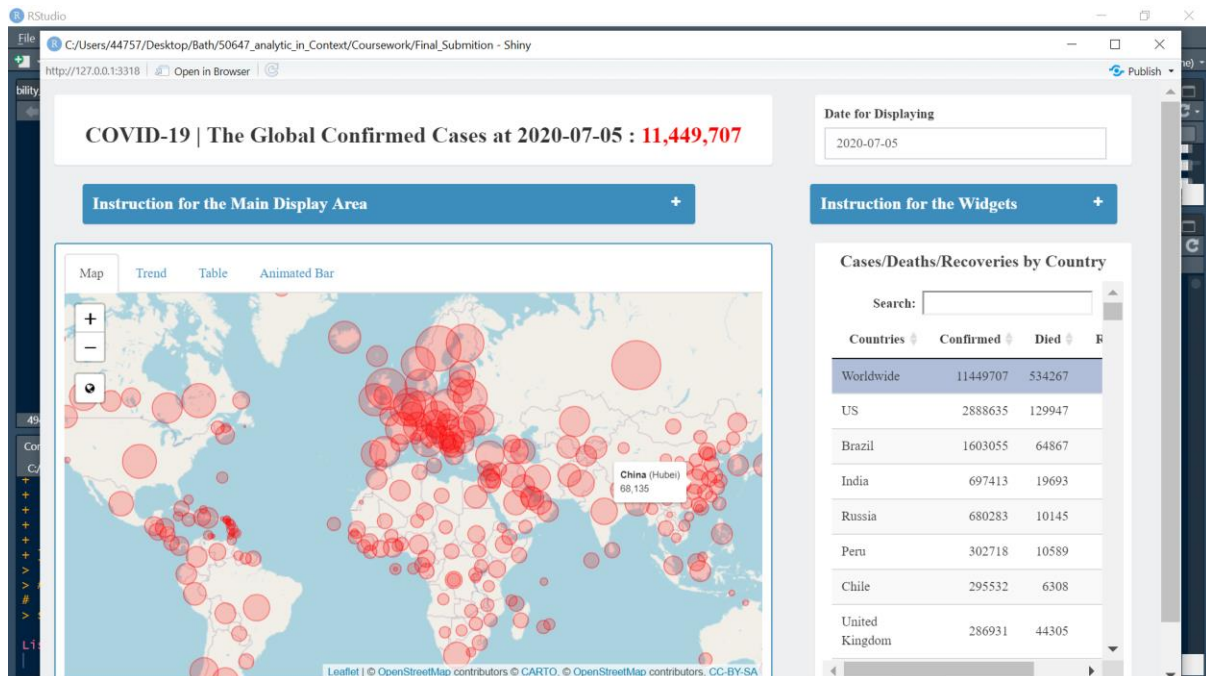


APP Pages:

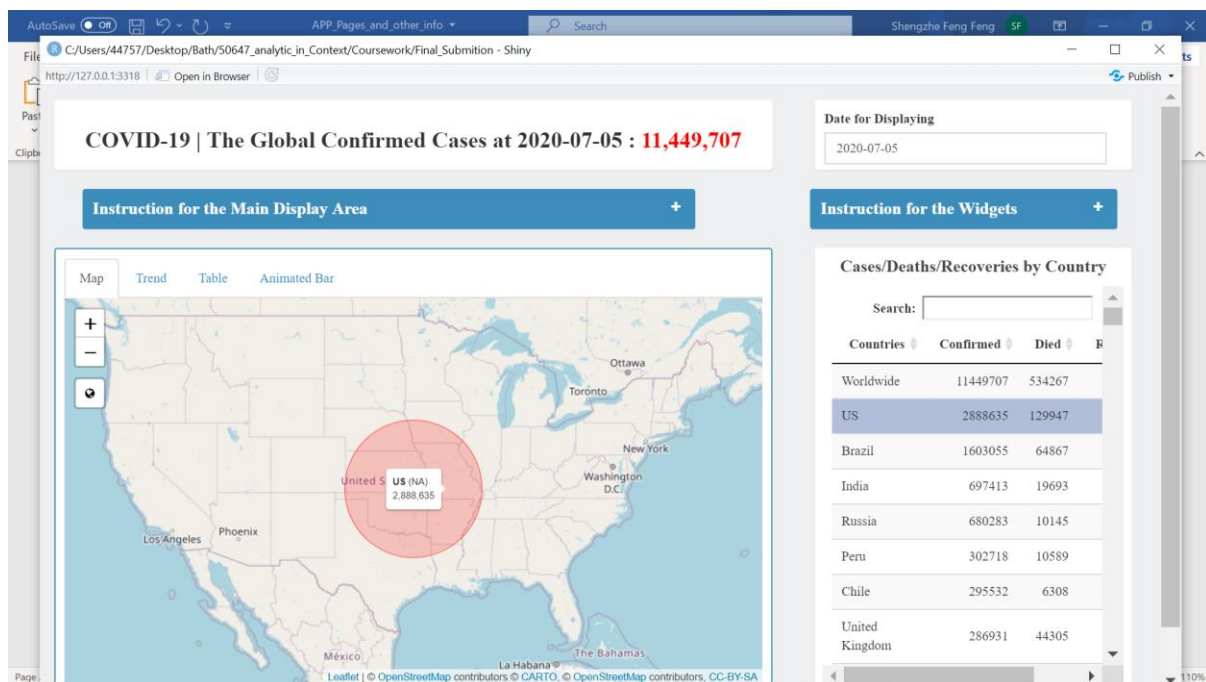
1st Page: The map of “Worldwide”

Note: The symbol “China (Hubei) 68,135” is triggered when the cursor is on the red circle, it somehow cannot be seen in the screenshot.



2nd Page: The map of “US”

Note: Maps of all other countries are similar; NA on the symbol means the information in subarea in US is not provided.



3rd Page: The Two Instructions

AutoSave [Off] Document2 - Word Search Shengzhe Feng Feng SF

File C:/Users/44757/Desktop/Bath/50647_analytic_in_Context/Coursework/Final_Submission - Shiny

http://127.0.0.1:7455 Open in Browser

COVID-19 | The Global Confirmed Cases at 2020-07-05 : 11,449,707

Date for Displaying: 2020-07-05

Instruction for the Main Display Area

Map tab: 1. The geographic map displays the distribution of the confirmed case according to the date and country that visitors picked; 2. Hoover over the red cycles to get textual information for that area; 3. Wheel in/out to zoom in/out the map or alternatively by clicking the +/- button; 4. The focus of the map can also be moved by clicking on the map and holding and moving the mouse.

Trend tab: 1. The line chart in the "Cumulative Cases" subtab shows the cumulative cases/deaths/recoveries tendency while the bar chart in the "Daily Increase" subtab indicates the daily increase of the cases/deaths/recoveries across time in the country that visitors picked; 2. Hoover over the dots to get textual information; 3. By clicking the symbol in the right of the chart, it allows visitors to use "Pan" and "Wheel Zoom" tools on these two charts.

Table tab: 1. The table shows the detail of confirmed cases, deaths, recoveries as well as death rate and recovery rate in a specific country and date that visitors picked; 2. This table list is in decreasing order of confirmed cases by default, it can also be reordered by clicking the button near each column name.

Animated Bar tab: 1. The animated bar chart demonstrate the top 10 countries with the most confirmed cases across time by using animated sliderinput.

Instruction for the Widgets

Date Selector: 1. It allows visitor to choose a date and according to the date selected, the List of Countries and the Main display area will show the information in that day.

List of Countries: 1. It shows the number of confirmed cases/deaths/recoveries of each country (note that the "Worldwide" option counts for all the cases around the world); 2. visitor can select a single country by clicking one of the options on the list; 3. if nothing is selected, it will use "Worldwide" option which is also the default value; 4. The list is in decreasing order of confirmed cases by default, it can also be reordered by clicking the button near each column name.

Date Sliderinput: 1. This widget is in the **Animated Bar** tab as it is only for controlling the date parameter of the animated bar chart; 2. the animation can be activated by clicking the play button just under the slider or visitors can also manually choose the date.

Map Trend Table Animated Bar

Cases/Deaths/Recoveries by Country

Search:

4th Page: The cumulative trend of Confirmed, Died and Recovered Cases in USA

AutoSave [Off] APP_Pages_and_other_info - Saved to this PC Search Shengzhe Feng Feng SF

File C:/Users/44757/Desktop/Bath/50647_analytic_in_Context/Coursework/Final_Submission - Shiny

http://127.0.0.1:3318 Open in Browser

COVID-19 | The Global Confirmed Cases at 2020-07-05 : 11,449,707

Date for Displaying: 2020-07-05

Instruction for the Main Display Area

Map Trend Table Animated Bar

Cumulative Cases Daily Increase

Type: Confirmed, Died, Recoverd

Date: 2020-05-29 Value: 1,754,763

Instruction for the Widgets

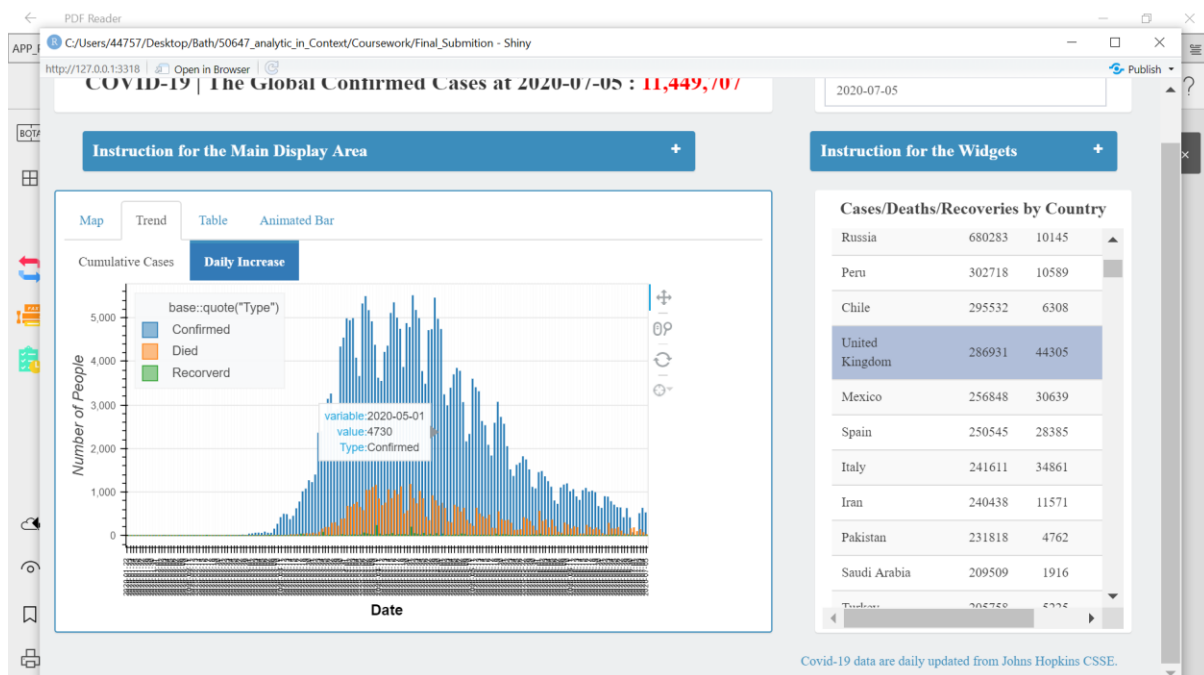
Cases/Deaths/Recoveries by Country

Search:

Countries	Confirmed	Died	R
Worldwide	11449707	534267	
US	2888635	129947	
Brazil	1603055	64867	
India	697413	19693	
Russia	680283	10145	
Peru	302718	10589	
Chile	295532	6308	
United Kingdom	286931	44305	

Covid-19 data are daily updated from Johns Hopkins CSSE.

5th Page: The daily increasing trend of Confirmed, Died and Recovered Cases in UK



6th Page: The table of case information in subarea (if the relevant information exists)

COVID-19 | The Global Confirmed Cases at 2020-07-05 : 11,449,707

2020-07-05

Instruction for the Main Display Area

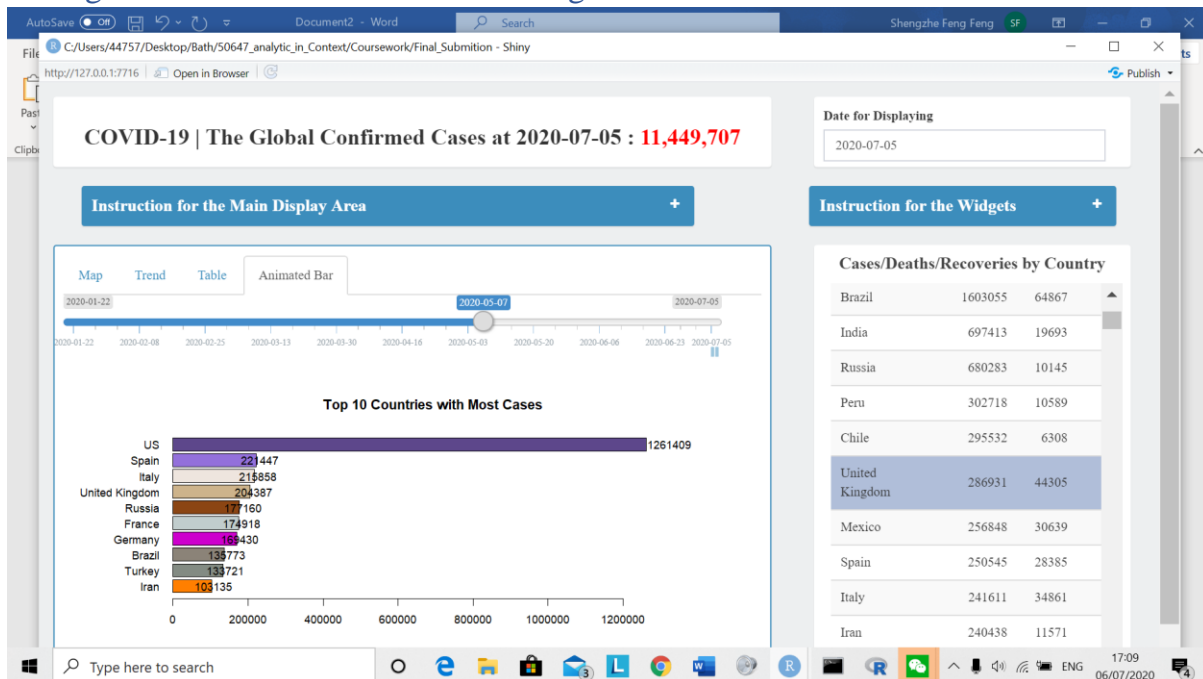
Instruction for the Widgets

Cases/Deaths/Recoveries by Country

City/Region	Confirmed	Died	Recovered	Death_Rate(%)	Recovery_Rate(%)
NA	285416	44220	0	15.49	0
Channel Islands	571	47	512	8.23	89.67
Isle of Man	336	24	312	7.14	92.86
Cayman Islands	201	1	194	0.5	96.52
Gibraltar	179	0	176	0	98.32
Bermuda	146	9	137	6.16	93.84
Turks and Caicos Islands	47	2	11	4.26	23.4
Falkland Islands (Malvinas)	13	0	13	0	100
Montserrat	11	1	10	0.00	90.91

Covid-19 data are daily updated from Johns Hopkins CSSE.

7th Page: The Animated Bar for the change of cases in TOP 10 countries



Restarted R:

```

1 # Author: Shengzhe Feng
2
3 # This application contains three widgets and four displays:
4
5 # Three widgets: 1. Date selector,
6 #               2. Country list(can be selected as an input),
7 #               3. SliderInput.
8
9 # Four displays: 1. Geographic map,
10 #               2. Trend (line chart and bar chart),
11 #               3. Data table list,
12 #               4. Animated bar chart.
13
14 ##### The code #####
15
16 #####
17
18 # install the package which are required in this app
19
20

```

Restarting R session...

Session Information

Sessioninfo(): Under 3.6.1 Version of R

```
> sessionInfo()
R version 3.6.1 (2019-07-05)
Platform: x86_64-w64-mingw32/x64 (64-bit)
Running under: windows 10 x64 (build 18362)

Matrix products: default

locale:
 [1] LC_COLLATE=English_United Kingdom.1252
 [2] LC_CTYPE=English_United Kingdom.1252
 [3] LC_MONETARY=English_United Kingdom.1252
 [4] LC_NUMERIC=C
 [5] LC_TIME=English_United Kingdom.1252

attached base packages:
[1] stats      graphics  grDevices  utils      datasets  methods   base

other attached packages:
 [1] DT_0.13                leaflet_2.0.3          rbokeh_0.5.0
 [4] rlist_0.4.6.1          lubridate_1.7.4        forcats_0.4.0
 [7] stringr_1.4.0          dplyr_0.8.3            purrr_0.3.3
[10] readr_1.3.1            tidyr_1.0.0            tibble_2.1.3
[13] ggplot2_3.3.0          tidyverse_1.3.0        RCurl_1.98-1.1
[16] shinydashboard_0.7.1  shiny_1.4.0

loaded via a namespace (and not attached):
 [1] nlme_3.1-140           bitops_1.0-6           fs_1.3.1
 [4] xts_0.11-2             httr_1.4.1             tools_3.6.1
 [7] backports_1.1.5        R6_2.4.1               DBI_1.1.0
[10] sigmoid_0.3.0          lazyeval_0.2.2         colorspace_1.4-1
[13] nnet_7.3-12            withr_2.1.2            tidyselect_0.2.5
[16] curl_4.2               compiler_3.6.1         cli_2.0.2
[19] rvest_0.3.5            xml2_1.2.2             tseries_0.10-47
[22] scales_1.1.0           lmtest_0.9-37          fracdiff_1.4-2
[25] hexbin_1.28.1          quadprog_1.5-8         digest_0.6.25
[28] rmarkdown_1.18         pkgconfig_2.0.3        htmltools_0.4.0
[31] dbplyr_1.4.2           fastmap_1.0.1          maps_3.3.0
[34] htmlwidgets_1.5.1      rlang_0.4.6            readxl_1.3.1
[37] TTR_0.23-5             rstudioapi_0.11        quantmod_0.4-16
[40] gistr_0.5.0            pryr_0.1.4             generics_0.0.2
[43] zoo_1.8-6              jsonlite_1.6.1         crosstalk_1.0.0
[46] magrittr_1.5           Rcpp_1.0.3             munsell_0.5.0
[49] fansi_0.4.0            lifecycle_0.1.0        yaml_2.2.0
[52] stringi_1.4.3          forecast_8.9           grid_3.6.1
[55] parallel_3.6.1         promises_1.1.0         crayon_1.3.4
[58] doSNOW_1.0.18          lattice_0.20-38        haven_2.2.0
[61] hms_0.5.3              knitr_1.26             pillar_1.4.2
[64] codetools_0.2-16       reprex_0.3.0           urca_1.3-0
[67] glue_1.4.0             evaluate_0.14          leaflet.providers_1.9.0
[70] data.table_1.12.8      modelr_0.1.5           vctrs_0.2.2
[73] httpuv_1.5.2           foreach_1.4.7          neuralnet_1.44.2
[76] cellranger_1.1.0       gtable_0.3.0           assertthat_0.2.1
[79] xfun_0.11              mime_0.7               xtable_1.8-4
[82] broom_0.5.4            later_1.0.0            timeDate_3043.102
[85] snow_0.4-3             iterators_1.0.12

>
```

Sessioninfo(): Under 4.0.2 Version of R

```
> sessionInfo()
R version 4.0.2 (2020-06-22)
Platform: x86_64-w64-mingw32/x64 (64-bit)
Running under: Windows 10 x64 (build 18362)

Matrix products: default

locale:
 [1] LC_COLLATE=English_United Kingdom.1252
 [2] LC_CTYPE=English_United Kingdom.1252
 [3] LC_MONETARY=English_United Kingdom.1252
 [4] LC_NUMERIC=C
 [5] LC_TIME=English_United Kingdom.1252

attached base packages:
[1] stats      graphics  grDevices  utils      datasets  methods
[7] base

other attached packages:
 [1] DT_0.14             leaflet_2.0.3       rbokeh_0.5.1
 [4] rlist_0.4.6.1       lubridate_1.7.9     forcats_0.5.0
 [7] stringr_1.4.0       dplyr_1.0.0         purrr_0.3.4
[10] readr_1.3.1         tidyr_1.1.0         tibble_3.0.1
[13] ggplot2_3.3.2       tidyverse_1.3.0     RCurl_1.98-1.2
[16] shinydashboard_0.7.1 shiny_1.5.0

loaded via a namespace (and not attached):
 [1] httr_1.4.1           maps_3.3.0
 [3] jsonlite_1.7.0       modelr_0.1.8
 [5] assertthat_0.2.1     blob_1.2.1
 [7] cellranger_1.1.0     yaml_2.2.1
 [9] pillar_1.4.4         backports_1.1.7
[11] lattice_0.20-41      glue_1.4.1
[13] digest_0.6.25        promises_1.1.1
[15] pryr_0.1.4           rvest_0.3.5
[17] colorspace_1.4-1     leaflet.providers_1.9.0
[19] htmltools_0.5.0      httpuv_1.5.4
[21] pkgconfig_2.0.3      broom_0.5.6
[23] gistr_0.5.0          haven_2.3.1
[25] xtable_1.8-4         scales_1.1.1
[27] later_1.1.0.1        generics_0.0.2
[29] ellipsis_0.3.1       withr_2.2.0
[31] hexbin_1.28.1        lazyeval_0.2.2
[33] cli_2.0.2            magrittr_1.5
[35] crayon_1.3.4         readxl_1.3.1
[37] mime_0.9             evaluate_0.14
[39] fs_1.4.2             fansi_0.4.1
[41] nlme_3.1-148         xml2_1.3.2
[43] tools_4.0.2          data.table_1.12.8
[45] hms_0.5.3            lifecycle_0.2.0
[47] munsell_0.5.0        reprex_0.3.0
[49] compiler_4.0.2       rlang_0.4.6
[51] grid_4.0.2           rstudioapi_0.11
[53] htmlwidgets_1.5.1    crosstalk_1.1.0.1
[55] bitops_1.0-6         rmarkdown_2.3
[57] gtable_0.3.0         codetools_0.2-16
[59] DBI_1.1.0            R6_2.4.1
[61] knitr_1.29           fastmap_1.0.1
[63] stringi_1.4.6        Rcpp_1.0.4.6
[65] vctrs_0.3.1          dbplyr_1.4.4
[67] tidyrselect_1.1.0    xfun_0.15
```

```
>
```