



Basic Details of the Team and Problem Statement

Ministry/Organization Name/Student Innovation: Ministry of Information and Broadcasting

PS Code: 1329

Problem Statement Title: 360-degree feedback software for the Government of India related News Stories in Regional Media using Artificial Intelligence / Machine Learning

Team Name: Neural Catalysts

Team Leader Name: Nachiket Khairkar

Institute Code (AISHE): C - 41681

Institute Name: INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY (I2IT)

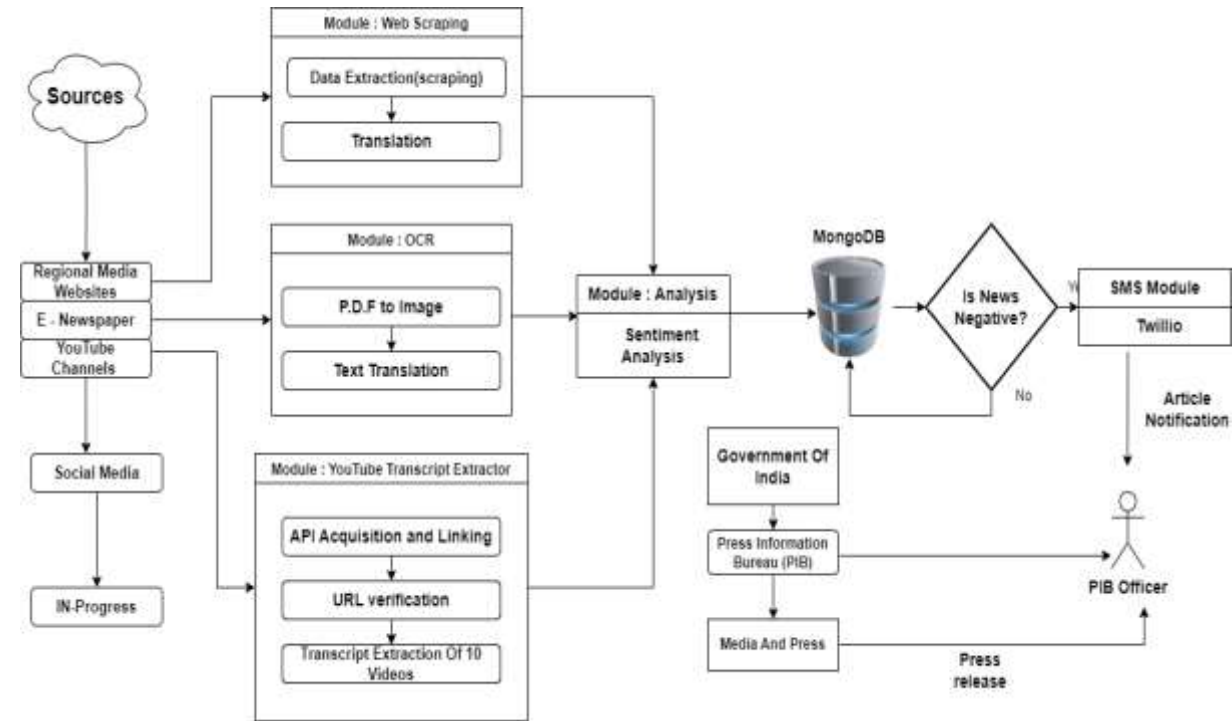
Theme Name: Smart Automation

Idea/Approach Details

Describe your Idea/Solution/Prototype here:

- Our Software Uses Various News Sources and **runs sentiment analysis on the extracted data** using Artificial Intelligence and Machine Learning **to detect public opinion**.
- **News Articles** are scraped from various **regional media websites** are extracted using scraper and **analyzed into Positive, Neutral, Negative** using Python Libraries.
- The **E Newspaper** are text extracted using **OCR script**. The OCR script also scans other languages like **English, Hindi, Marathi, Telugu, Kannada, Malayalam, Tamil, Odia, Bengali, Assamese**, etc. (other languages under progress).
- The Notification System uses latest **messaging API** to inform Dedicated Officers in **Real Time**.
- Other Script scrapes **Youtube Transcript** and runs sentiment on the videos.
- **MongoDB** to store data and **non relational access** of the News Article
- Existing Modules translate to **Web Views** of **Django Web Framework** for better code compatibility.

Flow Diagram of Project



Describe your Technology stack here:

- **Python** (Functionality)
- **HTML** (Structure)
- **CSS** (Frontend)
- **JavaScript** (Core Webwork)
- **Django** (Web Framework)
- **MongoDB** (Database)

- YouTube API
- Google Translate
- Tesseract Engine
- Google Cloud Vision API



Idea/Approach Details

Describe your Use Cases here

- **Government of India** can easily have a **Media feedback** in real-time using categorical news.
- **Dedicated Template** so every **Ministry** can review **people's reaction** towards their policies.
- **Regional News** analyzed access for wider reach for **every Indian Citizen**.
- **Translate news articles** into multiple Indian languages and extract text from e-papers using **Optical Character Recognition (OCR)**.
- **Categorize** news stories based on relevant government departments and assign tonality as **favorable (positive), neutral, or not favorable (negative)**.
- **Notify concerned PIB officers** in real-time about negative news stories using multiple platforms like **SMS and Gmail**.
- **Future Scope** of integrating Social Media platforms like **Twitter and Facebook** too.

Describe your Dependencies / Showstopper here

- **Sentiment Analysis of Multiple Indian Regional Languages.**
- Newspaper Article Scraper which can scrape, analyze and display up to **600+ articles just in an hour**.
- **YouTube / Google API** to process people's opinion towards the video and **larger mass access**.
- Totally **Automated system** for News Analysis with help of a **pretrained Model** and machine learning.
- All modules and sources clustered under a **single platform**.
- Large Scalability of Project.
- Easily Modifiable code base.
- Plan for project growth will consider people's opinion using social media too.

Team Member Details

Team Leader Name: Nachiket Khairkar

Branch : B.E Stream : CSE Year : III

Team Member 1 Name: Sayali Jaybhay

Branch : B.E Stream : CSE Year : III

Team Member 2 Name: Mangesh Gaikwad

Branch : B.E Stream : ENTC Year : III

Team Member 3 Name: Soham Joshi

Branch : B.E Stream : ENTC Year : III

Team Member 4 Name: Tanmay Kendre

Branch : B.E Stream : ENTC Year : III

Team Member 5 Name: Kshitij Rajgude

Branch : B.E Stream : ENTC Year : III

Team Mentor 1 Name: Prof. Milana Malwadkar

⁴ **Category : Academic Expertise : Artificial Intelligence/ Machine Learning Domain Experience (in years): 5**