

Project Title:

YouTube Video Downloader using Python

Introduction:

This project is a simple and modern **YouTube Video Downloader** built using **Python**. It allows users to download videos directly from YouTube by just pasting the video link. The program uses the **yt_dlp** library for downloading and **Tkinter** for the graphical interface. It helps users download videos in high quality with both audio and video combined. The main goal of this project is to make downloading YouTube videos fast, easy, and user-friendly.

Methodology:

1. Libraries Used:

- **yt_dlp** – to fetch and download YouTube videos.
- **tkinter** – to create a modern and interactive GUI.
- **threading** – to keep the application smooth and prevent freezing during downloads.
- **os, shutil** – for file and system handling.

2. Working Steps:

- The user enters a YouTube link in the input box.
- The user selects a folder where the video will be saved.
- The downloader fetches the best available video and audio.
- **FFmpeg** merges both into a single MP4 file.
- A progress bar and status label show live updates during download.

3. Design:

- The GUI includes fields for video link, folder selection, progress tracking, and a “Download” button.
 - The background is kept clean and modern to make it visually appealing.
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Applications:

- To **download educational videos** or lectures for offline study.
 - To **save music or tutorials** from YouTube for personal use.
 - To understand **how Python can handle GUI, file systems, and APIs** together.
 - Can be expanded into a **multi-site downloader** in future projects.
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Conclusion:

This project combines simplicity and functionality. It shows how Python can be used to create real-world applications with GUI and automation. The program is lightweight, efficient, and demonstrates practical programming concepts clearly.