15cm, it will trigger the Large Motor to run automatically. We attached a long Lego there so when the Large Motor move, the Lego will also move to touch the surface of the hand sanitizer. This process will loop if the Ultrasonic sensor still detected our hand. To stop our loop just remove our hand from the Ultrasonic sensor sight then it will stop the motor.
- Results: We have worked on this project for whole two weeks. As regards, our robot works as well as we expected.
- Conclusion: According to the result, we highly expect that our project will become part of the solutions to prevent the infection in our area, and keep everyone in hygiene.