

Gun Violence in America

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We know the
dangers of
guns .

But do we?

According to Amnesty International

Deaths

- More than 500 people die every day from gun violence
- 44% of all homicides globally involve gun violence
- There were 1.4 million firearm-related deaths globally between 2012 and 2016.

Injuries

- An estimated 2,000 people are injured by gunshots every single day
- At least 2 million people are living with firearm injuries around the globe





Description

Police say Monday's holiday mass shooting had been planned for weeks.

Seven people died and dozens were injured as Robert Crimo III fired as many as 70 rounds into the crowd from a Highland Park rooftop. The shooter accessed the roof via a fire escape ladder, then fled the scene wearing women's clothing.

U.S. NEWS

Atlanta police officer involved in fatal shooting of Rayshard Brooks fired as protests grow

A second officer was placed on administrative leave after the chief of police resigned earlier Saturday.



Detroit 5-year-old dies in accidental shooting on city's west side

By Robin Murdoch and Jack Nissen | Published August 23, 2022 | Crime and Public Safety | FOX 2 Detroit



DETROIT (FOX 2) - Another child appears to have died from an accidental gunshot after a boy got their hands on a firearm in [Detroit](#).

Police were on Oakfield Avenue on Detroit's west side late Monday after a 5-year-old was privately conveyed to a hospital after being injured by a gunshot.

Latest News

Detroit rapper drops new song after car trashed at Livonia collision shop

One-stop Covid testing and treatment sites added around Detroit

Wayne Police Department's therapy dog Zeke dies from cancer

Domestic Violence Awareness Month: Michigan's new hotline provides support

Man accused of shooting at teen outside Oakland County youth facility

View More



Trending



Our ETL Process

MASS SHOOTINGS

[View Results](#) [Export as CSV](#) [Interactive Map](#)

Incident	State	2015	2016	2017	2018	2019	2020	2021
2428950	Alaska	4	7	8	7	7	9	5
2428715	Alabama	World Population Review	Continents	Countries	World Cities	US States	US Counties	US Cities
2428678	Arkansas	Gun Ownership by State 2022						
2427999	Arizona							
2427775	California							
2428456	Colorado							
2426627	Connecticut							
2426042	District of Columbia							
	Delaware							
	Florida							
	Georgia							

2428950
2428715
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2426627
2426042

Alaska

4

7

8

7

7

9

5

Alabama

World Population Review

Continents

Countries

World Cities

US States

US Counties

US Cities

Zips

search

Arkansas

Gun Ownership by State 2022

Show Source

Arizona

California

Colorado

Connecticut

District of Columbia

Delaware

Florida

Georgia



Kentucky

Gun Ownership: 54.1%

U.S. state party control as of January 2022 [edit]

See also: [Government trifectas](#) & [State government trifectas](#)This section needs to be **updated**. The reason given is: House composition and notes referring to vacancies are out of date. Please help update this article to reflect recent events or newly available information. (January 2021)

State	2020 presidential election	Governor	State Senate	State House	Senior U.S. Senator	Junior U.S. Senator	U.S. House of Representatives	Party registration or identification (% as of 2020)
Alabama	Republican	Republican	Republican 27–8	Republican 77–28	Republican	Republican	Republican 6–1	Republican 52–38 ^[a]
Alaska	Republican	Republican	Republican 13–7	Coalition 21–19 ^[a]	Republican	Republican	Democratic	Republican 24–13 ^{[a][b]}
Arizona	Democratic	Republican	Republican 16–14	Republican 31–29	Democratic	Democratic	Democratic 5–4	Republican 35–33 ^{[a][b]}
Arkansas	Republican	Republican	Republican 28–7	Republican 77–23	Republican	Republican	Republican 4	Republican 48–35 ^[a]
California	Democratic	Democratic	Democratic 31–9	Democratic 59–19–1	Democratic	Democratic	Democratic 42–11	Democratic 45–24 ^{[a][b]}
Colorado	Democratic	Democratic	Democratic 20–15	Democratic 41–24	Democratic	Democratic	Democratic 4–3	Democratic 30–28 ^{[a][b]}
Connecticut	Democratic	Democratic	Democratic 24–12	Democratic 97–54	Democratic	Democratic	Democratic 5	Democratic 37–21 ^{[a][b]}
Delaware	Democratic	Democratic	Democratic 14–7	Democratic 26–15	Democratic	Democratic	Democratic	Democratic 48–26 ^{[a][b]}
Florida	Republican	Republican	Republican 24–16	Republican 78–42	Republican	Republican	Republican 16–11	Republican 36–35 ^{[a][b]}
Georgia	Democratic	Republican	Republican 34–22	Republican 103–77	Democratic	Democratic	Republican 8–6	Democratic 43–42 ^[a]
Hawaii	Democratic	Democratic	Democratic 24–1	Democratic 47–4	Democratic	Democratic	Democratic 2	Democratic 54–29 ^[a]
Idaho	Republican	Republican	Republican 28–7	Republican 58–12	Republican	Republican	Republican 2	Republican 54–29 ^[a]

How Should Our DB Tables Be Set Up?

- The team discussed different data sets to use that were related to gun violence and ultimately decided to narrow the focus to :
 - Fatal Police Shootings
 - Mass Shootings
 - Accidental Death
 - Gun Ownership By State
 - Party Affiliation By State
- Due to varying data within each CSV, we decided to use MongoDB to hold our data in collections

Data Cleansing With Python

In Jupyter

Data was cleaned and sorted using a Jupyter notebook

We also selected the desired fields for our analysis according to our goals

Data was then merged into collections in our gun_violenceDB database.

```
In [116... #split year to a new column for analysis
massShootings['Year'] = pd.DatetimeIndex(massShootings['Incident Date']).year

#rename(for MongoDB) & get the columns needed
massShootings.rename(columns={'Incident Date':'Date','City Or County':'City_Or_County','# Killed':'Killed','# Injured':'Injured'}, inplace=True)

massShootings=massShootings[['Year','Date','State','City_Or_County','Killed','Injured']]

massShootings
```

```
Out[116...
   Year  Date      State  City_Or_County  Killed  Injured
0  2022  27-Sep-22  Pennsylvania  Philadelphia    1         4
1  2022  27-Sep-22   New York  Corona (Queens)    0         4
2  2022  25-Sep-22  Pennsylvania  Harrisburg    0         4
3  2022  25-Sep-22   Indiana    Hammond    1         3
4  2022  24-Sep-22   Ohio    Columbus    1         3
...    ...    ...    ...    ...    ...    ...
1995  2019  17-Jul-19    Texas    Lubbock    1         3
1996  2019  16-Jul-19    Texas  San Antonio    0         4
1997  2019  15-Jul-19   Georgia    Atlanta    0         4
1998  2019  14-Jul-19   Illinois    Chicago    0         4
1999  2019  13-Jul-19   Illinois    Chicago    1         4
```

gun_violenceDB.massShootings

2.0k 1
DOCUMENTS INDEXES

Documents Aggregations Schema Explain Plan Indexes Validation

Filter (field: 'value')

Options Find Reset Refresh

Add Data View

Displaying documents 1 - 20 of 2000

```
{
  "_id": ObjectId("6339d221350bae0c5271d1"),
  "Year": 2022,
  "Date": "27-Sep-22",
  "State": "Pennsylvania",
  "City_Or_County": "Philadelphia",
  "Killed": 1,
  "Injured": 4
}
```

```
{
  "_id": ObjectId("6339d221350bae0c5271d2"),
  "Year": 2022,
  "Date": "27-Sep-22",
  "State": "New York",
  "City_Or_County": "Corona (Queens)",
  "Killed": 0,
  "Injured": 4
}
```

```
{
  "_id": ObjectId("6339d221350bae0c5271d3"),
  "Year": 2022,
  "Date": "25-Sep-22",
  "State": "Pennsylvania",
  "City_Or_County": "Harrisburg",
  "Killed": 0,
  "Injured": 4
}
```

MongoDB

The screenshot displays the MongoDB Compass web interface. The left sidebar shows the database structure: 'localhost:27017' with 16 DBS and 18 COLLECTIONS. The 'gun_violenceDB' database is expanded, showing collections: 'accidentalDeath', 'fatalPoliceShootings', 'gunOwnership', 'massShootings', 'local', 'mars_db', 'newsDB', and 'phone_app'. The 'accidentalDeath' collection is selected.

The main panel shows the 'Documents' tab for the 'gun_violenceDB.accidentalDeath' collection. It displays 4.0k documents and 1 index. The 'Documents' tab is active, with other tabs like 'Aggregations', 'Schema', 'Explain Plan', 'Indexes', and 'Validation' available. A filter bar shows the filter '{ field: 'value' }'. Below the filter, there are buttons for 'ADD DATA', 'VIEW', and 'REFRESH'. The document list shows the first three documents:

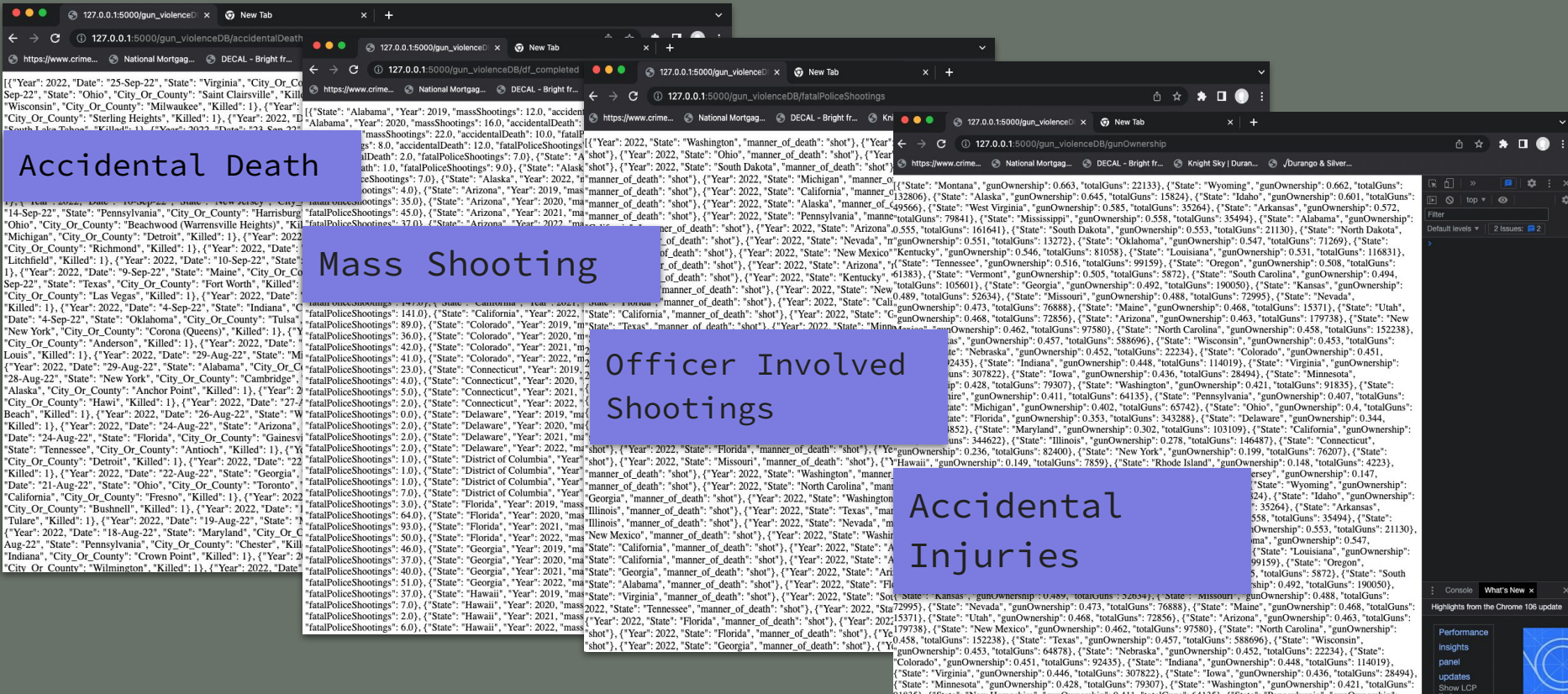
```
{ "_id": ObjectId('63351cafff09ee9d3b0e6477'), "Year": 2022, "Date": "25-Sep-22", "State": "Virginia", "City_Or_County": "Suffolk", "Killed": 1 }
```

```
{ "_id": ObjectId('63351cafff09ee9d3b0e6478'), "Year": 2022, "Date": "25-Sep-22", "State": "Ohio", "City_Or_County": "Saint Clairsville", "Killed": 1 }
```

```
{ "_id": ObjectId('63351cafff09ee9d3b0e6479'), "Year": 2022, "Date": "24-Sep-22", "State": "Wisconsin", "City_Or_County": "Milwaukee", "Killed": 1 }
```

The bottom status bar indicates 'Displaying documents 1 - 20 of 4000' and includes a 'REFRESH' button.

Using the
Data



Visualizing the Data in JavaScript

- Read the data from Flask Api and Json files
- Visualize the data using Plotly, Leaflet, d3.js and Chart.js libraries.

Dashboard

Are Gun Deaths Higher in Democratic or Republican

-Controlled Areas?

The data from 01/2019 to 09/2022 shows-

Gun ownership-

Blue vs. Red

2,008,712 : 3,146,865

Total Deaths-

Blue vs. Red

3,345 : 4,323

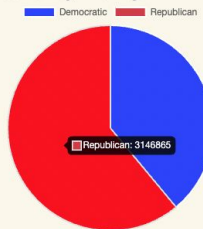
Gun Violence Dashboard

Use the interactive charts below to explore the dataset

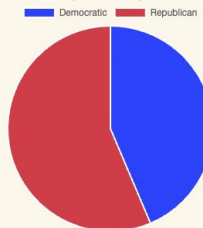
Gun Violence Charts:

This charts examined 50 US states and the District of Columbia from January 1, 2019, to September 22, 2022. Statistical analysis was performed from September to October 2022

Total Guns by Party Affiliations



Total Death by Party Affiliations

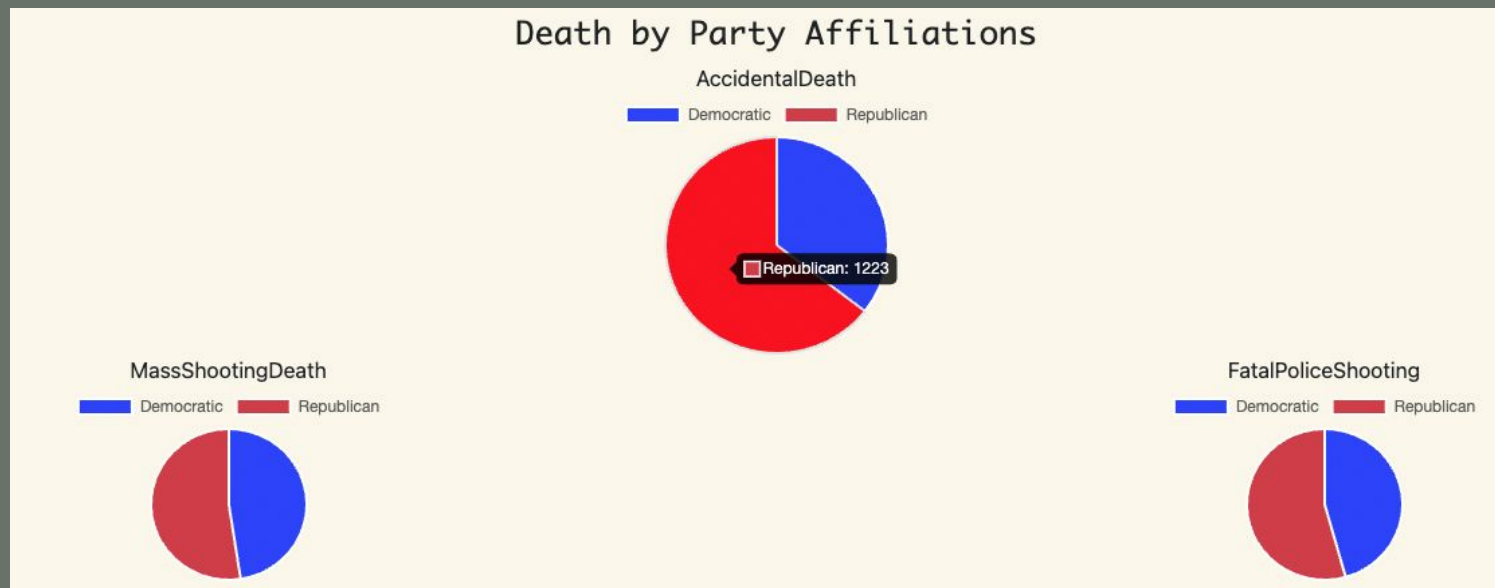


Dashboard

What's the major gun violence driving the difference in Democratic or Republican-Controlled Areas?

The data from 01/2019 to 09/2022 shows-

Accidental Deaths- Blue vs. Red => 672 : 1,223



Dashboard

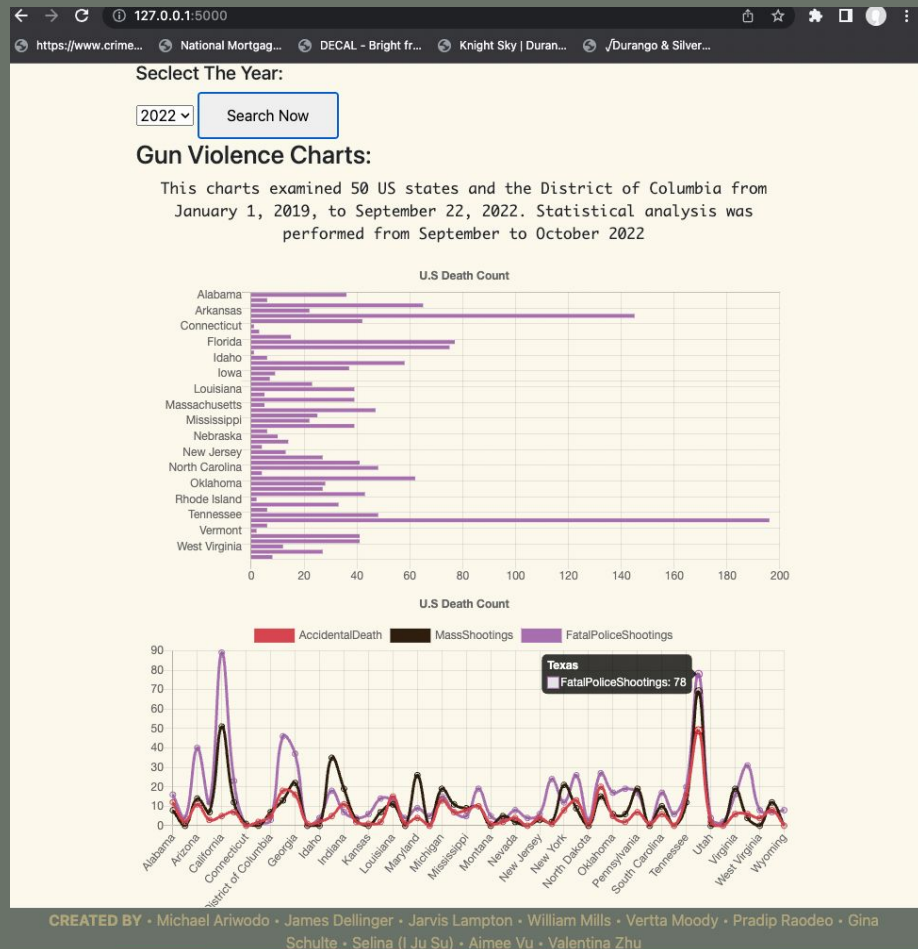
Are Gun Deaths Higher before, during or after pandemic?

The data of 2019 (before) 2020 (during) 2021 (after) indicates-

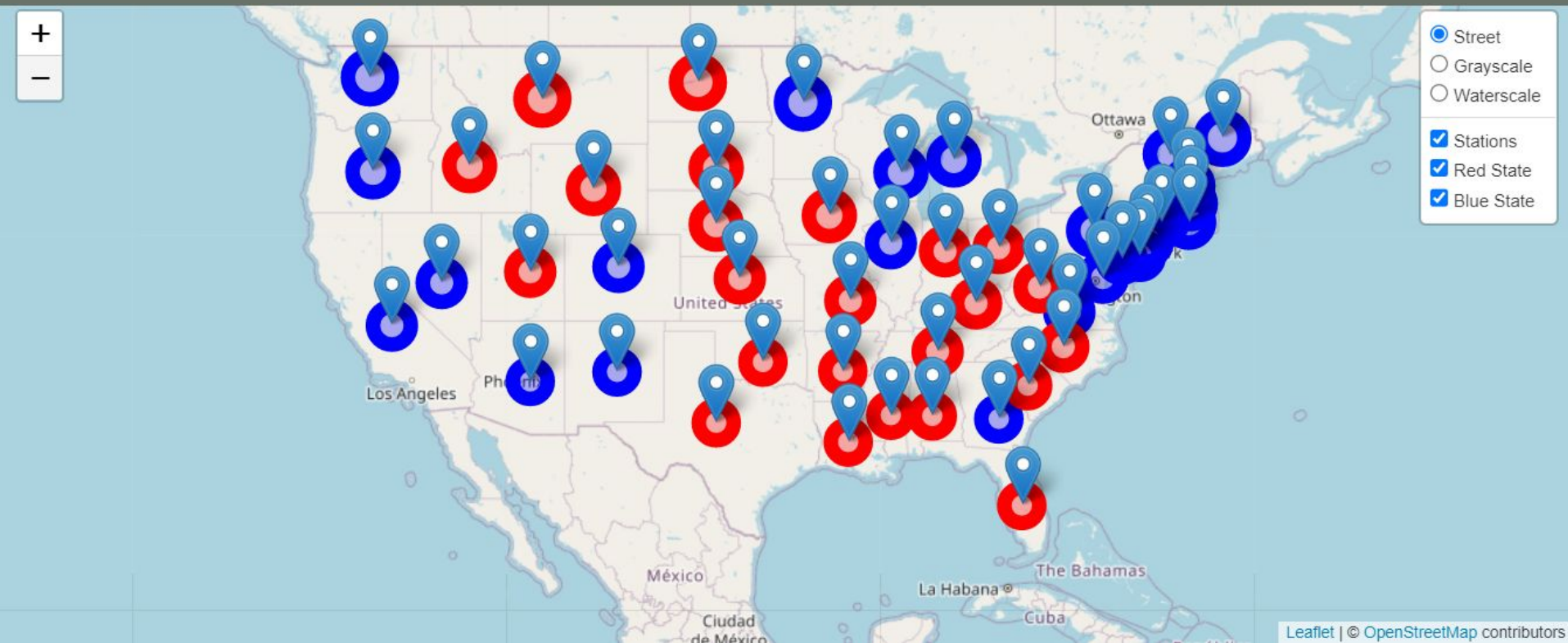
Gun Death-

	massShootings	accidentalDeath	fatalPoliceShootings	Total
Year				
2019	249.0	424.0	999.0	1672.0
2020	513.0	615.0	1020.0	2148.0
2021	705.0	536.0	1054.0	2295.0
2022	499.0	329.0	770.0	1598.0
Total	1966.0	1904.0	3843.0	7713.0

*2022 estimate death base on 9 month data: 2,130



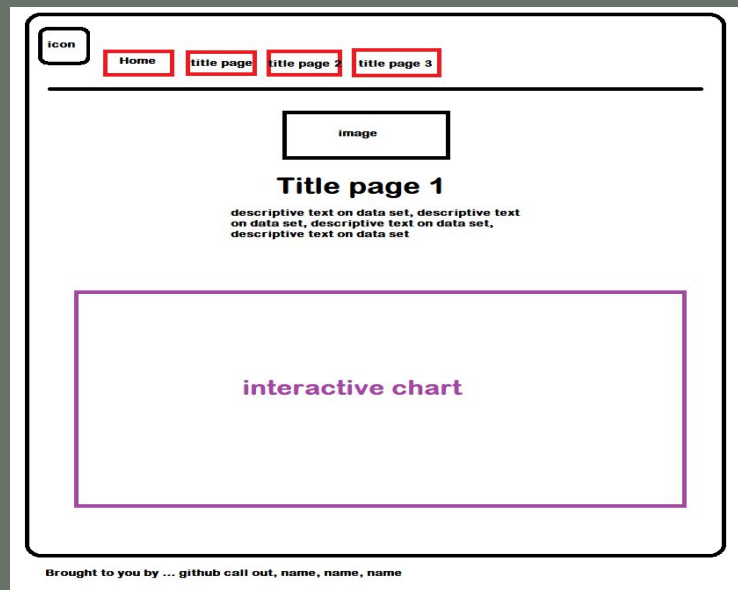
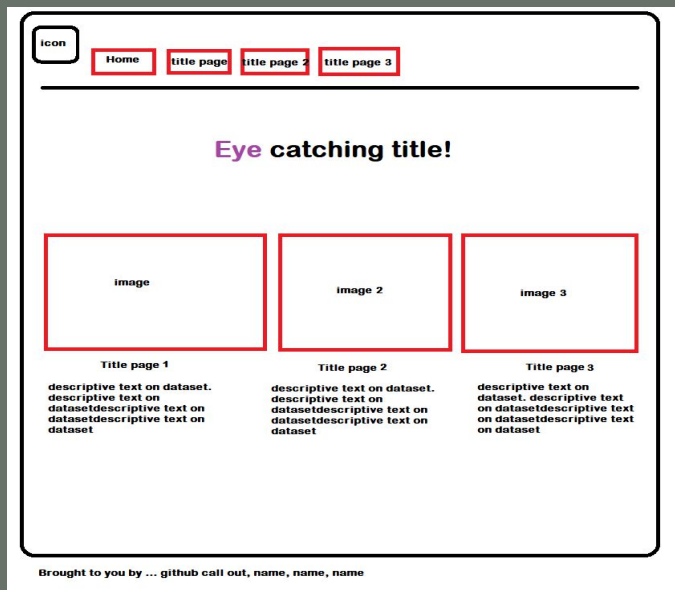
Map



Putting It
Together

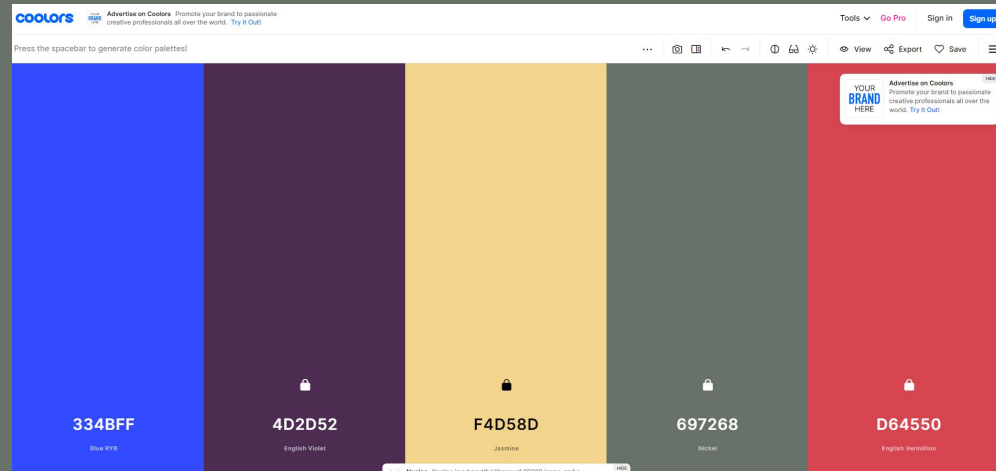
Original Wireframe

- Collaborated as a team to create files for the website: styles.css, index.html, massShooting.html, & map.html.
- Added a basic layout with a two-toned color scheme.
- Created links to JavaScript files and used placeholder icons for homepage and navbar to get started.
- Started with inline CSS while collaborating but ended up moving everything over to a CSS file.



Overall Look

- Started with red and black along with more serious images and icons.
- Decided to go with a calmer look.
- Used W3 website to access the color library, font families, and other effects.
- Kept the pictures and icons in theme and made sure they focused on the data.



Final Products...

<https://aimeevu.github.io/project-3-group-e/templates/index.html>

Datasets & Citations

- <https://www.gunviolencearchive.org/mass-shooting>
- <https://www.safehome.org/data/firearms-guns-statistics/#police>
- <https://www.gunviolencearchive.org/accidental-injuries>
- <https://www.gunviolencearchive.org/accidental-deaths>
- <https://worldpopulationreview.com/state-rankings/gun-ownership-by-state>
- https://en.wikipedia.org/wiki/Political_party_strength_in_U.S._states

Reference for javascript libraries:

- <https://d3js.org/>
- <https://www.chartjs.org/docs/latest/>
- https://www.w3schools.com/ai/ai_chartjs.asp
- <https://www.chartjs3.com/>