HABITABLE EXOPLANETS: CREATING WORLDS BEYOND OUR OWN.

Los vaqueros Interplanetarios V2.O

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NASA SPACE APPS CHALLENGE

MOTIVATION, OBJECTIVES Y REACH

The Relevance of the exoplanet exploration.

The search for exoplanets allows us to understand the nature of worlds beyond our Solar System, and poses the question: Are we alone in the Universe?
We are a group of students with a passion for astronomy, who also share an interest to develop projects that help our community.

Project Objectives

1. Provide an interactive tool that allows us to comprehend the essential conditions that make a planet habitable.
2. Facilitate the understanding of these conditions for macroscopic, microscopic, and human life.
3. Focus on guaranteeing the accesibility and inclusion of visually impaired people.

OUR PLANET'S CHARACTERISTICS

01. Spacial

- Firework Galaxy NCG 6946.
- Orbitates around a G star.
- Super-earth, 22 millon light years away.
- One moon and 3 neighbor planets.
- One of the neighbors is a massive planet that helps avoid colliding objects
- Average day lasts 3 earth-days.

02. Atmospherics

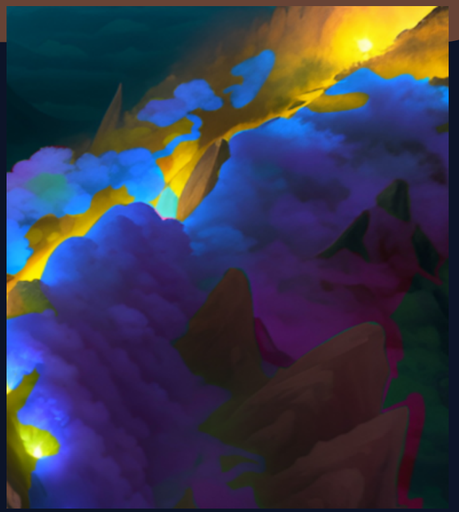
- Temperature of 0 to 40°C
- 100 kPa atmospheric pressure.
- 7.2 m/s2 gravitational force.
- Sulphur rains.

03. Geological

- Multiple mountain bodies and volcanoes.
- Rivers and glaciers.
- Small bodies of sulphuric water.
- Underground deposits of sulphur-free water.
- Presence of metals in mountains.

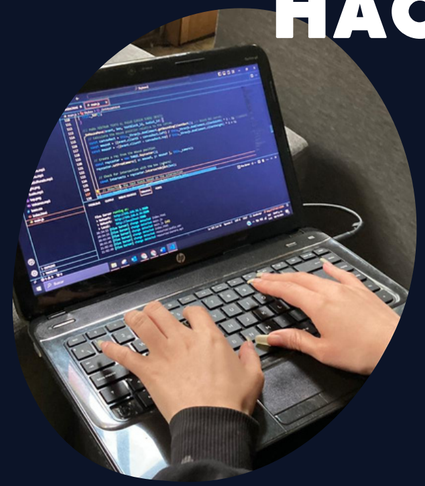
04. Biological

- Silicon-based life.
- Zeolites instead of enzymes.
- photosynthetic molecule: phycocyanobilin.
- Single-cell organisms present phosphorescence



DEVELOPED WEBSITE

OUR JOURNEY THROUGH HACKATON



Metodology

Distribution of roles according to our abilities.

Task organization using Kanban tables in Notion.

Tools

Resources

TESS and Kepler generated NASA exoplanet catalog.

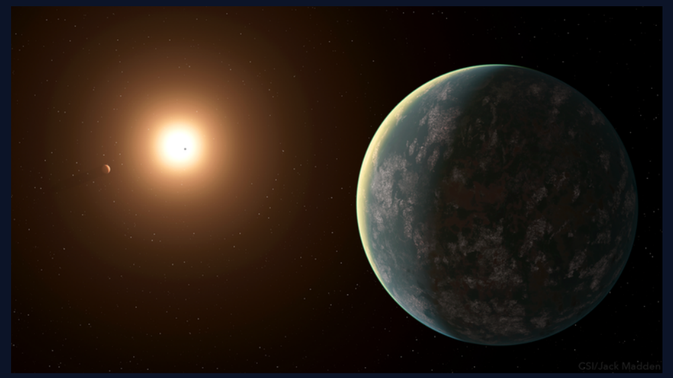
Astrobiology documents.

Good music and Pan de Muerto.

Link to the project's Notion

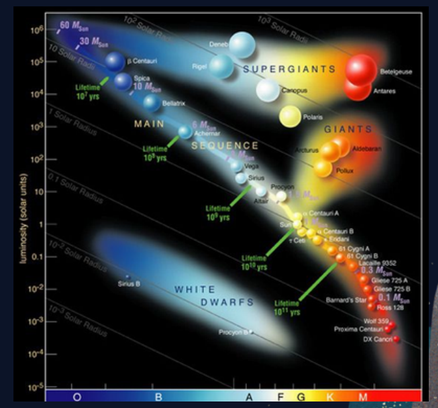
FUTURE DEVELOPMENT

- Develop a more advanced and realistic app



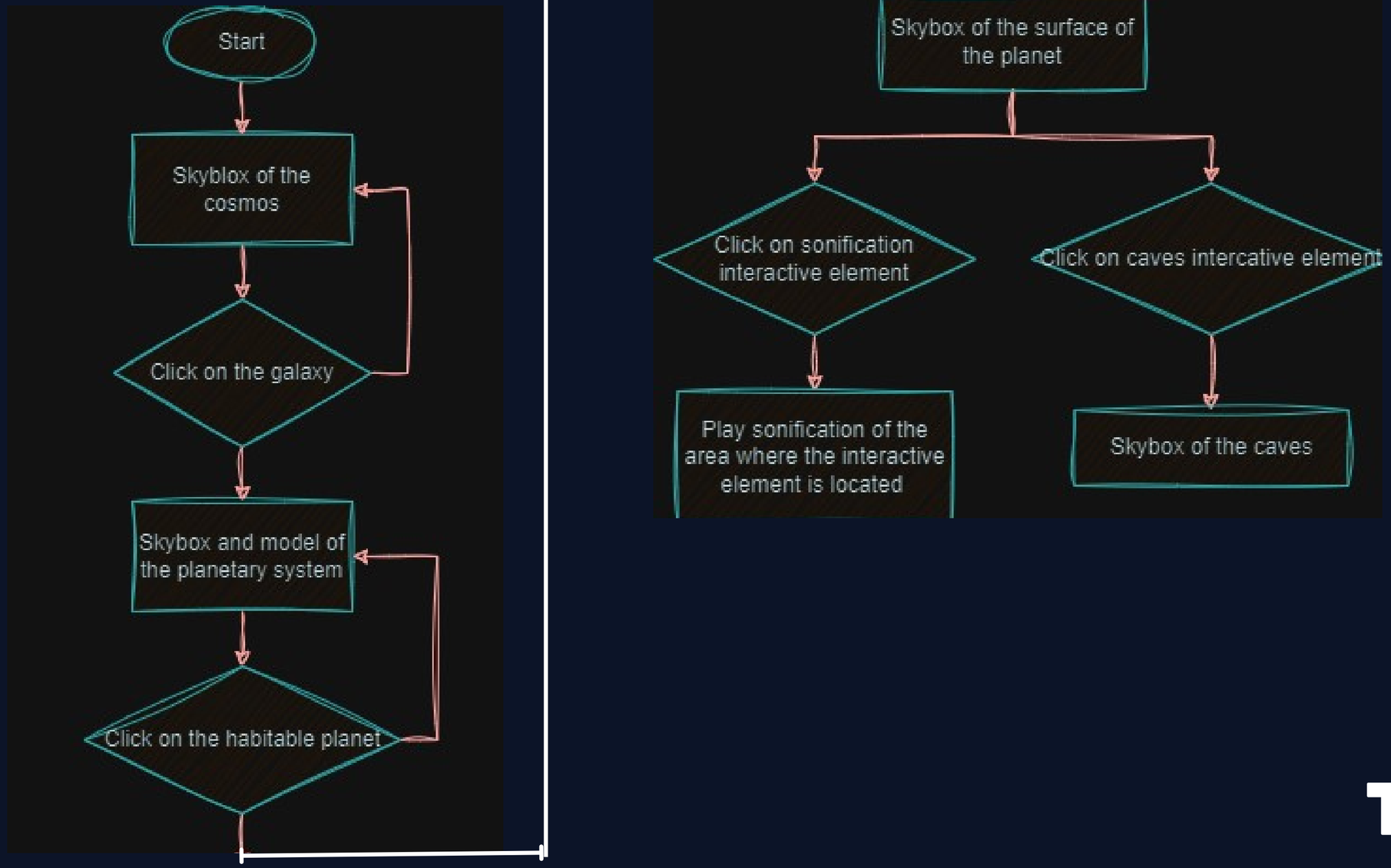
- Allow users to access a broad range of planet-related variables (star type, orbital distance, mass, atmospheric characteristics, etc.)

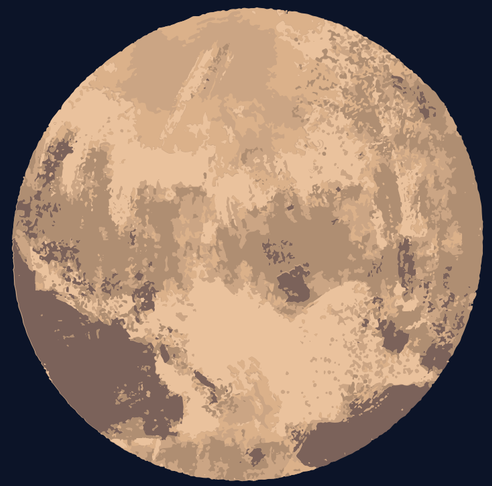
- Based on these variables, determine the habitability of a given planet.



- Inclusion of descriptive audio and texts elements for people with visual and auditive impairment.

FLOWCHART





Thank u <3