DEATH RATE FINDER

Introduction:

Death Rate Finder will be a search based web application which will enable the users to search for the death rate, cause of death as well as year of death in the states of America. The project will handle a real-world death rate dataset from the government website. By using this web application the user will be able to know about the death rate in particular state as well as the cause of the death. The application will provide the users with authentication which will help them save their search history.

Objectives:

1. Analyzing the present data from government data, pre-processing and cleaning the dataset (like handling missing values, normalizing and featuring data).
2. Converting the data in json format and storing in cloud storage like firebase for maximum availability and quick response times.
3. Building a user-friendly website for the users to search through Death Rate based on many search criterions picked from the attributes of the data set like cause of death.
4. Implementing user login authentication and saving the search history based on user logged in.
5. Implementing faceted search on 3-4 features from the dataset.
6. Integrating all the modules and testing the web application for its functionality, efficiency and correctness.

Data Usage:

This application will handle JSON data stored in firebase in the form of key-value pairs. The data will be updated in real time based on the additions made on the source website**.**

Data Source:

The real-world data set used in the application is fetched from: https://catalog.data.gov/dataset/age-adjusted-death-rates-for-the-top-10-leading-causes-of-death-united-states-2013

DataSet used: NCHS – Leading causes of death in united states.

Year	113 Cause Name	Cause Name	State	Deaths	Age-adjusted Death Rate
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Alabama	2313	52.2
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Alaska	294	55.9
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Arizona	2214	44.8
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Arkansas	1287	47.6
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	California	9198	28.7
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Colorado	1519	39
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Connecticut	1034	29.3
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Delaware	267	35.3
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	District of Columbia	161	28.4
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Florida	5961	35.7
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Georgia	3078	41.5
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Hawaii	293	24.3
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Idaho	597	48.3
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Illinois	4125	33.7
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Indiana	2309	38.4
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Iowa	1123	35.2
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Kansas	1126	40.7
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Kentucky	1730	43.3
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Louisiana	1940	44.7
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Maine	458	34.9
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Maryland	1296	25.9
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Massachusetts	1303	19.6
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Michigan	3188	32.8
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Minnesota	1772	35.8
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Mississippi	1642	58.9
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Missouri	2465	43.2
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Montana	461	50.3
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Nebraska	668	37.3
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	Nevada	710	38.5
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	New Hampshire	329	27.5
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	New Jersey	2227	26.2
1999	Accidents (unintentional injuries) (V01-X59,Y85-Y86)	Unintentional Injuries	New Mexico	969	55.9

Details:

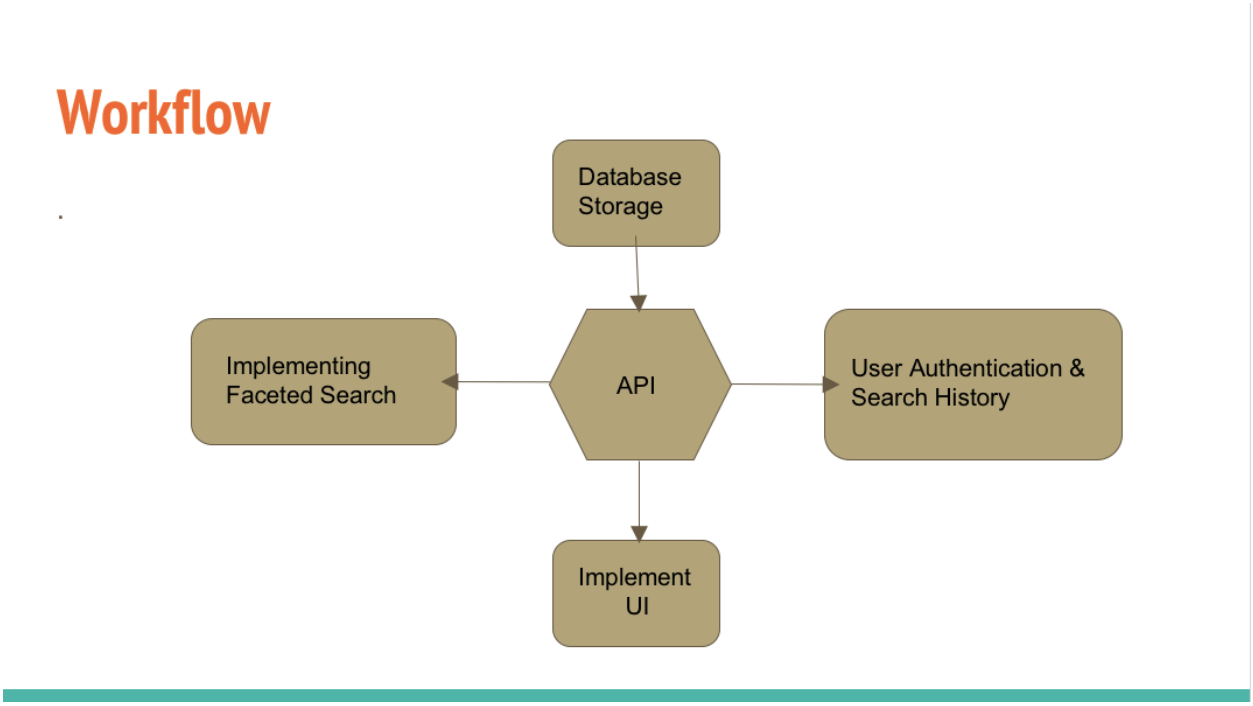
Number of columns: 6
Number of evidences: 15029

- The data set contains age-adjusted death rates for the 10 leading cases of death in USA beginning in 1999.
- The data comes from resident death certificates filed in 50 states and the district of Columbia using demographic and medical characteristics.
- The Column age adjusted death rates specifies death rates based on the 2000 US population(per 1 lac population)
- The column year specifies the year of death
- Column cause name specifies the cause of the death and column state specifies the state in which death was filed.
- The data is recorded from year 1999 to 2015. The data will be updated every census calculation.

Data Storage:

The data will be stored in firebase since it gives a basic and unified platform with many Google features packed-in making the development process easier and more efficient by providing real-time database, cloud storage etc.

Workflow:



Components of the application:

The application will have 2 key components

I) **User Interface:** The UI will be a web browser containing search facets and an user login functionality where users can login and save their searches for future reference.

II) **Database:** We will use firebase for storing username, password, search indexes as well as real time data from the data source**.**

Interface:

We plan to implement this web application using HTML and industry standard Java frameworks for better user experience along with firebase.

Programming languages and libraries:

- Js
- Angular Js
- Firebase Js client
- Jquery
- HTML
- CSS
- Python

Group Information:

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We plan to work collaboratively on the project working and contributing alternatively one each part of the project implementation.

Milestones:

I) Week I & II

a. Load csv to json and data cleansing, data pre-processing(if needed).
b. Breaking down the search facets into tokens and storing them on firebase.

II) Week III & IV

a. Database creation, storage and linking for users and guest login

III) Week V & VI

a. Logic building
b. Implementing the search functionality
c. Preparing the mid-term report

IV) Week VII

a. Making the UI for the website.
b. Preparing the mid term report

V) Week VIII & IX

a. Testing the authentication and building connectivity of the website with login database
b. Preparing the final report
c. Testing the project thoroughly and preparing for final submission