The goal of this project is to combine accessibility and natural language processing in order to present a useful tool that showcases different applications of these concepts.

**Dictionaries and Functionality**

The dictionaries for our sentiment analysis and chatbot were built by us and can be iterated and improved upon. Functions for the chatbot inputs are built to create user interactivity and a dynamic response system.

**Speech Recognition and Sentiment Analysis**

Speech recognition is done through a simple web application adapted from python libraries. This output is then read into the database and called in a function to provide emotional analysis.

**Introduction**

Our project is an application of Natural Language Processing, which utilizes machine learning and building training sets based on tokenized words that will be turned into sequences of numbers that make up a data set. These models then compare against our data provided for emotional analysis and a chatbot in order to give useful feedback or meaningful responses.

**NLP Utilization**

<table>
<thead>
<tr>
<th>User Speaks to Application</th>
<th>Captured audio is run through Speech Recognition algorithm</th>
<th>After user is done, the data is saved to database table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chart of emotions recognized in speech are displayed</td>
<td>Data is retrieved from database and analyzed with NLP algorithm</td>
<td></td>
</tr>
</tbody>
</table>

**Speech Recognition and Sentiment Analysis**

- **NLP Chatbot**
  - Hi, I am a Bot. How can I help you?
  - What is this project about?
  - This is an nlp based project that combines research and practice with natural language processing through machine learning with tensorflow!
  - What can you do?
  - I can recognize words

- **NLP Chatbot**
  - Hi, I am a Bot. How can I help you?
  - I can recognize words and patterns and respond accordingly
  - Tell me more about NLP

- **NLP Chatbot**
  - I found this on wikipedia!: Natural language processing (NLP) is a subfield of linguistics, computer science, and artificial intelligence concerned with the interactions