*Space Panther First Iteration*

Rongcui Dong (rd2848) and Olessya Medvedeva (oam2113)

1. The date and time at which you already completed this demo, and briefly describe any challenges that arose during the demo:

Demo was presented on the 8th of November. During the demo we realized that Travis CI was reporting false negative while running the physics test. The breakage was introduced on commit b2de742bc1bba72c1372479d3f9af7a2ec9410bf. It is very likely caused by an incorrect parsing of exit code, which returns success despite the test script failing.

2. The specific user stories and conditions of satisfaction that were demonstrated, with an explanation of any changes since your revised proposal:

We implemented the user stories 2, 3 and their condition of satisfaction for those stories as well.

**User story 2:** as a student, I want to be able to choose any number of planets for the galaxy and enter their coordinates, mass, and velocity for simulation so that I could have a better visual understanding of physically accurate relative position of the planets in my n-bodied galaxy.

Condition of satisfaction and acceptance testing: basic input validation

I must be able to choose the number of planets that I want to be simulated, must be able to enter their mass:

After the prompt to enter the number of bodies that the user would like to implement if the user enters any positive whole number not equal to zero the second prompt will ask to enter the information for the 1st body and the entry in the database will be made in the table planets with the ids generated for each planet. If the user enters any negative, zero or non decimal number, the prompt will be repeated to enter the any whole number except zero. This error message will appear till the acceptable input is given.

If I entered negative numbers for the mass or coordinates that are the same for the previous body (unless it is the entry for the first planet than coordinates are expected right away) I should be prompted to enter the information again explaining that negative or zero values are not permitted for the mass and velocity and the same coordinates could not be given for 2 or more planets .If I continue using the same information without correcting, the message will repeat till correct information is given.

I must be able to add one or more planets’ information to the previous simulation right away or later if I need/want to. After I entered the information and got my simulation, I will have a choice to add more planets for the simulation. In this case the previous scenarios will apply to the number of the planets I want to add and their numerical information. After I ad entered the information and got the simulation, the entries will be made in the database reflecting the data entered but will not be committed unless I saved the configuration at the end.

**User story 3:** as a user, I would like to be able to save my galaxy’s information I had entered (such as each planet’s weight, velocity and coordinates) before termination of the app so that I could reuse this galaxy’s information again without entering the data again. Condition of satisfaction: before I terminate the application, I need to be prompted to save my work if I want to.

When the user quits the application, a prompt to save is popped up.

When the user saves a galaxy, the prompt should allow inputting an identifier. Then, a database will be updated to save current galaxy state. If for some reason the connection to the database was not possible, the error message will notify the user that it is not possible to save the state at this time.

3. A brief discussion of your CI mechanisms, including which technology you used:

Travis CI is used to automatically test physics framework, which is a header-only library designed to be easily integrated and tested. The tests include a smoke test which computes the orbits of a simple galaxy, and a human may choose to inspect the output data. In addition, there are unit tests using the Catch 2 framework to test various input validation functions. All equivalence classes are considered and included when constructing these test cases.

Jenkins is set up on a private machine, which is exposed to the internet through ngrok service and connected to Github. It is intended to be used for testing code related to Unreal Engine. However, currently it only pulls the repository on commit, and does not perform any actual testing.

4. A link to the github repository where your entire codebase resides. Tag the revisions that were shown in the demo:

https://github.com/rongcuid/OpenSpaceOrSomething

Revision: b5c1b7107250ae1ac6464f2f365ddb91e4d8bc0f