Text Data Analysis -Youtube Case Study

```
#importing libraries
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

```
df = pd.read_csv('F:/Dataset/Youtube Comments/UScomments.csv',error_bad_lines= False);
```

```
b'Skipping line 41589: expected 4 fields, saw 11\nSkipping line 51628: expected 4
fields, saw 7\nSkipping line 114465: expected 4 fields, saw 5\n'
b'Skipping line 142496: expected 4 fields, saw 8\nSkipping line 189732: expected 4
fields, saw 6\nSkipping line 245218: expected 4 fields, saw 7\n'
b'Skipping line 388430: expected 4 fields, saw 5\n'
C:\Users\shubham\anaconda3\lib\site-packages\IPython\core\interactiveshell.py:3165:
DtypeWarning: Columns (2,3) have mixed types.Specify dtype option on import or set
low_memory=False.
  has_raised = await self.run_ast_nodes(code_ast.body, cell_name,
```

```
df.head()
```

	video_id	comment_text	likes	replies
0	XpVt6Z1Gjjo	Logan Paul it's yo big day !!!!!!	4	0
1	XpVt6Z1Gjjo	I've been following you from the start of your...	3	0
2	XpVt6Z1Gjjo	Say hi to Kong and maverick for me	3	0
3	XpVt6Z1Gjjo	MY FAN . attendance	3	0
4	XpVt6Z1Gjjo	trending ?	3	0

```
df.shape
```

```
(691400, 4)
```

```
df.isnull().sum()
```

```
video_id         0
comment_text    25
likes            0
replies          0
dtype: int64
```

```
df.dropna(inplace=True)
```

```
df.isnull().sum()
```

```
video_id        0
comment_text    0
likes           0
replies         0
dtype: int64
```

TextBlob

```
from textblob import TextBlob
```

```
TextBlob('awesome ').sentiment
```

```
Sentiment(polarity=1.0, subjectivity=1.0)
```

```
TextBlob('bad video').sentiment
```

```
Sentiment(polarity=-0.6999999999999998, subjectivity=0.6666666666666666)
```

For now we will not consider the sample of data if your PC spec are low you can use sampleing

```
#df = df[0:10000]
```

```
#finding polarity for each comment
polarity = []
for i in df['comment_text']:
    try:
        polarity.append(TextBlob(i).sentiment.polarity)
    except:
        polarity.appendend(0)
```

```
# lets post the first 10 polarity values
polarity[0:10]
```

```
[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.8, -0.13571428571428573]
```

```
df['polarity']=polarity
```

```
df.head(20)
```

	video_id	comment_text	likes	replies	polarity
0	XpVt6Z1Gjjo	Logan Paul it's yo big day !!!!!!	4	0	0.000000
1	XpVt6Z1Gjjo	I've been following you from the start of your...	3	0	0.000000
2	XpVt6Z1Gjjo	Say hi to Kong and maverick for me	3	0	0.000000
3	XpVt6Z1Gjjo	MY FAN . attendance	3	0	0.000000

	video_id	comment_text	likes	replies	polarity
4	XpVt6Z1Gjjo	trending □	3	0	0.000000
5	XpVt6Z1Gjjo	#1 on trending AYYEEEEE	3	0	0.000000
6	XpVt6Z1Gjjo	The end though □□□□	4	0	0.000000
7	XpVt6Z1Gjjo	#1 trending!!!!!!!!!	3	0	0.000000
8	XpVt6Z1Gjjo	Happy one year vlogaversary	3	0	0.800000
9	XpVt6Z1Gjjo	You and your shit brother may have single hand...	0	0	-0.135714
10	XpVt6Z1Gjjo	There should be a mini Logan Paul too!	0	0	0.000000
11	XpVt6Z1Gjjo	Dear Logan, I really wanna get your Merch but ...	0	0	0.200000
12	XpVt6Z1Gjjo	Honestly Evan is so annoying. Like its not fun...	0	0	-0.023333
13	XpVt6Z1Gjjo	Casey is still better then logan	0	0	0.500000
14	XpVt6Z1Gjjo	aw geez rick this guy is the face of YouTube.	0	0	0.000000
15	XpVt6Z1Gjjo	He happy cause he in a movie	0	0	0.800000
16	XpVt6Z1Gjjo	Ayyyyoooo Logang what up . This was a hard vl...	1	0	-0.291667
17	XpVt6Z1Gjjo	Bro y didnt u give merch to johannes he is ur ...	0	0	0.000000
18	XpVt6Z1Gjjo	It's been fun watching you grow. I'm at 42 day...	3	0	0.250000
19	XpVt6Z1Gjjo	Made a lot of people hate youtube - GJ	0	0	-0.800000

WordCloud

Before genrating wordcloud lets seprate all neagtive sentiment and positive sentiment into variables

```
positive_polarity = df[df['polarity']==1]
```

```
negative_polarity = df[df['polarity']==-1]
```

```
from wordcloud import WordCloud, STOPWORDS
```

```
negative_polarity['comment_text']
```

```
512       BEN CARSON IS THE MAN!!!!! THEY HATE HIM CAUSE...
562       Well… The brain surgeon Ben Carson just proved...
952              WHY DID YOU MAKE FURRY FORCE?! SO NASTY!!!
1371                                      WTF BRUH!!!!!!
1391                        cheeseus christ thats insane!!!
                              ...
690788                                  Like Kelly she evil
690865                         R U FUCKING KIDDING ME?!?!?!?!
691073              This is horribly offensive please report
691180    Sink holes looks terrifying sinkholes sink you...
691224    Trump talked to the president of US Virgin Isl...
Name: comment_text, Length: 3508, dtype: object
```

```
total_negative_comments=" ".join(negative_polarity['comment_text'])
```

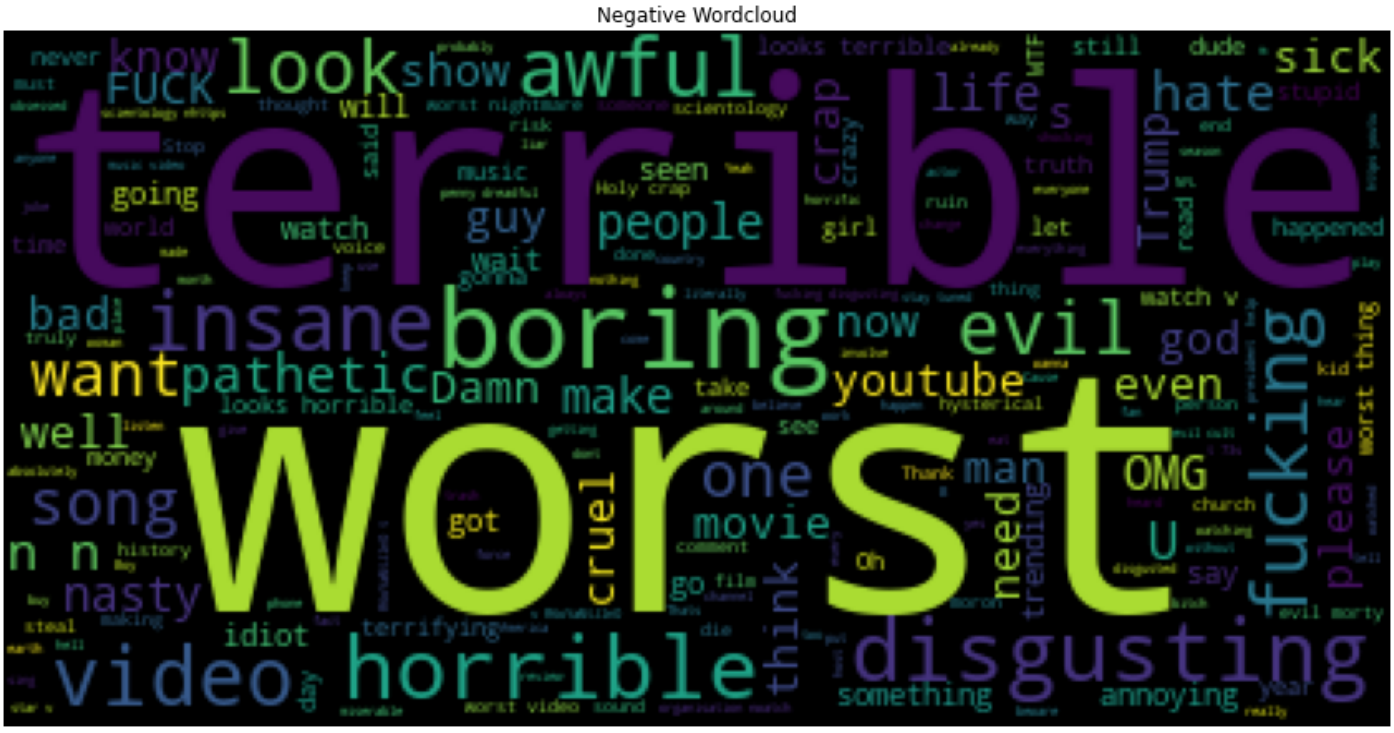
```
total_negative_comments[0:150]
```

```
"BEN CARSON IS THE MAN!!!!! THEY HATE HIM CAUSE HE EXPOSED HITLARY'S RITUAL ABUSE ON CHILDREN!!!!!!! Well… The brain surgeon Ben Carson just proved how"
```

Displaying Word Cloud of Negative Comments

```
negative_wordcloud = WordCloud(stopwords=set(STOPWORDS)).generate(total_negative_commen
plt.figure(figsize=(15,10))
plt.title('Negative Wordcloud')
plt.axis('off')
plt.imshow(negative_wordcloud)
```

```
<matplotlib.image.AxesImage at 0x1c48abb64f0>
```



Positive Comments WordCloud

```
total_positive_comments=" ".join(positive_polarity['comment_text'])
```

```
positive_wordcloud = WordCloud(stopwords=set(STOPWORDS)).generate(total_positive_commen
plt.figure(figsize=(15,10))
plt.title('Positive Wordcloud')
plt.axis('off')
plt.imshow(positive_wordcloud)
```

```
<matplotlib.image.AxesImage at 0x1c48ad421f0>
```


```
!pip install emoji==1.6.1
```

```
Requirement already satisfied: emoji==1.6.1 in c:\users\shubham\anaconda3\lib\site-packages (1.6.1)
```

Perform emoji Analysis

```
import emoji
```

```
df.head()
```

	video_id	comment_text	likes	replies	polarity
0	XpVt6Z1Gjjo	Logan Paul it's yo big day !!!!!!	4	0	0.0
1	XpVt6Z1Gjjo	I've been following you from the start of your...	3	0	0.0
2	XpVt6Z1Gjjo	Say hi to Kong and maverick for me	3	0	0.0
3	XpVt6Z1Gjjo	MY FAN . attendance	3	0	0.0
4	XpVt6Z1Gjjo	trending	3	0	0.0

```
print('\U0001F600')
```

We need to extracte the emojies from comments in order to do analysis

```
emoji_list = []
for i in df['comment_text']:
    for j in i:
```

```
        if j in emoji.UNICODE_EMOJI_ENGLISH:
            emoji_list.append(j)
```

```
emoji_list[0:10]
```

```
['‼', '‼', '‼', '', '', '', '', '❤', '', '']
```

```
len(emoji_list)
```

```
294549
```

```
from collections import Counter
```

```
Counter(emoji_list).most_common(10)
```

```
[('', 36987),
 ('', 33453),
 ('❤', 31119),
 ('', 8694),
 ('', 8398),
 ('', 5719),
 ('', 5545),
 ('', 5476),
 ('', 5359),
 ('', 5147)]
```

```
emojies = [Counter(emoji_list).most_common(10)[i][0] for i in range(10)]
```

```
frequency = [Counter(emoji_list).most_common(10)[i][1] for i in range(10)]
```

```
frequency
```

```
[36987, 33453, 31119, 8694, 8398, 5719, 5545, 5476, 5359, 5147]
```

```
emojies
```

```
['', '', '❤', '', '', '', '', '', '', '']
```

```
pip install plotly
```

```
Requirement already satisfied: plotly in c:\users\shubham\anaconda3\lib\site-packages
(5.5.0)
Requirement already satisfied: six in c:\users\shubham\anaconda3\lib\site-packages
(from plotly) (1.15.0)
Requirement already satisfied: tenacity>=6.2.0 in c:\users\shubham\anaconda3\lib\site-
packages (from plotly) (8.0.1)
Note: you may need to restart the kernel to use updated packages.
```

```
import plotly.graph_objs as go
from plotly.offline import iplot
```

```
trace = go.Bar(x=emojies,y=frequency)
```

```
iplot([trace])
```

```

```