

# Project Report: PDF to Audiobook Converter & Stock Analysis Dashboard

## Introduction

This project demonstrates two practical applications of Python in real-world scenarios: 1) a PDF to Audiobook Converter, and 2) a Stock Analysis Dashboard. The first project allows users to convert PDF documents into spoken audio files, enhancing accessibility and ease of content consumption. The second project provides stock market analysis and visualization through interactive dashboards, empowering users to explore financial trends easily.

## Abstract

The PDF to Audiobook Converter extracts text from PDF documents, processes it, and converts it into speech using Text-to-Speech (TTS) engines. The Stock Analysis Dashboard, built with Streamlit, integrates stock data retrieval, technical indicators, and visualizations for interactive exploration. Together, these projects showcase how Python can be applied to improve accessibility and enable data-driven decision-making.

## Tools Used

### Tools and Libraries:

- **PyMuPDF**: Extract text from PDF documents.
- **pyttsx3 / gTTS**: Convert text to speech.
- **Tkinter**: GUI development for PDF Audiobook Converter.
- **yfinance**: Fetch historical stock data.
- **Plotly**: Create interactive charts.
- **Streamlit**: Build and deploy the stock dashboard.
- **pydub & ffmpeg**: Audio conversion and export.

## Steps Involved in Building the Project

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1. Load and extract text from PDF files using PyMuPDF.
2. Clean extracted text and handle empty pages.
3. Convert the cleaned text into speech using TTS engines.
4. Implement playback controls (play, stop, volume, rate).
5. Provide options to export audio as WAV/MP3.
6. Build a Tkinter-based GUI for user interaction.
7. For Stock Dashboard, accept ticker input from the user.
8. Fetch historical stock data using yfinance.
9. Calculate indicators such as SMA, EMA, Bollinger Bands, and RSI.
10. Visualize stock data and indicators using Plotly charts.
11. Deploy interactive dashboard using Streamlit.

## Conclusion

The PDF to Audiobook Converter enhances accessibility by allowing users to listen to documents instead of reading them. Meanwhile, the Stock Analysis Dashboard empowers investors and

learners to analyze and visualize stock data interactively. These projects highlight Python's versatility in solving problems across accessibility and financial analytics domains.