Revisions

Added evaluation in 1.1. Added documentation in 1.2

1 Overview

The Lampquest Terraform game needs serious upgrades. The game engine was created over the summer by the TA. While it works, there are features needed in order to encourage greater participation from future classes. If your project is good enough, it will become the application for students to learn about databases next semester. In fact, with the change in the web-app architecture used here, your project could be used for several years.

Note: Check here for updates!

2 Game Elements

The game needs many new planets and robot types added. As such, you should design at least 10 planets with varying levels of difficulty. Likewise, there are not enough robot types to be interesting. You should add at least 5 combiners and 5 diffusers. All of the new robot types should be applicable to either existing or your new planets.

You project should include the SQL to insert the planets and robot types into the existing database.

3 Game Mechanics

Two new game mechanics are needed to help the game.
3.1 Plant Picker

Currently, the planets are processed in order (that is, all players start with the same planet, then proceed to the same one next, etc.). Extend the game to allow players to pick planets. Planets should be coded as to their difficulty (color, numbers, etc.). It is allowed for some planets to be “unlocked” when a player accomplishes some objective, but any available planet can be selected at any time. For example, players might be forced to start with a tutorial planet. Completing that might unlock all planets considered “easy.”

This can be a separate web page from the actual terraforming page.

3.2 Leader Board

Users should be ranked according to the number of planets terraformed. Rankings are based on

1. Number of planets completed
2. Total time to complete all planets

A penalty should be added to the time for each failed terraform.

Note that this will require an extension to the database to know when a planet is completed. The leader board should be incorporated into the login page.

4 Documentation

• You should provide usernames and passwords for your system (especially the root username and password).

• You should document all changes to the database (new tables, new columns, etc.) in a separate SQL file containing the commands (ALTER TABLE, CREATE TABLE, etc).

• You should provide a walk through of new features. The walk through should be sufficient for us to determine the success of your implementation.

• You should provide normal form analysis of any new table added.

5 Evaluation

Completion of the above requirements will result in a "C" for the project. In order to receive a higher grade, additional features must be added to the web site. Both the quantity and the quality of the innovation matter. So one really nice feature is equivalent to several smaller features.
At the end of the project, each team member will provide an evaluation of the contributions of all team members, including themselves. This evaluation should be a list of items contributed by each team member and an overall percentage. The percentages must add up to 100.