



# Mini Projet SIG

*DESIGN & IMPLEMENTATION OF A GIS / Web App  
GIS with R FOR DATA ANALYSIS : COVID*

**Authors :**

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Moussa SIDIBE

# Plan

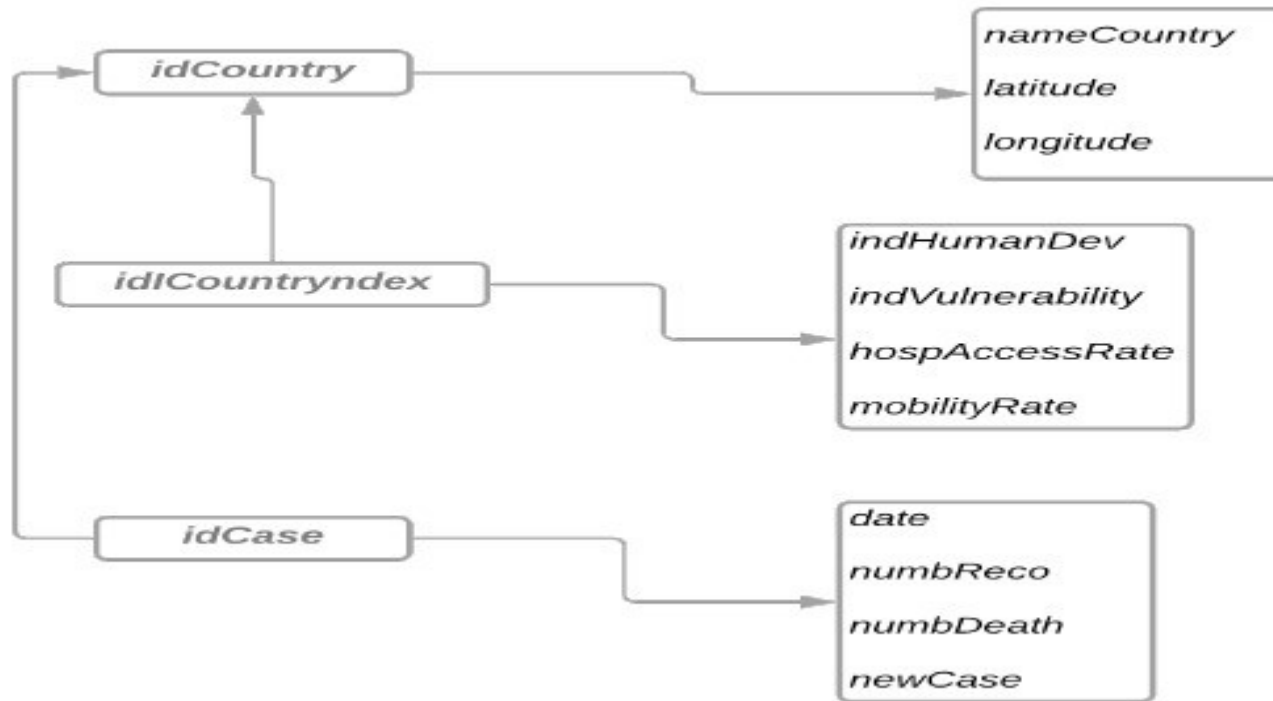
- INTRODUCTION
- Spatiale Analysis
- Web Conception
- CONCLUSION

# Introduction :

Data visualization is an effective tool for disseminating information and accessible to everyone. In this perspective, we are going to set up spatial data visualization tools to provide updated information on the cov19 pandemic. Because according to William Playfair "**We do calculations and proportion, the surest way to strike the mind is to speak to the eyes**". So this tool can be used for decision-making purposes as for awareness-raising to encourage compliance with restrictive measures.

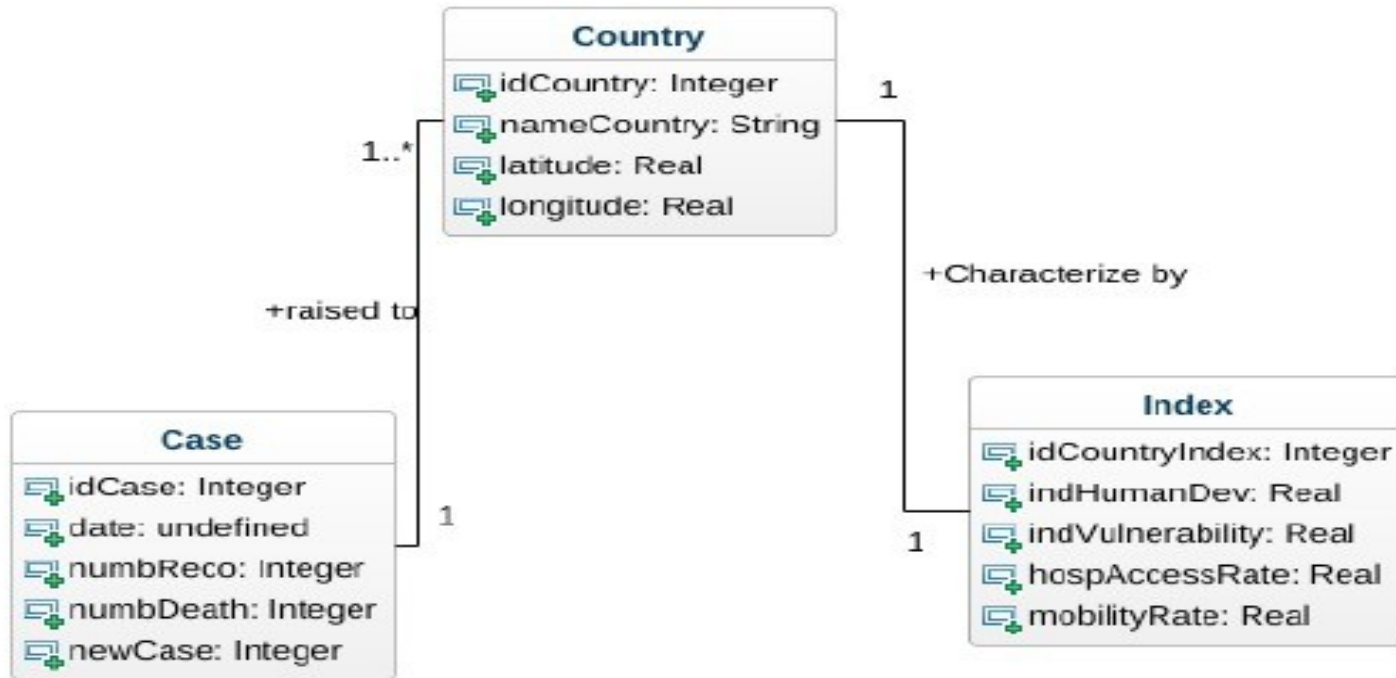
# Conception model :

Diagram of dependency:



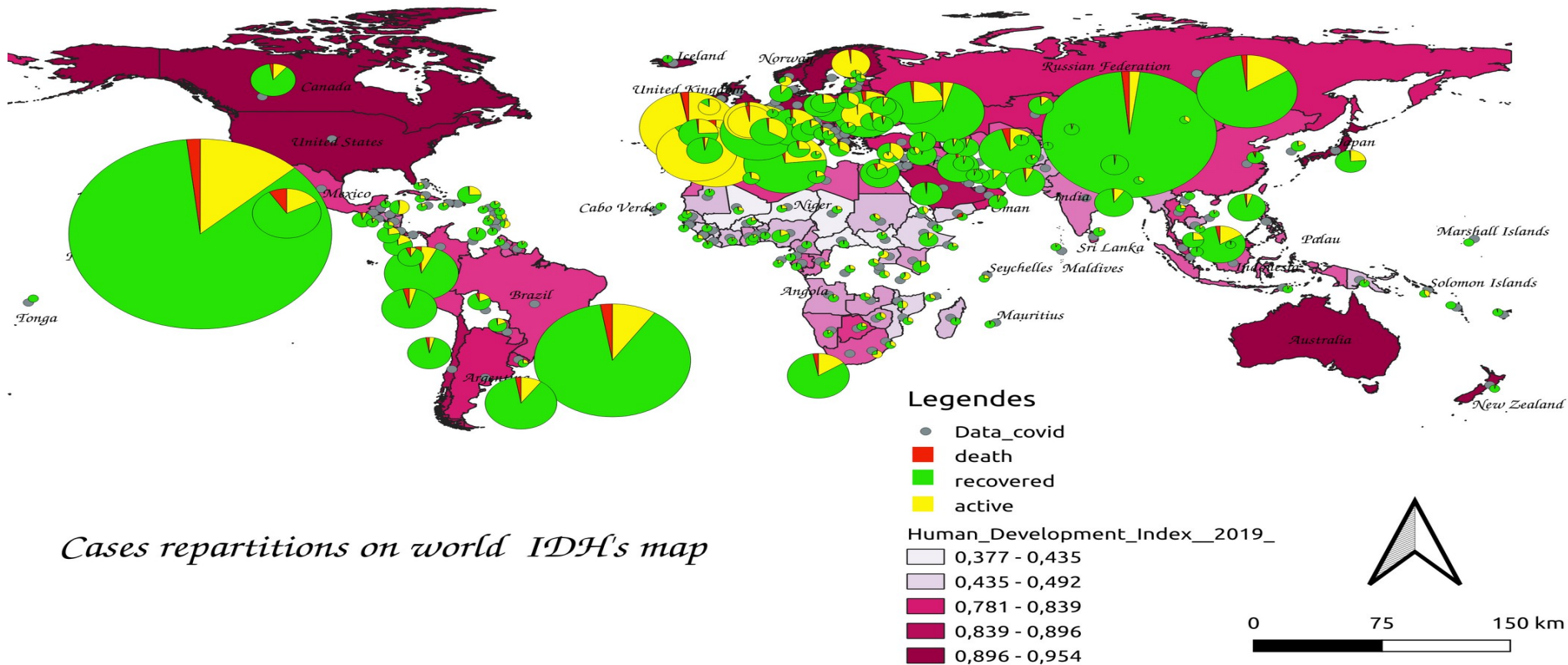
# Conception model :

MCD diagram:



# Spatiale Analysis :

## 1- Human Development Index(HDI) vs Coronavirus :



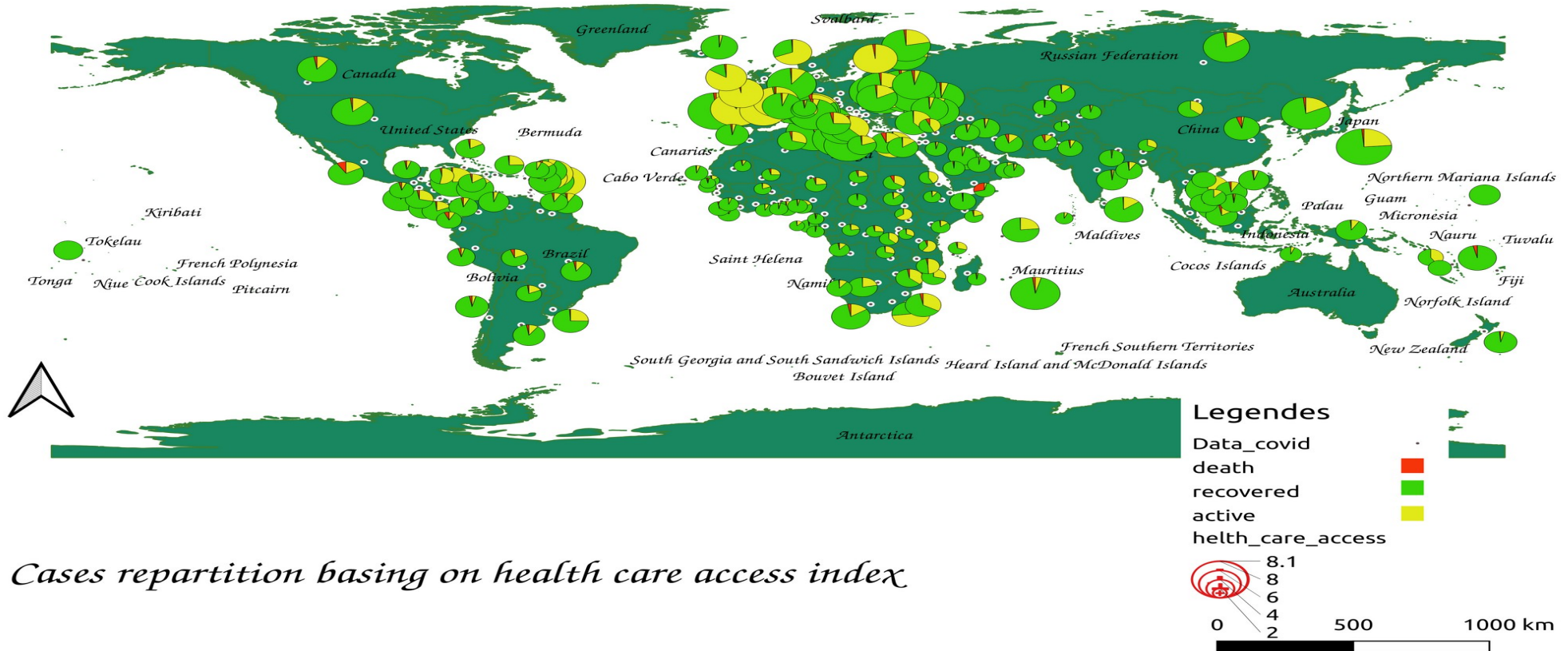
*Cases repartitions on world IDH's map*

# Spatiale Analysis :

Spatial analysis on HDI and covid-19 illustrate that even if the most developed countries are more affected with a high propagation of covid but they resist again virus fatality than sub-developed countries which is clearly observed on death rate for example Niger with 3,27% than 2,37% in France.

# Partie Analyse :

## 2- Health care access index vs cov19 :



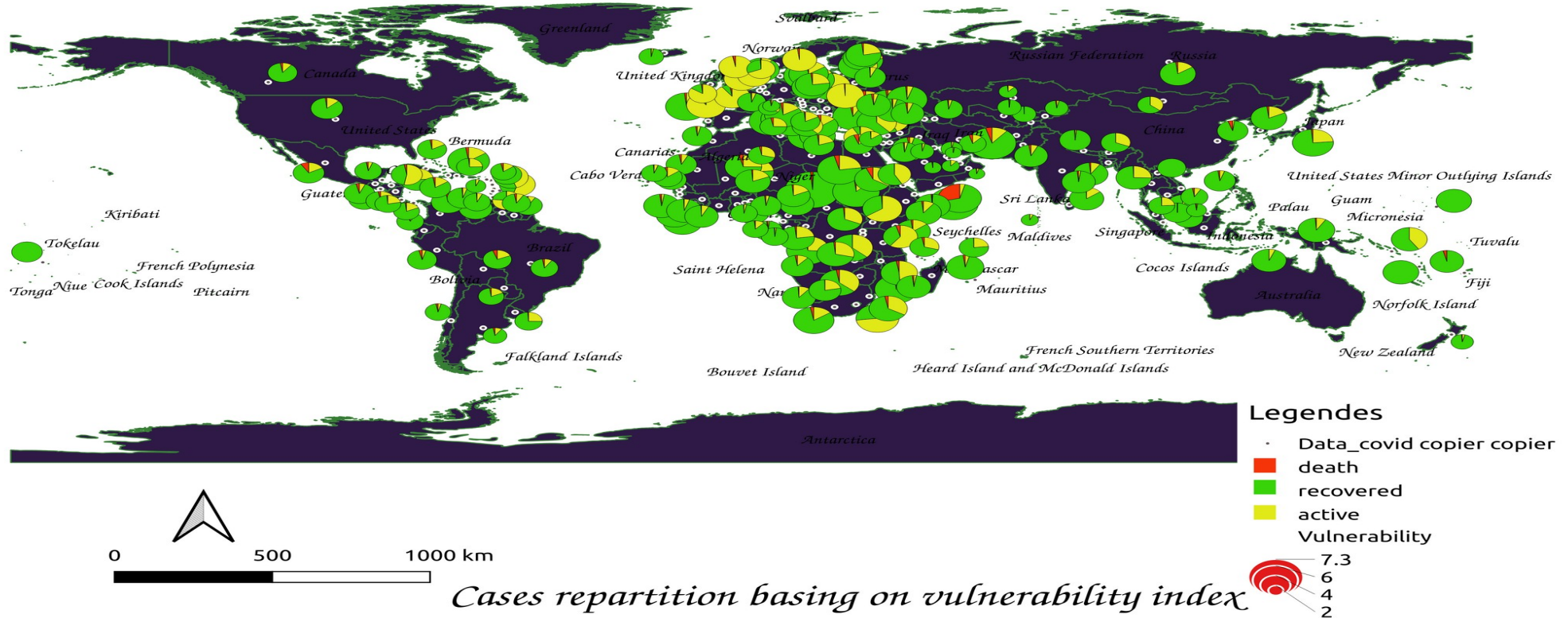


# Spatiale Analysis :

Of course, there are other factors that influences on recover rate but health care access play an important role also, one hand there are a huge contamination rate but a large space to receive more critical patient with breathing problem or diabetic,... That avoid explosion of death rate as we can see in African countries or some American poor countries with less cases than other but a high death ratio as Egypt with 5,49%,Mexico with 8,57%.

# Partie Analyse :

## 3-Vulnerability vs Covid19 :

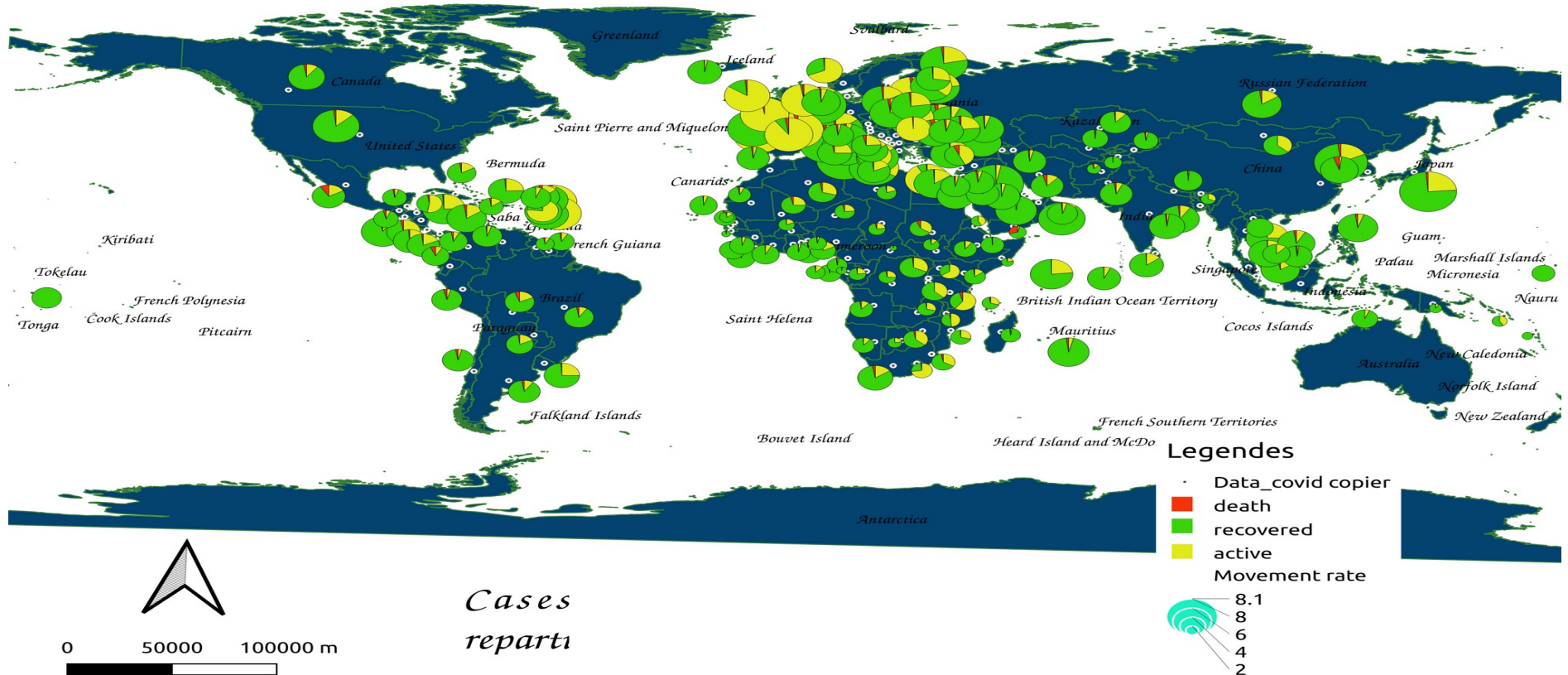


# Partie Analyse :

As precedent analysis plus the the country is vulnerable to face the pandemic plus death ratio is high cause of lack of means to invest in hospital, to make a consistent measures as lock-down, telecommuting,...

# Spatiale Analysis :

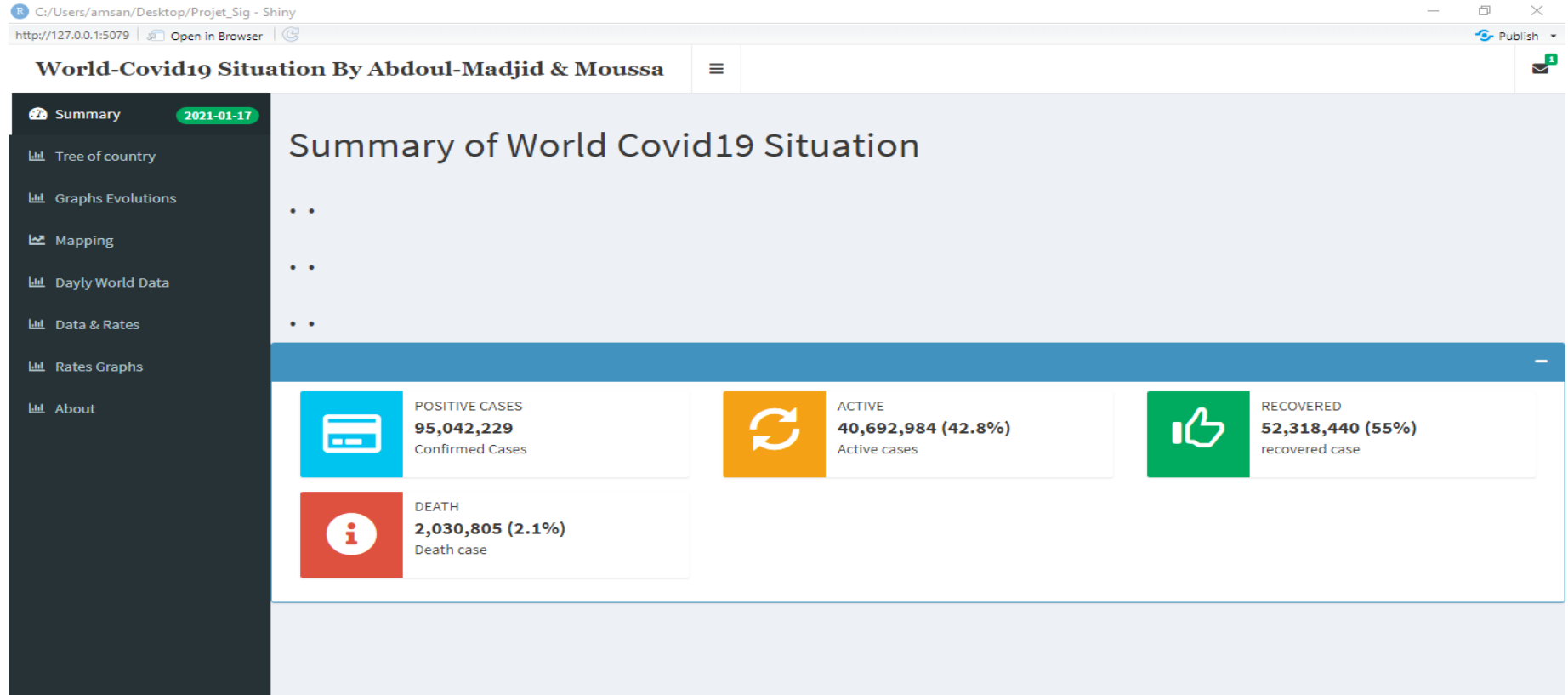
## 4-Mouvements vs Cov19 :



# Spatiale Analysis :

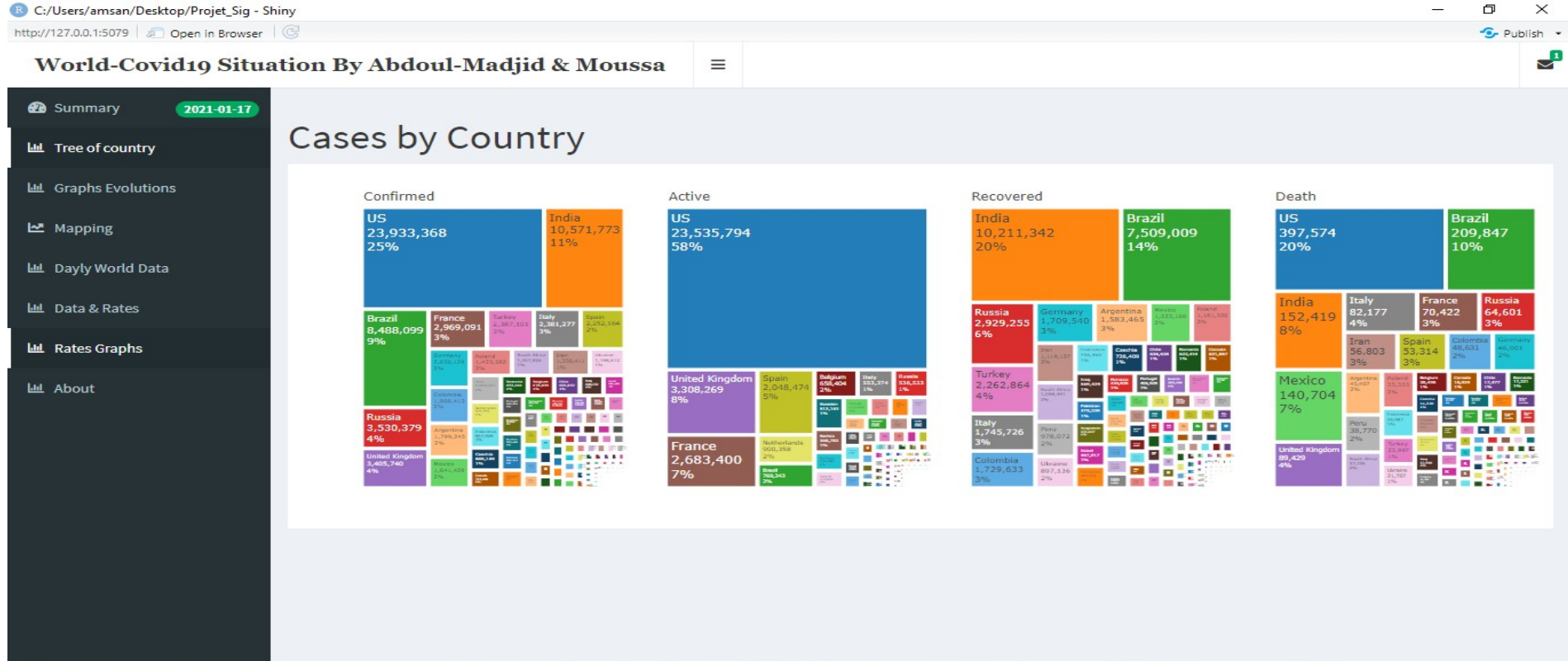
In this part, we analyze the impact of mobility in the contamination. These travels can be business plan that support economic or importation of subsistence, also inside the country interdependence of cities that can cause a huge damage in the spread of viruses. Fortunately, this impact was cushioned by sanitary barriers. But it has caused problems in high mobility countries like the United States, Canada, ...

# Conception part:



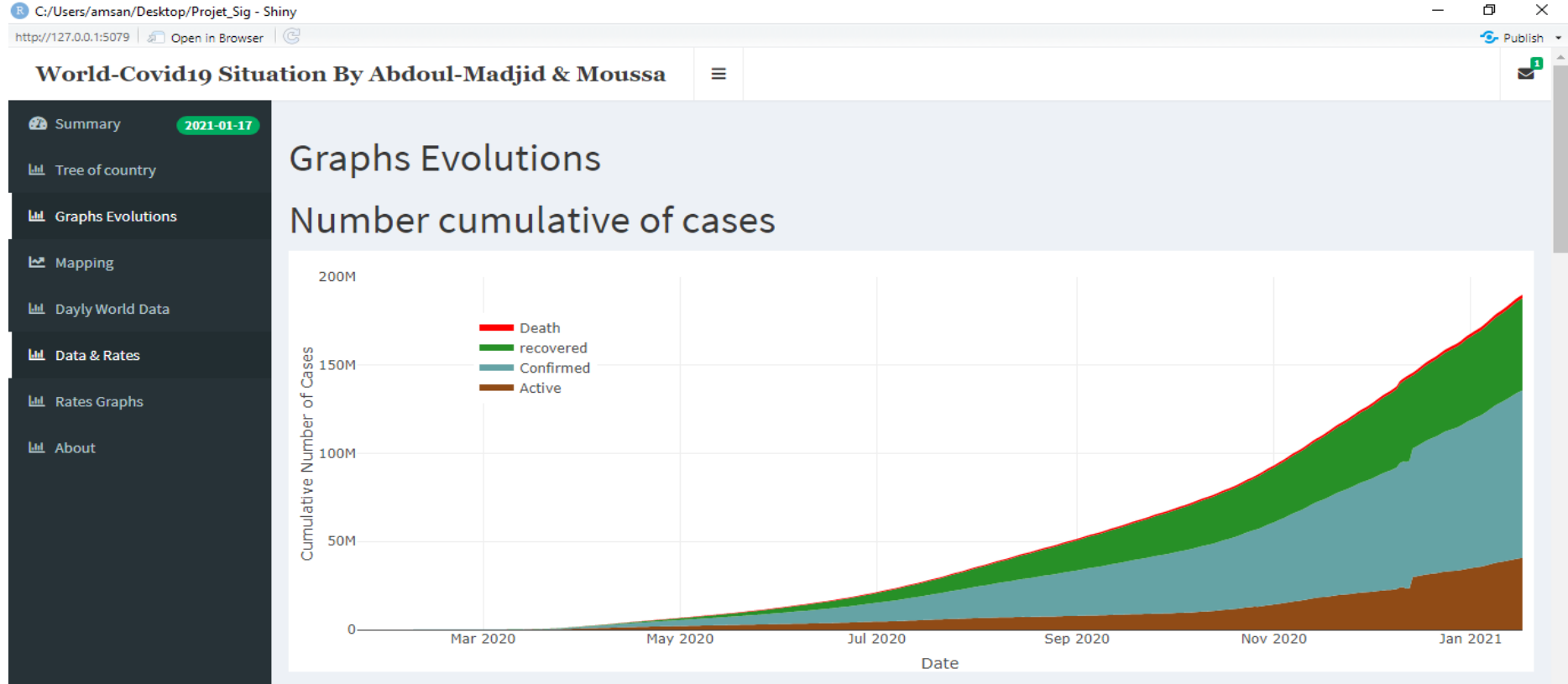
This tab display a summary of world pandemic situation with cumulative sum values by state from the start to actualized cases.

# Conception part:



Here we display information by country with the different visibility to country most affected to least affected.

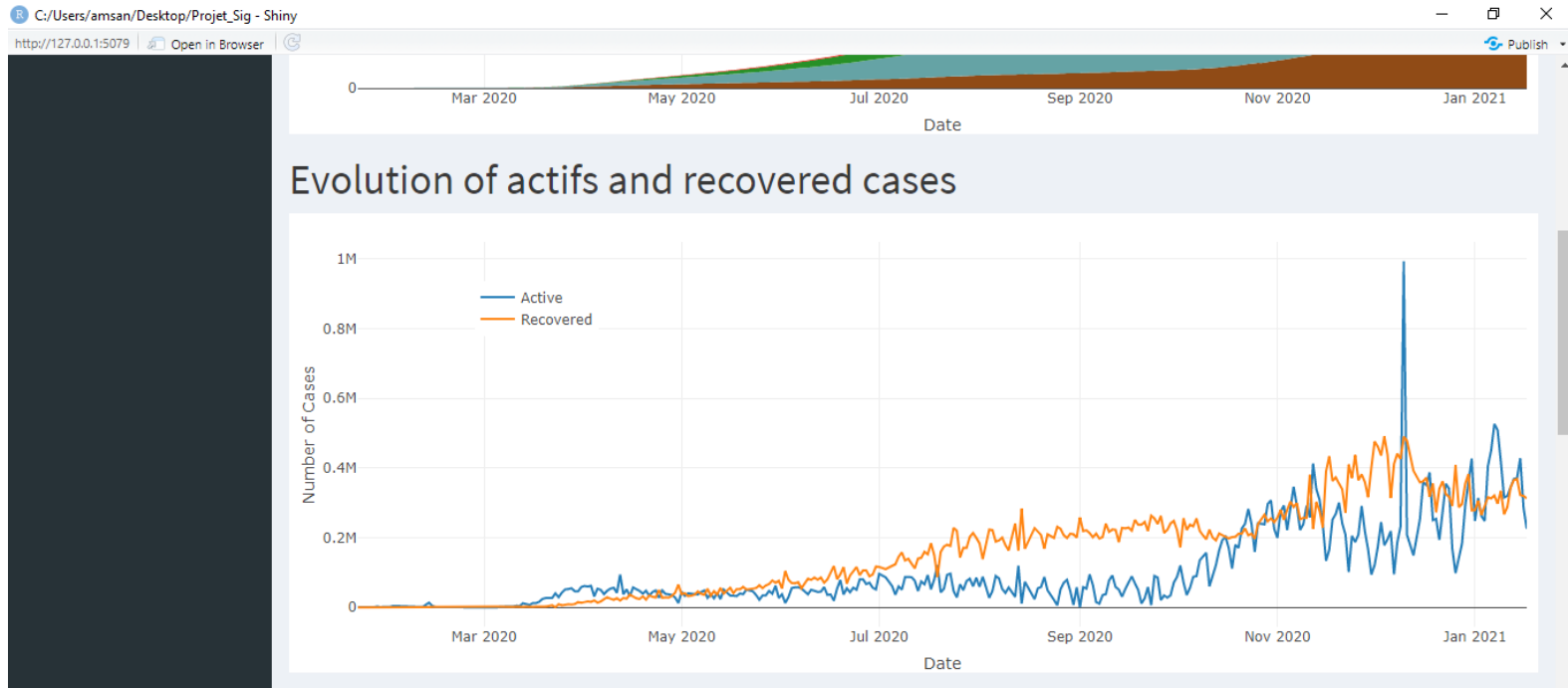
# Conception part:



With area plot, we draw quantities of every state. Then we can realize that the cov-19 is not so fatal, with her low death rate.

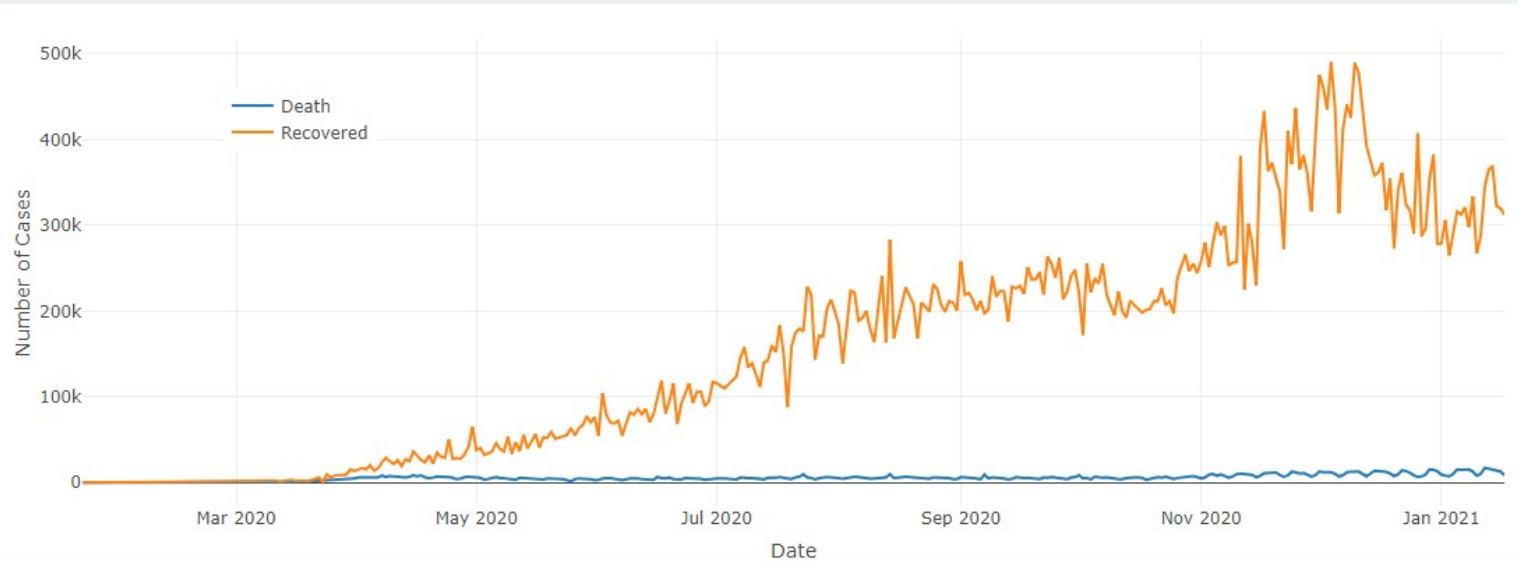


# Conception part:



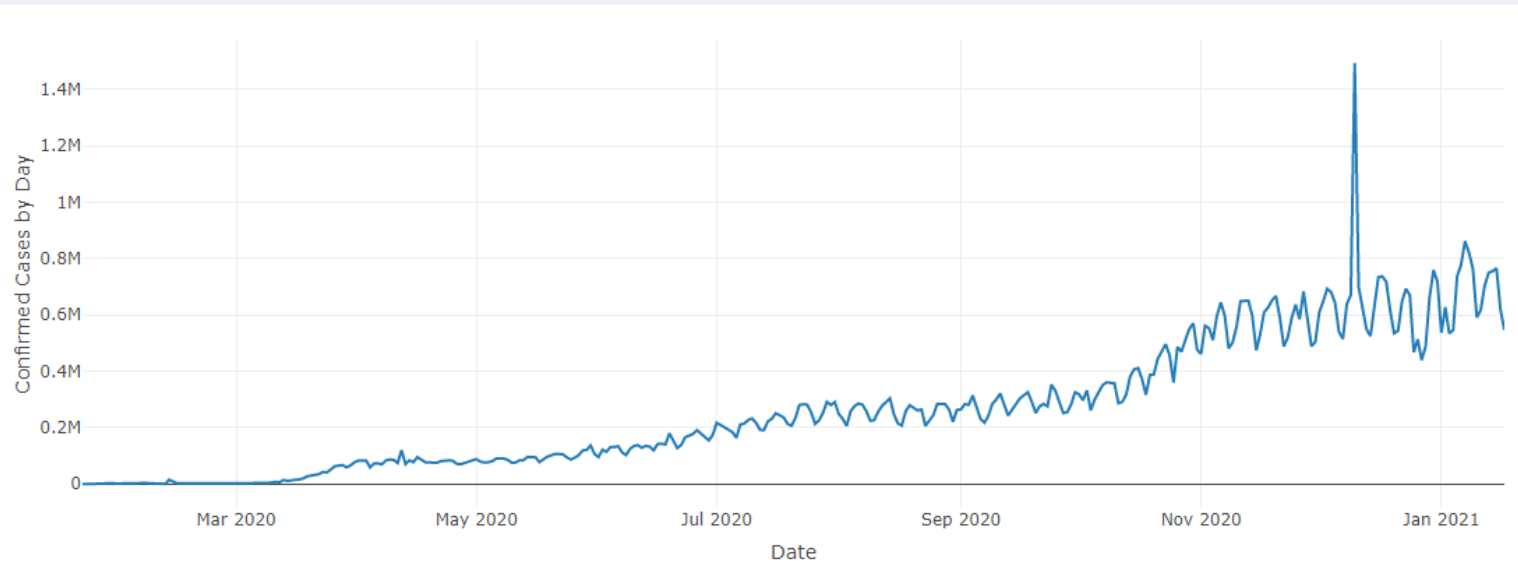
# Conception part:

Evolution of death and recovered cases



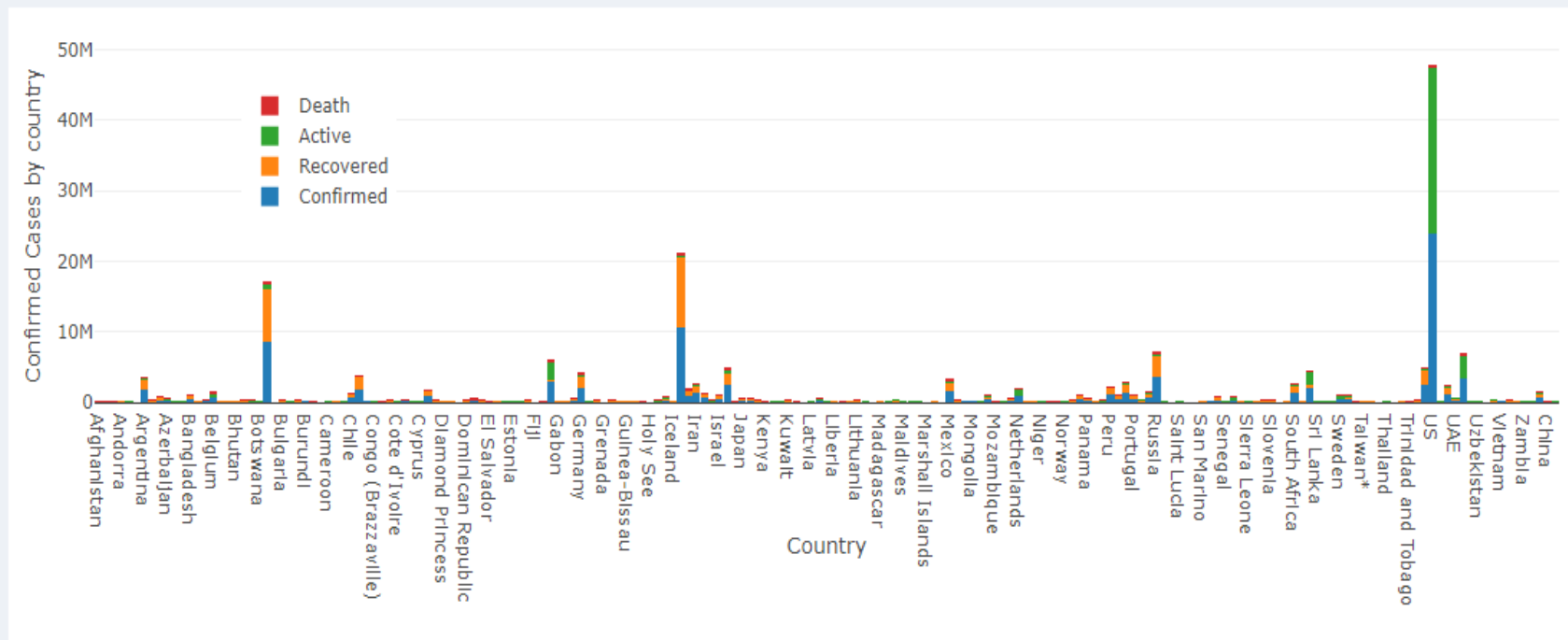
# Conception part:

Daily evolution of new cases



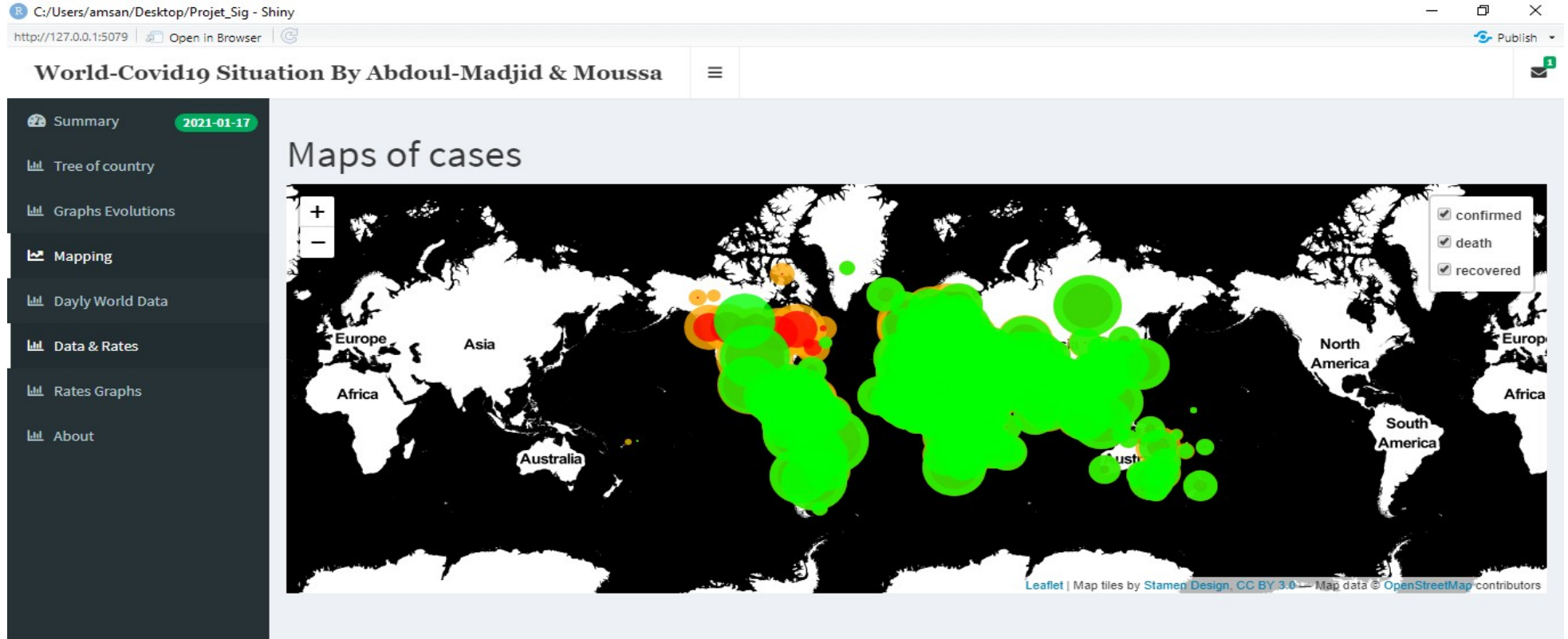
# Conception part:

## Cases Histogramme by Country



In this tab we use hist to plot the different aggregated state of patient. The picture is not clear here but on app we have possibility to zoom on every country or many together.

# Conception part:



We projected the different cases on the map with the scale of country. Death by red, confirmed by green and recovered by orange. As all circle in this project the ray is correlated with the number of cases.

# Conception part:

C:/Users/amsan/Desktop/Projet\_Sig - Shiny

http://127.0.0.1:5079 | Open in Browser

Publish

World-Covid19 Situation By Abdoul-Madjid & Moussa

Summary **2021-01-17**

Tree of country

Graphs Evolutions

Mapping

**Dayly World Data**

Data & Rates

Rates Graphs

About

## Dayly World Data

Show **10** entries

Search:

	date	confirmed	death	recovered	active	confirmed_cum	death_cum	recovered_cum	active_cum
1	2020-01-22	557	17	30	510	557	17	30	510
2	2020-01-23	98	1	2	95	655	18	32	605
3	2020-01-24	286	8	7	271	941	26	39	876
4	2020-01-25	492	16	3	473	1433	42	42	1349
5	2020-01-26	685	14	14	657	2118	56	56	2006
6	2020-01-27	809	26	9	774	2927	82	65	2780
7	2020-01-28	2651	49	43	2559	5578	131	108	5339
8	2020-01-29	589	2	19	568	6167	133	127	5907
9	2020-01-30	2068	38	18	2012	8235	171	145	7919
10	2020-01-31	1692	42	80	1570	9927	213	225	9489

Showing 1 to 10 of 362 entries

Previous **1** 2 3 4 5 ... 37 Next

# Conception part :

C:/Users/amsan/Desktop/Projet\_Sig - Shiny

http://127.0.0.1:5079 | Open in Browser | Publish

## World-Covid19 Situation By Abdoul-Madjid & Moussa

- Summary **2021-01-17**
- Tree of country
- Graphs Evolutions
- Mapping
- Dayly World Data
- Data & Rates**
- Rates Graphs
- About

### Data & Rate By Country

Show **10** entries

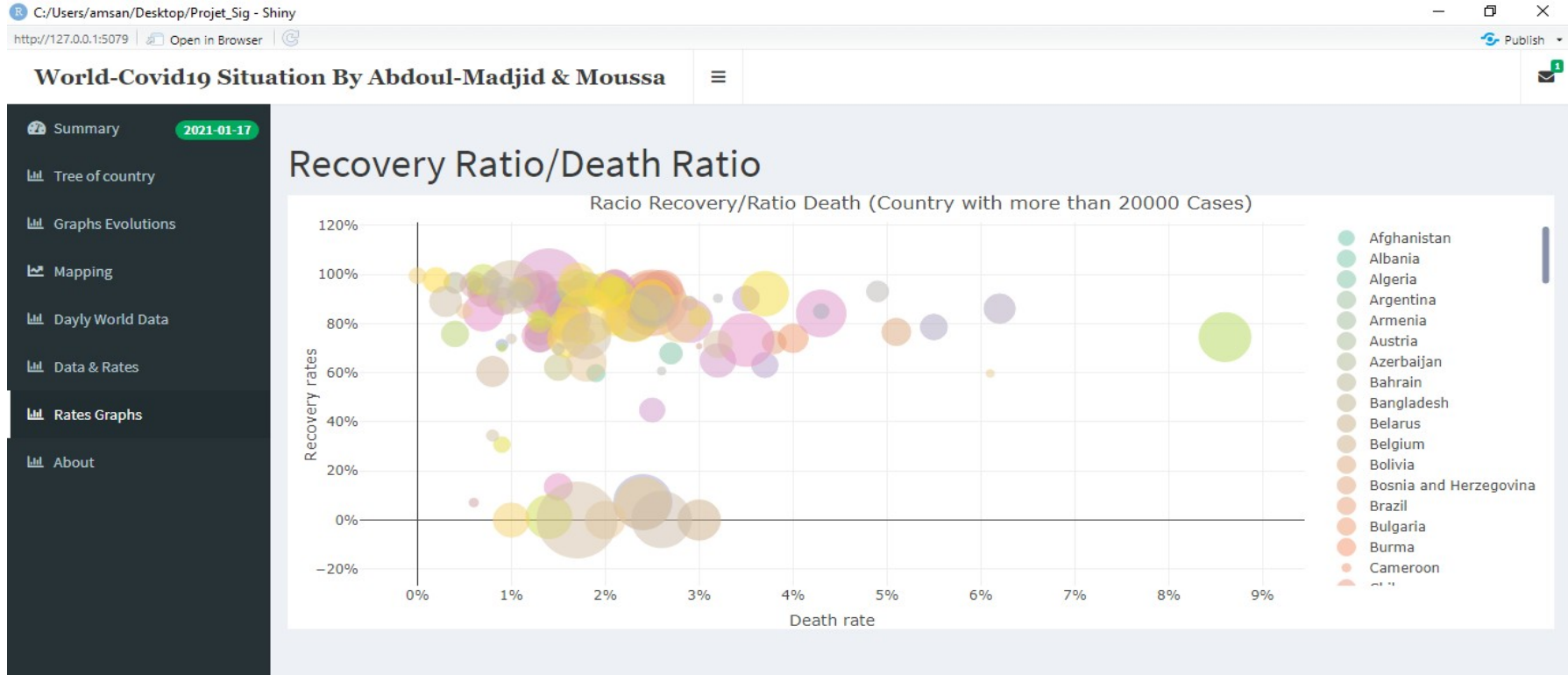
Search:

	country	Confirmed	Death	Recovered	Active	recovery_rate	death_rate
1	Afghanistan	53984	2339	45868	5777	84.97	4.33
2	Albania	67690	1277	40453	25960	59.76	1.89
3	Algeria	103833	2836	70554	30443	67.95	2.73
4	Andorra	9083	91	8154	838	89.77	1
5	Angola	18875	436	16347	2092	86.61	2.31
6	Antigua and Barbuda	189	6	156	27	82.54	3.17
7	Argentina	1799243	45407	1583465	170371	88.01	2.52
8	Armenia	164586	2992	152772	8822	92.82	1.82
9	Austria	393778	7082	369218	17478	93.76	1.8
10	Azerbaijan	227273	3009	215268	8996	94.72	1.32

Showing 1 to 10 of 191 entries

Previous **1** 2 3 4 5 ... 20 Next

# Conception part:



In this interface, we represented countries with have most than 20 000 effective cases of covid-19 by death rate and recover rate. And the circle ray correlated with confirmed case by country. It allow possibilities to zoom on county selected.



# Conclusion :

For resume, in this project, we make up a web-based on R for visualization and analysis purpose of the situation of cov-19 in the world. This map can help the decision-maker to take restrictions measures to fight the spreads of this phenomenon. And another side with the map, information is most accessible to everyone without reading anything and vaccine will be used accurately.