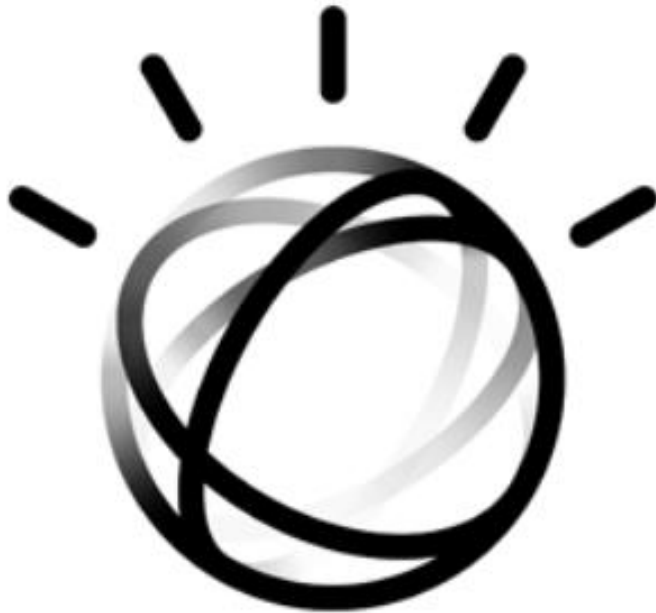

INTRODUCTION TO CHATBOTS

AN IBM VOLUNTEERS ACTIVITY



DEE

@STEMDEEP

DEEPSTEM.WORDPRESS.COM

10 DEC 2018

DORSEYVILLE MIDDLE SCHOOL

TODAY'S SESSION

By 2020, 85% of all customer interactions will be handled without a human agent. What are the social implications for chatbots and how can we ensure they promote social good?


- What is a chatbot
- How artificial intelligence is changing how we interact with computers
- Converse with a food coach bot
- Analyze music lyrics to understand empathy in lyrics
- How to build your own chatbot

Bring your iPads!



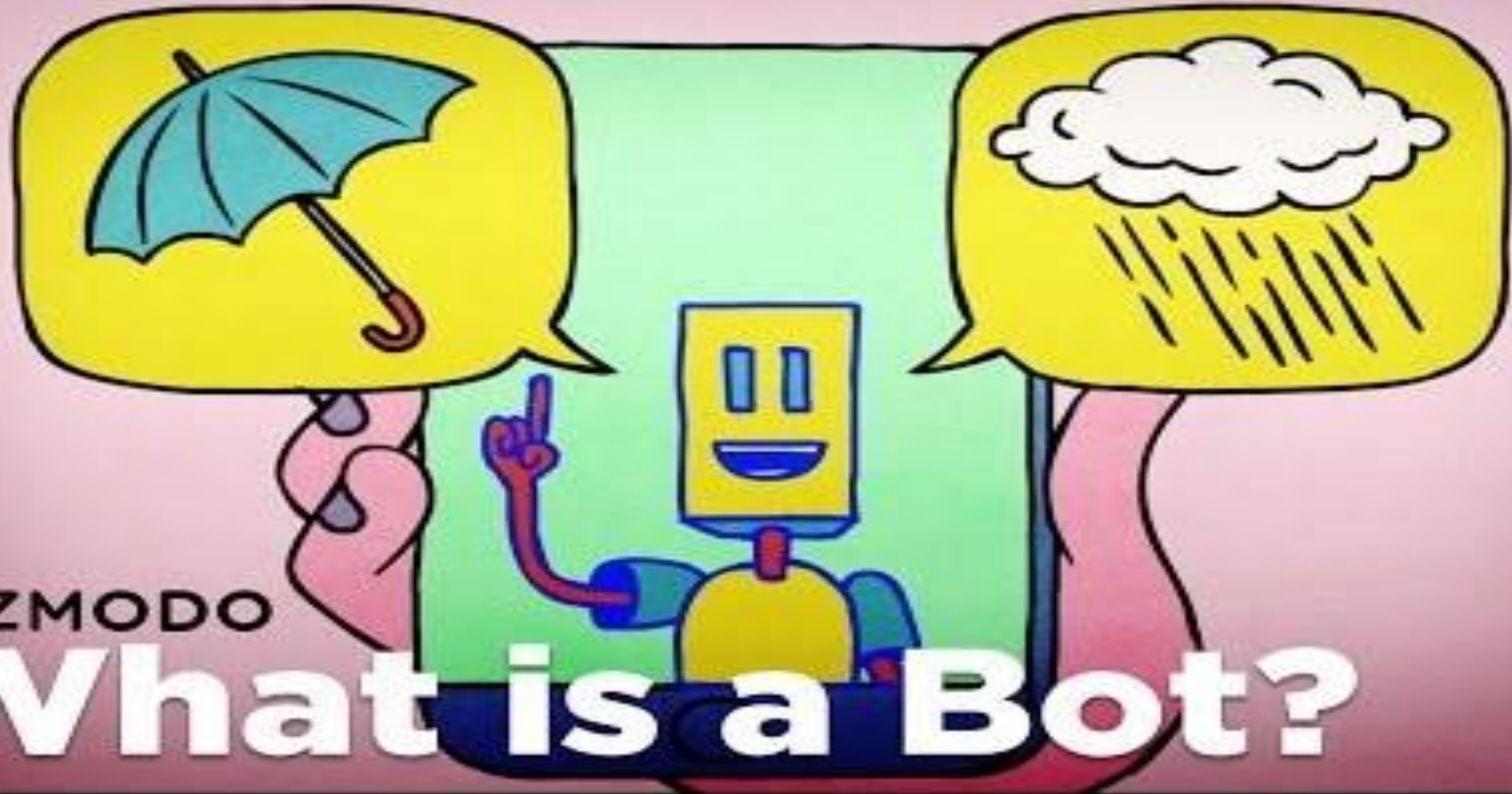
LET'S GET TO
KNOW EACH
OTHER!

Introductions

- Your Name
 - Your Grade
 - A word or phrase you associate with *Artificial Intelligence*
- 

WHAT IS A CHATBOT?

-
- Computer application or program that simulates human conversation
 - Examples of chatbots
 - Siri, Alexa, Google, Bixby, Cortana, ...
 - Who has done programming?
 - Aspects of Traditional Programming
 - What's different with how you interact with a chatbot?



GIZMODO

What is a Bot?

Play with the Food Coach chatbot

Let's interact with a chatbot to see how one would work in a real life scenario.

This chatbot helps answer questions from someone who might be feeling sad or anxious.

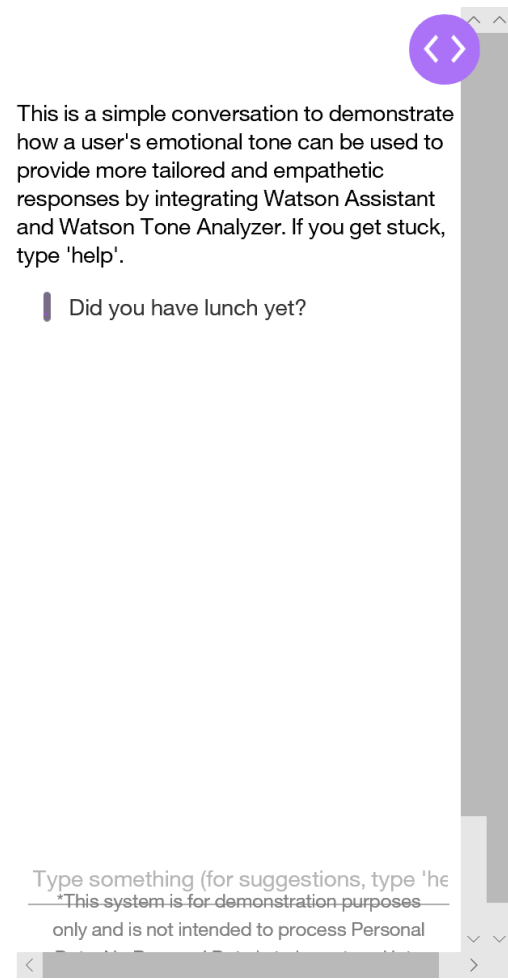
When the chatbot asks you whether you had a meal, say **"No."** Press Enter after you enter this text.

When the chatbot asks you how you feel about skipping a meal, say **"Sad."**

Notice that the chatbot says something like **"I detected sadness."**

The chatbot can say that because it's using the IBM Watson Conversation and Tone Analyzer services. The Tone Analyzer service analyzes tones and emotions in written text. For example, if you want your chatbot to know that the user isn't happy or is stressed out by something, the Tone Analyzer can help your chatbot respond in the right way.

Click to restart the Food Coach. As you keep playing see if you can get it to detect these emotions: Anger, Disgust, Fear, Joy, Sadness



This is a simple conversation to demonstrate how a user's emotional tone can be used to provide more tailored and empathetic responses by integrating Watson Assistant and Watson Tone Analyzer. If you get stuck, type 'help'.

Did you have lunch yet?

Type something (for suggestions, type 'help')
*This system is for demonstration purposes only and is not intended to process Personal

<https://food-coach.ng.bluemix.net/>

LEARNING CURVE

A professor built an AI bot to make teaching easier. Will it replace him someday?

By [Amy X. Wang](#) · May 19, 2016



<https://qz.com/688048/a-professor-built-an-ai-bot-to-make-teaching-easier-will-it-replace-him-someday/>



“Fries with that”

*Do you want fries
with your meal?*

Or

Fries come with your meal

BUILDING BLOCKS OF A CONVERSATION



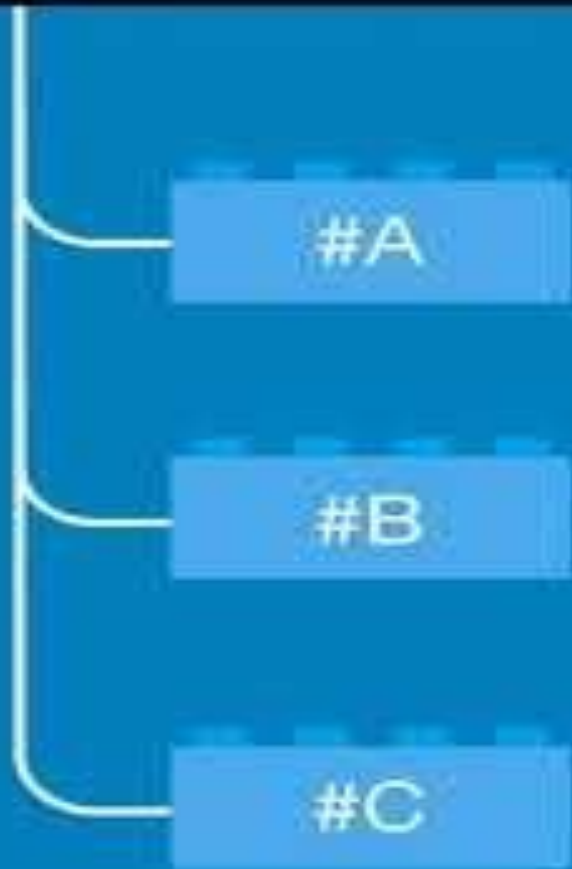
Intent Purpose behind a statement



Entities Nouns in a sentence



Dialog Conversation flow between the user and a bot



BUILDING BLOCKS OF A CONVERSATION



Intent Purpose behind a statement



Entities Nouns in a sentence



Dialog Conversation flow between the user and a bot



How do you deal with emotion?

Tone / ID	Description
Anger anger	Anger is evoked due to injustice, conflict, humiliation, negligence, or betrayal. If anger is active, the individual attacks the target, verbally or physically. If anger is passive, the person silently sulks and feels tension and hostility. (An emotional tone.)
Fear fear	Fear is a response to impending danger. It is a survival mechanism that is triggered as a reaction to some negative stimulus. Fear can be a mild caution or an extreme phobia. (An emotional tone.)
Joy joy	Joy (or happiness) has shades of enjoyment, satisfaction, and pleasure. Joy brings a sense of well-being, inner peace, love, safety, and contentment. (An emotional tone.)
Sadness sadness	Sadness indicates a feeling of loss and disadvantage. When a person is quiet, less energetic, and withdrawn, it can be inferred that they feel sadness. (An emotional tone.)
Analytical analytical	An analytical tone indicates a person's reasoning and analytical attitude about things. An analytical person might be perceived as intellectual, rational, systematic, emotionless, or impersonal. (A language tone.)
Confident confident	A confident tone indicates a person's degree of certainty. A confident person might be perceived as assured, collected, hopeful, or egotistical. (A language tone.)
Tentative tentative	A tentative tone indicates a person's degree of inhibition. A tentative person might be perceived as questionable, doubtful, or debatable. (A language tone.)

tone ANALYSIS

MUSIC LYRICS



Everybody's free to feel good
Everybody's free to feel good
You're gonna go through things you don't deserve
And it's gonna hurt like an open nerve
So just know your soul's as old as earth
And whatever you do, don't be told its worth
Being strong feels exactly the same as being weak
The difference is you don't quit
Not until you reach the peak
I believe in the mean of the spoken word
It's more than a speech to speak
It's what I feel when I'm sitting in your presence
The answers are written in your essence
It's all a test to see if you're made for it
So go for it, you can't wait for it
Cause you've got a destiny with your name on it

WATSON TONE ANALYZER

- <https://deepstem.wordpress.com/events/chatbots/>
- Open Tone Analyzer
- Select “Your Own Text”
- Copy and Paste Lyrics
- Click Analyze

Chatbots

Tone Analyzer <https://tone-analyzer-demo.ng.bluemix.net>

Music Lyrics

*Everybody's free to feel good
Everybody's free to feel good
You're gonna go through things you don't deserve
And it's gonna hurt like an open nerve
So just know your soul's as old as earth
And whatever you do, don't be told its worth
Being strong feels exactly the same as being weak
The difference is you don't quit
Not until you reach the peak
I believe in the mean of the spoken word
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So go for it, you can't wait for it
Cause you've got a destiny with your name on it*

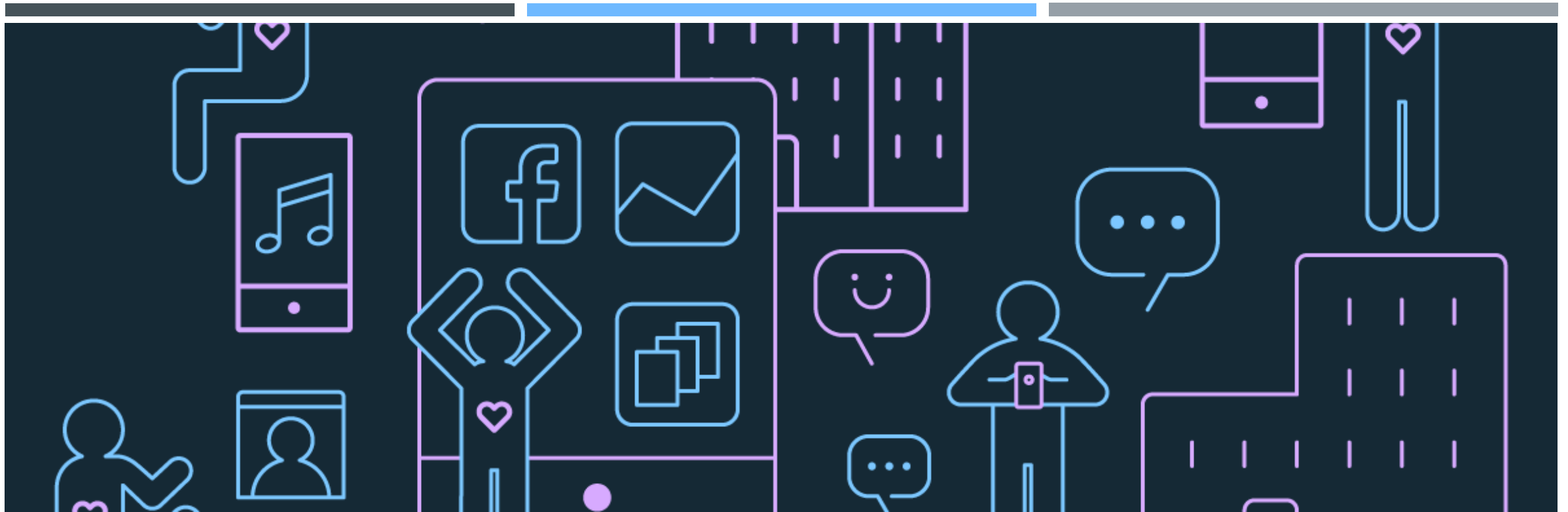
BANKING ASSISTANT

<https://conversation-demo.ng.bluemix.net/>

The screenshot shows a chat interface for a banking assistant named 'BankBot'. The chat window has a title bar with 'BankBot' and navigation icons. The messages are as follows:

- BankBot: I can help you with credit card payments.
- BankBot: One moment while I retrieve a list of accounts.
- BankBot: Please select which credit card account you'd like to pay.

Below the messages are three buttons: 'Card # 5624', 'Card # 5893', and 'Card # 9225'. At the bottom of the chat window is a text input field with the placeholder 'Type here...'. To the left of the chat window, there is a sidebar with a hamburger menu icon and the text 'See all features'. Below the chat window, there is a section titled '1/3 Make a Payment' with a description: 'Utilize buttons and other response types, like photos or bank balances, to help expedite the credit card payment process.' At the bottom of the sidebar are two blue buttons with left and right arrow icons. A 'Cookie Preferences' button is located at the bottom right of the interface.



BOTS FOR THE GREATER GOOD: 6 CHATBOTS MAKING THE WORLD A BETTER PLACE

<https://www.ibm.com/blogs/watson/2017/06/bots-for-good-6-helpful-chatbots/>



Chatbots for Good: Introduction to empathetic chatbots

Course Overview

- + Design thinking
- + Art of Conversation
- + Create your own Chatbot
- + Science of Tone and Emotions
- + Quiz time

Course overview

Self-paced 3 hours Free

[Start course](#) →

Your Mission:

Be a champion for compassion and build a chatbot

Imagine if you could build a chatbot that understands how someone is feeling. Your chatbot could play music or make suggestions to help them feel happier. During this mission, you will:

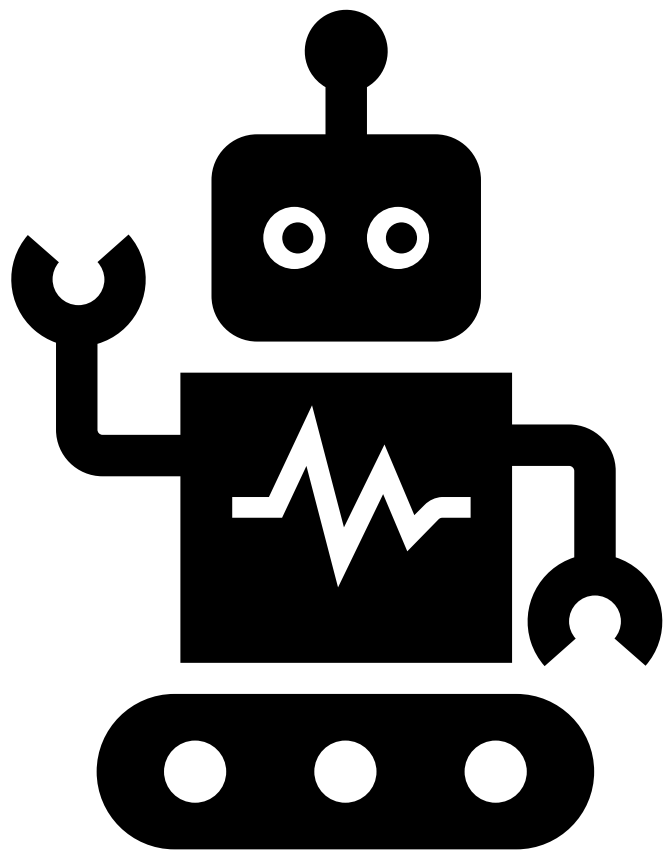
- Learn how to design a dialog for your specific users by using Design Thinking
- Play with a chatbot and learn about the three basic components of Watson Assistant: intents, entities, and dialog
- Analyze tone and emotions in text by using Watson Tone Analyzer and brainstorm ways you can use the service to improve your chatbot



What you'll need:

HOW TO BUILD A CHATBOT

<https://developer.ibm.com/courses/all/chatbots-for-good-empathetic-chatbots/>



THANK YOU