

Punyashlok Ahilyadevi Holkar Solapur University, Solapur



“Developing software to automatically translate resource materials between English to Indian regional ”

A Project Synopsis submitted to the

**Punyashlok Ahilyadevi Holkar Solapur University, Solapur
For the Degree of Bachelor of Technology In**

Computer Science & Engineering

Under the Faculty of Engineering

Submitted By

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N B Navale Sinhgad College of Engineering,
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Year 2023-24

SYNOPSIS FOR FINAL YEAR PROJECT

Name of the College : N.B. Navale Sinhgad College of Engineering, Solapur

Name of the Department : Computer Science and Engineering

Name of the Course : B. Tech (Computer Science & Engineering)

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Proposed Dissertation Title : Developing software to automatically translate
resource materials between English to Indian regional

Abstract

CIPAM, dedicated to advancing Intellectual Property Rights (IPR) awareness, commercialization, and enforcement, has created extensive educational materials. The software aims to bridge linguistic gaps by translating these materials from English to key Indian regional languages: Hindi, Marathi, Bengali, Gujarati, Tamil, and Telugu.

- The software's core features include its ability to translate various formats, such as Word documents, PDFs, and text within images. Notably, it focuses on maintaining the contextual integrity and professionalism of the original content, ensuring that translations are not only accurate but also accessible to the general public.
- This abstract outlines a comprehensive approach involving Natural Language Processing (NLP) techniques, machine learning algorithms, and collaboration with experts to ensure the software's accuracy and user-friendliness.

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1. Introduction

- A software solution to translate intellectual property resource materials and texts from English to various Indian regional languages is a commendable initiative for promoting IPR awareness, commercialization, and enforcement. To achieve this objective effectively,

The software should encompass the following key features :

1. **Translation Capabilities:** The software should have robust translation capabilities that can handle different formats such as Word documents, PDFs, and text within images. It should be able to extract text from these formats and translate it accurately.
2. **Translation Accuracy:** The translation should go beyond literal translations to capture the true meaning of the text. It should consider the context and nuances of the content to ensure accuracy.
3. **Language Options:** The software should support translation into a variety of Indian regional languages, as specified, including Hindi, Marathi, Bengali, Gujarati, Tamil, and Telugu. Users should be able to select their desired target language.
4. **User-Friendly Interface:** The software should have a user-friendly interface that allows users to easily upload their documents or text for translation and select their target language. It should also provide options for customization.
5. **Resource Materials Accessibility:** Ensure that the translated materials are accessible and available for download or distribution, so that they can reach the intended audiences efficiently.
6. **Scalability:** Design the software to be scalable to accommodate a growing user base and increased demand for translation services.

Literature Review

1. Title: [Dual Translation of International and Indian Regional Language using Recent Machine Translation](#)
2. Title: [Machine Translation Approaches and Survey for Indian Languages](#)
3. Title: [Tackling Multiway Translation of Indian Languages](#)
4. Title: [Machine Translation of English Videos to Indian Regional Languages using Open Innovation](#)
5. Title: [Translation Across Cultures: From The Regional To The Universal](#)
6. Title: [A Review of Terminological Work Being Done in Indian Languages](#)
7. Title: [Study on Machine Translation Approaches for Indian Languages and Their Challenges](#)
8. Title: [Automated Conversion of English and Hindi Text to Braille Representation](#)
9. Title: [Study of Machine Translation Systems and Techniques for Indian Languages](#)
10. Title: [Machine Translation Development For Indian Languages And Its Approaches](#)
11. Research papers : <https://github.com/Mmustafa-772002/Final-year-Project/tree/main/research%20paper>

2. Problem Statement

Developing software to automatically translate resource materials between English To Indian regional languages

3. Objectives & Scope

❑ Objective:

- Develop software for accurate translation of IPR resource materials from English to Indian regional languages (Hindi, Marathi, Bengali, Gujarati, Tamil, Telugu) across various formats, ensuring the preservation of the text's intended meaning.
- Key objectives include accuracy, multilingual support, user-friendly interface, scalability, contextual understanding, customization, quality control, performance optimization, privacy and security, integration, machine learning and AI, cross-platform compatibility, cultural sensitivity, and documentation and support.

❑ Scope:

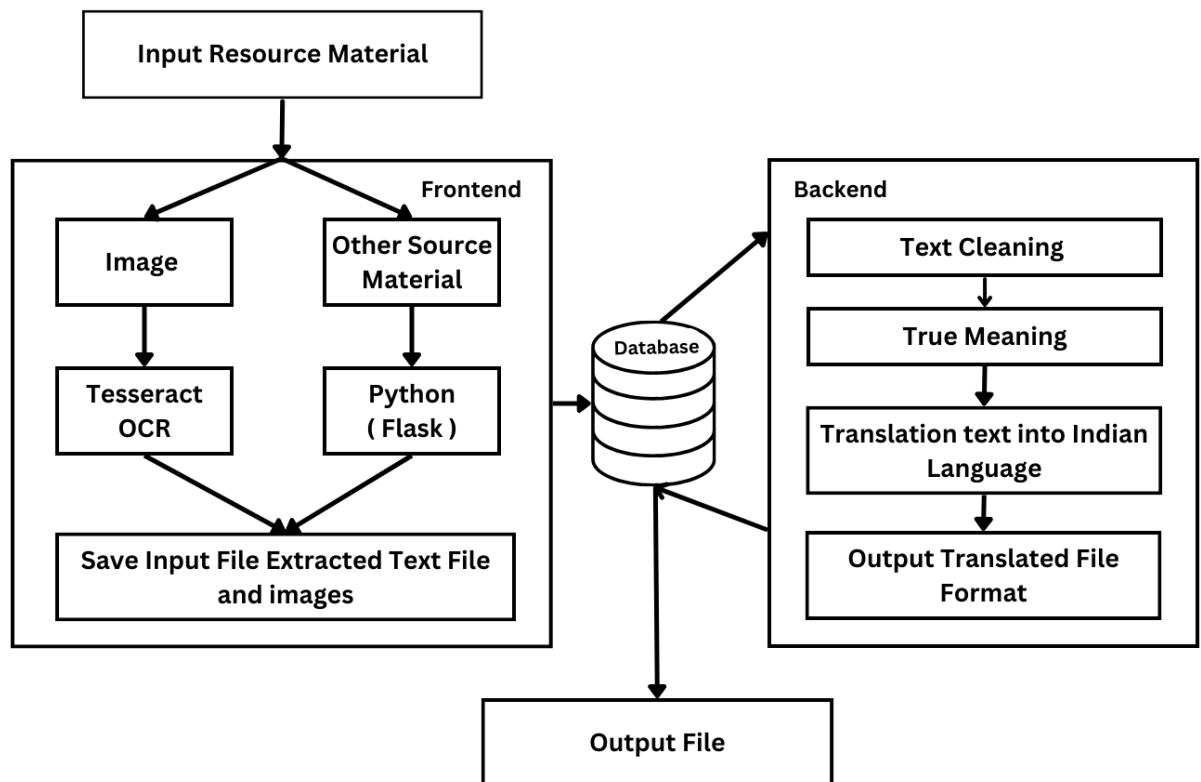
- The software covers translation needs for Word documents, PDFs, and text within images.
- The project includes developing software for seamless translation from English to various Indian regional languages.
- The software aims to create a user-friendly interface, preserve the original meaning, and offer customization features.
- Emphasis is on speed, productivity, quality assurance, user feedback, and offline functionality.
- The software extends its capabilities to multimedia content and encourages collaboration.

4. Proposed Methodology

Introduction :

The goal of this methodology is to outline the step-by-step process for developing software that can accurately translate resource materials from English to Indian regional languages, such as Hindi, Marathi, Bengali, Gujarati, Tamil, and Telugu.

Proposed Algorithm :



System Architecture :

- Input resource material (text or image)
- Detect language of input resource material
- Extract text from image
- Translate text to desired Indian regional language using machine translation
- Output translated text in desired format

Modules :

- Language Detection Module: This module detects the language of the input resource material.
- Text Extraction Module: This module extracts the text from images and videos.
- Machine Translation Module: This module translates the text into the desired Indian regional language.
- Output Module: This module outputs the translated text in the desired format.

5. Conclusion

By implementing the recommended features and considerations outlined in the previous response, this software can become a valuable resource for students, industries, the general public, police, judiciary, and customs officials. It will facilitate not only the translation of content but also the dissemination of knowledge in a manner that is both accurate and easy to understand.

6. References

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(Prof. S.A.Dhanawe)

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Place: Solapur.

Date: - -2023