PRESENTATION

Hello ! We are POLAR-oïde, a french team of the high school Saint Cricq in PAU, a city located in south of the France. Our team is composed of five students, members of GalaXess (a robotics club) and SESAA (european section of physics). We participate in the league On Stage Advanced. Although we have a precise role in the team, we don't work only in our field.

JULIEN
is 17 years old. He worked on the mechanics, electronic and wire setup

YANN
is 16 years old. He made the programmation of the robots.

LOUISE
is 15 years old. She worked on the scenary : the pack ice in the background.

MANON
is 15 years old. She made the artistic creation and the communication part.

TOM
is 16 years old . He worked on the mechanical structure of the forklift.

GALAXESS TEAM

POLAR-OÏDE

PURPOSE

In our representation, we want to speak about global warming because it's a hot topic, very important to us . We are young and it's our future. So, we represent an inuit with a polar bear on the pack ice and two penguoins. They live in peace and hapiness but a business woman arrives and destroys the environnement because she pollutes the floe. The ice melts and the polar bear dies.

Thank you M. Metref and Verdier for your support with us !
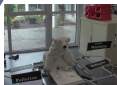
OUR TEACHERS

HARDWARE

We have 3 robots : two penguins and a polarbear , attached on a lift representing the pack ice.

Our main robot is Mopy, a polar bear composed of LEDS, aluminum plates ,that we have modeled and cut, and servomotors. There are 4 servomotors to re-create the vertical and horizontal movements of the head and those of the legs (up / down). The bear is in a polar bear plush costume.

SOFTWARE

We program in C ++ and we use Arduino IDE for the Arduino card. Also, we use M-blocks to program the baby penguins (M Bots).

ARDUINO

mBlock

C++

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The bear is attached on a plywood plate, laid on a forklift representing the pack ice which melts at the end. The forklift are assembled with furs that come down with a pulley and motor system. Also, there are The pack ice and the bear are controlled by an Arduino card. For the pack ice, there is also a relay and an infrared sensor. It is when this one detects a body, that the pack ice goes down. In addition to this, the detection of the sensor allows to 4 panels, each one attached to a servomotor, and to light blue LEDs located in the eyes of the bear.

Finally, we have two penguins robots that are two mbots that we won during the competition in France. We added a metal plate modeled and cut to allow the stability of the metal structure and newspaper of the penguins. They have an ultra sound sensor that when it detects an obstacle moves back, turns and forward

PAU

SESAA Lycée Saint Cricq

Lycée Saint-Cricq

RÉGION Nouvelle-Aquitaine

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