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Linguist

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Developed by

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Problem Statement

To develop an application to translate English-based educational resources into vernacular languages (mother-tongues) using Natural Language Processing (NLP) for mass-effective learning.

- a. Easy: Translating texts
- b. Hard: Translating audios

01



Why this problem statement?

We have witnessed school and university students face problems when shifting from native-language medium school to an English-based teaching institute.





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Why is NLP required?

What if we were to translate a sentence from English to Hindi? We could divide the sentence into its words, go into an English to Hindi translation of words database and translate individual words and print them. Doesn't require any complex NLPs, does it?



Why is NLP required?

But we know that each language has two important components, namely:

1. **Tokens**: Smallest units of a language
2. **Grammar**: Defines arrangement of these tokens so that they make sense.

If a language was just built on tokens and Grammar didn't matter, then the above mentioned word to word translation would be the state of the art translator!



Why is NLP required?

However, grammar matters, so we need to take that into account. And keeping both in mind, we need to make use of Recurrent Neural Networks, RNN. Which is the most used architecture for NLP.



02

Tech Stack

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Python

Library such as
NLTK, StreamLit, Transformers,
PIL, Tesseract, etc.



The Final Product

03
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Functionalities:

- Summaries the text and then translates.
- Translates English to Mother Tongue Languages.
- Real time image translation.

Compatibility

Works with:

- 1. Camera
- 2. Images
- 3. PDFs
- 4. Text
- 5. Audio

Languages :

- 1. Hindi
- 2. Bengali
- 3. Marathi
- 4. Malayalam
- 5. Telugu
- 6. Gujarati
- 7. Tamil



Thank you!