

NITC Assistant
Natural Language Processing - Final Project
Computer Science and Engineering Department
National Institute of Technology Calicut

Architecture/Framework:

- Anaconda-Jupyter Notebook with NLTK and other python Libraries.
- Django Server
- Html and CSS
- Mysql (Database)
- Gtts library for vocal generation

Problem Statement:

Online Application which can guide any user to find answers related to any issues regarding NIT-C . This system will give most suitable answer to the query. Any issue which cannot answered by the system will be sent to admin, which will be answered by him and answer will be saved in dataset for further usage.

Expected Output

- Location and direction of a building/destination from a start point
- Answering any academic related queries

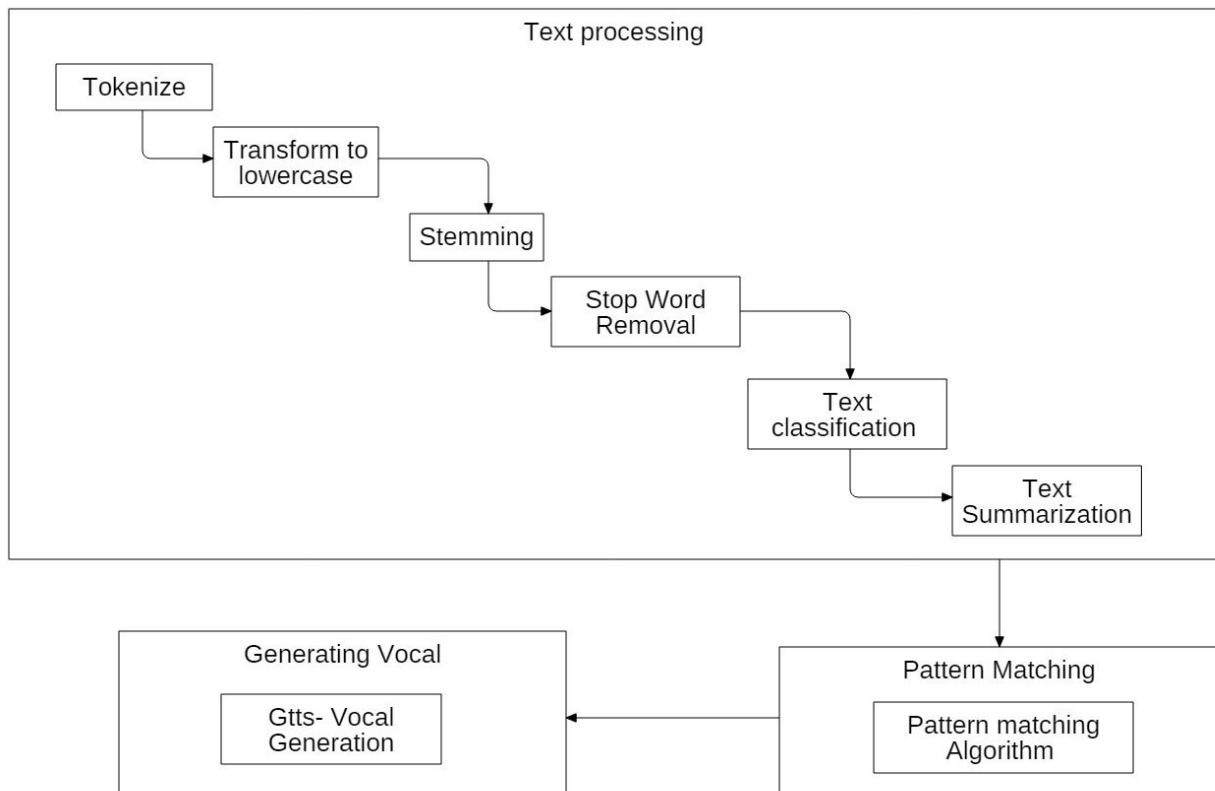
Description of Dataset:

Presently, we don't have any data set to download from NITC website. We will be creating a dataset for the pilot run. The dataset will be consisting of keywords related to some of the query and the answers. If a given query is unable to process, the system itself will send the query to the admin and the admin will answer the problem. The answer will be saved in dataset. As the system used by the end users increases, gradually the number of tuples in the dataset will also increase. Hence, the accuracy of the system for answering the problem will eventually increase.

Design of the System

- Text processing
 - Tokenize
 - Transform to lowercase
 - Stemming
 - Stop Word Removal
 - Text classification
 - Text Summarization
- Pattern Matching
 - Pattern matching Algorithm
- Generating Vocal
 - Gtts- Vocal Generation

Flow diagram



References :

1 . Build your own Action for Google Assistant

<https://www.androidauthority.com/how-to-build-google-assistant-actions-877154/>

2. Three Efficient Ways to Supply Your App with a Virtual Assistant

<https://www.cleveroad.com/blog/how-to-create-virtual-assistant-apps-like-siri-and-google-assistant>

3. Machine Learning — Text Processing

<https://towardsdatascience.com/machine-learning-text-processing-1d5a2d638958>

4. Bernhard Kratzwalda, Suzana Ilićb, Mathias Krausa, Stefan Feuerriegela, Helmut Prendingerb, “Deep learning for affective computing: Text-based emotion recognition in decision support”

5. Chen H, Sun M, Tu C, Lin Y, and Liu Z. Neural sentiment classification with user and product attention. In Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP 2016), 2016.