

## **Problem Statement – Help Me With My Mood**

**Team Size** – 2 members

**Team Members** – Deepa Vincent, Mukunda Madhava

**Problem Objective** – To determine the mood of a person by analyzing the target's social media content and develop a solution to alleviate the mood if required.

### **Scope of work –**

The goal is to provide an optimal solution to the mentioned objective by developing personalized results. This would require a deeper analysis of the target's social media content.

Getting Data: The internet is constantly growing with users creating new web content on various platforms. While facebook and twitter provide APIs to acquire and work with data, other platforms may not. Also, APIs are not always reliable and may restrict the flexibility to work with data. Web Scraping is a suitable alternative to overcome these disabilities. There are plenty of tools to implement web scraping concepts namely - Scrapy, Selenium, BeautifulSoup.

Profiling: Judging personalities is an essential skill as, personality is a key driver behind people's interactions, behaviors, and emotions. For any effective solution that is developed, the first, crucial step is to develop a psychological and emotional profile of the subject.

This can be achieved using various APIs such as Personality Insights, Tone Analyzer and Natural Language Understanding among others. However, merely creating a rudimentary profile wouldn't help unless the cause of negative mood is not ascertained (again, above mentioned APIs may be utilised).

The mentioned APIs accurately determine the basic tone in text such as 'sad', 'joy', 'polite' but they provide little information regarding the reason for the tone. To determine the cause, keywords in the data (eg, sad tweets) can be extracted. With further analysis and research, algorithms can be implemented to categorize a set of keywords that correspond to specific cause of sadness (eg. a set of keywords - 'life, meaning, purpose, futile' - would be categorized as 'Existential Crisis')

Once the cause is determined, co-relations between personality traits, cause of suffering and effective solutions must be established to form generalizations and scale the project.

### **Technologies used -**

- Scrapy web crawling framework.
- Selenium WebDriver with Python.
- BeautifulSoup python library.
- Watson Tone Analyzer API
- Watson Natural Language Understanding API
- Watson Personality Insights API
- icanhazdadjoke.com API

### **Role of each team member -**

- Deepa Vincent - Web scraping using BeautifulSoup and Selenium.
- Mukunda Madhava – Web Scraping using Scrapy and text analysis using Watson APIs.