**ChatterBot for Farmers**

1. **Necessary Requirements for this Project**
2. Python Programming Language
3. Libraries and Application programming interface

**Purpose of using libraries**

1. **random:** Functions in the random module depend on a pseudo-random number generator function random(), which generates a random float number between 0.0 and 1.0.

**random.choice():** Returns a randomly selected element from a non-empty sequence. An empty sequence as argument raises an IndexError.

1. **string:** To convert the string into lower case.
2. **nltk:** a wonderful tool for teaching and working in, computational linguistics using Python. It provides a practical introduction to programming for language processing.
3. **io:** The io module provides the Python interfaces to stream handling. In Python 3.x it is the default interface to access files and streams.
4. **warnings:** This is the base class of all warning category classes. It is a subclass of Exception.
5. **sklearn:** powerful tools for data analysis and data mining.
6. **TfidfVectorizer:** Term Frequency: is a scoring of the recurrence of the word in the present record.

*TF = (Number of times term t shows up in a record)/ (Number of terms in the report)*

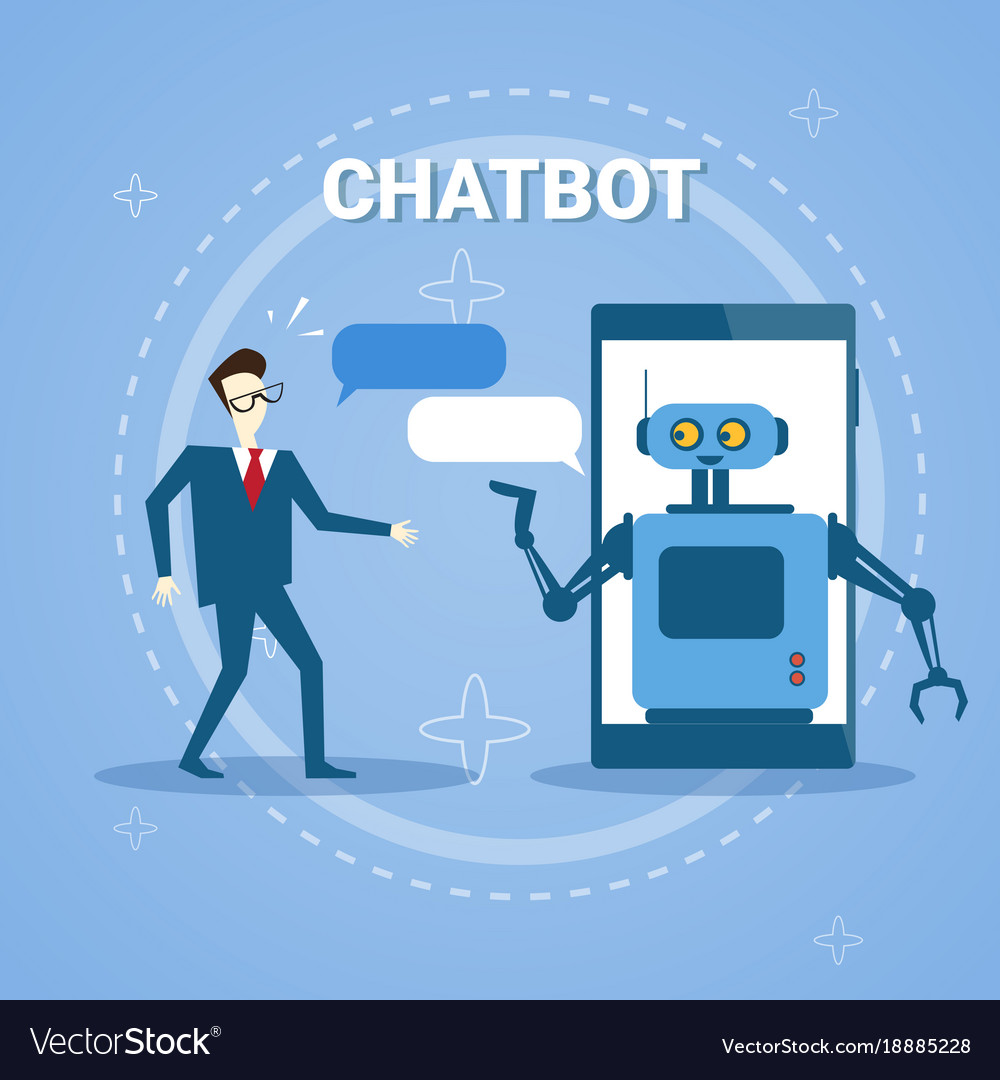
Inverse Document Frequency: is a scoring of how uncommon the word is across reports.

*IDF = 1+log (N/n), where, N is the quantity of reports and n is the quantity of archives a term t has showed up in.*

Tf-IDF weight is a weight regularly utilized in data recovery and content mining. This weight is a factual measure used to assess how significant a word is to a report in an assortment or corpus.

1. **cosine\_similarity:** Cosine Similarity (d1, d2) = Dot product (d1, d2)/||d1|| \* ||d2|| where d1, d2 are two non-zero vectors.
2. **Steps for Implementing this Project**
3. Download the necessary nltk packages.
4. Import necessary libraries.
5. Make a corpus text file.
6. Read the data from the text file.
7. Pre-processing the raw text.
8. Keyword Matching.
9. Generating Response.

**ChatterBot for Farmers**



**Architecture Diagram of ChatBot**

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**Github Link:** <https://github.com/KareenaArora/ChatterBot-for-Farmers>