





Project Scenario: Milky Way planet exploration

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

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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, "Ο Σοφούλης ο Ψαλιδούλης και η απόδραση στο Διάστημα".

• 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.

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The project consists of:

- 3 automation with Scratch programming
- 2 automations with batteries
- A laptop and a tablet with Windows 10 for Scratch programming)

The virtual world

- 2 virtual worlds in Scratch that function in the same time with the real environment of the project:
- The one present the space ship launch, the function of the satellites, the communication waves and the function of the satellite dish, through the use of a distance sensor.
- The other one presents the function of the stone collector in conjunction with the function of the transportation rover through the use of 2 distance sensor (one for the rover and one for the stone collector).

