# Introduction

The visualization submitted as a part of this assignment aims to better understand the Syrian refugee crisis with the help of data.

Syria has been a country in constant conflict of civil war for the past seven years. With different groups trying to seize control over the country like IS and anti-government groups forming the situation is worsening day by day. Crowded cities have been destroyed and horrific human rights violations are widespread. Basic necessities like food and medical care are sparse. The country is turning uninhabitable with lack of basic amenities. People are looking for ways out of the country.

The U.N. estimates that 6.2 million people are internally displaced. When you also consider refugees, well over half of the country’s pre-war population of 22 million is in need of urgent humanitarian assistance, whether they still remain in the country or have escaped across the borders

# Description

The visualization is divided into three sections, each one describing a unique data set. All of these visualizations were designed in JavaScript with the help of d3.js library.

1. The first one depicts the number of refugees per country and per continent in the world. The dataset was obtained from The UN Refugee Agency. Another data set for population of every country was obtained from the world bank. The data from UNHCR was obtained as a single CSV file, pre-processing of data, merging and data preparation was done in excel.

**Data Types:** *The Year* – Discrete value identifying the year, *Country* – discrete value identifying the country, *Population* – population of the country, *Refugee* – total number of Syrian refugee count in the country, *Continent* – continent the country belongs to.

**Idiom:** The data is represented using circle chart starched along the x axis. We use the circles with force chart to depict the scale of Syrian migrations in all the countries in different continent.

**Encoding Channels:**

**Space:** Each chart represents the data for every year between 2008 and 2014. Each circle represents the country.

**Colour:** The size of the circle depicts the population of it, we have divided the circle based on the size in three different categories 1 to 10 million, 10 to 50 million and above 50 million.

**Size:** The colour of the circle represents the continent, namely Africa m Asia m North America, South America, Europe and Oceania

**Position:** X axis represents the number of Migrations on a log scale.

There are three selectors in the top right of the chart with options to sort based on number of refugees above 1000 and based on continent.

**Tasks:** This graph helps us visualize the number of refugees immigrating to different countries in the world.

**Compare** the different continents accepting immigrants, as we can see from the visualisation most of the immigrants move to Europe followed by Asia.

**Distribute**: tries to display countries with highest rate of migration over the year.

**Categorize**: Categories the countries according to the continent. Helps in

1. The second one depicts the major causes of the disputes in Syria. The dataset was obtained from Harvard Dataverse. Event data consists interactions between actors like cooperative or hostile actions between individuals, groups, sectors and nation states.

**Data Types:** The dataset consists of many detailed event data but the important ones are, *Event Date –* The date the event happened, *Source\_Name –* the source of the attack, *Source Country –* The source country, *Target Country -* The target of the attack, *City –* the city of the attack

**Idiom:** The visualization is depicted using a stacked bar chart.

**Encoding Channels:**

**Colour:** With different colour of stack representing different actors/reasons in the war.

**Position:** The X axis denotes the year of the events occurred and the Y axis denotes number of the incidents. Y axis can be changed to show relative values by selecting the chart type from the dropdown.

**Tasks:** The visualization helps in seeing the as seen there has been a considerable decree in the violence events through 2012 to 2015.

**Compare:** The main tasks this visualization archives are comparing different actors/events in the Syrian crisis.

**Categorize**: This visualization also categorises different actors / events into 8 different categories.

1. And the third one depicts the major migrations in the refugee camps of top 5 countries. The dataset obtained contains

**Data Types:** *date -* the date of data recorded *refugee –* the count of refugees *level\_1* – The country of the camp *level\_2* – the sub location of the refugee camp *level\_3* - the sub location of the refugee *lati*- the latitude of the camp *longti* – the longitude of the camp.

**Idiom:** The visualization contains two idioms, the area chart depicting the increased volume of refugees in the refugee camps in top 5 countries Jordan, Iraq, Turkey, Lebanon and Egypt. And another one is the map of these countries showing the spatial location of the camps.

**Encoding Channels:**

**Color:**

**Space:**

# Citing third party resources

It is important that You provide a reference to where you got your data. You must also cite any third party sources for elements you have included in your project or report. This includes code-snippets, libraries, tools.

There is no need to cite the lecture notes. Avoid repeatedly (more than once) citing commonly used references in the module such as Munzner’s book [1] unless you are directly quoting something.

A basic example of a bibliography is provided but you may alternatively use BibTex (for latex users), Endnote orany other bibliography manager.

# References

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| [1] | T. Munzner, Visualization Analysis and Design, AK Peters / CRC Press, 2014. |
| [2] | “Overleaf,” [Online]. Available: http://www.overleaf.com. |
| [3] | Knuth, “Computers and Typefaces,” [Online]. Available: http://www-cs-faculty.stanford.edu/ ̃uno/abcde.html. |