Analytic Trail 1: Understanding the data

The first and hardest part of this assignment was to navigate through the available data and to understand it. There were multiple wave periods where the user can see all the variable results of the surveys for each country (Figure 1). They showed the survey questions in a list and tree form (Figure 2), which was a bit hard to visually understand properly, as going back from each question to see the next one was a bit of an annoying task. Once the wave, countries and the questions are selected, the data is shown as tables (Figure 3) or graphs as per the user need. It was a challenge to choose the necessary data, export them and organize it in excel (Figure 4). For this particular scenario, I focused on one section alone: Religion.

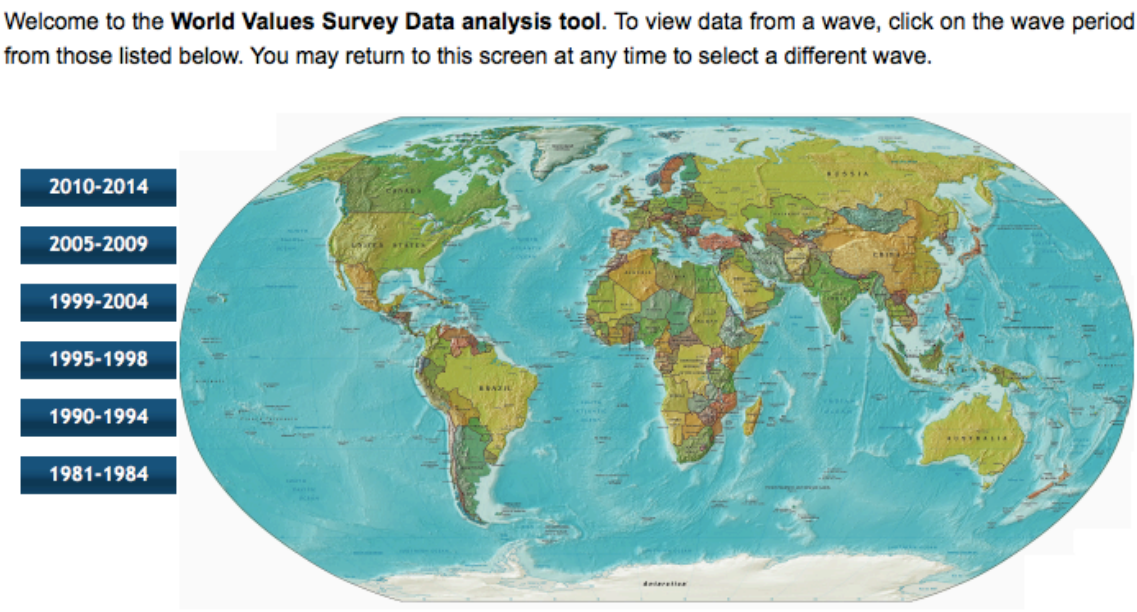


Figure 1: *Landing page of the site for getting data*

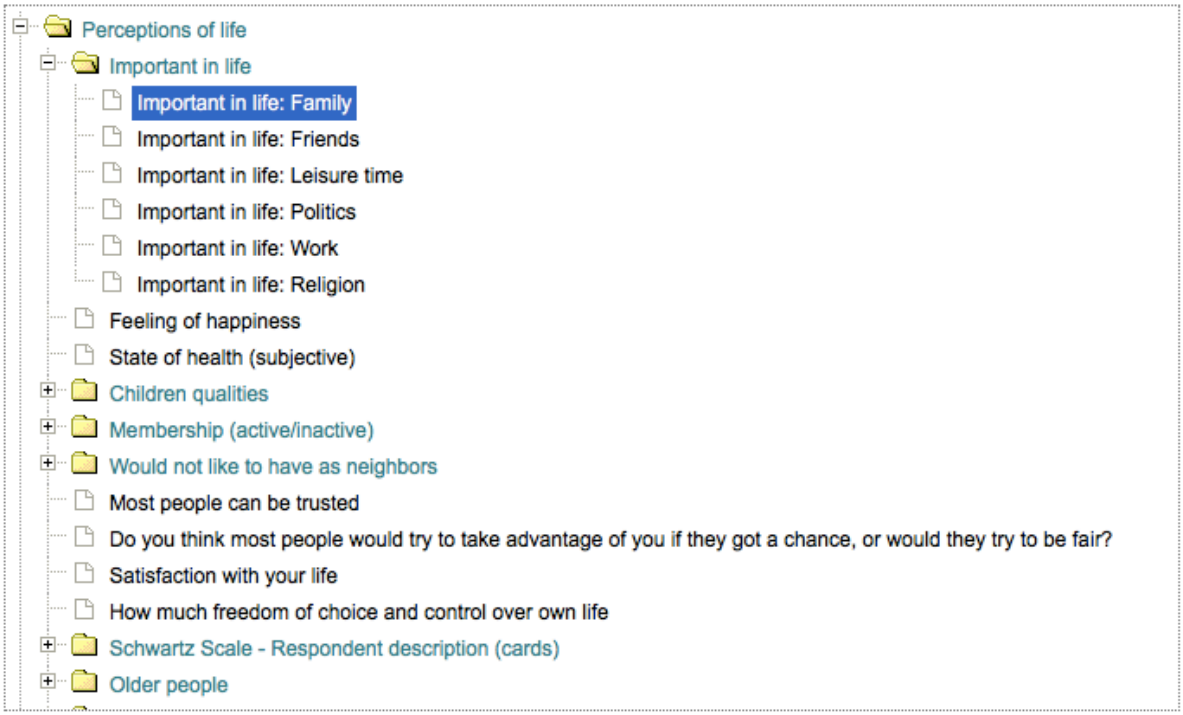
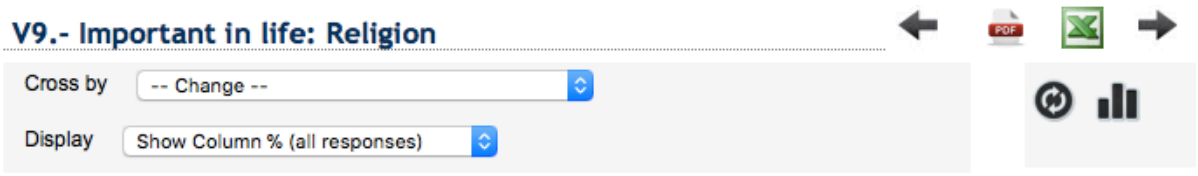


Figure 2: *Tree form structure of survey questions*



	TOTAL	Country Code				
		Algeria	Azerbaijan	Argentina	Belarus	Chile
Very important	47.7%	90.7%	35.9%	24.1%	15.9%	23.8%
Rather important	23.1%	6.7%	33.3%	32.1%	32.1%	35.1%
Not very important	16.7%	1.2%	20.5%	24.7%	33.4%	27.3%
Not at all important	10.8%	0.9%	10.2%	17.8%	17.4%	13.0%
BH,HT: Missing; RU:Inappropriate response	*	-	-	-	-	-
No answer	0.4%	0.3%	-	0.7%	-	0.7%
Don't know	1.4%	0.2%	-	0.7%	1.2%	0.1%
(N)	(44,484)	(1,200)	(1,002)	(1,030)	(1,535)	(1,000)

Figure 3: *Provided data in tabular format*

Year	Code	Country	Religion is important	Religion is not important	Believe in God	Doesnt believe in God	Believe in Hell	Doesnt believe in Hell	Children with religious faith	Children without religious faith
2014	saarg	Argentina	248	183	938	67	450	517	239	791
2014	ocaus	Australia	208	552	944	501	490	952	224	1,253
2014	sabra	Brazil	765	48	1,462	20	964	470	740	746
2014	sacol	Colombia	890	53	1,489	21	923	552	912	600
2014	euest	Estonia	116	547	660	660	282	1,046	288	1,245
2014	eugeo	Georgia	1,021	10	1,192	8	802	291	764	438
2014	eudeu	Germany	268	525	1,286	690	387	1,595	247	1,798
2014	ashkg	Hong Kong	121	226	580	413	490	501	109	891
2014	asind	India	2,737	72	3,933	116	2,302	1,453	3,388	690
2014	asjor	Jordan	1,120	1	1,200	-	1,183	17	957	243
2014	askor	South Korea	308	222	603	592	517	676	299	901
2014	aslbn	Lebanon	635	99	1,185	15	1,103	97	403	797
2014	amys	Malaysia	1,103	3	1,279	21	1,258	42	830	470
2014	namex	Mexico	1,169	99	1,875	123	1,244	743	706	1,294
2014	eunld	Netherlands	204	833	908	983	234	1,657	265	1,637
2014	afnga	Nigeria	1,579	12	1,750	9	1,636	123	1,279	480
2014	aspak	Pakistan	1,074	7	1,200	-	1,197	3	873	327
2014	saper	Peru	604	34	1,178	24	738	399	509	701
2014	asphl	Philippines	1,031	3	1,194	6	979	216	717	483
2014	eupol	Poland	441	46	891	46	549	321	382	584
2014	asqat	Qatar	1,048	-					898	162
2014	assgp	Singapore	851	106	1,632	338	1,536	432	516	1,456
2014	afzaf	South Africa	1,969	169	3,414	63	1,484	1,734	1,564	1,967
2014	afzwe	Zimbabwe	1,252	11	1,490	9	1,291	208	894	605
2014	euesp	Spain	127	427	846	269	381	684	126	1,063
2014	euswe	Sweden	96	413	494	607	174	975	53	1,153
2014	astur	Turkey	1,094	47	1,569	12	1,550	46	637	968
2014	euukr	Ukraine	394	191	1,317	183	823	677	334	1,166
2014	afegy	Egypt	1,434	2					1,270	253
2014	nausa	United States	902	284	1,957	248	1,567	620	961	1,271

Figure 4: *Organized data on wave 1 for each variable*

Analytic Trail 2: Visualizing the data

Once the data was sorted, it was easy to start thinking about how to visualize it. Exploring multiple related works (Figure 5) helped in forming a basic idea as to how you want to present the data. From the beginning itself, a map was on my mind the whole time, as it made me feel that an interactive world map would be something that can be very relatable to and also interesting to all kinds of users. One main thing found in the earlier visualization was that to get the data, user needs to go through multiple steps to get the values. So, I wanted to give the users all the main data on very minimal number of clicks.

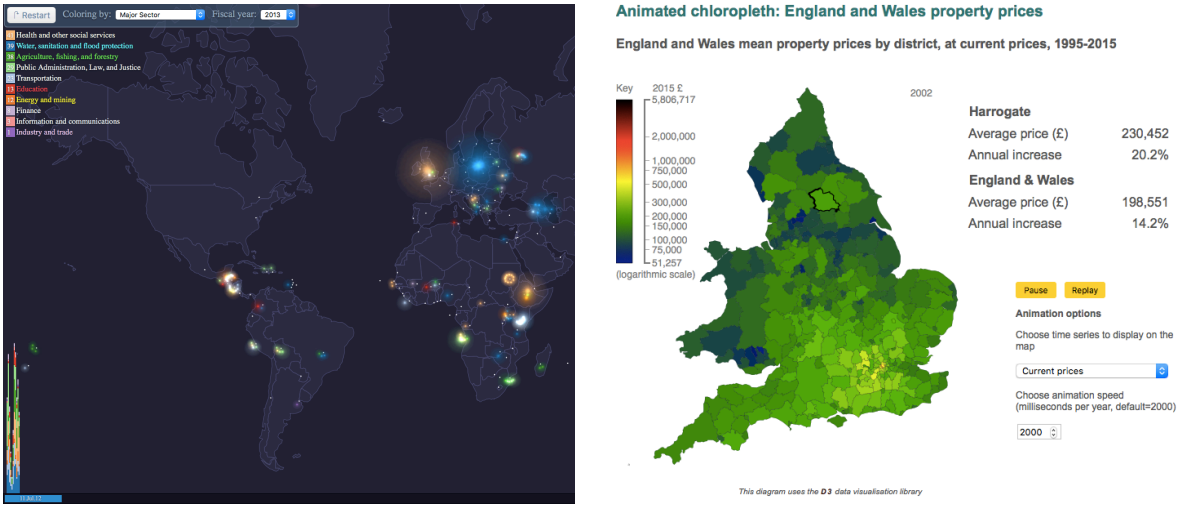


Figure 5: *Related works for inspiration*

Result and Lesson Learned

Finally using d3js GeoMap structure, I created visualization for the data (Figure 6). There are buttons for different wave periods and the map changes as per the selection. While hovering over countries, you can get all the data for that particular country for that particular wave period (Figure7). While clicking any country on the map, it zooms in and you can see that particular country and all the data on the side of the map as well (Figure 7).

The main lesson learned was coding (for me personally), this was my first time in experimenting with coding. Hence it was quiet challenging yet learned a lot. Mistakes were bound to happen as the data was of huge amount. Learned to be a strict and careful observer and as the saying says, slow and steady wins the race.

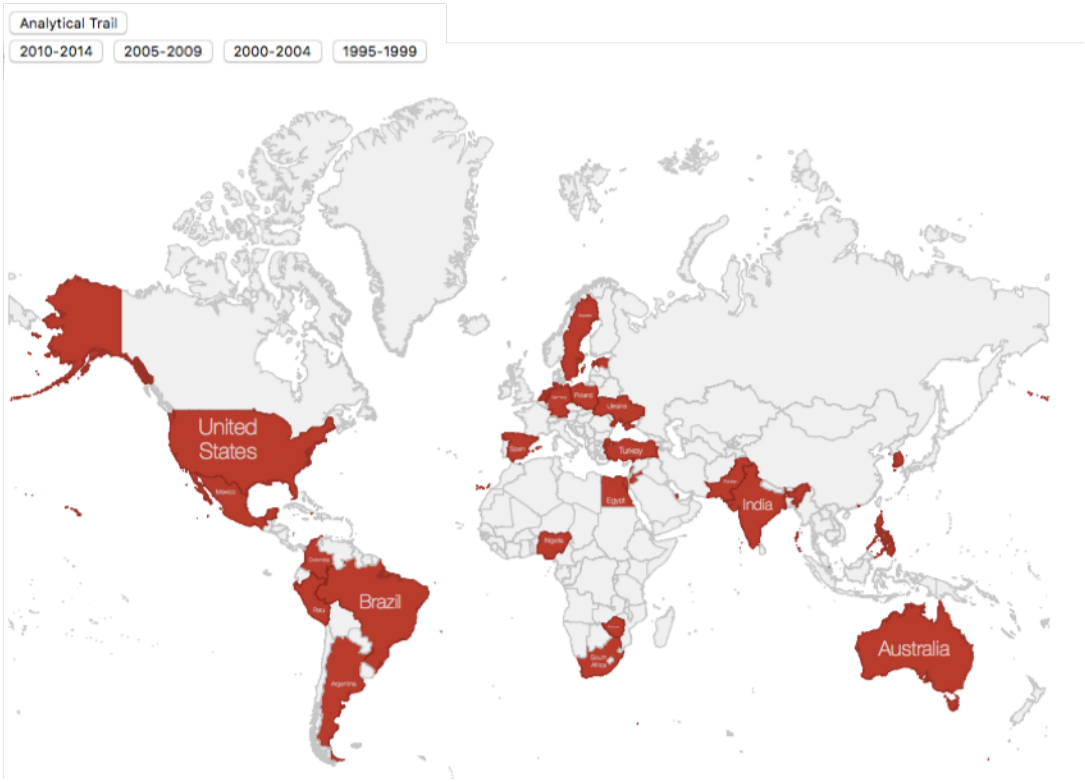


Figure 6: *Visualization of data*

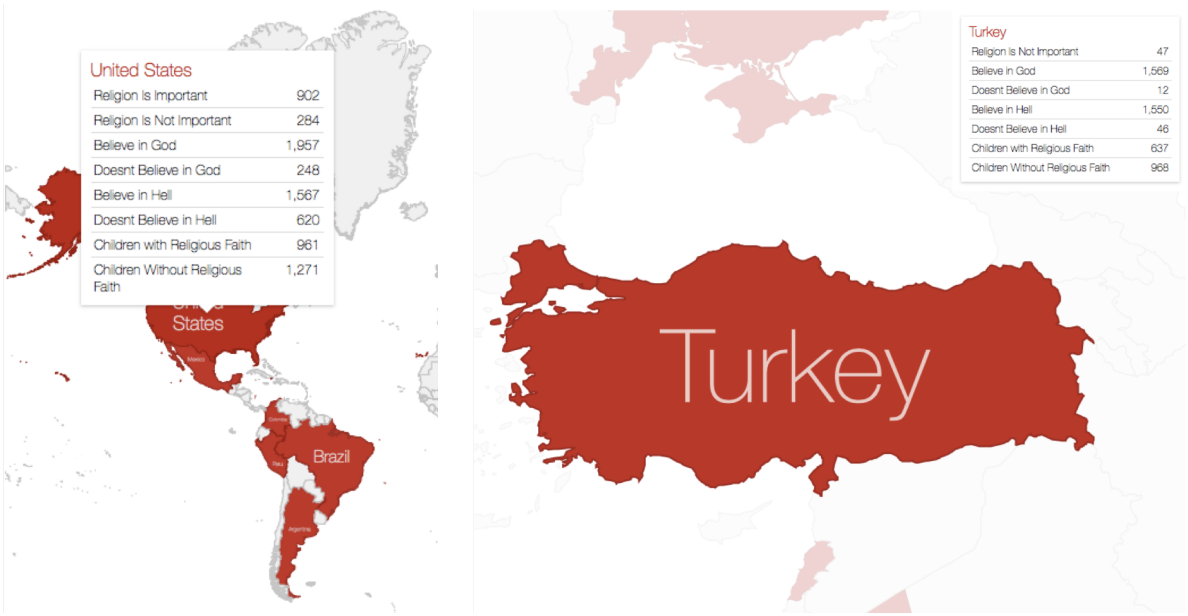


Figure 7: *All the data available in the interactive map.*