



**OPTICAL CHARACTER RECOGNITION SYSTEM WITH IN-BUILD TRANSLATOR**  
**SEMESTER LONG PROJECT UNDER: Prof. Mahima Kaushik (Mentor)**  
**MADE BY: Gopal Parashar B.Tech (information technology and mathematical innovations)**  
**ROLL NO. 152116**  
**SEMESTER: 4<sup>th</sup>**  
**CLUSTER INNOVATION CENTRE UNIVERSITY OF DELHI**

**INTRODUCTION**

**OCR stands for Optical Character Recognition. It is a technology that enables machines to read and interpret printed or handwritten text in documents, images, and other media and convert them into machine-readable text that can be searched, edited, and processed by computers. OCR is commonly used in document management systems, data entry, and automated transcription. It involves analysing the shapes of characters and converting them into digital codes that computers can understand. OCR technology is constantly improving and becoming more accurate and efficient, thanks to advancements in artificial intelligence and machine learning.**

**OBJECTIVE**

**The OCR CUM Translator is a Python application that uses optical character recognition (OCR) and machine translation to convert text from an image to English. The application allows users to browse and select an image file, specify the language code of the text in the image, and then translates the text to English using machine translation. The objective of the application is to provide an easy-to-use and effective tool for users who need to quickly translate text from images without manually typing out the text.**

**PROBLEM STATEMENT**

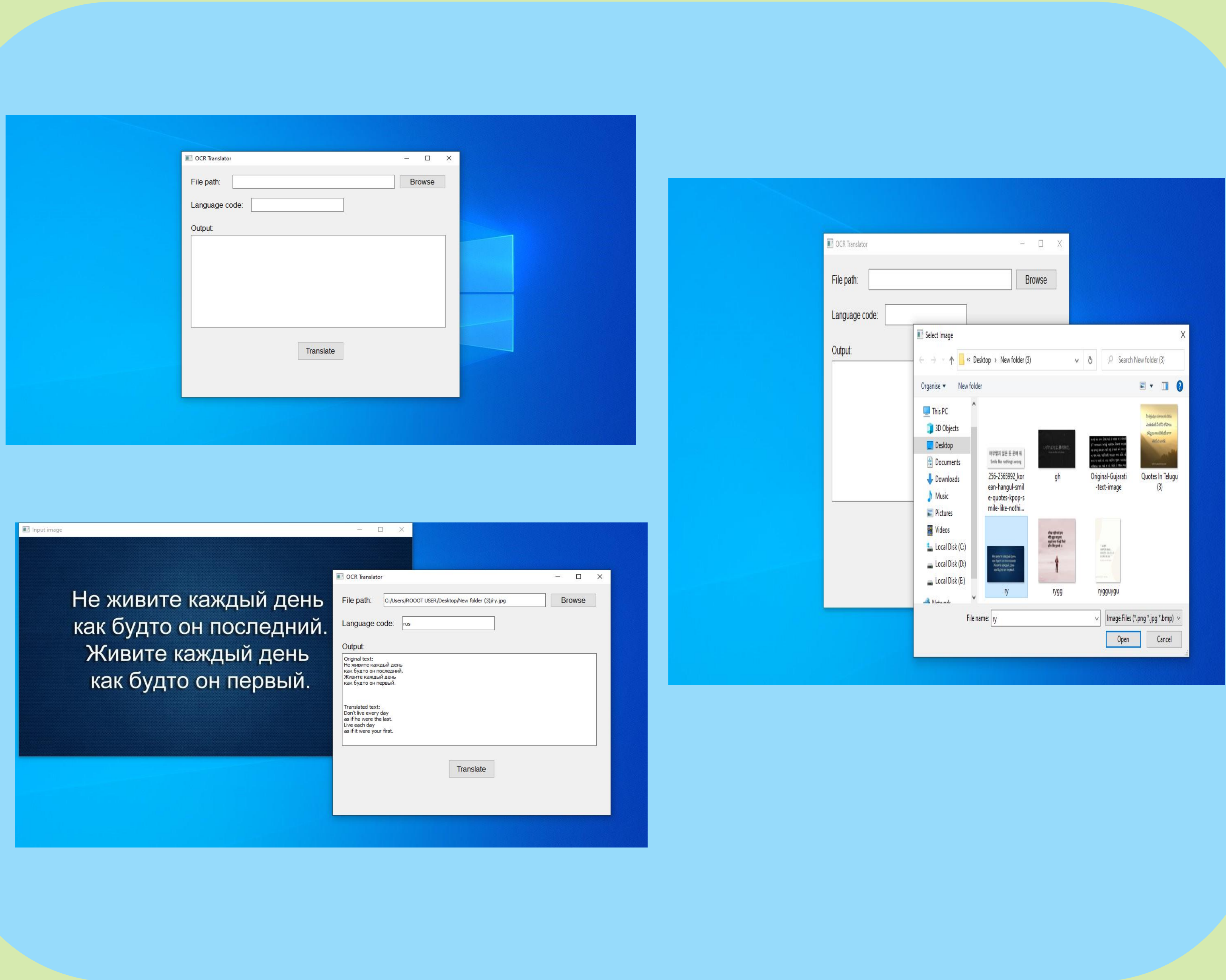
**The problem statement of the OCR CUM Translator tool is to provide a simple and efficient way for users to extract text from an image file and translate it to English. This tool is designed to address the common challenge of working with text in different languages, particularly when the text is in a non-editable format such as an image file. In many scenarios, such as when working with multilingual documents, it is necessary to extract text from images and translate it to a desired language. Manually transcribing the text can be time-consuming and error-prone, particularly if the text is in a language that the user is not familiar with. OCR technology can be used to automate the process of extracting text from images, but it still requires additional steps to translate the text to a desired language.**

**METHOS AND MODEL**

**Optical Character Recognition (OCR): This is a technology that enables the computer to recognize text within images. The OCR software used in this application is called pytesseract, which is a Python wrapper for Google's Tesseract-OCR engine. The OCR process involves converting the image to text that can be read and understood by the computer. Machine Translation: This is a type of artificial intelligence that enables the computer to translate text from one language to another. In this application, the machine translation is performed using the translate library in Python, which connects to various translation APIs and services to perform the translation. Language Detection: This method is used to detect the language of the text within the image. The langdetect library in Python is used to automatically detect the language of the text. Graphical User Interface (GUI): This is the visual part of the application that the user interacts with. The PyQt5 framework is used to create a user-friendly interface for the application, including input fields for selecting an image file and language code, output fields for displaying the original and translated text, and a translate button to perform the translation.**

**RESULT**

**The OCR CUM Translator tool provides an easy-to-use interface that allows the user to select an image file and choose the language code. The software then extracts the text from the image, detects the language, and translates the text into English. The original and translated text is displayed in the output field, and the input image is shown using OpenCV.**



**CONCLUSION**

**In conclusion, the OCR CUM Translator tool is an efficient and user-friendly solution for translating text in an image file to English. The software uses OCR technology, language detection, and translation to provide accurate and efficient translations. This tool can be beneficial for individuals or organizations that require translations of documents or images.**

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