

EchoFrame - Advanced MultiMedia Processing System

Project-III (IT208PPC31) report submitted to
Guru Ghasidas Vishwavidyalaya
in partial fulfilment for the award of the degree of
Bachelor of Technology
in
Information Technology

by
Tanya Singh, Sakshi Kumari, Shubham Sourav
(21036158 , 21036163 , 21036152)

Under the supervision of
Dr. Agnivesh Pandey



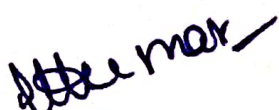
Department of Information Technology
Guru Ghasidas Vishwavidyalaya
April 2025

DEPARTMENT OF INFORMATION TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA
BILASPUR - 495009, INDIA



CERTIFICATE

This is to certify that the project report entitled "EchoFrame - Advanced MultiMedia Processing System" submitted by Tanya Singh, Sakshi Kumari, Shubham Sourav (Roll No. 21036158 , 21036163 , 21036152) to Guru Ghasidas Vishwavidyalaya towards partial fulfilment of requirements for the award of degree of Bachelor of Technology in Information Technology is a record of bonafide work carried out by him under my supervision and guidance during .


Dr. Manoj Kumar
Head of Department
Information Technology
Guru Ghasidas Vishwavidyalaya
Bilaspur- 495009, India


Dr. Agnivesh Pandey
Assistant Professor
Department of Information Technology
Guru Ghasidas Vishwavidyalaya
Bilaspur - 495009, India

Date: 1 April 2025
Place: Bilaspur

Abstract

Name of the student: **Tanya Singh, Sakshi Kumari, Shubham Sourav** Roll

No: **21036158 , 21036163 , 21036152**

Degree for which submitted: **Bachelor of Technology**

Department: **Department of Information Technology**

Thesis title: **EchoFrame - Advanced MultiMedia Processing System**

Thesis supervisor: **Dr. Agnivesh Pandey**

Month and year of thesis submission: **April 2025**

EchoFrame-Advanced Multimedia Processing System is a Python-based application designed to streamline and integrate multiple multimedia tasks into a single, user-friendly platform. It offers a range of features, including video-to-audio conversion, basic video editing, watermarking, and transcribing YouTube videos into text (.txt and .srt formats) using the Assembly AI API. Additionally, it supports English-to-Hindi translation via the Google Translate API, enhancing accessibility for diverse users. The system also incorporates deep learning-based music genre classification using CNN and MLP models, along with a music recommendation system powered by the Spotify API. To ensure seamless performance and ease of use, EchoFrame integrates various Python libraries such as OpenCV, Pillow, MoviePy, and Tkinter, providing an intuitive graphical interface for user interaction. By leveraging the power of machine learning and AI, this project presents an efficient and comprehensive solution for content creators and general users, making multimedia processing more accessible, automated, and intelligent.