

GRD - TDD - Data Visual

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Intro

The purpose of this document is to highlight what is required to create a tool that can showcase data when a country is selected. The reason why this is worth doing is because there is a lack of simple data visualization of the globe and human population in each country. The solution would be to create a simple UI that anyone can understand, and all they have to do is click on each country to see data.

Future goals would be to incorporate different types of files for a variety of datasets.

Using Unity version 2022.3.12f1 as the editor for the project, along with visual studio for the coding aspect. Gitkraken as a way to commit files to Github.

Solution

The solution to create a system that matches these objects requires a few things.

1. A file reader that can read the inputted data.
2. Storing the data, to be used when required
3. Incorporating the data with the previously downloaded world map asset.
4. Adding UI elements to show the activated data

By implementing the stored data with an already created map asset, with each country already separated and clickable, this allows for quick progress. Because there is a downloadable asset, the problem is that it is unfamiliar code and can be tricky to navigate.

One way to ignore adding the file reader and storing data would be to manually implement all data into each country which would currently allow for easier manipulation of data. However doing this is not sustainable, it would require way too much time and it would be difficult to scale up.

Input

The input would require a mouse and the ability to left click. Left clicking can select the country, data options or move the camera by holding left click and dragging the mouse. This can be modified to include touch devices and a finger/stylus. Another way to extend functionality would be to allow the right click to select a second country so that there can be a comparison of both selected countries.

```
For loop (Total countries)
{
    CurrentCountry.rank = int CountryRank
    CurrentCountry.name = string CountryName
    CurrentCountry.population2000 = Int Datapop2000
    CurrentCountry.population2010 = Int Datapop2010
    CurrentCountry.population2015 = Int Datapop2015
    CurrentCountry.population2020 = Int Datapop2020
    CurrentCountry.population2021 = Int Datapop2021
    CurrentCountry.population2022 = Int Datapop2022
    CurrentCountry.population2023 = Int Datapop2023
    CurrentCountry.GrowthRate = float GrowthRate
}
```

Pseudocode of Data parser.

```
if (rank <=10)
{
    Country.sprite.colour = top10Colour
}
else if (rank <=25)
{
    Country.sprite.colour = top25Colour
}
else if (rank <=50)
{
    Country.sprite.colour = top50Colour
}
```

Pseudocode of Country colour based on rank.

Country
Rank: 1

Data field 1:
Data field 2:
Data field 3:
Data field 4:
Data field 5:
Data field 6:
Data field 7:
Data field 8:

Planned look of UI element for showing data.