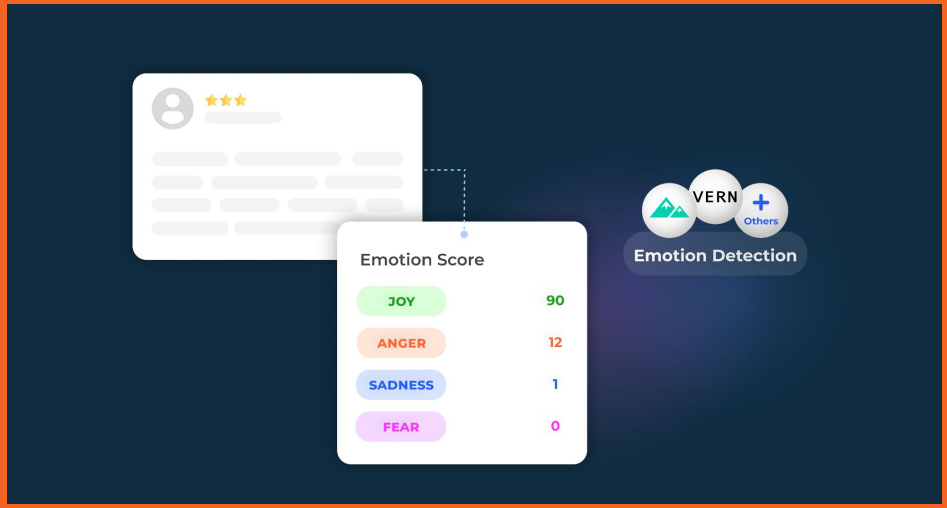
Creating Emotional Chatbot

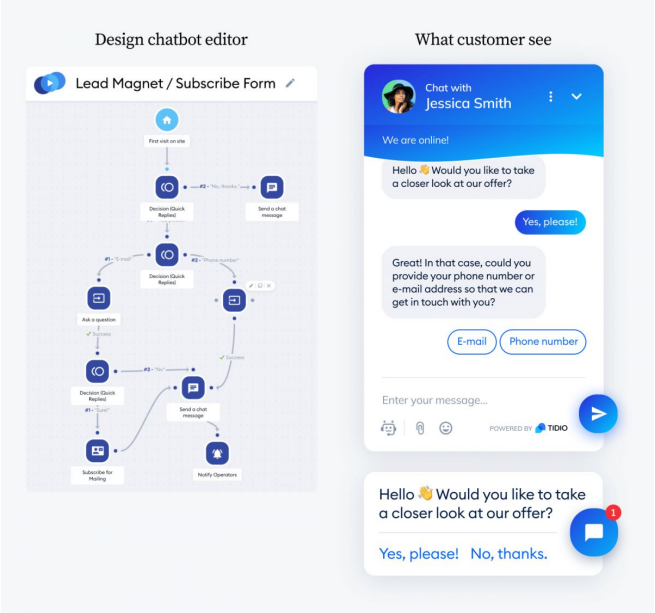


Codefest Group 2

The creation of our chatbot

Creating an emotional NLP chatbot primarily involves the use of Python as the programming language, due to its extensive ecosystem of libraries designed for natural language processing (NLP) and machine learning.

Here are the key languages and libraries:



1. Programming Language:

- **Python:** This is the most prevalent choice for NLP and chatbot development due to its simplicity, readability, and the vast collection of specialized libraries available.

2. Core NLP Libraries:

- **NLTK (Natural Language Toolkit):** A foundational library for various NLP tasks, including tokenization, stemming, lemmatization, and sentiment analysis.

- **spaCy:** Known for its speed and efficiency, spaCy offers advanced capabilities like named entity recognition, part-of-speech tagging, and dependency parsing, crucial for understanding sentence structure and meaning.

- **Hugging Face Transformers:** A powerful library providing pre-trained models for a wide range of NLP tasks, including sentiment analysis, emotion detection, and text generation, which are essential for building emotionally aware responses.

3. Machine Learning and Deep Learning Frameworks:

- **TensorFlow/Keras:** These frameworks are used for building and training neural networks, which are often employed for complex tasks like emotion recognition and generating contextually relevant and emotionally appropriate responses.

- **PyTorch:** Another popular deep learning framework that offers flexibility and a dynamic computational graph, suitable for research and development in NLP.

3. Machine Learning and Deep Learning Frameworks:

- **Pandas:** A library for data manipulation and analysis, crucial for handling and preparing the text data used to train the chatbot's emotion recognition models.

5. Chatbot Frameworks

- **Rasa:** An open-source framework for building conversational AI, offering tools for natural language understanding (NLU) and dialogue management, which can be integrated with emotion detection capabilities.

- **Dialogflow:** A platform for building conversational interfaces, providing tools for intent recognition and entity extraction, and supporting integration with various messaging platforms.

2. The essence of the chatbot

- The essence of the chatbot is to detect language used by a user and provide answer in that language(show them the language dataset, read it out in the three languages not all o because of time) like two per language

- Not only to predict language but to detect the emotion behind the user's message e.g joy, happiness, sad etc (show them the emotion dataset, read two examples each from the three languages but here you have to explain well o because that's the major work we are doing)