Case Study 1: Analysis of iPhone 8 and iPhone X Using Twitter

Team 9

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Motivation

Recently, one of the most popular event on the social web is the Apple New product Launch Event.

Motivation

700 million people use iPhone!

On social website, iPhone 8 and iPhone X have become super hot topics.

We want to know about the popularity of the new iPhone in detail.

We choose Twitter, one of the most popular social platform. Through data analysis, we can get the message we want.

Data Collection

```
def tweet_stream(q, max):
    # open a json file to save tweets
    file = open('problem1.json', 'w')
    twitter_stream = twitter.TwitterStream(auth=auth)
    # use the twitter stream api
    iterator = twitter_stream.statuses.filter(track=q)
    count = 0
    file.write('[ \n')
    for tweet in iterator:
        # check the number of tweets
        if count >= max:
            break
        file.write(json.dumps(tweet, indent=1))
        if count < max-1:
            file.write(', \n')
        count += 1
    # write data to file
    file.write(']')
    file.close()
    with open('problem1.json', 'r') as f:
        d = json.loads(f.read())
        print('Number of collected tweets: %d' % len(d))


tweet_stream('iphone8, iphone x', 10000)
```

- ***When?***
  - *On the day of the Apple event on September 12th.*
- ***Why?***
  - *Peak of discussion in social networks of Apple new products will occur later in the same day as announced.*
- ***What?***
  - *10000 tweets that mentioned iPhone 8 or iPhone X.*
- ***How?***
  - *Twitter Streaming API.*

Data Analysis

❖ Word Count

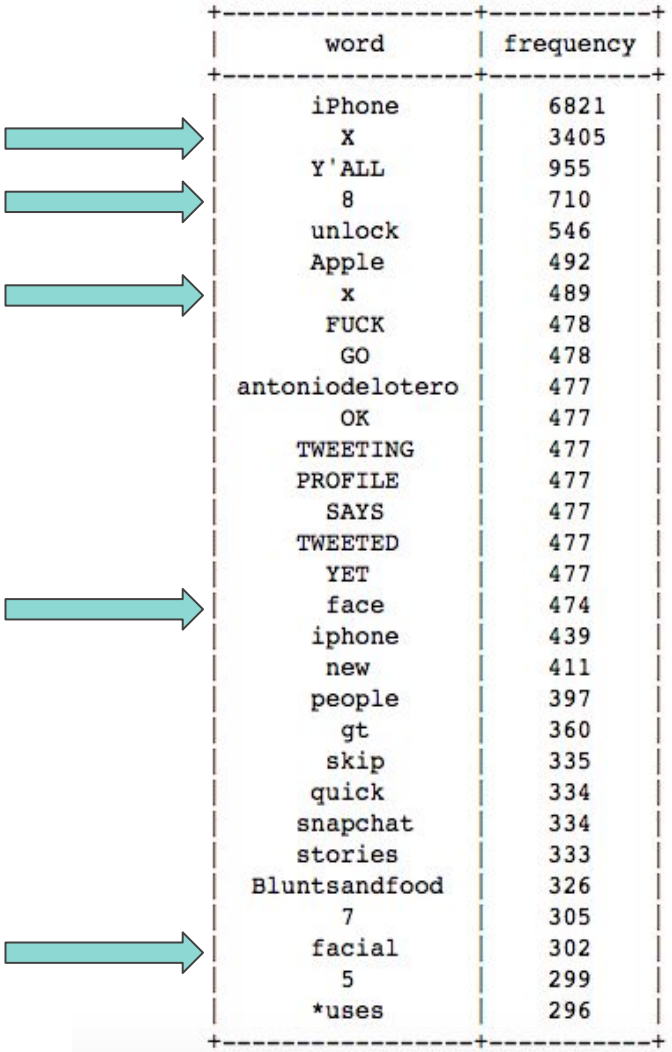
- ➢ *Calculated the frequencies of words used in "text" character of every tweet.*
- ➢ *Removed the special symbols, emoji, punctuations and some meaningless words such as "http", "n't"*

```
stop_words = stopwords.words('english') + list(string.punctuation)
stop_words += ['https', 'http', "''", '``', "'s", "...", "n't", "rt"]
emoji_pattern = re.compile("["
        u"\U0001F600-\U0001F64F"  # emoticons
        u"\U0001F300-\U0001F5FF"  # symbols & pictographs
        u"\U0001F680-\U0001F6FF"  # transport & map symbols
        u"\U0001F1E0-\U0001F1FF"  # flags (iOS)
                           "]+", flags=re.UNICODE)
```

Data Analysis

The top 30 words in tweets' texts

Including some key words such as "x", "8" and "facial"



word	frequency
iPhone	6821
X	3405
Y'ALL	955
8	710
unlock	546
Apple	492
x	489
FUCK	478
GO	478
antoniodelotero	477
OK	477
TWEETING	477
PROFILE	477
SAYS	477
TWEETED	477
YET	477
face	474
iphone	439
new	411
people	397
gt	360
skip	335
quick	334
snapchat	334
stories	333
Bluntsandfood	326
7	305
facial	302
5	299
*uses	296

Data Analysis

- *Most Popular Tweets*
  - *Retrieved the tweets with the largest number of retweet counts*

Top 10 Retweet Number
137690
89774
79488
77053
75444
74485
73201
70272
62888
60045

Data Analysis

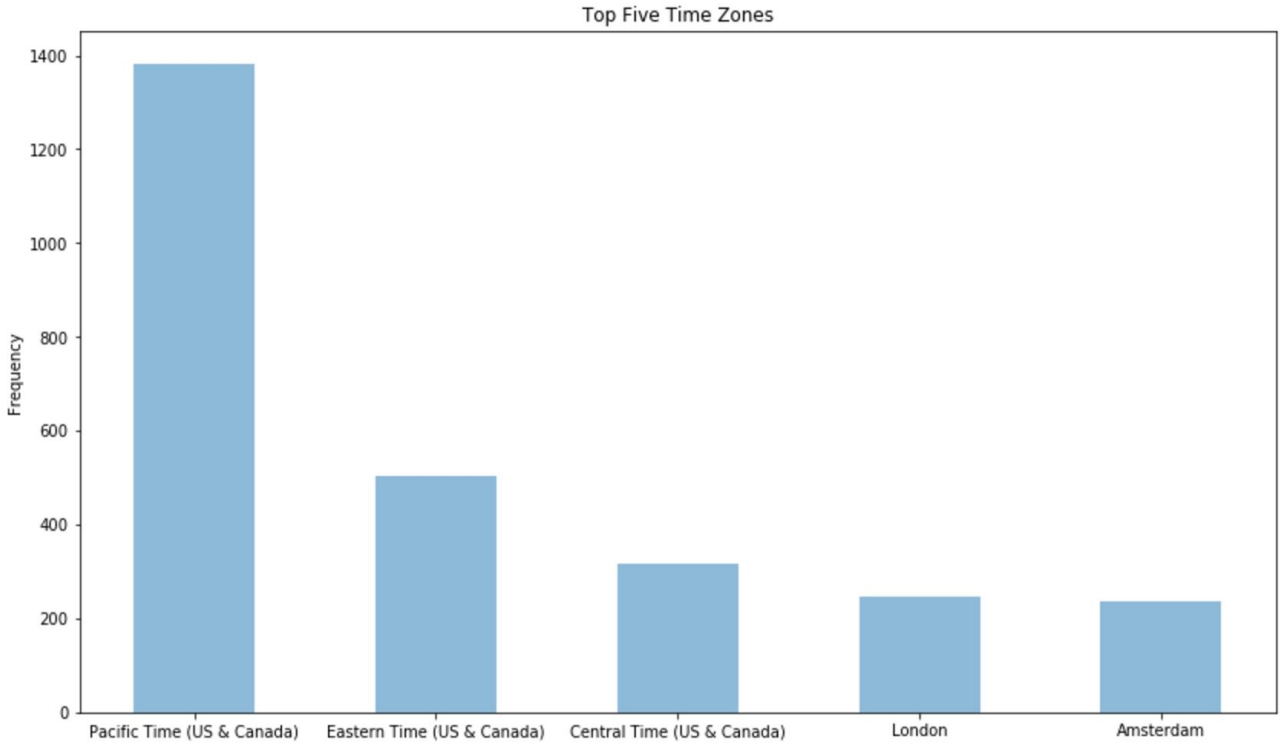
- *Most Popular Tweet Entities: Top 10 Hashtags, Top 10 Users Mentioned*

hashtag	frequency
iPhone8	339
iPhoneX	185
blog	178
amazingarabella	178
AppleEvent	81
Apple	65
StarMoviesSecretScreening	62
TheBigSelfie	62
iPhone9	62
Concours	35

user mentions	frequency
antoniodelotero	477
Bluntsandfood	326
eimauro	273
emilyferguson_	208
Apple	196
juanbuis	192
holden_a_fork	191
PlNKllD1412	190
Arabelladaho	178
YouTube	159

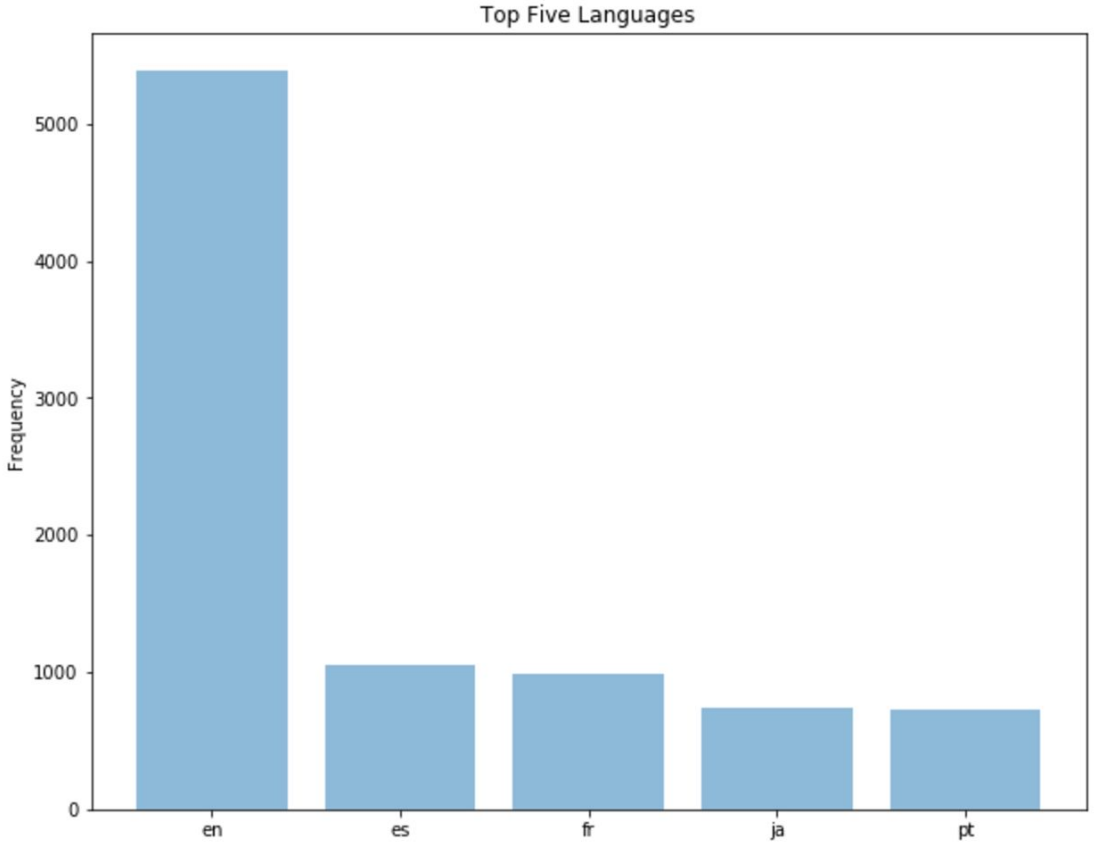
What time is good for a new product releasing conference? Which countries have the most enthusiasm and demand?

- Frequncey analysis on time zones
- Pacific time, Eastern time, Central Time, London and Amsterdam
- May indicate high demand US, Canada, England and Netherland, prepare enough product for sale
- Note influence factors :
  time we sample data,
  the availability of twitter



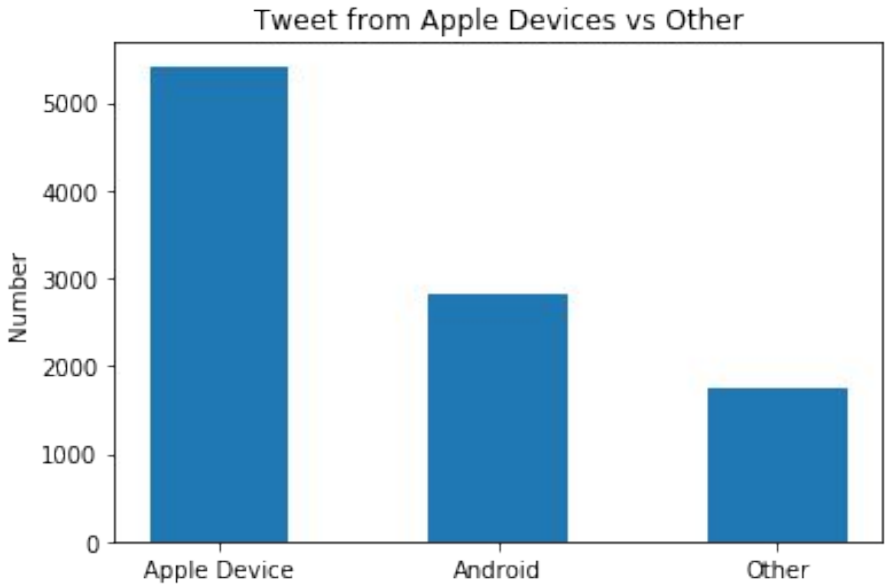
What language to be internationalized first for a new app?

- Frequncey analysis on languages
- English, Spanish, French, Japanese and Portuguese
- May also indicate Popularity and demand



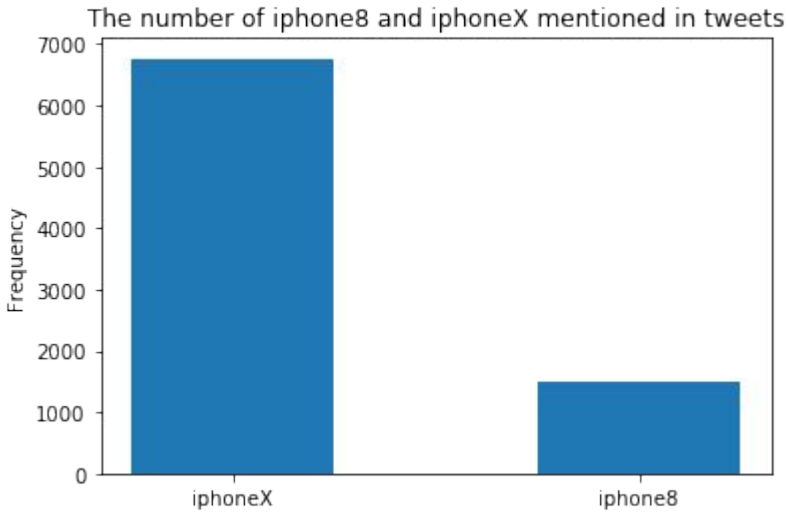
Who's Paying Attention?

- Frequncey analysis on twitter client, Apple device, Android or other
- Over half of tweets were sent from Apple devices.
- Nearly 3000 Android and 2000 other, potential customers

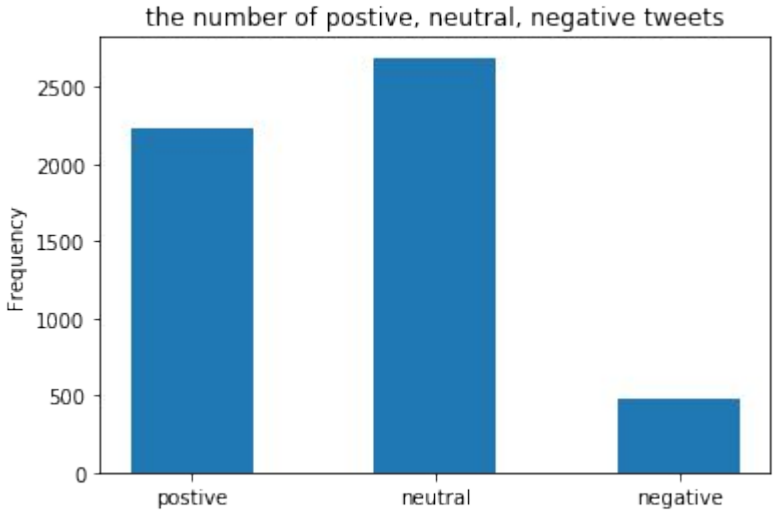


iPhone 8 or iPhone X?

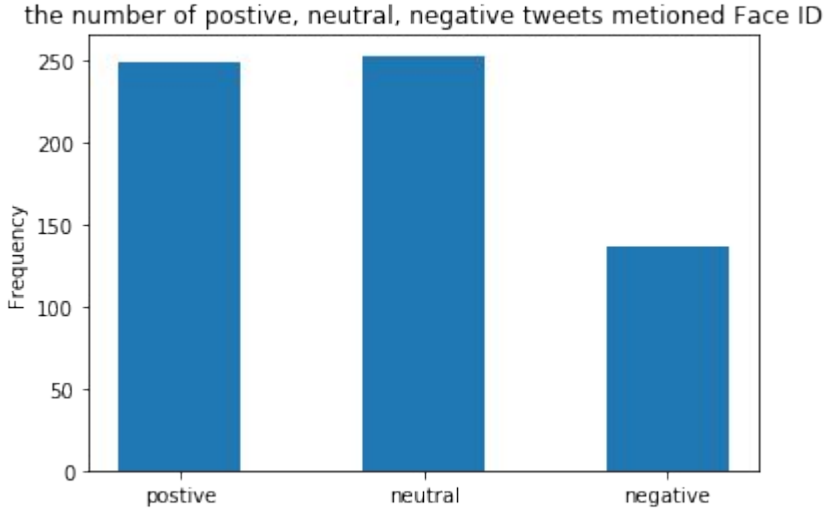
- Plot numbers of tweets mentioned iPhone 8 and iPhone X
- People’s interests in iPhone 8 were overwhelmed by iPhone X
- About 6800 tweets mentioned iPhone X, 1800 tweets mentioned iPhone 8



Internet's attitute towards the release and face id



Attitute towards new iphone:
42% positive, 49% neutral, 9% negative



Attitute towards Face ID:
38% positive, 40% neutral, 22% negative

Probably beacuse Face ID demo failed at launch

tweets polarity and subjectivity

0.0: objective
1.0: subjective

Attitute towards new iPhone:
most points drop in area represents positive and subjective