

# Project Proposal

## Basic Info

Title - Global Terrorism Visualization

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Link <https://github.com/tejashs/GlobalTerrorismVisualization>

## Background and Motivation

16 years after the horrifying attack on the twin towers, the fight against terrorism continues and this global menace lingers to plague the world. Many questions still remain unanswered. We try to answer some of these questions through our visualizations using some interesting correlations and design choices.

## Project Objectives:

1. To find if US involvement in the Middle East impacted Global Terrorism
2. To find if increase in population of a specific religion in a country increased terrorism in that country
3. To find if US involvement in the Middle East has caused increase in terrorism in that country
4. Correlating factors like GDP growth, literacy etc. with increase in terrorism and pinpointing what factors might have caused this.

## Data

The Global Terrorism Database (GTD). The Dataset is available on Kaggle. This dataset contains information about worldwide terrorism events back to 1970, including location, circumstances, number of casualties, weapons used, etc.

The link to the dataset - <https://www.kaggle.com/START-UMD/gtd/data>

## **Data Processing**

We plan to use Pandas to manipulate data to extract relevant features. This data is complex in terms of the number of missing values. We plan to deal with this by either predicting the missing values or eliminating data points with substantial missing information.

## **Visualization Design**

This is described in Design.pdf

## **Must-Have Features**

It includes the following,

- The World map and US map showing terror attacks.
- A line Graph with nodes for events representing US' involvement in Middle East showing increase or decrease in number of terror attacks after a major event.
- Selecting a node (e.g. US invades Iraq 2003) provides drill down of Heat map of attacks before and after 2003.
- A bar chart showing Global terror attacks based on the religion of perpetrator.
- Word cloud based on Weapons used, attack type etc.

## **Optional Features**

It includes the following,

- Charts for correlating metrics like GDP, literacy rates, etc. with terrorism. This largely depends on different datasets related to our main dataset.
- An Alexa voice based interface to interact with the visualization using the Alexa API.

## **Project Schedule**

We have 6 weeks to project submission, this is what we plan to do

Week1 - Data cleaning and feature extraction

Week2 – Layout(Tejas), World Map(Giorgi) and US map(Akshay) along with brush(Tejas)

Week 3,4,5 - Line Chart with Nodes(Akshay), Heat Maps(Giorgi), Bar Charts(Tejas) with their respective interactions

Week 5,6 – Making All Interactions work together and taking care of styling, positioning to tie the whole thing together