Corona data application report

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Problem statement

Create a Qt application which loads a dataset with countries displaying details of a selected country and adding/changing/deleting data.

Individual problem specification

Problem specification can be found [here](#)

Implementation details

General details

Dataset can be found [here](#) In general, I have followed the recommendations with some modifications, such as additional features that seem more user-friendly. Some additional functions have also been implemented.
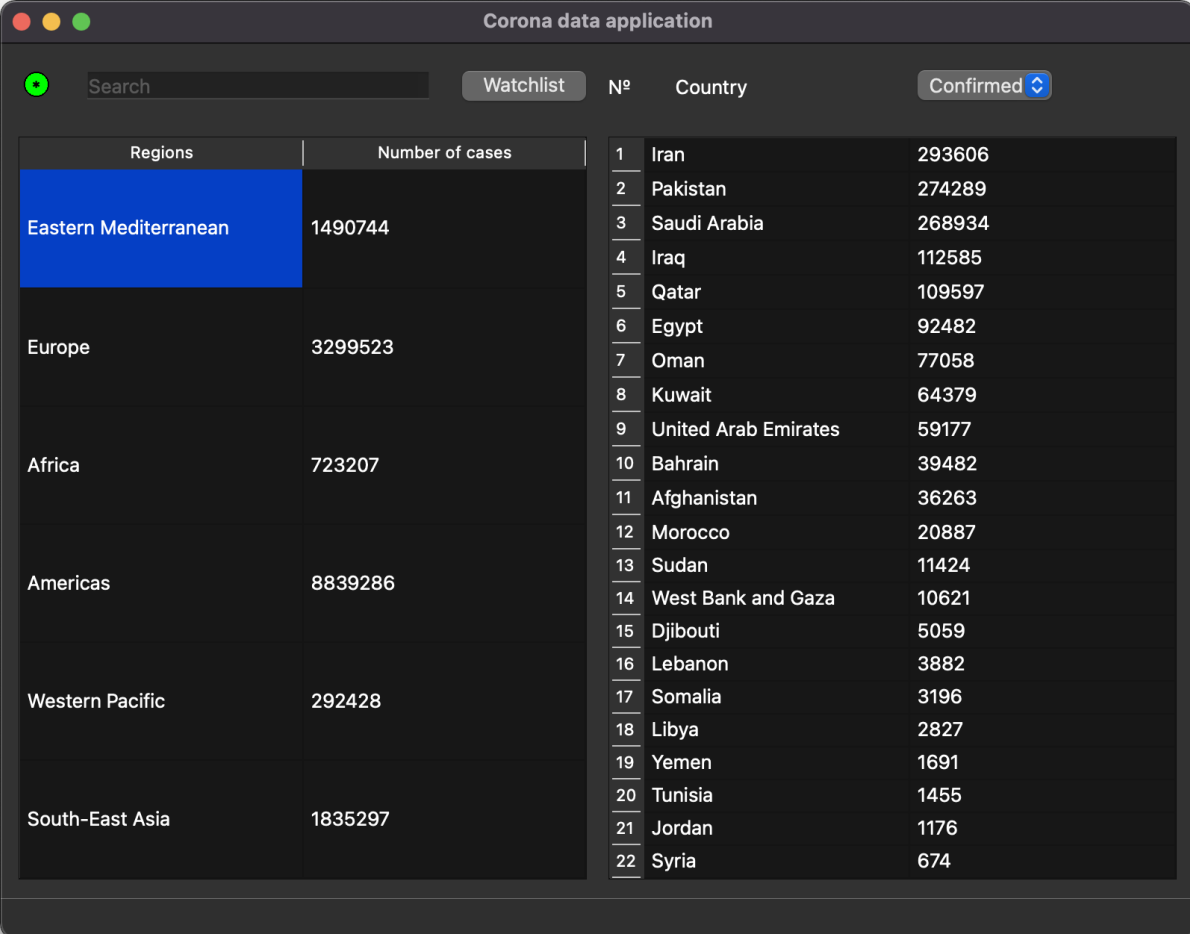
The application includes removing/changing/deleting country data. There is also a watchlist that allows you to keep track of your favourite countries. Some country fields are calculated automatically, e.g. number of recoveries/100 cases. The CSV file can be saved as, or in the same file. All this data is stored in the same class, there is no copying, which is a big advantage. Completer was implemented to help users in finding countries.

Project structure

- data
    - dataset.csv
- report
    - report.pdf

- - spec139.pdf
- student#139
  - CMakeLists.txt
  - aboutdialog.cpp – A dialog with with student's number
  - aboutdialog.h
  - aboutdialog.ui
  - addcountrydialog.cpp – A dialog for adding new country
  - addcountrydialog.h
  - addcountrydialog.ui
  - countriesmodel.cpp – A custom model inherited from QAbstractTableModel for all countries
  - countriesmodel.h
  - country.cpp – A country class which represents one row from .csv file
  - country.h
  - countrydialog.cpp – A dialog with all data which is editable
  - countrydialog.h
  - countrydialog.ui
  - countrymodel.cpp – A custom model inherited from QAbstractTableModel for country data
  - countrymodel.h
  - csvparser.cpp – A class for parsing .csv file
  - csvparser.h
  - datadialog.cpp – A dialog where all data can be seen
  - datadialog.h
  - logowidget.cpp – A custom logo widget
  - logowidget.h
  - main.cpp – File for running program
  - mainwindow.cpp – The main window
  - mainwindow.h
  - mainwindow.ui
  - ratingmodel.cpp – A custom model inherited from QAbstractTableModel for countries rating
  - ratingmodel.h
  - region.cpp – A custom class for regions
  - region.h
  - regionmodel.cpp – A custom model inherited from QAbstractTableModel for regions
  - regionmodel.h
  - watchlistdialog.cpp – A dialog where favorite countries can be find
  - watchlistdialog.h
  - watchlistdialog.ui
  - watchlistmodel.cpp – A custom class for favorite countries
  - watchlistmodel.h

MainWindow

You can find here table with regions and second table with their countries sorted by some data. Line edit and Watchlist button can be found.

Country Dialog

Country data

Russia

[Add to watchlist] [Delete]

Country	Russia
Confirmed	816680
Deaths	13334
Recovered	602249
Active	201097
New cases	5607
New deaths	85
New recovered	3077
Deaths / 100 Cases	1.63
Recovered / 100 Cases	73.74
Deaths / 100 Recovered	2.21
Confirmed last week	776212
1 week change	40468
1 week % increase	5.21
Region	Europe

Represents all data which can be modified.

Watchlist
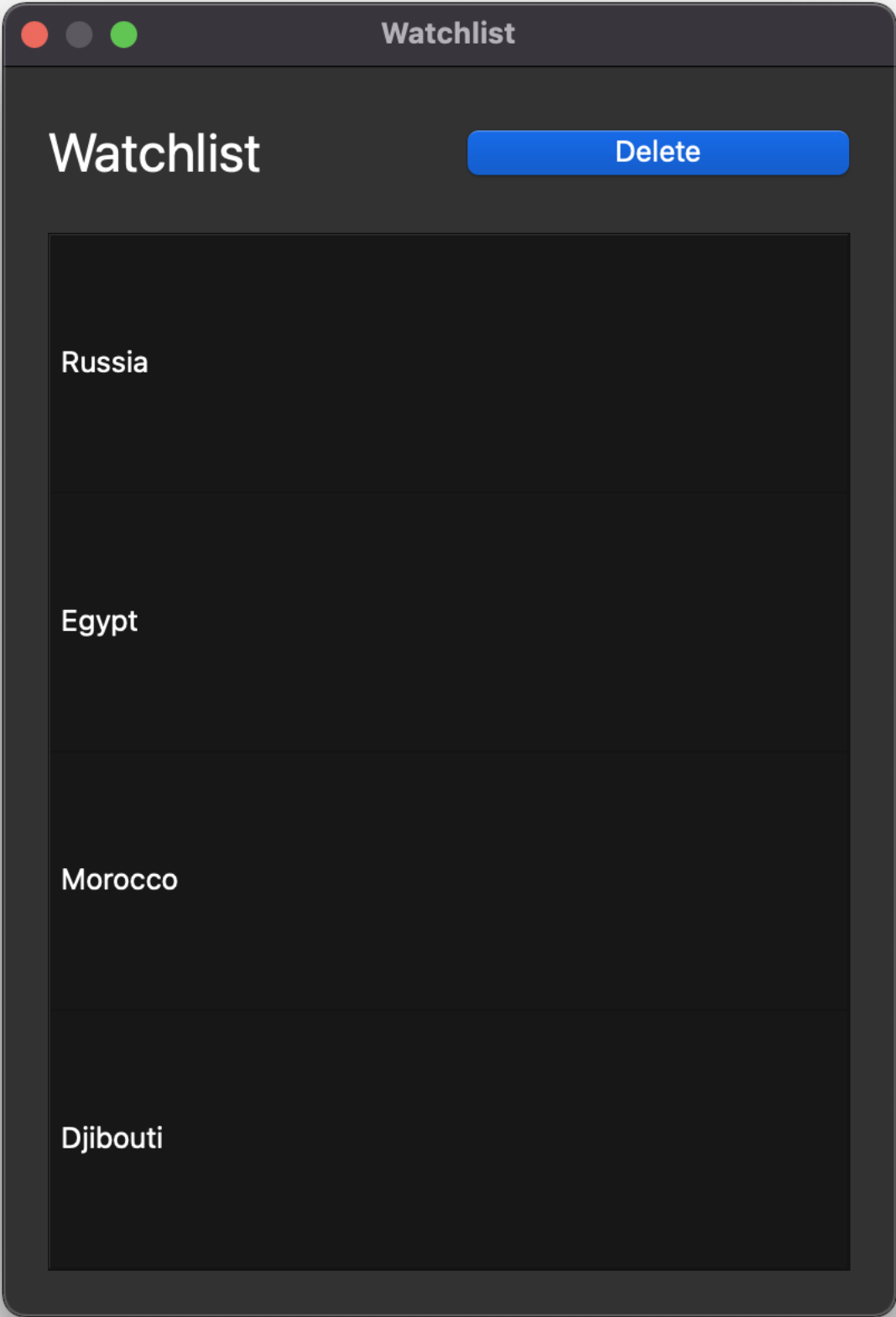
Watchlist with user favorite countries.

All data dialog

Country	Confirmed	Deaths	Recovered	Active	New cases	New deaths	New recovered	eaths / 100 Case	overed / 100 Ca	ths / 100 Recove	onfirmed last we	1 week change	week % increas	Region
Afghanistan	36263	1269	25198	9796	106	10	18	3.5	69.49	5.04	35526	737	2.07	Eastern ...
Albania	4880	144	2745	1991	117	6	63	2.95	56.25	5.25	4171	709	17.0	Europe
Algeria	27973	1163	18837	7973	616	8	749	4.16	67.34	6.17	23691	4282	18.07	Africa
Andorra	907	52	803	52	10	0	0	5.73	88.53	6.48	884	23	2.6	Europe
Angola	950	41	242	667	18	1	0	4.32	25.47	16.94	749	201	26.84	Africa
Antigua and...	86	3	65	18	4	0	5	3.49	75.58	4.62	76	10	13.16	Americas
Argentina	167416	3059	72575	91782	4890	120	2057	1.83	43.35	4.21	130774	36642	28.02	Americas
Armenia	37390	711	26665	10014	73	6	187	1.9	71.32	2.67	34981	2409	6.89	Europe
Australia	15303	167	9311	5825	368	6	137	1.09	60.84	1.79	12428	2875	23.13	Western ...
Austria	20558	713	18246	1599	86	1	37	3.47	88.75	3.91	19743	815	4.13	Europe
Azerbaijan	30446	423	23242	6781	396	6	558	1.39	76.34	1.82	27890	2556	9.16	Europe
Bahamas	382	11	91	280	40	0	0	2.88	23.82	12.09	174	208	119.54	Americas
Bahrain	39482	141	36110	3231	351	1	421	0.36	91.46	0.39	36936	2546	6.89	Eastern ...
Bangladesh	226225	2965	125683	97577	2772	37	1801	1.31	55.56	2.36	207453	18772	9.05	South-East ...
Barbados	110	7	94	9	0	0	0	6.36	85.45	7.45	106	4	3.77	Americas
Belarus	67251	538	60492	6221	119	4	67	0.8	89.95	0.89	66213	1038	1.57	Europe
Belgium	66428	9822	17452	39154	402	1	14	14.79	26.27	56.28	64094	2334	3.64	Europe
Belize	48	2	26	20	0	0	0	4.17	54.17	7.69	40	8	20.0	Americas
Benin	1770	35	1036	699	0	0	0	1.98	58.53	3.38	1602	168	10.49	Africa
Bhutan	99	0	86	13	4	0	1	0.0	86.87	0.0	90	9	10.0	South-East ...
Bolivia	71181	2647	21478	47056	1752	64	309	3.72	30.17	12.32	60991	10190	16.71	Americas
Bosnia and ...	10498	294	4930	5274	731	14	375	2.8	46.96	5.96	8479	2019	23.81	Europe
Botswana	739	2	63	674	53	1	11	0.27	8.53	3.17	522	217	41.57	Africa
Brazil	2442375	87618	1846641	508116	23284	614	33728	3.59	75.61	4.74	2118646	323729	15.28	Americas
Brunei	141	3	138	0	0	0	0	2.13	97.87	2.17	141	0	0.0	Western ...
Bulgaria	10621	347	5585	4689	194	7	230	3.27	52.58	6.21	8929	1692	18.95	Europe
Burkina Faso	1100	53	926	121	14	0	6	4.82	84.18	5.72	1065	35	3.29	Africa
Burma	350	6	292	52	0	0	2	1.71	83.43	2.05	341	9	2.64	South-East ...
Burundi	378	1	301	76	17	0	22	0.26	79.63	0.33	322	56	17.39	Africa
Cabo Verde	2328	22	1550	756	21	0	103	0.95	66.58	1.42	2071	257	12.41	Africa
Cambodia	226	0	147	79	1	0	4	0.0	65.04	0.0	171	55	32.16	Western ...
Cameroon	17110	391	14539	2180	402	6	0	2.29	84.97	2.69	16157	953	5.9	Africa
Canada	116458	8944	0	107514	682	11	0	7.68	0.0	inf	112925	3533	3.13	Americas
Central	4599	59	1546	2994	0	0	0	1.28	33.62	3.82	4548	51	1.12	Africa

Table with all data from csv.

Results and discussions

The requirements have been fullfilled and additional functions have also been added.

Conclusion

Further improvements could include some validators for country data.