AIRLINE TWITTER DATA INSIGHTS

Charlotte Belke
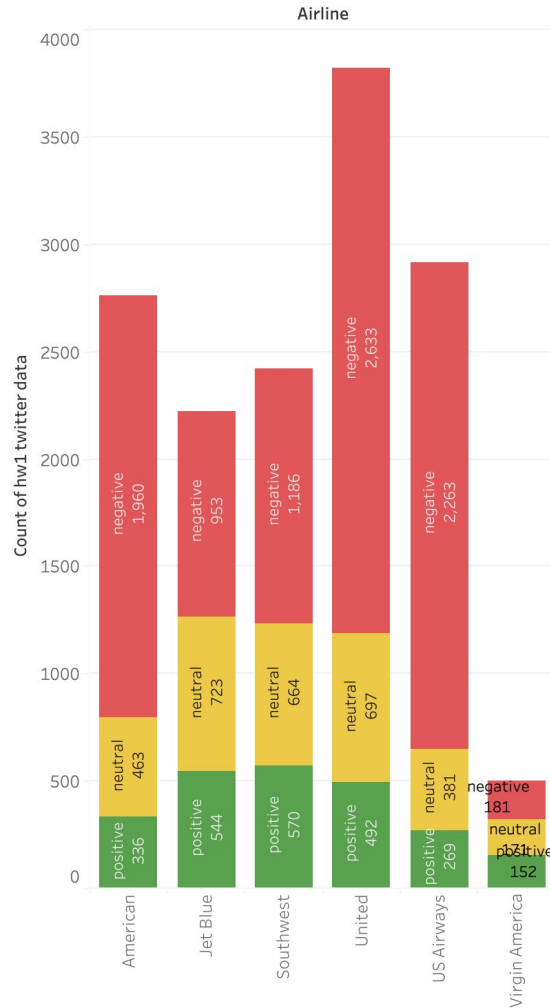
INSIGHT 1: SENTIMENT

People tweet the most when they are mad.

Southwest has the best Sentiment in relation to its size.
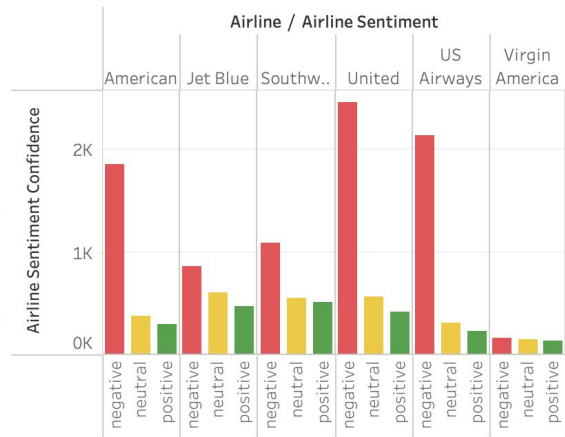
Tweets Per Airline

Airline

Map Sentiment

Airline Sentiment
- negative
- neutral
- positive

Count of Retweet Count
- 1
- 1,000
- 2,000
- 3,170

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Total Airline Sentiment Confidence for each Airline

Airline / Airline Sentiment

Airline sizes in 2015
1. American
2. Southwest
3. Delta
4. United
5. JetBlue

Most Negative Tweets
1. United
2. US Airways
3. American
4. Southwest
5. Virgin America

INSIGHT 1: SENTIMENT

High Response to Negativity:
- United had the highest negative sentiment responses.
- Mainly related to customer service and late flights.

Negativity linked to:
1. Customer service,
2. Late flights,
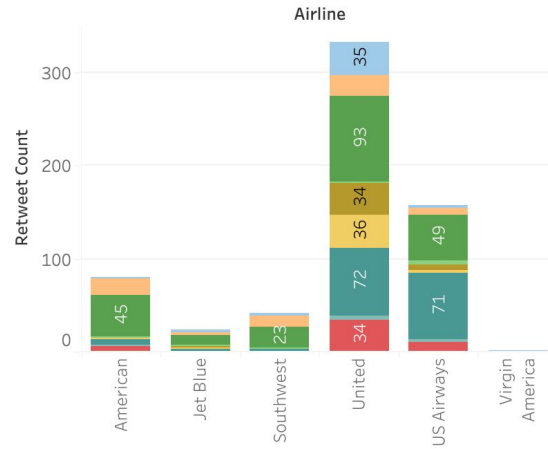3. Lost luggage,
4. Cancellations, and
5. Bad flights.

Retweet Trends:
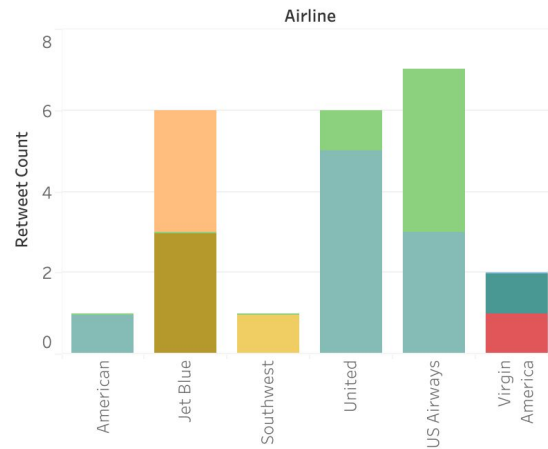- Loneliness during flights and Damaged luggage.

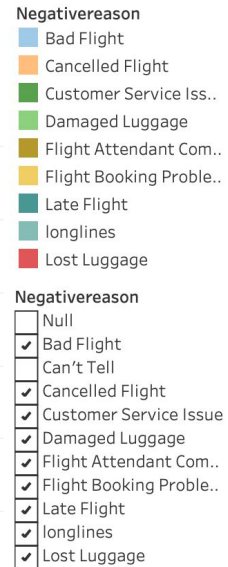**JetBlue Challenges:**
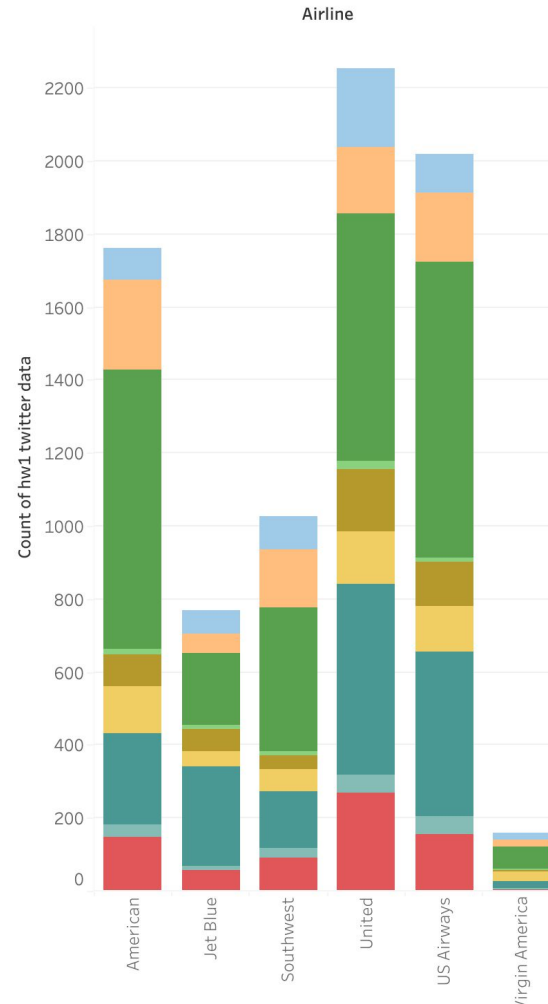- Flight attendants
- Flight booking.

Negative Reason by Retweet Count

Airline Negative reason

Retweet per Airline NegativeReason
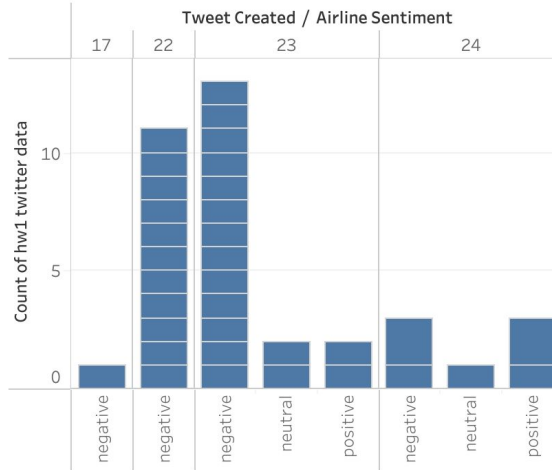
INSIGHT 3: STORM

Negative tweets and Retweets regarding canceled and delayed flights can be attributed to a storm February 22-23, 2015.

This storm was out of the Airline's control but people still felt like their were unjustly facing the consequences; especially by US Airways and United.
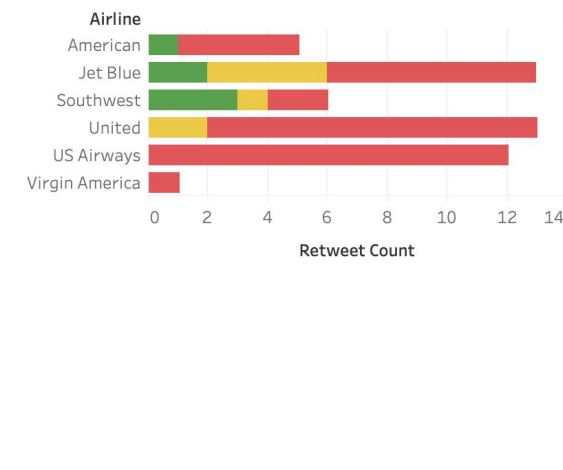
Map Retweet Count Sentiment Size

© 2023 Mapbox © OpenStreetMap

Weather Text Time Zone Day

Tweet Created / Airline Sentiment

| 17 | 22 | 23 | 24 |

Count of hw1 twitter data

negative | negative | negative | neutral | positive | negative | neutral | positive

Retweet Sentiment per Airline

Airline

American
Jet Blue
Southwest
United
US Airways
Virgin America

Retweet Count
0   2   4   6   8   10   12   14

Text

.@JetBlue That's what I ..
‚Äú@AmericanAir: We ho..
@AmericanAir 45min wa..
@AmericanAir 249 EWR -..
@AmericanAir -- This is a..
@AmericanAir @BDinDal..
@AmericanAir @CAexhib..
@AmericanAir @lpalumb..
@AmericanAir @praywin..
@AmericanAir @sweetm..
@AmericanAir @travisa..
@AmericanAir @USAirw..
@AmericanAir #AATeam ..
@AmericanAir #last #fli..
@AmericanAir #worstcu..
@AmericanAir AA1675 fl..
@AmericanAir all of thes..
@AmericanAir although ..
@AmericanAir and how i..
@americanair Any hints ..
@AmericanAir are you a..
@AmericanAir bad weat..
@AmericanAir Bad weat..
@AmericanAir Bad weat..
@americanair been callin..
@AmericanAir been on h..
@AmericanAir but they r..
@AmericanAir Cancelled ..
@AmericanAir great job ..
@AmericanAir I've been ..
@AmericanAir still not t..
@AmericanAir Way to su..
@AmericanAir when will ..

Retweet Count
○ 0
○ 100
○ 200
○ 287

Airline Sentiment
■ negative
■ neutral
■ positive

INSIGHT 2: JET BLUE/ DELTA DATA
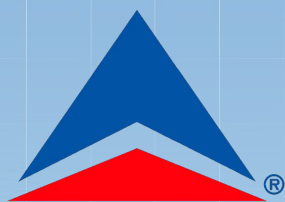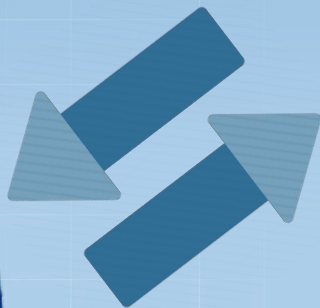
jetBlue

Delta

JETBLUE DATA INCORRECTLY LABELED AS DELTA LABEL.

TO PREVENT FUTURE OCCURRENCES, DATA LABELING QUALITY CONTROL PROCEDURES SHOULD BE ENHANCED.

INSIGHT 4: "ON FLEEK"

"Our fleet is on fleek" tweet by JetBlue enraged a lot of users on February 22nd, 2015.

A spike in negative Sentiment and agreeing retweets toward the saying shows how JetBlue needs to watch their choice of words.

Retweet per airline Tweet

Sentiment per Day

INSIGHT 4: "ON FLEEK"

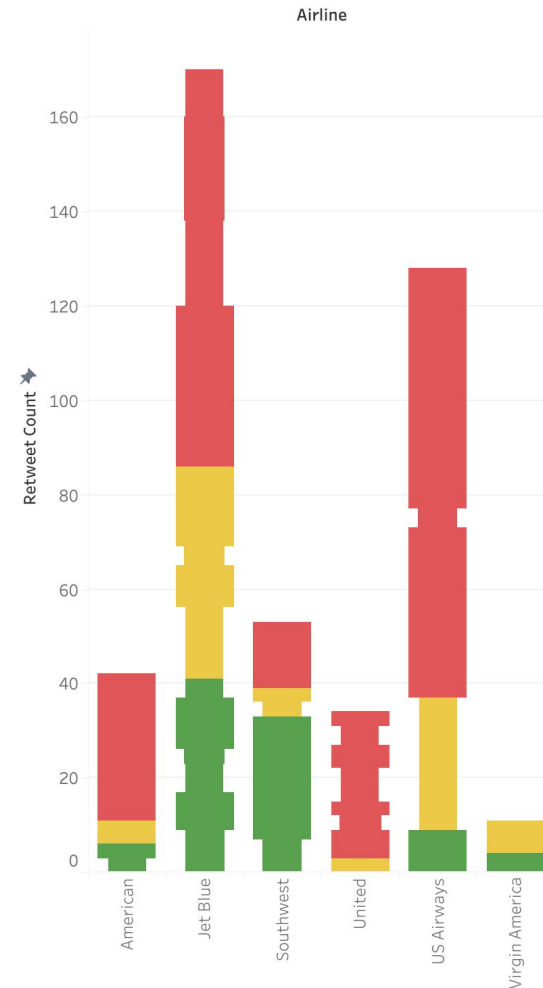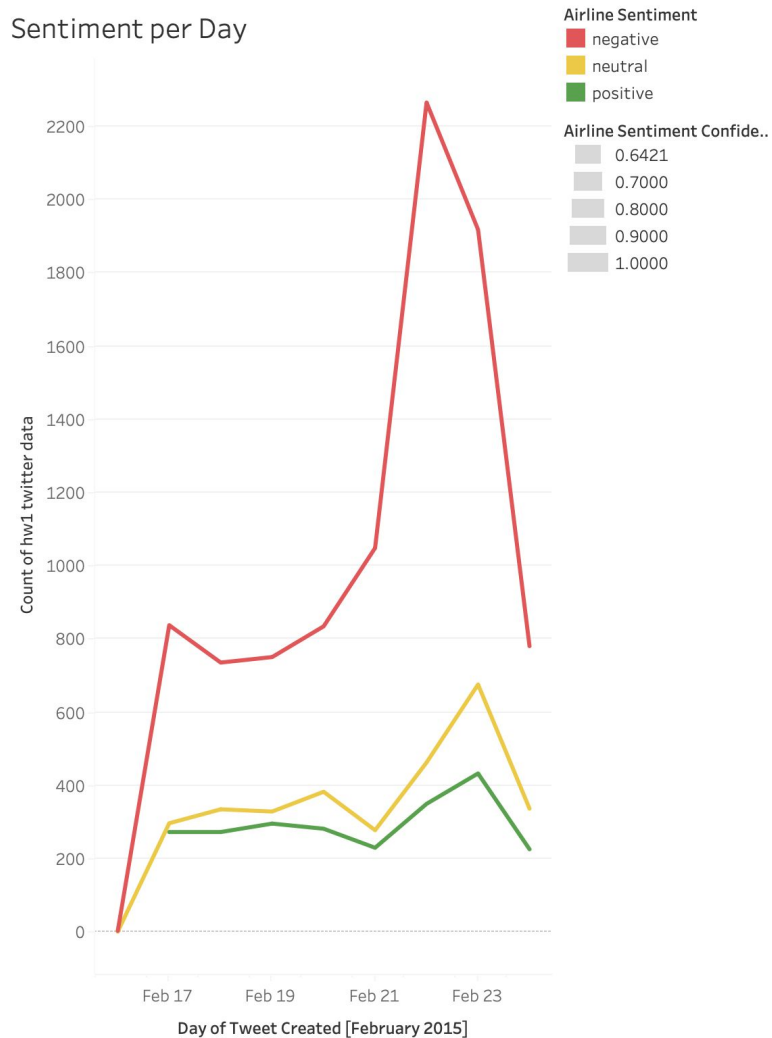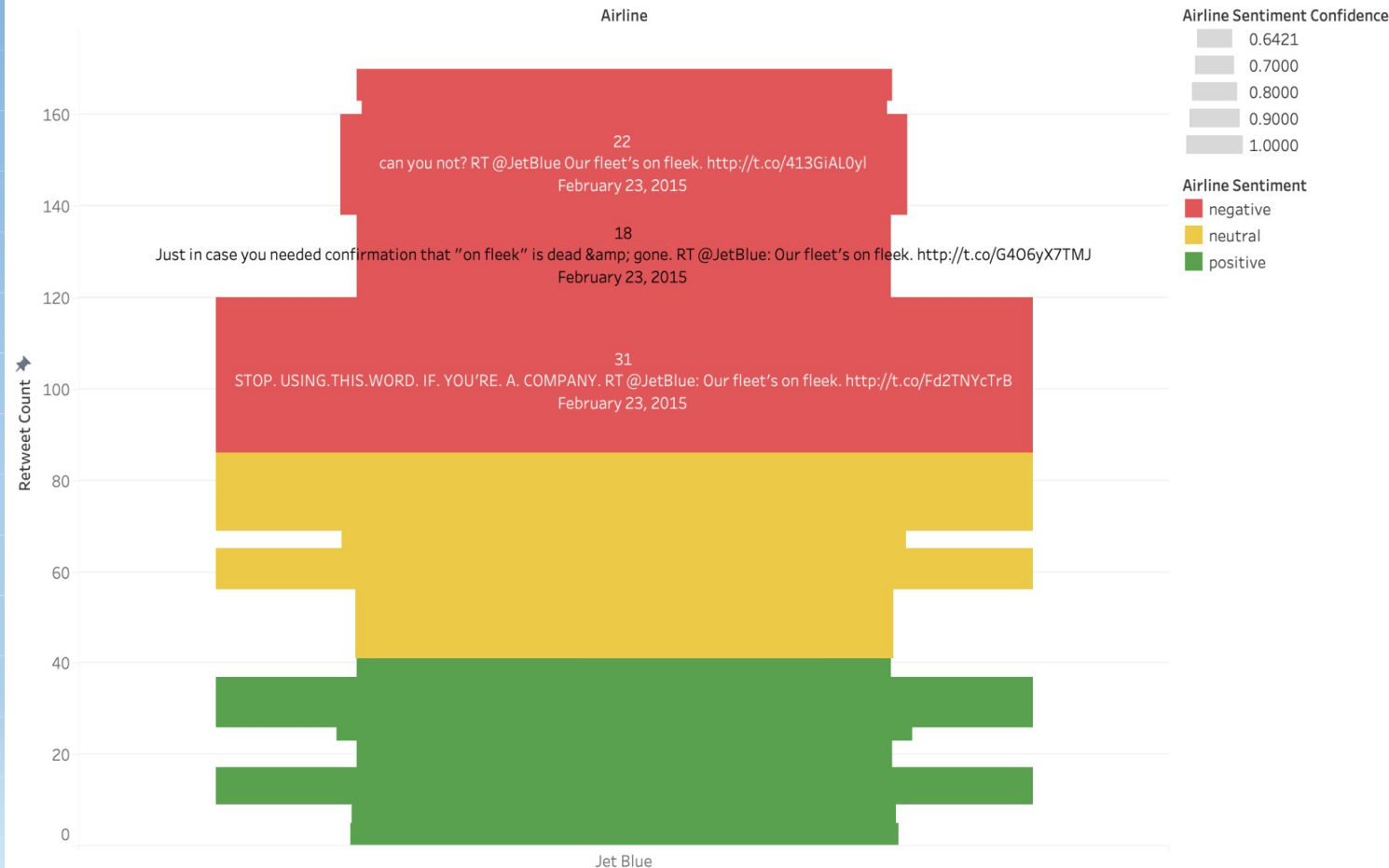A lot of people were in agreement with the negative sentiment received in response to JetBlue's "on fleek" tweet.

The width of the bars represent the confidence of the users sentiment.

JetBlue Retweet

Airline

Airline Sentiment Confidence
- 0.6421
- 0.7000
- 0.8000
- 0.9000
- 1.0000

Airline Sentiment
- negative
- neutral
- positive

22
can you not? RT @JetBlue Our fleet's on fleek. http://t.co/413GiAL0yl
February 23, 2015

18
Just in case you needed confirmation that "on fleek" is dead & gone. RT @JetBlue: Our fleet's on fleek. http://t.co/G4O6yX7TMJ
February 23, 2015

31
STOP. USING.THIS.WORD. IF. YOU'RE. A. COMPANY. RT @JetBlue: Our fleet's on fleek. http://t.co/Fd2TNYcTrB
February 23, 2015

Retweet Count

Jet Blue

Sum of Retweet Count for each Airline. Color shows details about Airline Sentiment. Size shows sum of Airline Sentiment Confidence. The marks are labeled by sum of Retweet Count, Text and Tweet Created Day. The data is filtered on Retweet Count, which ranges from 3 to 44. The view is filtered on Airline and Text. The Airline filter keeps Jet Blue. The Text filter keeps 14,409 of 14,409 members.

EXECUTIVE SUMMARY

AMERICAN

Customer service issue complaints and retweets about loneliness of the flight.

JET BLUE

Experienced backlash for use of "on fleek" in a tweet. Was mistaken for Delta. Few complaints but retweets on flight attendant complaints and canceled flights.

SOUTHWEST

Few complaints About customer service complaints and retweets about flight booking problems.

UNITED

Most tweets and negative sentiments. Very dispersed reasons for negative sentiment but most people agreed with Longliness.

US AIRWAYS

Most negative sentiment in relation to Total tweets. Most late flight and customer service issues tweets but most people retweeted longliness and damaged luggage.

VIRGIN AMERICA

Least # of tweets, almost no complaints but twitter users agreed with late flights and lost luggage negative reasons.
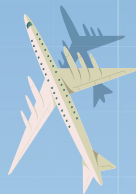
No Data on Delta as JetBlue data falsely assigned to Delta (Renamed original Delta Data to JetBlue)

Biggest Complaints were about Customer Service, Late Flight, Lost Luggage, and Canceled Flights.

Storm in East Coast/ Quinta Time Zone that Caused a big amount of the negative reviews because of uncontrollable delays and cancellations.

THANK YOU!

APPENDIX

Analysis done with Tableau

STEPS IN MY ANALYSIS PROCESS

1. Filter out any null or unknown data Using the tableau filter in each worksheet
2. Reassign the original Delta Data to JetBlue
3. Asking a question about each variable and exploring the data set visually in tableau starting with user sentiment and user confidence I wanted to figure out how Twitter posters felt negatively neutrally or positively for each Airline.
4. Then I wanted to figure out what people's reasons were for their negative sentiment.
5. Next I looked for any Trends or patterns in the data set and found the on fleek JetBlue Trend that upset a lot of people and cost a big number of negative posts and retweets of those posts.
6. Then, looking through the dates tweets were posted I found an anomaly on February 22nd 2015 and February 23rd of 2015 in the Eastern and Quinto time zones.
7. Looking at some of the most retweeted negative tweets I noticed a pattern of people being upset they missed their flights because of a storm.
8. I then filtered the text for storm related words like storm weather rain and found that there was a storm and that most of the negative comments and even some of the positive ones were storm related across the board of Airlines which is why I have the maps to show in various graphs to support the storm Theory as I was exploring it.

Total Airline Sentiment Confidence for each Airline
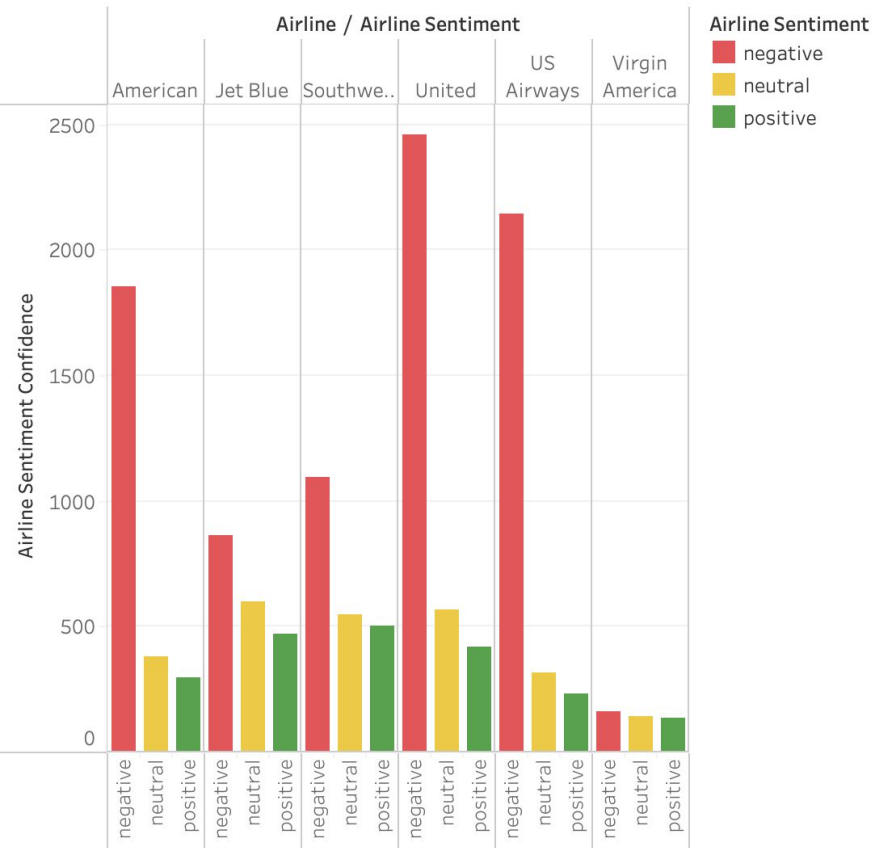
Sum of Airline Sentiment Confidence for each Airline Sentiment broken down by Airline. Color shows details about Airline Sentiment. The view is filtered on Airline, which excludes Delta.

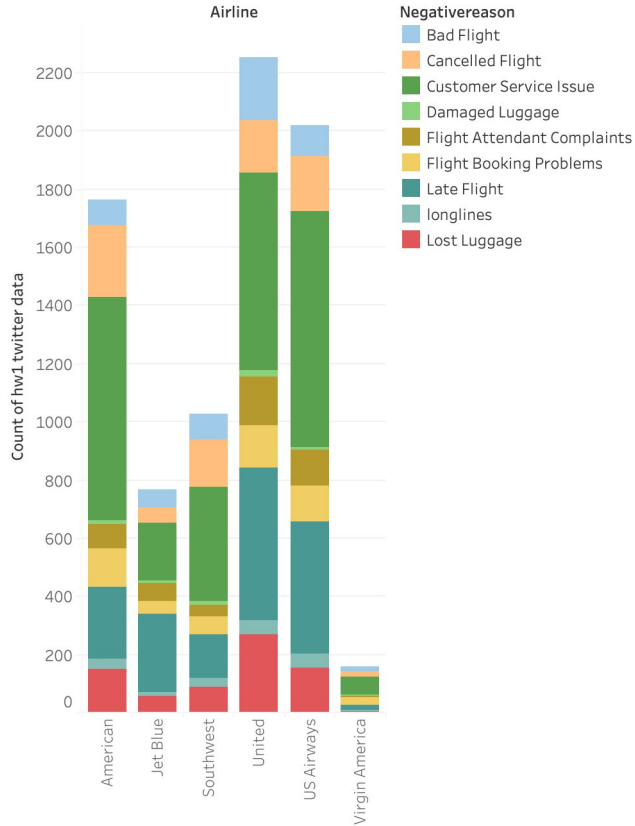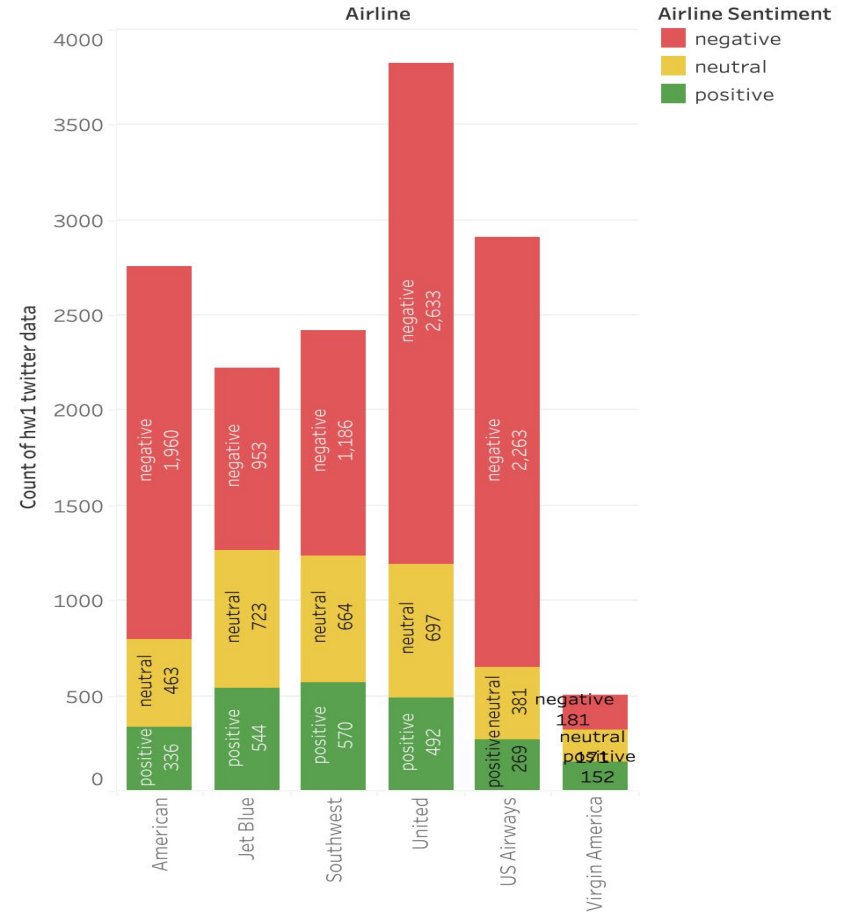# Average Airline Sentiment Confidence for each Airline

Average of Airline Sentiment Confidence for each Airline Sentiment broken down by Airline. Color shows details about Airline Sentiment. The view is filtered on Airline, which excludes Delta.

Airline Negative reason

Airline

Negativereason
- Bad Flight
- Cancelled Flight
- Customer Service Issue
- Damaged Luggage
- Flight Attendant Complaints
- Flight Booking Problems
- Late Flight
- longlines
- Lost Luggage

Count of hw1 twitter data for each Airline. Color shows details about Negativereason. The view is filtered on Negativereason and Airline. The Negativereason filter excludes Null and Can't Tell. The Airline filter excludes Delta.

Tweets Per Airline

Airline

Airline Sentiment
- negative
- neutral
- positive

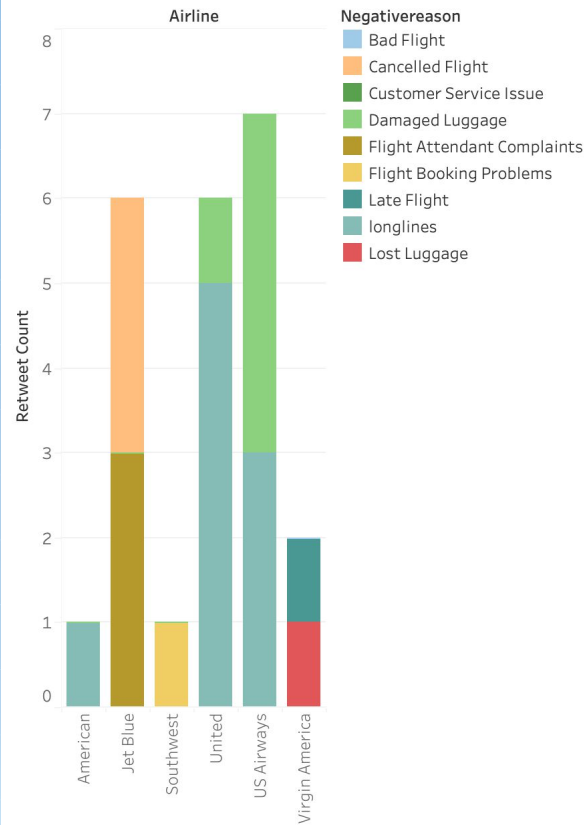Count of hw1 twitter data for each Airline. Color shows details about Airline Sentiment. The marks are labeled by Airline Sentiment and count of hw1 twitter data. The view is filtered on Airline, which excludes Delta.

Negative Reason by Retweet Count

Airline

Negativereason
- Bad Flight
- Cancelled Flight
- Customer Service Issue
- Damaged Luggage
- Flight Attendant Complaints
- Flight Booking Problems
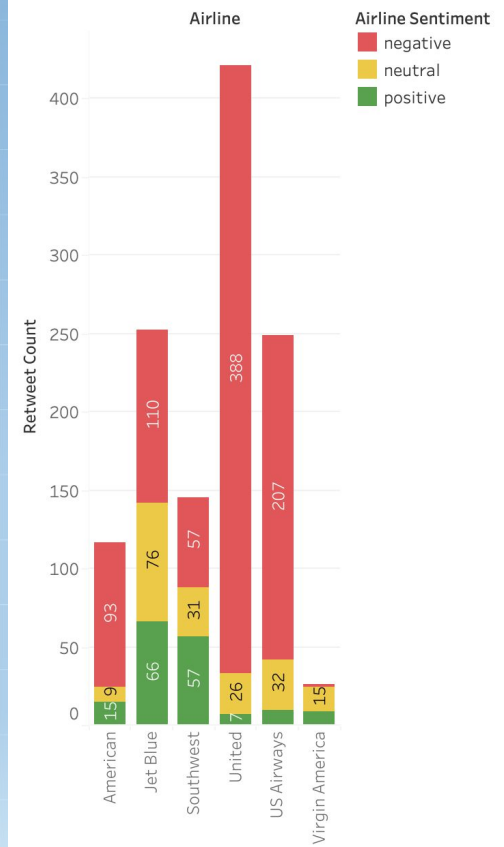- Late Flight
- longlines
- Lost Luggage
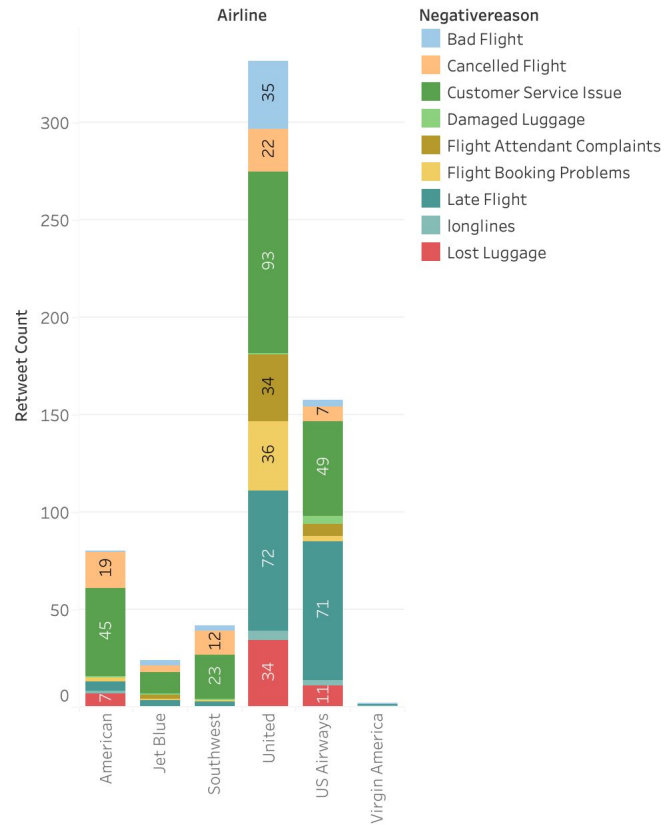
Sum of Retweet Count for each Airline. Color shows details about Negativereason. The marks are labeled by sum of Retweet Count. The view is filtered on Negativereason and Airline. The Negativereason filter excludes Null and Can't Tell. The Airline filter excludes Delta.

Retweet per Airline NegativeReason

Airline

Negativereason
- Bad Flight
- Cancelled Flight
- Customer Service Issue
- Damaged Luggage
- Flight Attendant Complaints
- Flight Booking Problems
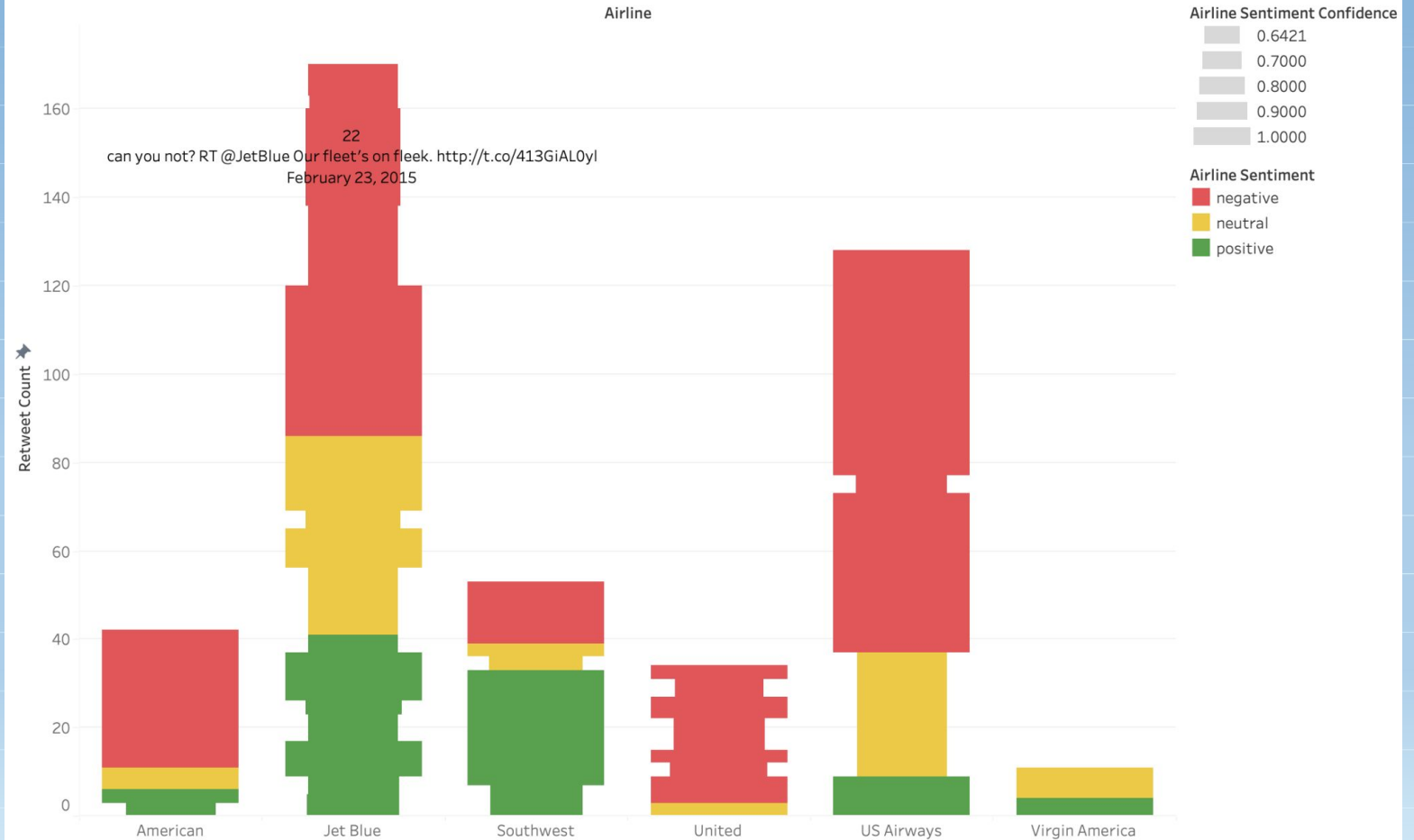- Late Flight
- longlines
- Lost Luggage

Sum of Retweet Count for each Airline. Color shows details about Negativereason. The data is filtered on count of Retweet Count, which ranges from 5 to 61. The view is filtered on Negativereason, which excludes Null and Can't Tell.

Retweet per airline Sentiment

Airline

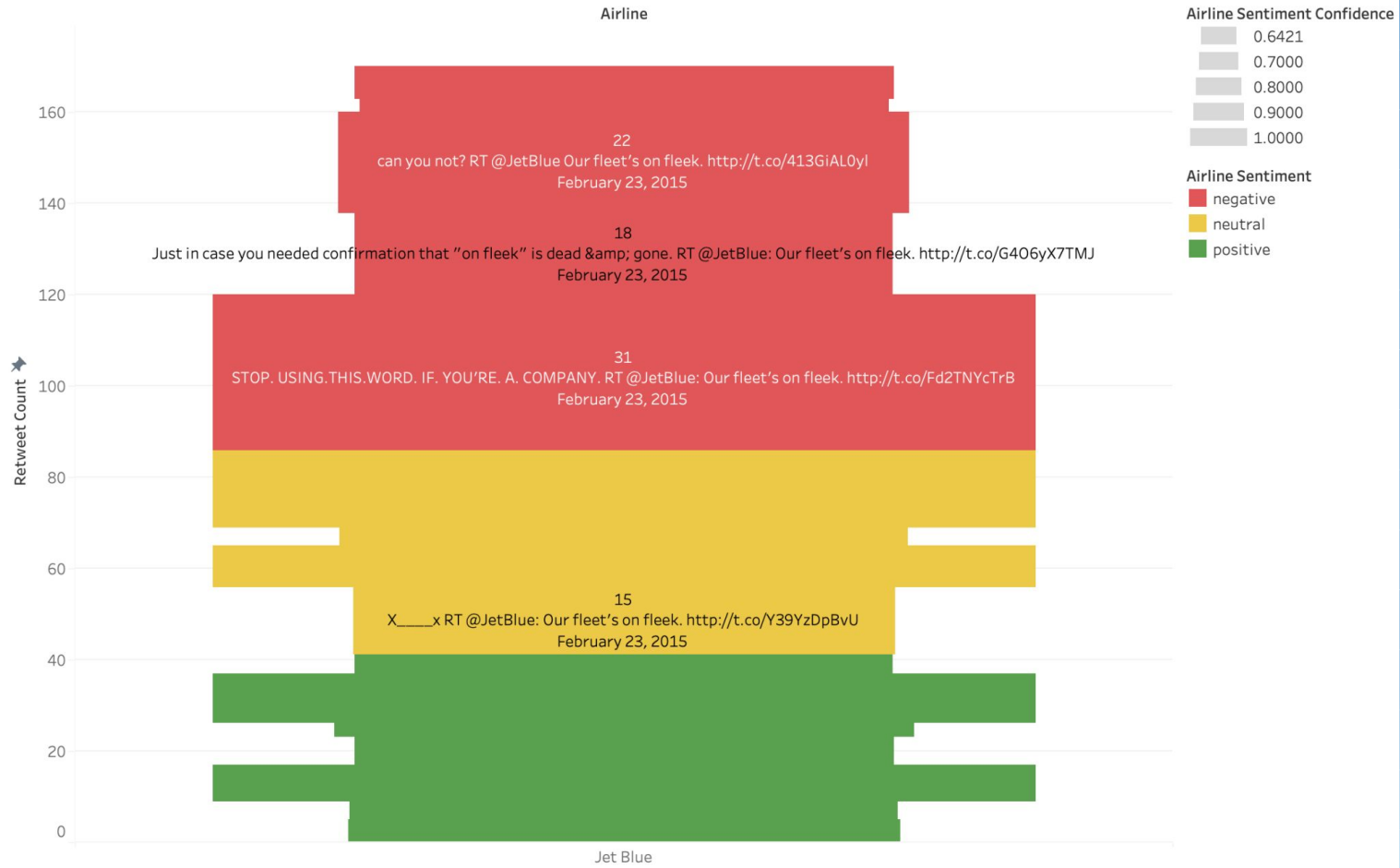**Airline Sentiment**
- negative
- neutral
- positive

Sum of Retweet Count for each Airline. Color shows details about Airline Sentiment. The marks are labeled by sum of Retweet Count. The data is filtered on Retweet Count, which ranges from 1 to 44.

Retweet per airline Tweet

Airline

Airline Sentiment Confidence

0.6421
0.7000
0.8000
0.9000
1.0000

Airline Sentiment

- negative
- neutral
- positive

Retweet Count

160

140

120

100

80

60

40

20

0

22
can you not? RT @JetBlue Our fleet's on fleek. http://t.co/413GiAL0yl
February 23, 2015

American   Jet Blue   Southwest   United   US Airways   Virgin America

Sum of Retweet Count for each Airline. Color shows details about Airline Sentiment. Size shows sum of Airline Sentiment Confidence. The marks are labeled by sum of Retweet Count, Text and Tweet Created Day. The data is filtered on Retweet Count, which ranges from 3 to 44.

JetBlue Retweet

Sum of Retweet Count for each Airline. Color shows details about Airline Sentiment. Size shows sum of Airline Sentiment Confidence. The marks are labeled by sum of Retweet Count, Text and Tweet Created Day. The data is filtered on Retweet Count, which ranges from 3 to 44. The view is filtered on Airline and Text. The Airline filter keeps Jet Blue. The Text filter keeps 14,409 of 14,409 members.
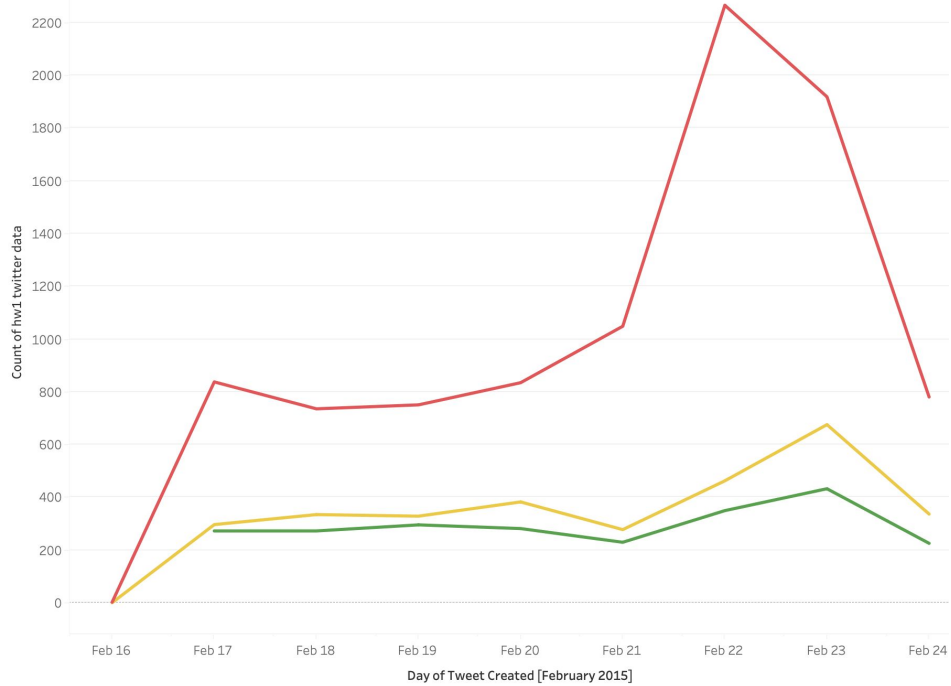
Map Sentiment

Map based on Longitude (generated) and Latitude (generated). Color shows details about Airline Sentiment. Size shows count of Retweet Count. Details are shown for User Timezone.

Count of Retweet Count

| 1 |
| 1,000 |
| 2,000 |
| 3,170 |

Airline Sentiment

- negative
- neutral
- positive

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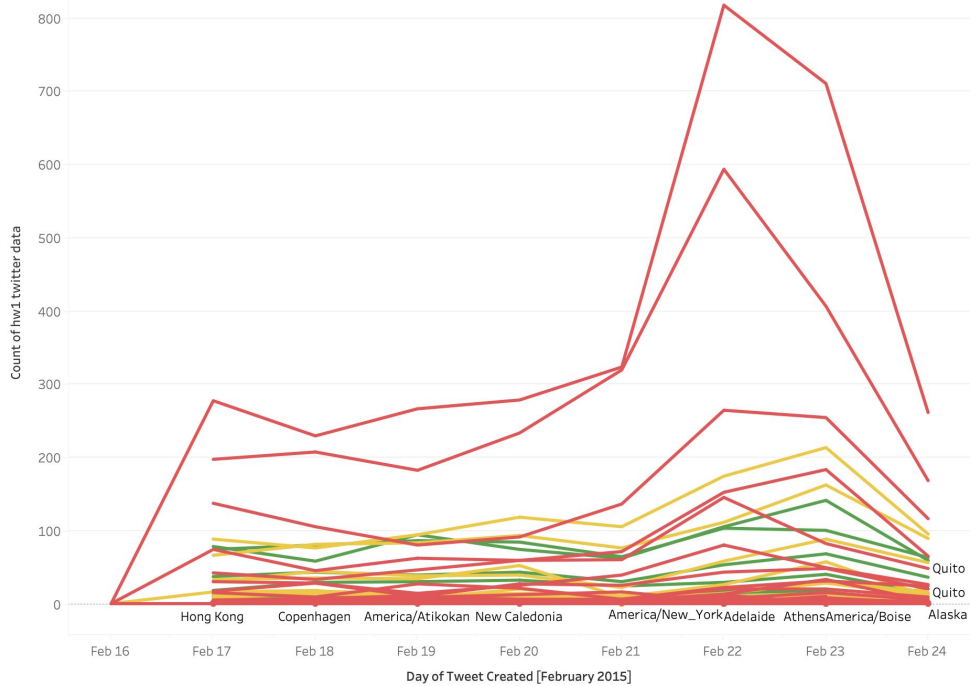
Sentiment per Day

The trend of count of hw1 twitter data for Tweet Created Day. Color shows details about Airline Sentiment.

Airline Sentiment
- negative
- neutral
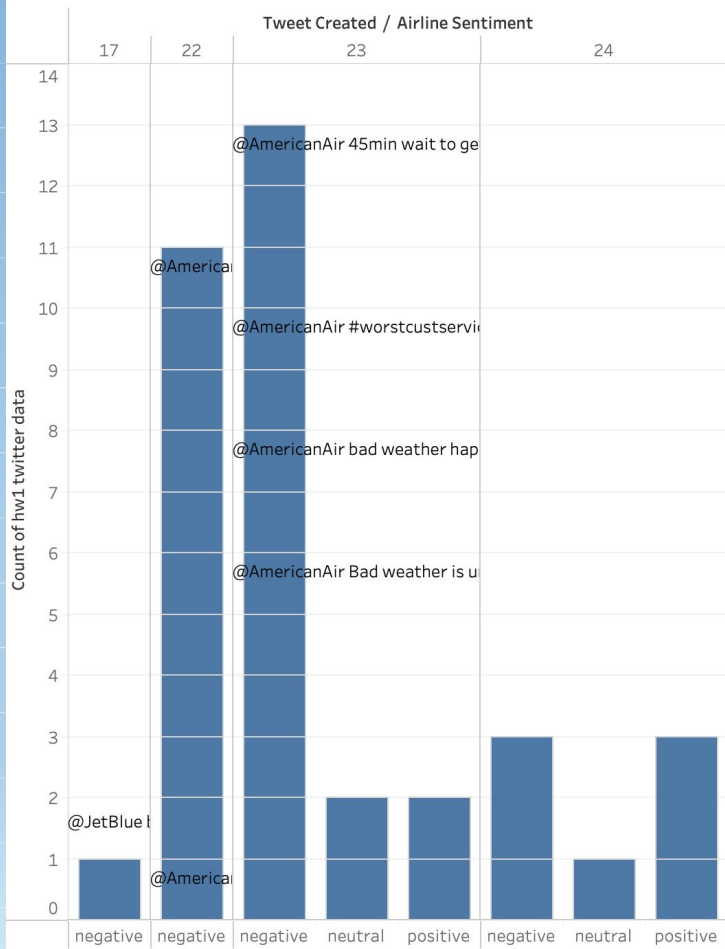- positive

Sentiment per Day in Timezone

The trend of count of hw1 twitter data for Tweet Created Day. Color shows details about Airline Sentiment. The marks are labeled by User Timezone.
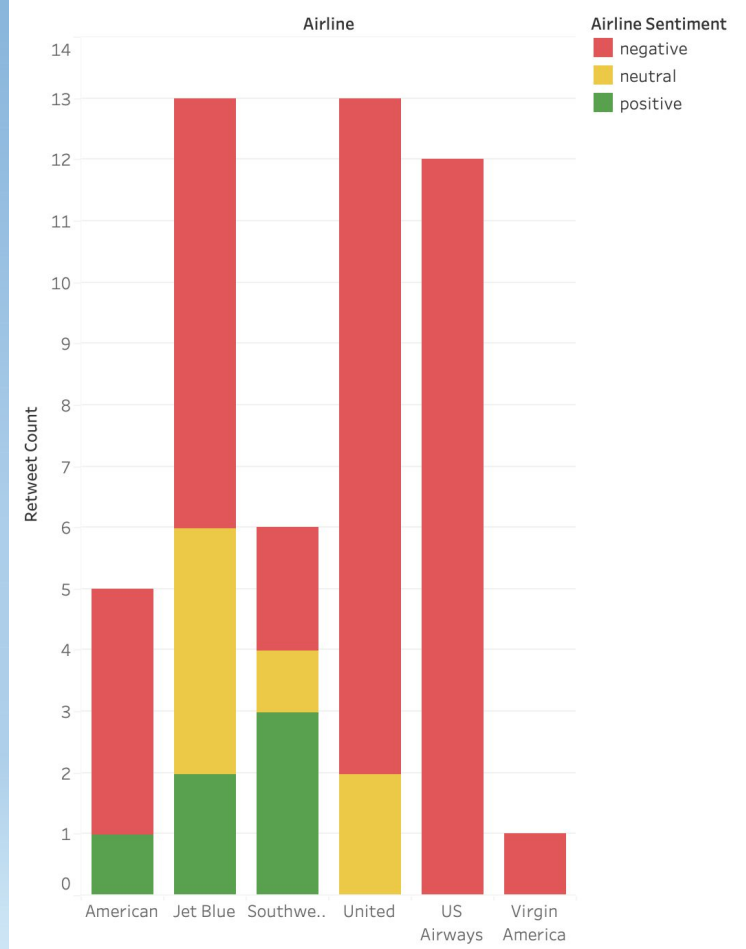
Airline Sentiment
- negative
- neutral
- positive

Weather Text Time Zone Day

Tweet Created / Airline Sentiment

| | 17 | 22 | 23 | 24 |

@AmericanAir 45min wait to ge

@American

@AmericanAir #worstcustservic

@AmericanAir bad weather hap

@AmericanAir Bad weather is u

@JetBlue

@American

| negative | negative | negative | neutral | positive | negative | neutral | positive |

Count of hw1 twitter data for each Airline Sentiment broken down by Tweet Created Day. The marks are labeled by Text, Tweet Created Day and User Timezone. The view is filtered on Text, which keeps 34 of 14,409 members.

Retweet Sentiment per Airline

Airline

Airline Sentiment
- negative
- neutral
- positive

| American | Jet Blue | Southwe.. | United | US Airways | Virgin America |

Sum of Retweet Count for each Airline. Color shows details about Airline Sentiment. The marks are labeled by Text and Tweet Created Day. The data is filtered on User Timezone, which keeps Quito.

Map Retweet Count Sentiment Size

Map based on Longitude (generated) and Latitude (generated). Color shows details about Airline Sentiment. Size shows sum of Retweet Count. Details are shown for User Timezone.

Retweet Count
- 0
- 100
- 200
- 287

Airline Sentiment
- negative
- neutral
- positive

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