Problem Statement: **Automated Transcription System Using Whisper Model**

Objective:

The goal of this assignment is to develop an automated transcription system that utilizes OpenAI's Whisper model to transcribe video and audio files. The system should efficiently process files in a designated directory and its subdirectories while supporting real-time monitoring for newly added media files.

Key Functional Requirements:

1.**Recursive File Scanning:**

The application should scan a given directory and all its subdirectories for audio and video files.

It should support common formats such as MP3, WAV, MP4, MKV, MOV, FLV, AAC, and M4A.

2.**Automatic Transcription Process:**

Once a file is detected, the application should transcribe its content using the Whisper model.

The generated transcription should be saved as a text file in the same folder as the input media file.

3.**Real-Time File Monitoring:**

The system should continuously monitor the assigned folder and subfolders.

When a new file is added, the transcription should trigger automatically without manual intervention.

4.(**Optional Enhancements) Performance Optimisation:**

Implement file-tracking logic to skip already processed files and avoid redundant processing.

Implement session management to handle interruptions (e.g., system crash, restart) and continue from where it left off.

Expected Deliverables:

A Python-based application that integrates the Whisper model for transcriptions.

Support for real-time folder monitoring and recursive directory traversal.

Efficient handling of transcriptions with optimizations to avoid unnecessary reprocessing.