CSCI 6406 Visualization – project proposal

D3 Visualization Research and Implementation

The trends of new house price index in Canada

Song Zhao B00694453

Project objectives:
Learn to use the D3 library to implement a specific dataset visualization. The visible data should help about solving the problems and making decision in the real world. In addition, by researching existing papers to find out the new ideas and use them to the project.

Background:
Many people dream they can own their own houses (including me). However, the price of house is very high. If people buy houses with bank loans at a wrong time, they have to pay more money. So, to estimate the trend of houses' price accurately is very important. In this project, I am going to create a data visualization for new house price indexes of Canada in the past 10 years (2008-2018). As a reference to find a good stage to buy a house.

Implementation steps:
First, collecting and cleaning the data from statistics Canada. Then, researching the existing papers online to decide how to create the visualization program. Third, writing a program by using D3 with some specific algorithms to visible to dataset. Finally, finding valuable things from the data visualization and help decision-making.

Techniques:
Programming language: JavaScript, HTML, CSS.
Development IDE: Visual studio Code.
Library: D3
Visualization Styles: Interactive bar chart and pie chart.

Resources for studying:
A paper - Interactive HTML Reporting Using D3 [1]
The dataset of Statistic Canada [2]
DashBoard Tutorial [3]
D3 Stacked-to-Grouped Bars Tutorial [4]
More in future.

Dataset:

New housing price index from 2008 Jan to 2018 Dec from Statistics Canada

A	B	C	D	E	F	G	H	I	J	K
REF_DATE	GEO	DGUID	New housing price indexes	UOM	UOM_ID	SCALAR_F	SCALAR_I	VECTOR	COORDIN	VALUE
Jan-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	87.6
Feb-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	87.9
Mar-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	88.1
Apr-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	88.1
May-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	88.1
Jun-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	88.2
Jul-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	88.2
Aug-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	88.2
Sep-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	88.3
Oct-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	87.9
Nov-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	87.7
Dec-08	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	87.5
Jan-09	Canada	2016A000011124	Total (house and land)	Index, 201612=100	347	units	0	v11195544	1.1	87

Timeline:

Feb.2 – Feb.8	Read papers, find topic, finish the proposal
Feb.9-Feb.15	Find some new ideas base on the papers
Feb.16-Mar.8	Work and finish the project update
Mar.9-Apr.1	Work and finish the final project
Apr.2 -Apr.5	Improve and Submit the project.
On schedule	Presentation for the project

Reference:

1. Puliyambalath, N. (2014). Interactive HTML Reporting Using D3. Nationwide Insurance.

2. Statistic Canada [online] Available at: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810020501 [Accessed 8 Feb. 2019].

3. Bl.ocks.org. (2019). DashBoard. [online] Available at: http://bl.ocks.org/NPashaP/96447623ef4d342ee09b [Accessed 8 Feb. 2019].

4. Beta.observablehq.com. (2019). D3 Stacked-to-Grouped Bars. [online] Available at: https://beta.observablehq.com/@mbostock/d3-stacked-to-grouped-bars [Accessed 8 Feb. 2019].