

[06/03/2023]

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1. Introduction

The worldwide issue of terrorism has had an impact on many nations and communities. The Global Terrorism Database (GTD - https://mega.nz/file/iUNAFbQJ#jkMX78tsjXfnYmSDikT7W16hYBpkEUpyQ0ojxd_bnmw) is an extensive database that contains details on terrorist incidents that have taken place across the globe between 1970 and 2017. The database offers useful data that can be used to identify trends and learn more about global terrorism.

The objective of this project is to build a dashboard using the GTD dataset in order to discover patterns and trends that may be applied to the study of international terrorism. Users of the dashboard will be able to grasp the data and make wise decisions thanks to the dashboard's visuals. Governmental bodies, law enforcement, and other groups fighting terrorism can make use of the dashboard's insights.

2. Data Description

The Global Terrorism Database (GTD) is a comprehensive database that contains details on terrorist incidents that took place across the globe between 1970 and 2017. The University of Maryland's START program, part of the National Center for the Study of Terrorism and Responses to Terrorism, created the data set.

The GTD dataset, which has 181,691 rows and 135 columns, comprises details about the date, place, attack type, target type, weapon type, and casualty count. The dataset includes information on a variety of terrorist actions, including as bombs, abductions, hijackings, and armed attacks.

3. Methodology

Data visualization software called Power BI was used to generate the dashboard. The dashboard was made using the procedures below:

Data analysis: To acquire insights into the data, exploratory data analysis was carried out after importing the dataset into Power BI.

Dashboard Design: An intuitive and user-friendly interface was provided by the dashboard's design. The visualizations were carefully selected to offer the most relevant data and insights.

Implementation of the Dashboard: Power BI was used to develop the visualizations and data connections to provide an interactive dashboard. Users of the dashboard can filter the data by a variety of criteria, including year, area, and attack type, to acquire a deeper understanding of the data.

Overall, the data analysis and dashboard design for this report were done with great care and attention to detail. Someone interested in examining trends and patterns in terrorist activities can use the dashboard which provides the result to gain insightful information on international terrorism.

4. Dashboard Overview

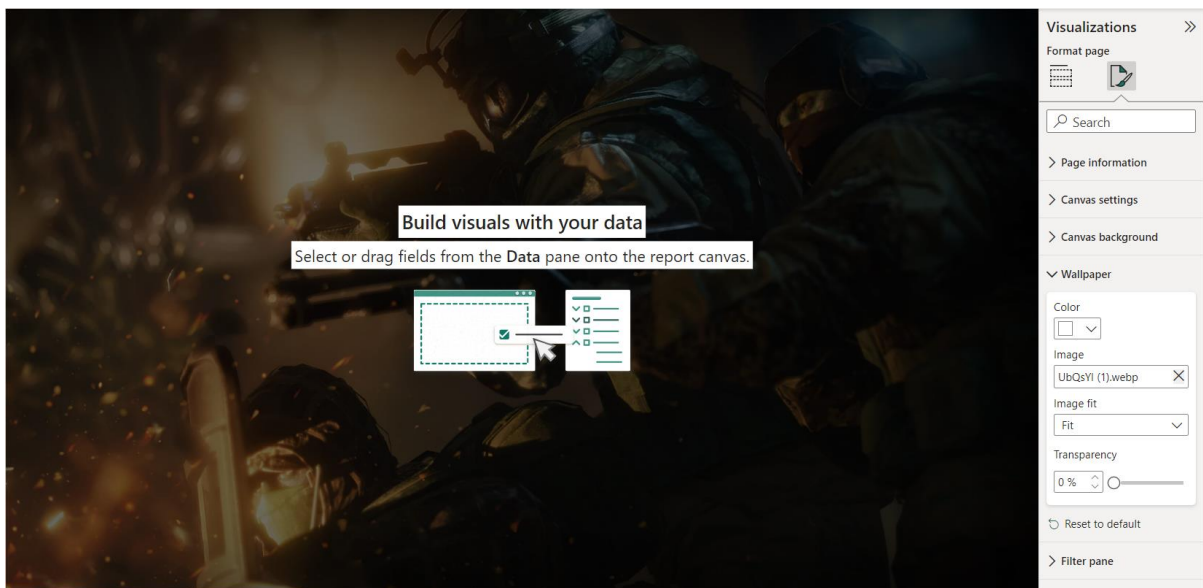
This dashboard includes multiple visualizations which provides insights into global terrorism. It includes following pages;

1. Cover page: this page consist of the main title and a brief description of the study.
2. Total attacks: this visualization shows the total number of terrorist attacks that have occurred worldwide, broken down by year and by region.
3. Attack types: this shows the types of terrorist attacks that have occurred, broken down by year and by region.
4. Weapon types: this visualization shows the types of weapons used in terrorist attacks, broken down by year and by region.

5. Target types: shows the types of targets that have been attacked, broken down by year and by region.
6. Thank You Page: a page with a thank you message.

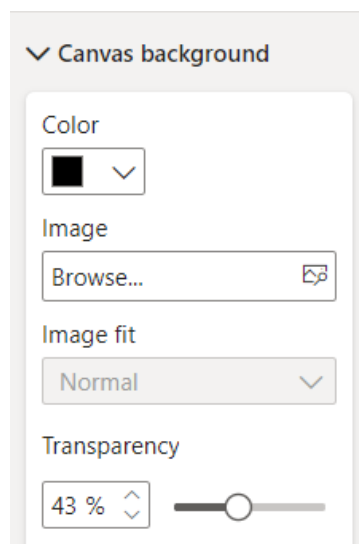
Wallpaper

Used the following wallpaper for all the dashboards except the cover page by insert the image into the wallpaper portal under the visualization tab.

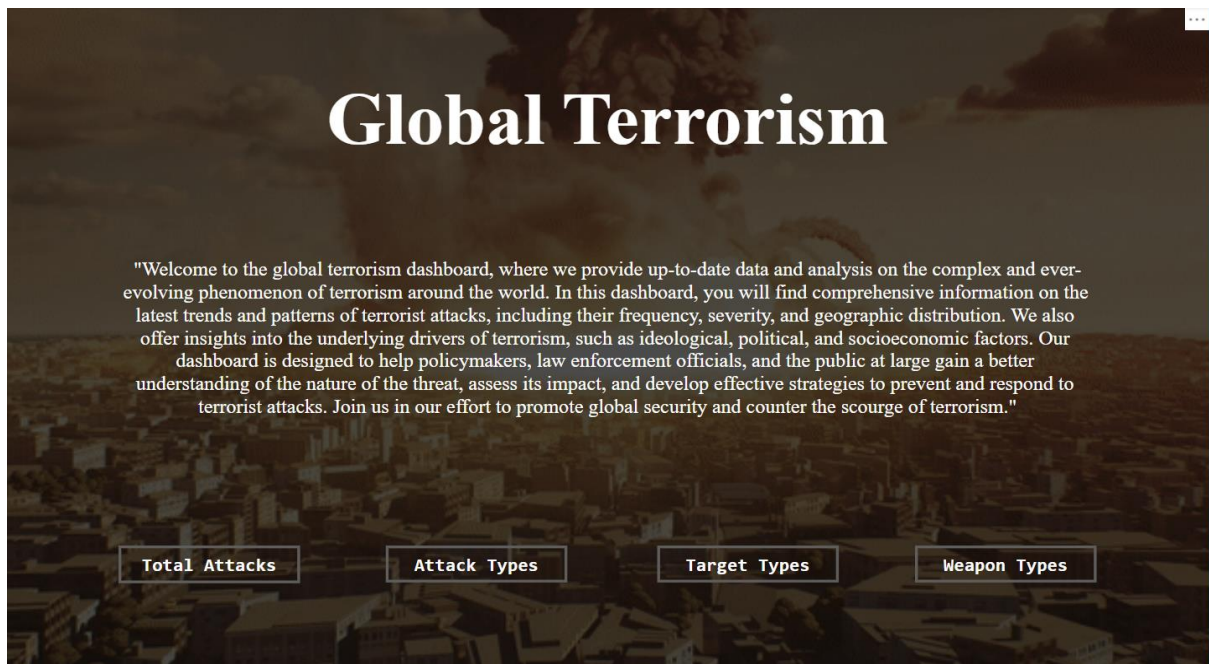


Canvas background

Canvas background set to black and transparency set to 43% by using the “format your report” option under the visualization tab.

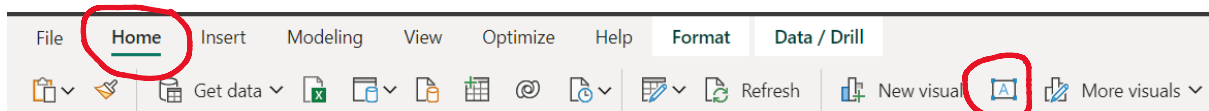


4.1.Cover page

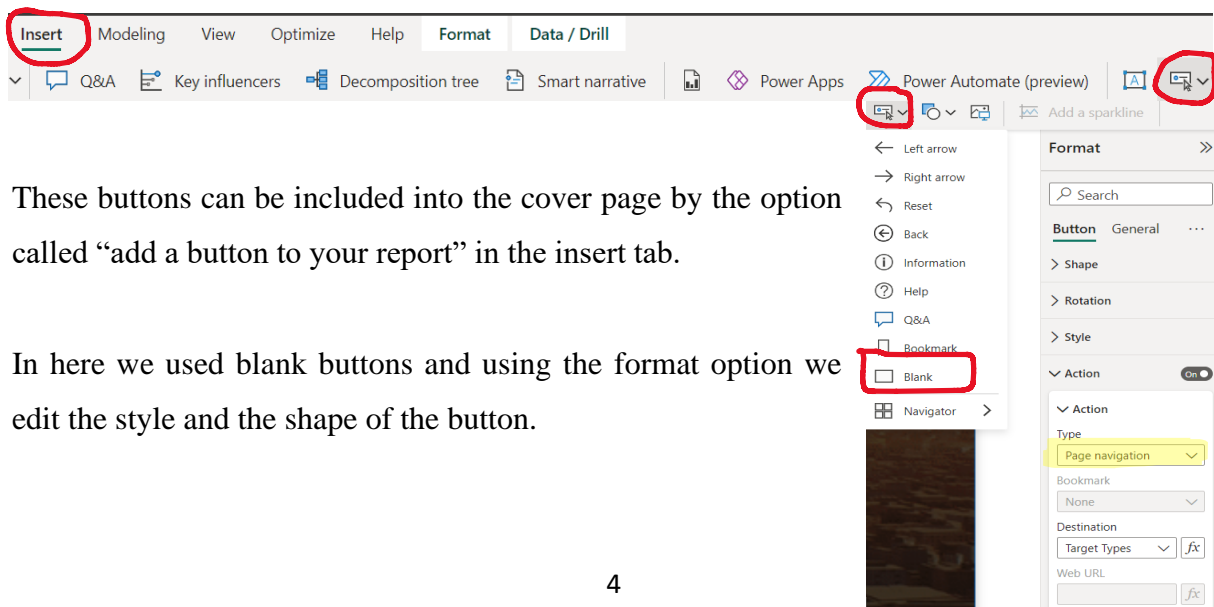


The canvas of the cover page is a bomb explosion video which we converted into a gif.

The description inside the text box in the middle of the cover page is to give an overview of the study, and the analysis in the coming dashboards.



The four buttons at the bottom of the cover page navigate the user to the other dashboards and each dashboard has a separate button in the cover page except the last/ Thank you dashboard.

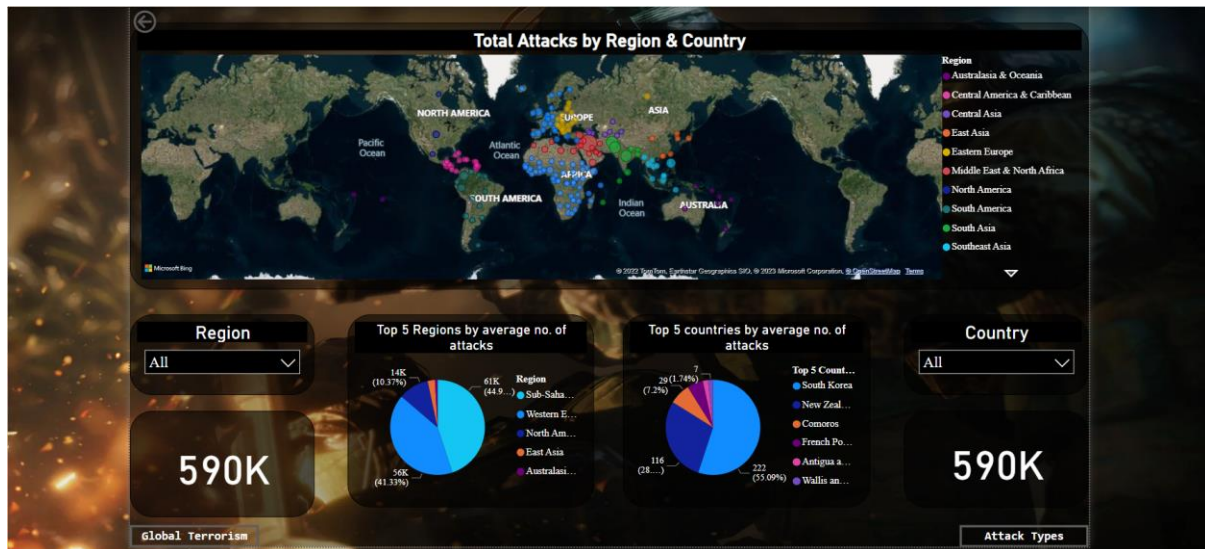


These buttons can be included into the cover page by the option called “add a button to your report” in the insert tab.

In here we used blank buttons and using the format option we edit the style and the shape of the button.

The highlighted drop box shows the option we used to combine the buttons and the relevant dashboards. Since the buttons are navigating buttons to the dashboard we choose “page navigator” under the action tab.

4.2.Total Attacks



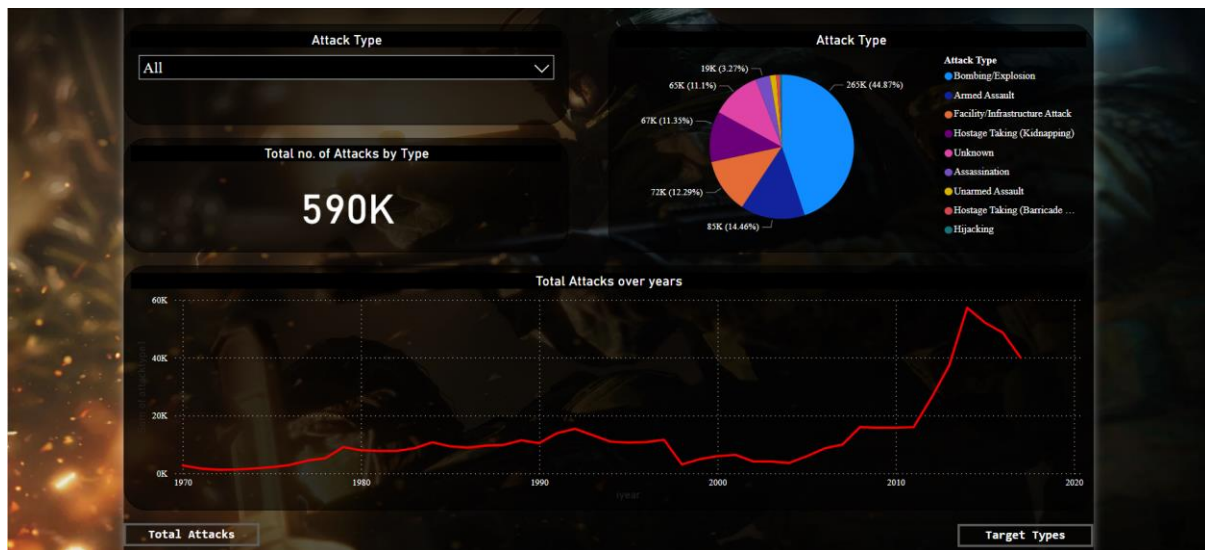
Total attack dashboard covers the sum of attacks that happened from 1990-2017 all around the world. The map shows the total attacks by country, the colours of the bubbles shows the regions and the sizes of the bubbles shows the total of the attacks in each country.

While the map is giving an overall idea about the total attacks, two slices and cards shows the names and values according to the selected area.

The two pie charts shows the top 5 countries and regions with most attacks and it vary according to the selections in slicers.

At the bottom of in each page there're two buttons which navigate to the pervious and next page.

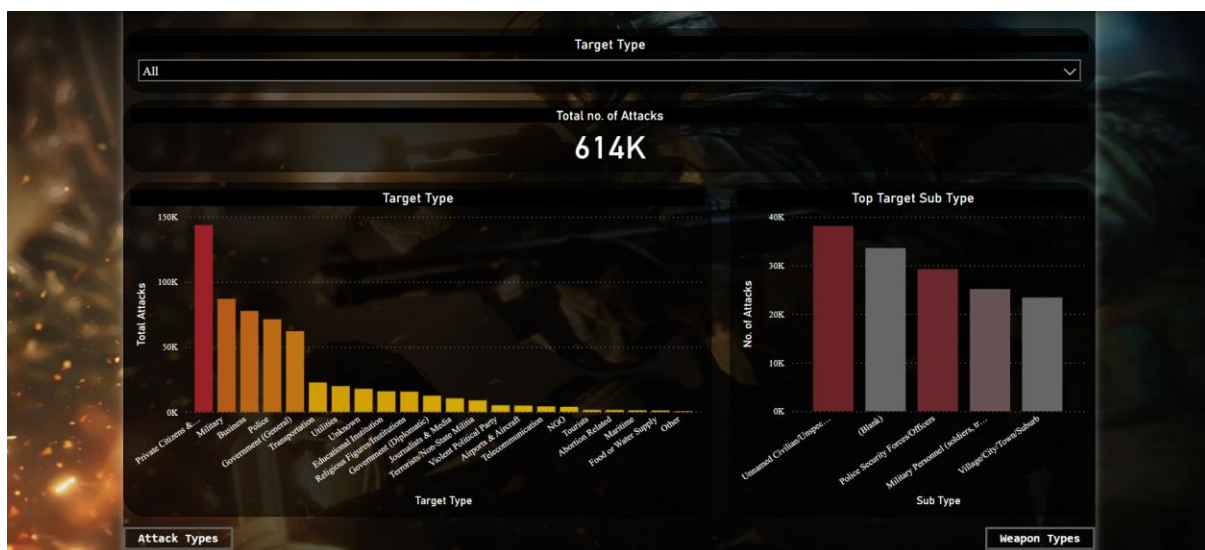
4.3.Attack Types



Attack types dashboard represent the various types of attacks done by criminals during the reported time period.

The slicer enables to choose the type of the attack and it relates to all other visuals; pie chart which represents the 9 types of attacks with their proportions, card which shows the no. of attacks of the relevant type, and the line chart which shows the total no. of attacks over the years according to the relevant type.

4.4.Target Types



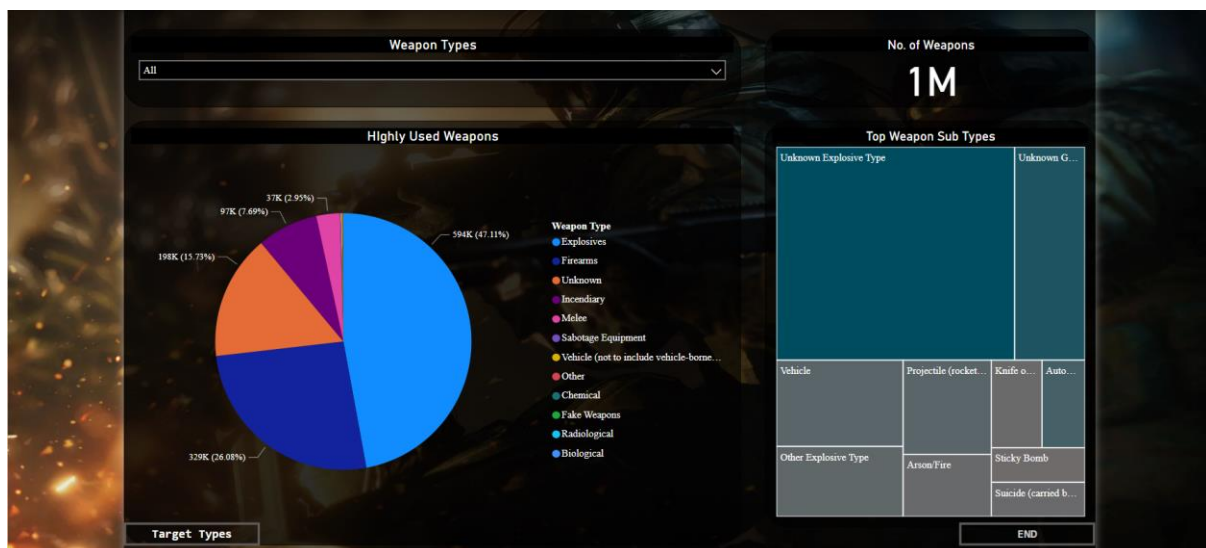
Target type dashboard represents an overall idea about the targeted things/ places of the criminals.

The slicer is included to choose the relevant target type from all types of targets and the card represents the total no. of attacks that happened under that type.

The first clustered column chart shows the sum of attacks happened according to the type of the target and from red to yellow it indicates highest to lowest.

The second clustered column chart shows the top sub categories under each main target type.

4.5.Weapon Types



Weapon types dashboard used to give an overall idea about the weapons that were used for the global terrorism during the reported period.

The slicer was added to choose the types of the weapon and the value represented in on the card vary across the selected type while the pie chart represents the proportion of each weapon among all types.

The treemap is used to show the top weapon sub type under each main weapon type.

4.6.End page

The END dashboard created to give a complete finish when presenting the dashboard.



5. Data Insights

The dashboard provides the following information:

1. During the 1970s, there have been more terrorist attacks, with the number rising significantly after September 11, 2001.
2. The Middle East and North Africa region, followed by South Asia, has had the most terrorist strikes.
3. The most common type of terrorist attack is a bombing or explosion, followed by armed assault.
4. The most frequently used weapon in terrorist attacks is a firearm, followed by explosives.
5. The most frequent targets of terrorist attacks are private individuals and property, followed by military and law enforcement.

6. Conclusion

In conclusion, the dashboard made using Power BI provides important information about global terrorism. The dashboard's findings can be applied to data-driven decisions that governments, law enforcement agencies, and other anti-terrorism organizations can use to their advantage.