DataFlight Project

Github link : https://github.com/dakom35/DataFlight_Project

Results :

The Earth image is displayed correctly on the sphere object.

In the Interface class, many controls are available to move the object :
RIGHT,LEFT,UP and DOWN arrows to rotate the sphere along y and z axis.
SHIFT and SPACE to get the camera closer and further from the center of the Earth.
Z,Q,S and D to translate the camera up, left, down and right.

When you right click on the sphere, the console returns the location with latitude and longitude coordinates :

```
Your click : [LAT = 21, LONG = 20]
Nearest airport :[LAT = 12, LONG = 15, COUNTRY = TD, NAME = N'Djamena International Airport]
```

The coordinates are printed as integers, but really they are floatting numbers otherwise accuracy would be way to low.

Given the position of your right-click, the console returns the nearest airport which could be useful if you're in a plane.

To get the latitude and longitude, you get the X and Y coordinates of the sphere object and :

```
double latitude = -180 * (Y - 0.5);
double longitude = 360 * (X - 0.5) ;
```

Then I tried to display a red sphere on the closest airport but unfortunately, getting the X,Y and Z coordinates from latitude and longitude is not working, this is way the red spheres are in the ocean on the first figure.

```
double X = -radius * Math.cos(latitude*p)*Math.cos(longitude*p);
double Y = -radius * Math.cos(latitude*p)* Math.sin(longitude*p);
double Z = radius * Math.sin(latitude*p);
```

This is the class diagram used :
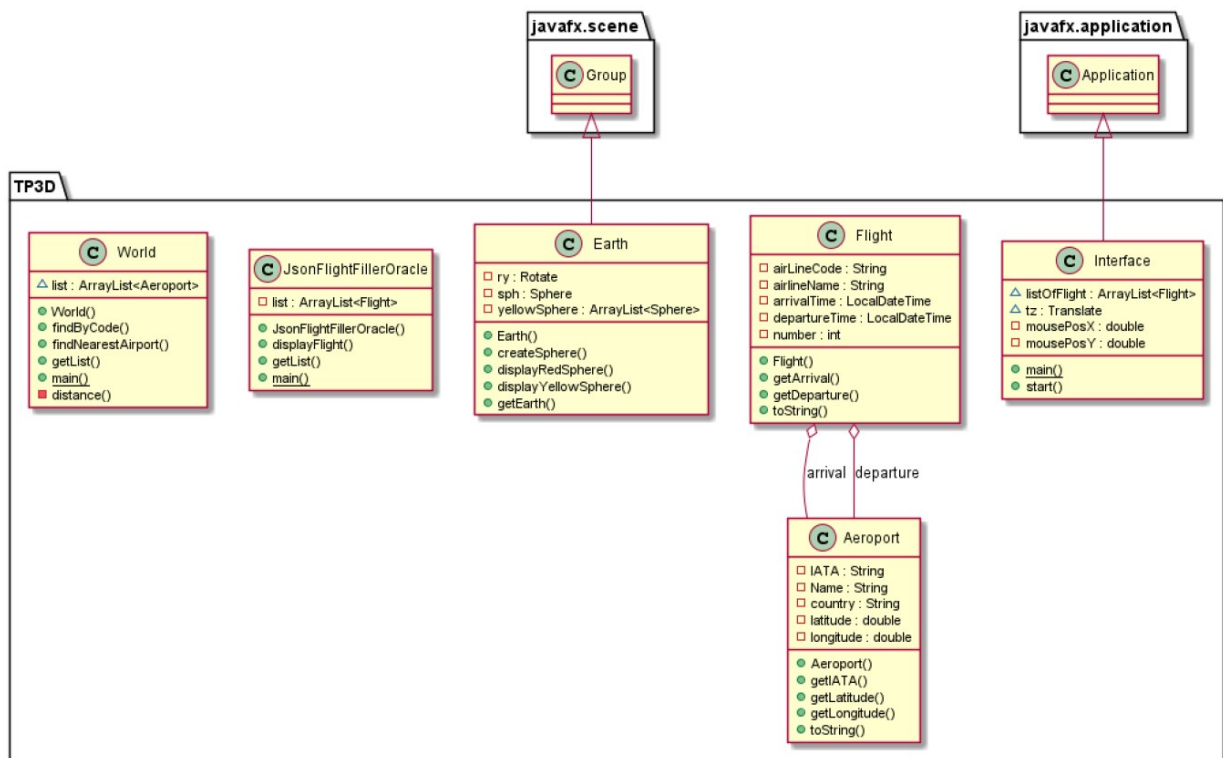
Some classes are not in the project because I did not finish completely the project.