Global Junior Challenge
Projects to share the future

Published on *Global Junior Challenge* (https://gjc.it)

Project Location

Country: Greece
City: Trikala

Organization

Organization Name: TriRoboNauts
Organization Type: Other

Website

https://padlet.com/kareri/trirobonauts

Privacy Law

Consenso al trattamento dei dati personali
Do you authorize the FMD to the treatment of your personal data?: I do authorize the FMD to the

Project Type

Education up to 15 years

Project Description

Description Frase (max. 500 characters):

Our team, TriRoboNauts, is oriented to Inquiry based Learning for Space Awareness through Robotics. We built a project, "A Mars colony" in order the further exploration of our Milky Way. We believe that Astronomy and Space can be approached better, through robotics hands-on activities. Our project was ranked 2nd in the National Educational Robotics competition 2016, https://tinyurl.com/ybppo67t [1] **,** in Athens, and had been selected from over 800 participants from 36 countries as one of the ten best StarT projects in 2017, http://start.luma.fi/en/ideas/the-best-of-start-2017/ [2]

Project Summary (max. 2000 characters):

Team Name: TriRoboNauts (Trikala Robotic Astronauts)

1. Fotis Roumeliotis

2. Nektarios Siomos

3. Stefania Spahou

4. Vasilis Staridas

5. Galini Stafila

Teacher-Coach: Eleftheria Karagiorgou, Computer Science and Robotics teacher

Our project is a Mars colony, that includes:

1. Space ship launch base

2. Space ship

3. Communication centre- Satellite dish

4.Greenhouse with control centre for the temperature, the light and the conditions for the growth of our vegetables (like spinach)

5. Oxygen producing centre for the greenhouse

6. Communication satellite and meteorological satellite

7. Stone robotic collector from Olympus mountain that converts stones into soil for the greenhouse

8. Rover for the transportation of stones

9. Solar panels for producing energy

The space colony on Mars is the start for the Milky Way exploration. **All the above were built with Lego and Lego WeDo**

Inspiration for our project:

• the text “Fantastic trips into space”, from the Greek school book of 5th grade which is part of the Greek book of Rena Petropoulou, "? ???????? ? ?????????? ??? ? ???????? ??? ????????".•

• the project "Popeye on Mars", which has been developed by Greek scientists and the main idea is the building of a greenhouse for the cultivation of spinach on Mars. The specific project has been presented in a NASA contest.

The whole project was based on a lot of testings and changes. You can see our video of the project: https://www.youtube.com/watch?v=7ogB0Djf54A [3] (in English), https://www.youtube.com/watch?v=9mciSHkxI7A [4] (in Greek)

The project doesn't end here: We organised an "**Asteroid Day**" event, in order to learn more about Asteroids and their impact to our Solar System.
https://www.youtube.com/watch?v=lnOrfEBtX_c [5]

In our learning diary, you can see more about our activities:
https://padlet.com/kareri/trirobonauts [6]

How long has your project been running?

2015-12-01 00:00:00

Objectives and Innovative Aspects

The objectives of the project "Building a Mars colony with Robotics" are:

1. raising Space awareness through Robotics

2. learning to collaborate in a team

3. learning through Inquiry based learning

4. learning coding through Robotics, with Scratch (https://scratch.mit.edu/ [7])

5. learning about storytelling, by using our imagination for the scenario of the project

The instruments used in our project are:

1. Lego WeDo+motors+sensors

2. Internet for searching informations about space and Mars

3. Scratch environment for coding

4. Windows Movie Maker for the videos

5. Learning Diary-Padlet (https://padlet.com [8])

Results

Describe the results achieved by your project How do you measure (parameters) these. (max. 2000 characters):

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whereas,
the team
project, w
https://ww

How many users interact with your project monthly and what are the preferred forms of interaction? (max. 500 characters):

Through our videos, we can calculate the interaction with users, since we can measure the views of our videos and the like/dislike preferences

Sustainability

What is the full duration of your project (from beginning to end)?: From 1 to 3 years
What is the approximate total budget for your project (in Euro)?: Less than 10.000 Euro
What is the source of funding for your project?: Other
Specify: Robotics team
Is your project economically self sufficient now?: No

Transferability

Has your project been replicated/adapted elsewhere?: No
What lessons can others learn from your project? (max. 1500 characters):

I don' t know if others ar
passion and love for wh
members of the team se
to happen. I hope that b
the better!

Are you available to help others to start or work on similar projects?: Yes

Background Information

Future plans and wish list (max. 750 characters): Our team will continue to exist, with events and act
we love Space!

Attachments: Presentation of the project "Building a Mars colony with Robotics" [9]
Why is Mars called the Red planet? Learning about Chemistry with Lego bricks-Depic
of Fe2O3 [10]
The logo of TriRoboNauts-Robotics team [11]
All the members of TriRoboNauts [12]

TriRoboNauts [13] Robotics [14] Space [15] Inquiry based learning [16] mars [17] Lego WeDo [18]
colony [19]

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Links
[1] https://tinyurl.com/ybppo67t
[2] http://start.luma.fi/en/ideas/the-best-of-start-2017/

[3] https://www.youtube.com/watch?v=7ogB0Djf54A
[4] https://www.youtube.com/watch?v=9mciSHkxI7A
[5] https://www.youtube.com/watch?v=lnOrfEBtX_c
[6] https://padlet.com/kareri/trirobonauts
[7] https://scratch.mit.edu/
[8] https://padlet.com
[9] https://gjc.it/sites/default/files/trirobonauts.pdf
[10] https://gjc.it/sites/default/files/mars_the_red_planet.pdf
[11] https://gjc.it/sites/default/files/logo_trirobonauts1.png
[12] https://gjc.it/sites/default/files/team_trirobonauts3.jpg
[13] https://gjc.it/en/keywords-separate-commas/trirobonauts
[14] https://gjc.it/en/category/keywords-separate-with-commas/robotics
[15] https://gjc.it/en/category/parole-chiave-separate-da-virgole/space
[16] https://gjc.it/en/keywords-separate-commas/inquiry-based-learning
[17] https://gjc.it/en/keywords-separate-commas/mars
[18] https://gjc.it/en/keywords-separate-commas/lego-wedo
[19] https://gjc.it/en/keywords-separate-commas/colony