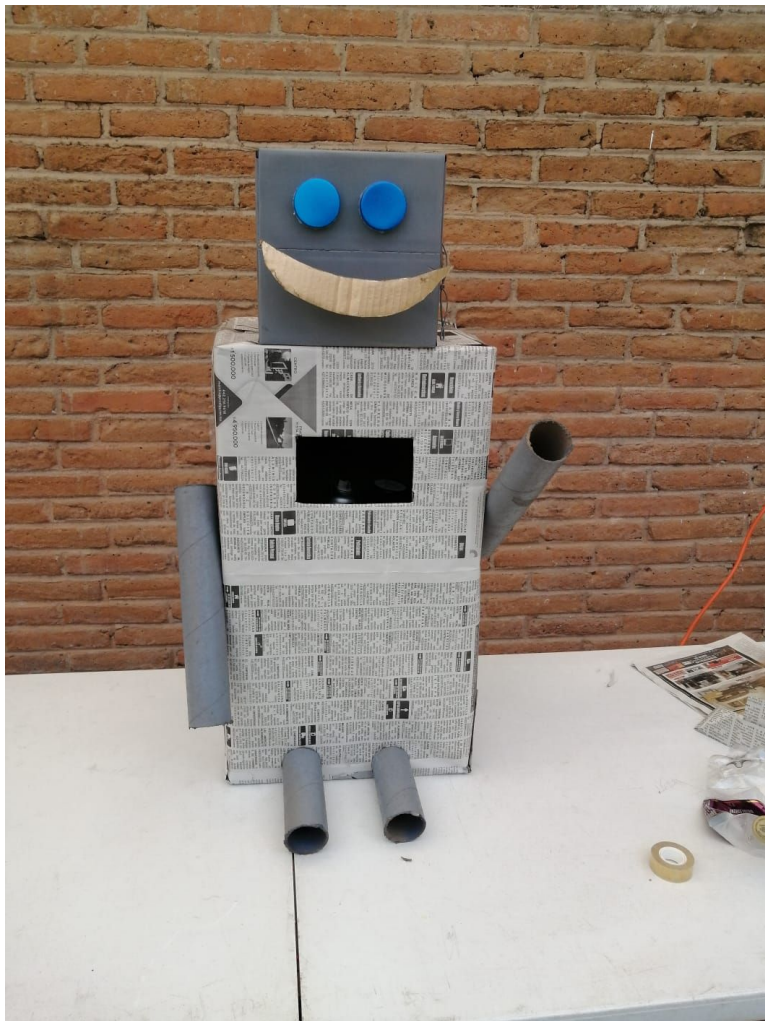


Recyclebot REC: VORTEX SmileBot

Team number (VEX ID): ITSMQ

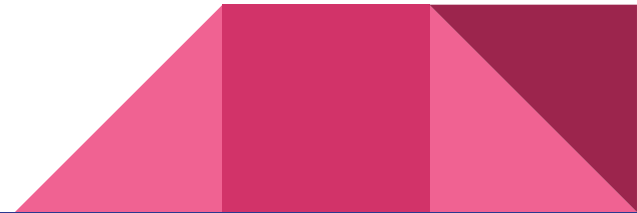
Rodrigo Marquina Magaña
Jose Pablo Miranda
Juan Manuel Torrijos González
José Miguel Luna
Israel Arroyo Parada
Javier Piña Camacho

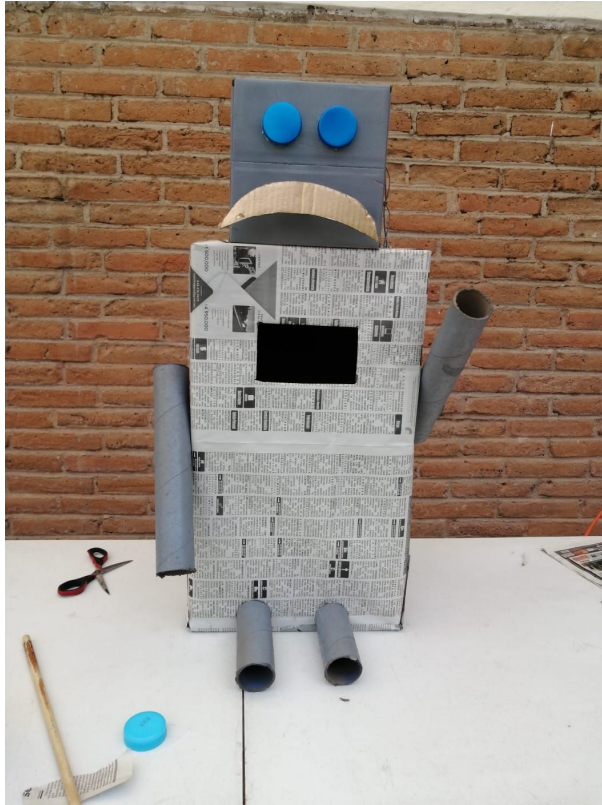




The recycle-bot challenge had the objective of creating a robot with recycle material. Our team, Vortex, decided to create a robot that encourage people to deposit trash in the right place. The idea is focus for trash that can be recycle (bottles, cardboard, paper) or need to be separated (batteries), the use depends on the owner decision. The robot works as a trash bin that changes its state depending on the amount of trash that has inside it.

The robot is designed as a trash bin made of cardboard boxes decorated with immovable legs and arms; and a robot face. The face has two eyes and one mouth. The mouth is made with the form of a half moon in order to change the expression of the robot from sad to happy. When there is no trash in it, it has a sad face. When the robot is being filled with trash, the mouth gradually rotates until the robot seems happy.






The materials we used were completely recycled which were obtained and contributed by each member of the group. Two boxes made the body and head of the robot. The eyes are bottle caps and the mouth a piece of cardboard. For the legs and arms we used cardboard rolls. The pulley system is composed of one stick and hemp yarn.

For the construction we put a platform inside its mouth and connected it to a pulley system. One side of the pulley is attached to a stick that has the mouth made out of cardboard in the other side of the stick. The amount of trash has to be heavy enough to move the pulley system and therefore rotating the mouth.



The SmileBot, as we call it, is a simple robot with an specific objective. Since it is made of recycle materials its functionality is limited but accomplishes its purpose.

This project can be used to educate kids to put trash where it belongs. It is easy to replicate for anyone to have it at home or in schools. For a more serious use, it would need to be constructed with metal and commercial pulleys. We think its face can awake people curiosity and made them deposit trash in it so it could work on the streets. An improvement that can be implemented is designing the hole as the shape of the desired trash. This, as a simple way to avoid the wrong type of waste. This was a very interesting and helpful project that taught us the importance of recycling and keeping our world safe from trash and to be thoughtful of our future generations. We need to create better awareness of this problem with education especially with minors that will be the great minds of our future and with that we can be sure that we did a great job of keeping the environment clean for the history to come. This also was very important to us adults because maybe the world will be kept clean by the next generations but if we don't do something right now, there may not be a way back and the environment can become so contaminated that there's not even a future for our kids.



Videos' link:

<https://youtu.be/LndpTmJY5Dw>

<https://youtu.be/SzaDo0ij1vU>