

# Customer Service Analyzer

Seminar Automatic Question Answering Using IBM Watson [SemWatson]

Application to analyze customer support conversation

**Harish Vijayamohan**

July 27<sup>th</sup> 2018



# Outline

- General idea
- Examples
- Workflow
- Advantages
- Technology Stack
- Features Implemented
- Demo
- Future Improvements

## General idea of project

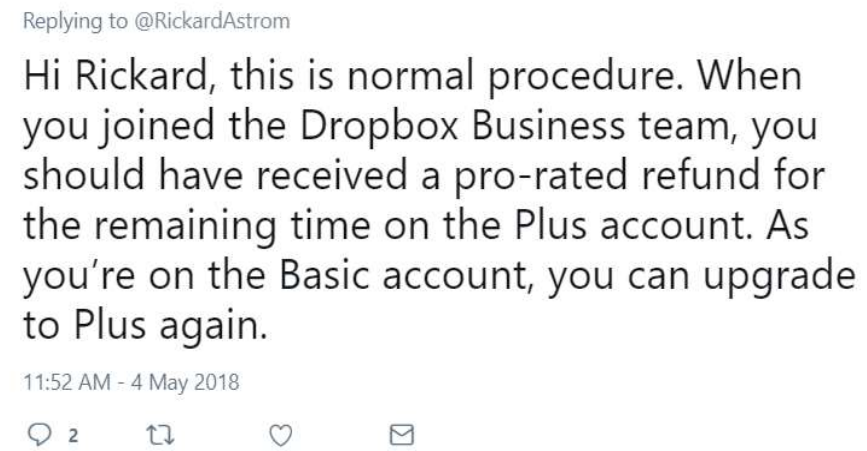
- Given the increasing popularity of customer service dialogue on Twitter, analysis of conversation data is essential to understand trends in customer and agent behavior for the purpose of improving customer service interactions.
  - Measure customer satisfaction
  - Evaluate agent performance
  - See how conversations start verses how they finish
- Using “Customer Service Analyzer” we can analyze conversations between customers and customer service agents.

## Dropbox Support on Twitter:

Example :  
Frustrated Customer



A screenshot of a tweet from a user with a blue profile picture and a redacted name. The tweet is dated May 4 and is addressed to @DropboxSupport. The text of the tweet reads: "@DropboxSupport have dropbox plus. Joined a business team when dropbox prompted me too. couldnt exit, so the admin removed me, lost my whole account until she managed to recover. with support help she got me out from her team but now I am downgraded??is this standard procedure???" Below the text are icons for replies (1), retweets, likes, and direct messages.



A screenshot of a reply from the official Dropbox Support account (@DropboxSupport), which is verified with a blue checkmark. The reply is dated May 4, 2018, at 11:52 AM. The text of the reply reads: "Hi Rickard, this is normal procedure. When you joined the Dropbox Business team, you should have received a pro-rated refund for the remaining time on the Plus account. As you're on the Basic account, you can upgrade to Plus again." Below the text are icons for replies (2), retweets, likes, and direct messages.

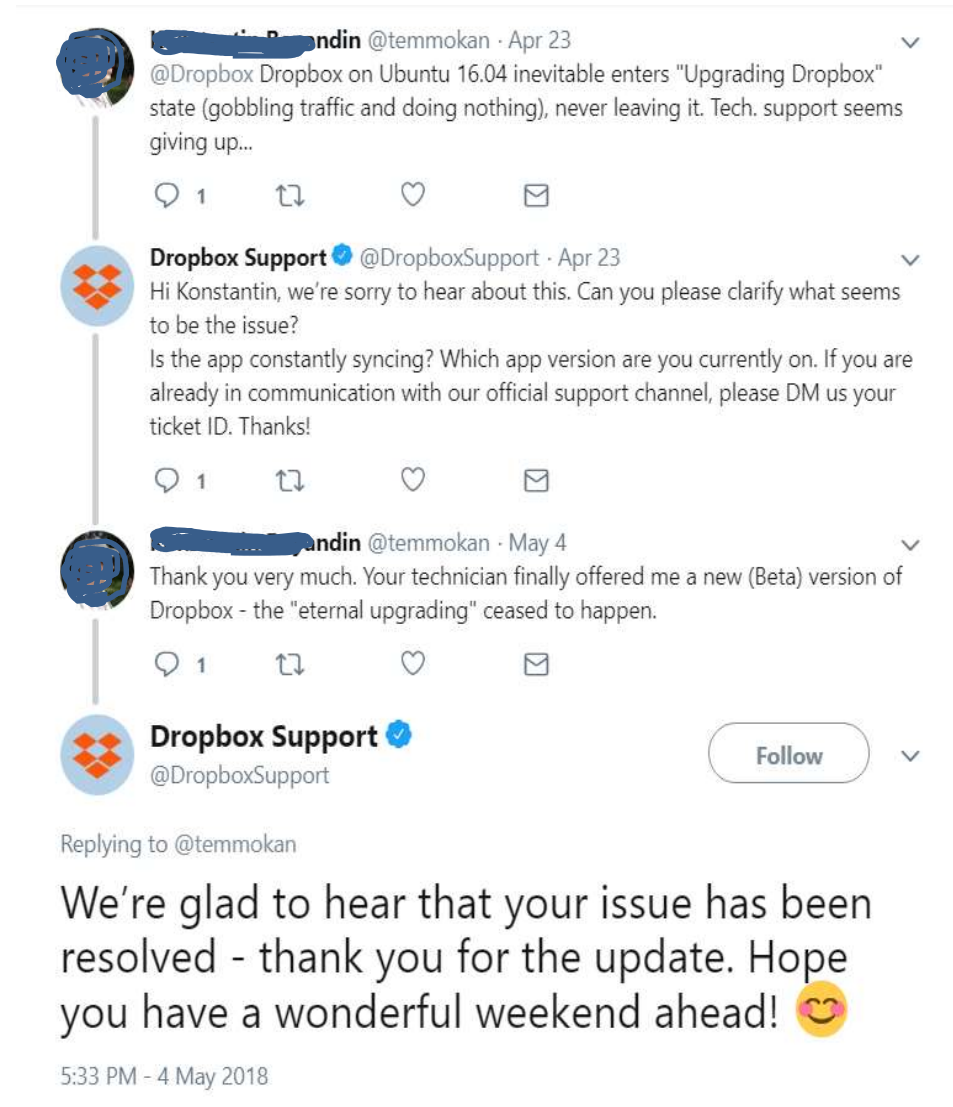
Reply input field with a placeholder text "Tweet your reply" and a user profile icon on the left.



A screenshot of a reply from the same user as in the first tweet, dated May 4. The text of the reply reads: "Replying to @DropboxSupport I really liked dropbox until now. there was no info that I would be forced to downgrade my account and risk losing data. I use it professionally and have been recommending dropbox to others. I will have to look for other cloud services now :(".

## Dropbox Support on Twitter:

Example:  
Satisfied Customer



The screenshot shows a Twitter thread with four tweets. The first tweet is from a user with a blue profile picture, @temmokaan, dated April 23. The second tweet is a reply from Dropbox Support (@DropboxSupport), dated April 23. The third tweet is another reply from @temmokaan, dated May 4. The fourth tweet is a reply from Dropbox Support, dated May 4, with a 'Follow' button and a dropdown arrow. The text of the tweets is as follows:

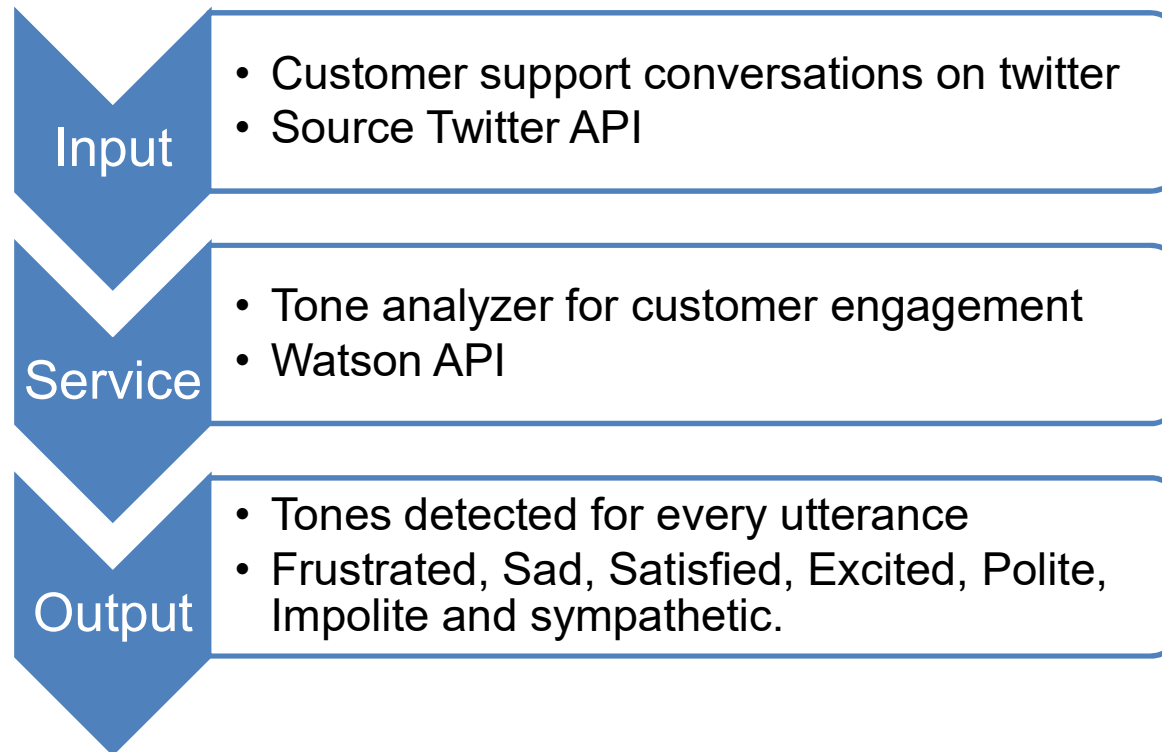
**@temmokaan** @temmokaan · Apr 23  
@Dropbox Dropbox on Ubuntu 16.04 inevitable enters "Upgrading Dropbox" state (gobbling traffic and doing nothing), never leaving it. Tech. support seems giving up...

**Dropbox Support** @DropboxSupport · Apr 23  
Hi Konstantin, we're sorry to hear about this. Can you please clarify what seems to be the issue?  
Is the app constantly syncing? Which app version are you currently on. If you are already in communication with our official support channel, please DM us your ticket ID. Thanks!

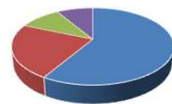
**@temmokaan** @temmokaan · May 4  
Thank you very much. Your technician finally offered me a new (Beta) version of Dropbox - the "eternal upgrading" ceased to happen.

**Dropbox Support** @DropboxSupport  
Replying to @temmokaan  
We're glad to hear that your issue has been resolved - thank you for the update. Hope you have a wonderful weekend ahead! 😊

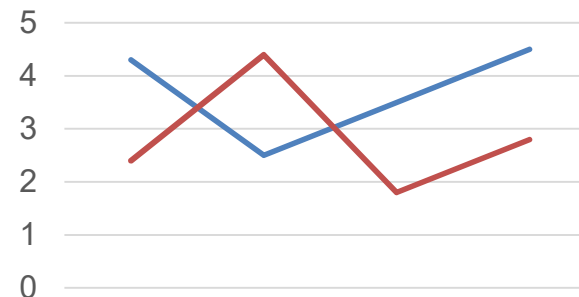
5:33 PM - 4 May 2018



Display charts with tones of customer vs agent.



- 1. Satisfied
- 2. Polite
- 3. Frustrated
- 4. Sad

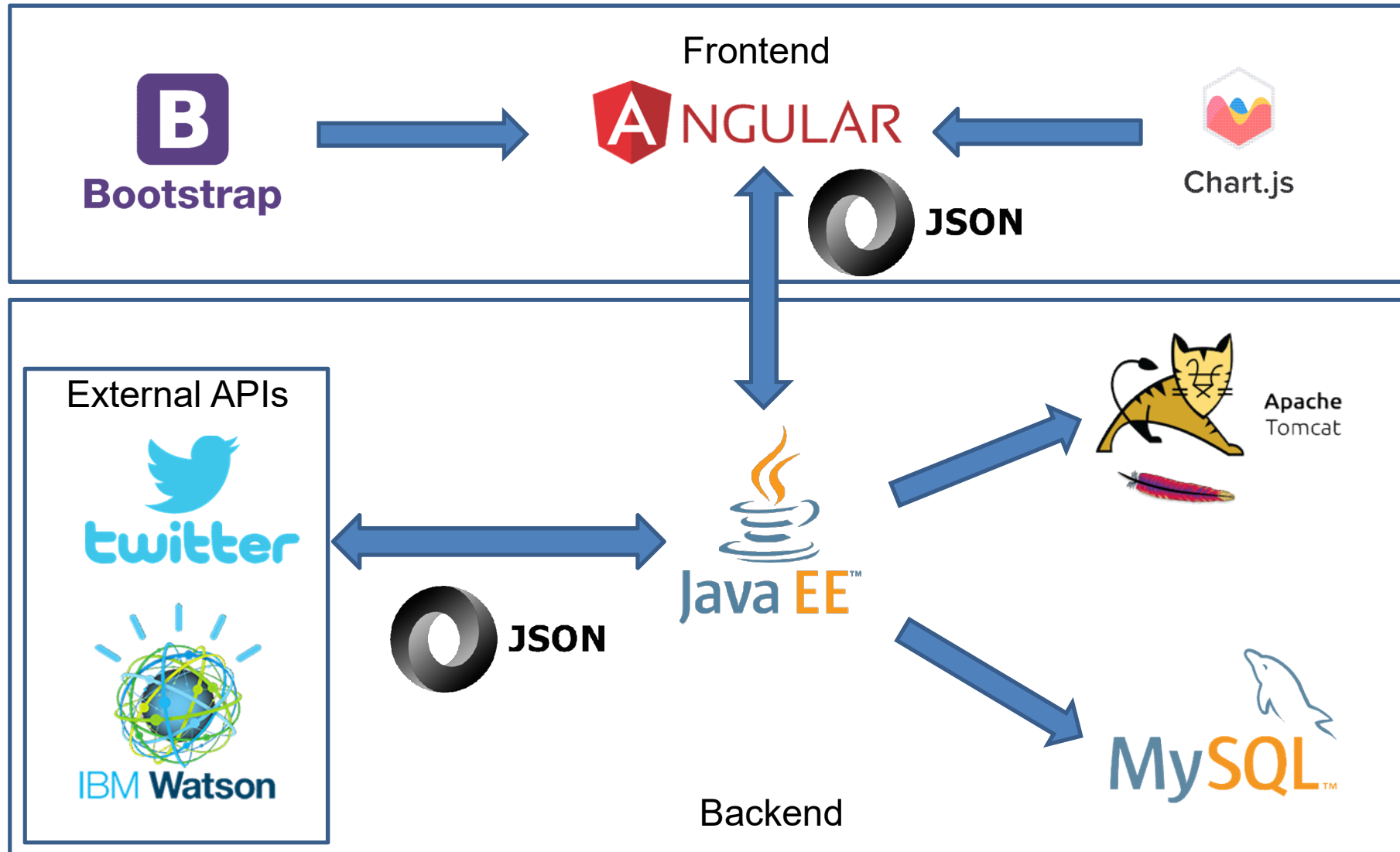


Who will get benefited from this App?

## Customer Service Manager

- To monitor customer support conversations.
- To assess customer satisfaction.
- Track progression of tones throughout the conversation. (“frustration” to “satisfied”).
- To improve how their teams interact with customers.
- To decide if agents need more training in content or in communication style.
- To find patterns in the tones of successful agents. To learn from it to replicate it more broadly.

# Technology Stack





## Implemented Features

- Search customer-care brand using twitter API and save it in database.
- View all the tweets that were saved.
- Assign tones to each tweet using Watson Tone Analyser.
- Generate chart which shows tones of agent vs customer for every conversation.
- Generate chart which shows tones based on customer's/agent's statement at first/end of conversation.
- Overall summary to show comparison between different customer care brands.

**Demo Time**

## Future Improvements

- Creating a chatbot – acts as a personal assistant for person who uses this application.
- Enable real time tweets update and allow user to post tweets.
- Analyze calls(Audio saved in database) of customer support – (speech to text conversion using IBM Watson).

**Thank You !**