



Title: Mechanic Engineering

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Location: Barranquilla/Atlantico/Colombia

The profession chosen by us is mechanical engineering, we are a small group of students who meet every Saturday at the IQ foundation, to learn robotics, which we have a lot of fun, we explain to our parents that we not only come to have fun but also we learn. For example, in one of our classes they taught us what a sprocket traction system is, in the world of mechanical engineering this system has a fundamental role, we were very interested that small wheels are so important for transmitting energy and in In this case movement in a wide number of possibilities, we use this system to build our competition robot, as we have a limited number of motors (6) to build our robot, it is necessary that we use these transmission systems so that with a Only a motor attached to an axle can move the entire chassis that has four wheels.

We investigated several careers, among the ones we liked the most are:

Aerospace engineering: When we hear this name, we imagine flying, going to space, and that is what aeronautical engineers do: they dedicate themselves to the design of all types of devices that can fly. Aeronautical engineers apply science and technology to the research, design, manufacturing and maintenance of aircraft, missiles, satellites and space vehicles.



Mechanical Engineering: it has a wide field, it is in charge of studying and building machines for the benefit of society, its professionals study physics principles. We like to build things, and building our robot was something very gratifying. It is a triumph that in 9 months of robotics classes we were able to build a robot that will participate in tournaments.



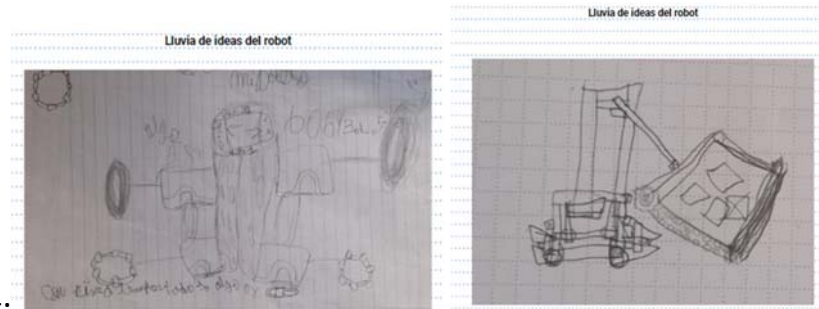
This is how we see ourselves in the future, a group of engineers analyzing a problem with something they are building and together contributing our best so that the machine is good.

Systems engineering: It has a wide application, most only think that systems engineers are computer scientists, that it is only programming but this is false, we realized now by researching that systems engineers can study any existing system, they apply the concepts of mathematics and physics to make systems that use fewer resources, this is very important for our planet, since we must save on natural resources, so the systems engineer helps humanity in optimizing the use of resources. What they do is that they don't build machines that can be seen.

Among these engineerings that we reviewed, we stayed with **mechanical engineering** because we love to build, the role that we all have in common in our team is that of mechanics, Nicolas is a mechanic and pilot, Juan Fernando is a mechanic and designer and programmer and I, Matias I am a mechanic and

programmer and pilot. So in common we all have the role of mechanics, it is what we like to do the most.

It was very rewarding to build our robot, we did it following a design process that we documented in the engineering notebook, and it starts with

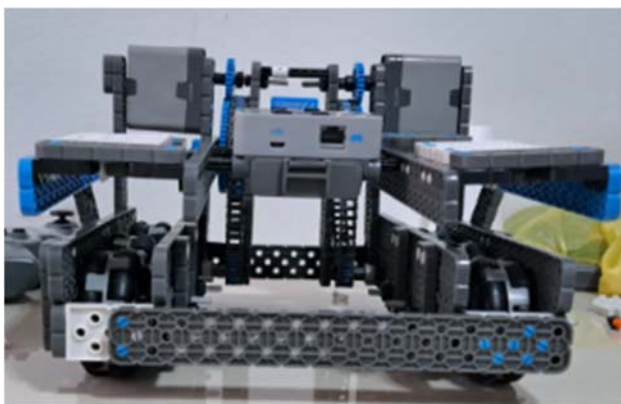


brainstorming:

We continue to describe the good and bad things that each idea has:

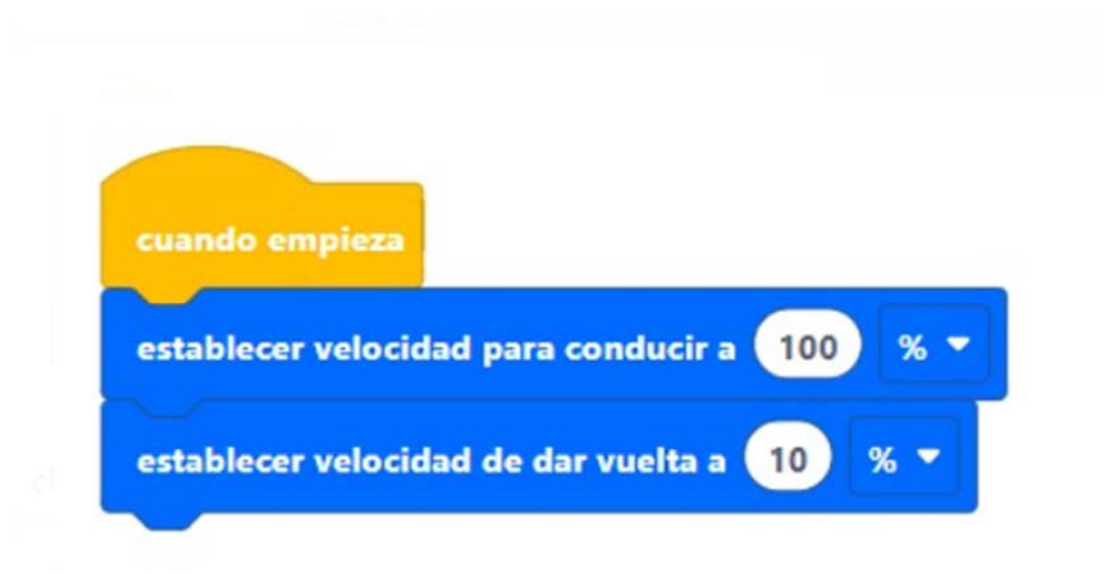
IDEAS	Desventajas	Ventajas
1	<ul style="list-style-type: none"> No tiene mucho espacio no aguantan mucho peso 	<ul style="list-style-type: none"> El robot es rapido el ruido es menor
2	<ul style="list-style-type: none"> no es un chasis rapido no se pueden obtener muchos puntos en esta clase 	<ul style="list-style-type: none"> son chasis sencillos y faciles no ocupan mucho espacio
3	<ul style="list-style-type: none"> pesa mucho 	<ul style="list-style-type: none"> es veloz es estable tiene mucho espacio

Then we decided which idea was the best and began the assembly or construction (this part was the most fun and what we like the most)



Then we program in the robot's brain what we want it to do.

Then we program in the robot's



And when we have this, we go to the track and put it to the test. If everything goes well we move on to the next subsystem, otherwise we must return to brainstorming to find the solution to the problem.

In mechanical engineering they use the design process a lot, because each engineer, before building a machine, must analyze why he is going to build it, what he is going to do with it, its size, its weight, all the characteristics he needs, for example, it will To build a vehicle, you must start like we do with the chassis, then with the structure of the car and place the electronic part as it is built. So it's similar to our design process.

The robotics competitions have helped us improve our skills, especially teamwork. At the beginning we did not know how to do it, we all wanted to do things alone, but little by little we realized that if we worked together, seeing what was best each of us was doing better.

We took the resources we used for this writing from the engineering notebook we have been using and from the Internet.

<https://www.uac.edu.co/pregrado/ingenieria-de-sistemas/>

<https://www.udea.edu.co/wps/portal/udea/web/inicio/unidades-academicas/ingenieria/estudiar-facultad/pregrados/ingenieria-aeroespacial>

https://es.wikipedia.org/wiki/Ingenier%C3%ADa_mec%C3%A1nica