1 Goals

This project tries to give a comprehensive overview of gun possession around the world as well as gun-related statistics such as crimes, selling, etc. It tries to do it in an interactive fashion that favours visualisation over text, using an interactive map and other interactive visualisations, such as *plots* and *pop-ups*.
It has the objective of giving accurate information in a engaging way. There is the possibility of a quizz page where users can answer to quizzes about some of the statistics. However, this is considered and extra for now, as it might not be implemented without endangering the whole goal of the project.

2 Tools used

We are intending to use various tools and principles. In the moment, to have the functional sketch, we are using *Leaflet* to produce the interactive map, using HTML, JavaScript and CSS to personalize the maps.

However, we might use more tools and principles learnt in class. We may use *D3.js* from class 4.2 to implement part of the colour scales that we have to use in the Map. Moreover, we are thinking of using *Lodash* to implement some of the JavaScript logic for all of the pages, learnt also in class 4.2. To be able to visualize some parts of the dataset on the Home page, we might need the help of *Crossfilter* to explore the dataset, as learnt in class 5.2.

To choose some of the colours present in our design, we need the code of the colour, or even maybe a colour palette. To do that, we were thinking of using *I Want Hue* or *chroma.js*, learnt in class 6.1. In order to enhance our final visualisation, we thought of being guided by the principle of Technique-Driven Design, as we saw in class 7.1.

Finally, to store the maps we use the format *.geoJSON*, as learnt in class 8.2.

3 Breaking it down

The project can be subdivided into 3 main parts, which in turn can be subdivided into tasks:

- World Map
- Quizz Page

3.1 World Map

The world map is by far, the component which is already more developed. The map itself is already implemented. However, the steps needed to accomplish the whole task are:

1. Get the map as a *.geoJSON* file and load it using *Javascript*. The file used has the name of each country, the *ISO_A3* and *ISO_A2* codes for each country and the geometry,

which is encoded in terms of latitude and longitude points. These are loaded on top of a base layer, which is provided by *Esri/Leaflet* libraries. Link to the *.geoJSON* file here.

2. For each country, create a *popup* when the country is clicked that shows information present in the dataset chosen, such as `Number of firearms, Ownership rate , Gun-related deaths, etc...`. Add some interactivity and present this information in an appealing way are also tasks associated with creating the *popup*.

3. Add a colour encoding how dangerous each country is. This colour ranges from green to red, which are colours normally used to encode danger. We calculate the danger score using `Gun Death Rate`.

4. Enhance the visualisation, using techniques learnt during class.

3.2 Quizz Page

Although it is still not clear if this feature is going to be implemented (as we said, it is an extra feature), we present a plausible division of tasks to accomplish the end goal.

1. Select, for each country, what are the plausible options to use in each of the dropout menus.

2. Collect the input of the user and check for correctness.

3. Choose and implement the design of each question and the page itself, making it appealing to the user and keeping it consistent with the style adopted in rest of the website.

4 Additional Features

One of the possible features is the Quizz itself. Assuming the Quizz is implemented, one possible idea would be to create some type of score, which would therefore enable us to create a rank for each solution to the quizz. With that, we can create, for example, a leaderboard. Moreover, we can include other details in each country's *popup*. This could be, for example, a funny fact regarding each country relationship with guns. We could also create a *Share* button in the quizz, where one can share its score in *X, Facebook, Instagram, etc..* This would enhance the interactivty between users and allow them to showcase their knowledge on the topic.

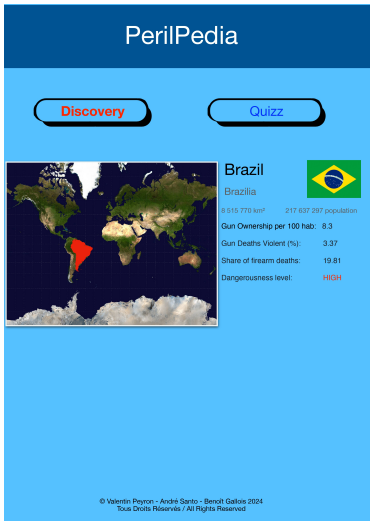
5 Live Demo

In order to use the Live Demo, please follow the steps in `readme_launch.md`.

6 Sketches

(a) Map Welcome Page

(b) Map Page for Australia



(c) Map Page for Brazil

Figure 1: Map Demo

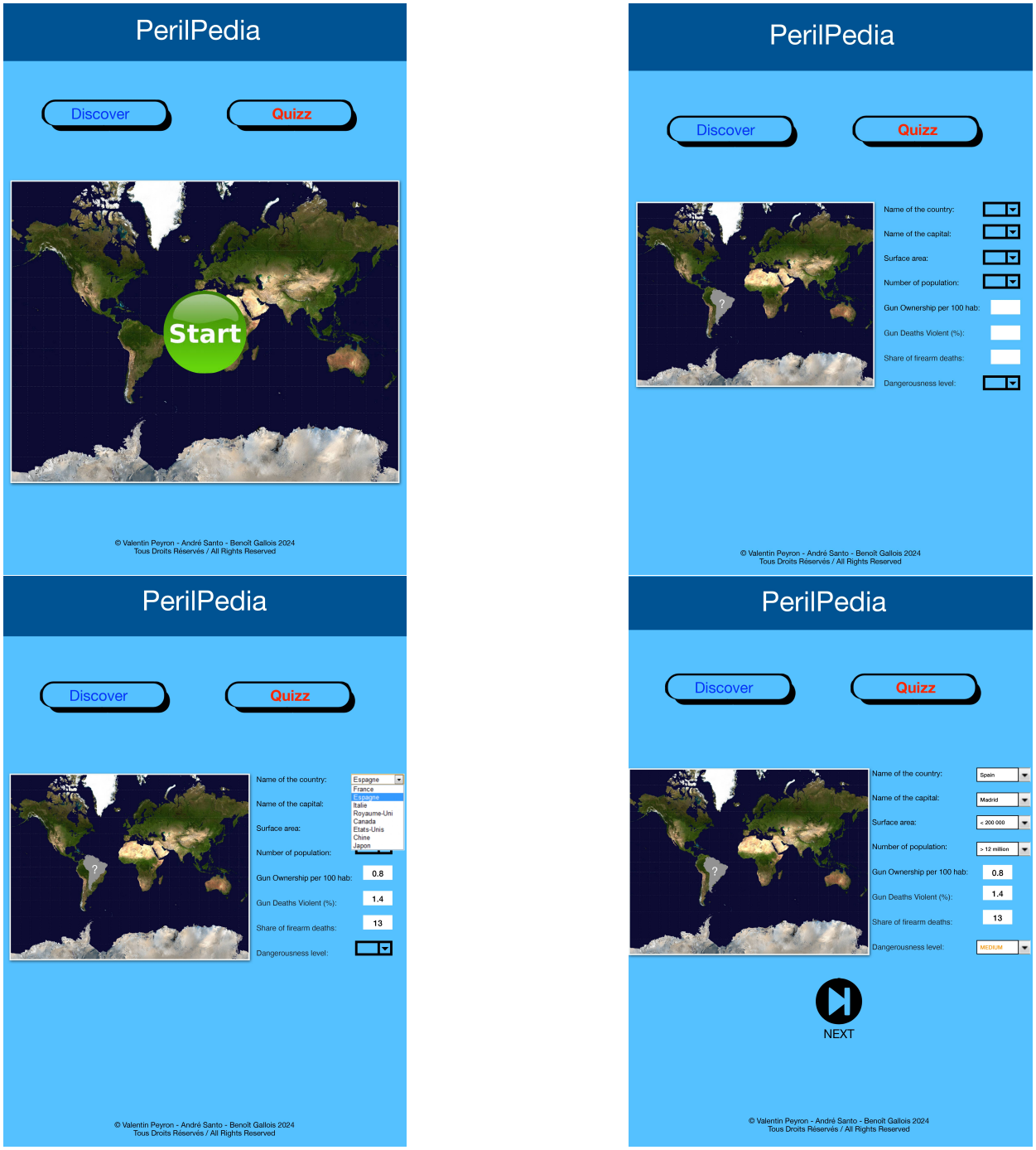
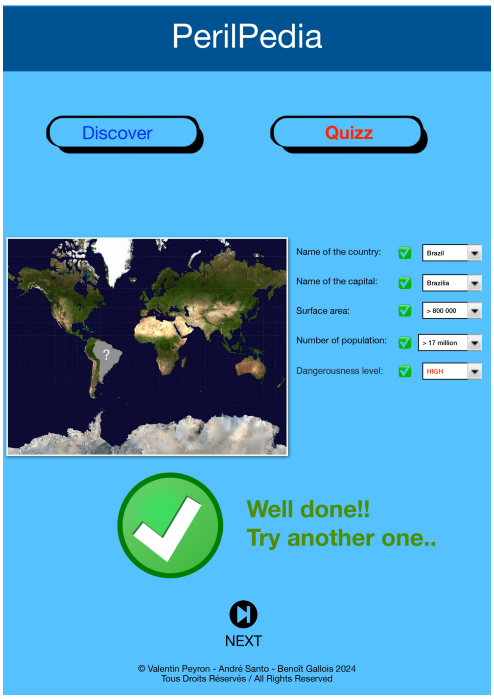


Figure 2: Filling in a Quizz Demo



(a) Right Quizz

(b) Wrong Quizz

Figure 3: Right and Wrong Quizz Demo