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Text Craft AI - The Smartest Document Editor Ever

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Abstract: Text Craft AI – The Smartest Document Editor Ever is a robust, fully offline document editing solution designed to simplify and optimize the content creation and editing process. It operates independently of cloud services or third-party APIs, offering seamless support for a variety of file formats, including PDF, DOCX,TXT, XLSX, CSV, HTML, and XML. Notable features include real-time voice typing, transcription of audio and video content, sentence rephrasing, and translation across over 30 languages.

The editor also incorporates intelligent features such as predictive text suggestions, grammar and spell checking, autosave, and version history tracking. With all operations handled locally, Text Craft AI – The Smartest Document Editor Ever ensures user privacy at all times. This project offers a comprehensive, offline solution for effective document editing, aimed at enhancing productivity while safeguarding user information.

I.INTRODUCTION

Document editing software plays a crucial role in writing, organizing, and managing content across various domains. However, many current solutions rely on internet-based services, raising concerns about data security and limited offline accessibility.

Text Craft AI – The Smartest Document Editor Ever addresses these issues by providing a feature-rich, fully offline editing platform. It supports a wide range of file formats and integrates intelligent tools such as voice typing, grammar and spell correction, language translation, and version tracking—all without requiring cloud connectivity. The proposed system offers an intelligent editing solution that maximizes efficiency without compromising user privacy.

II.LITERATURE SURVEY

- Anderson (2015): Explored the functionalities of Microsoft Word, emphasizing its extensive toolset for document formatting and grammar correction, while highlighting concerns over privacy due to its integration with cloud services like OneDrive.
- Verma et al. (2018): Analyzed LibreOffice Writer as an offline document editor, noting its support for multiple file formats and its ability to function without internet access. However, the study pointed out the lack of AI-powered features like real-time grammar suggestions and speech-to-text.
- Khan and Patel (2019): Investigated WPS Office, focusing on its hybrid nature (offline and online), and its AIdriven grammar and translation tools. The research observed limitations in its free offline features and the software's emphasis on cloud-based functions.

III.EXISTING SYSTEM

Existing document editors typically use basic AI for grammar checking and text formatting. Systems like Microsoft Word and Google Docs rely heavily on cloud services for features such as real-time collaboration and storage, raising privacy concerns. Offline alternatives like LibreOffice Writer lack advanced AI tools such as real-time voice typing and intelligent content suggestions.

Text Craft AI – The Smartest Document Editor Ever addresses these gaps by offering advanced offline features, including real-time voice typing, grammar correction, and content generation, ensuring full privacy and independence from cloud services.

IV.PROPOSED SYSTEM

The proposed system, Text Craft AI – The Smartest Document Editor Ever, integrates advanced AI features for enhanced document editing. It utilizes natural language processing (NLP) models for real-time grammar correction,

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predictive text, and content generation. The system also incorporates offline speech-to-text functionality for hands-free editing. By using machine learning models, it ensures privacy and data security without relying on cloud services. This hybrid model combines lightweight algorithms for grammar corrections with deep learning for intelligent content suggestions, sentence restructuring, and multilingual translation. Operating entirely offline, it offers efficient and secure editing without requiring an internet connection.

V. IMPLEMENTATION

The process begins with the user inputting text through typing or voice dictation. After preprocessing, offline natural language processing models analyze the text for grammar, spelling, and sentence structure. Machine learning algorithms are then used to provide real-time suggestions for text improvement, including predictive text and multilingual translation. Finally, the edited document is saved securely offline, ensuring complete privacy and data security.

VI.MODULES

- **Text Editing & Formatting** Rich text interface with autosave, word count, and font customization.
- Grammar & Spell Checking Uses LanguageTool, SymSpell, TextBlob, and Autocorrect to identify and correct mistakes.
- Voice Typing (Speech to Text) Real-time transcription using Vosk and SoundDevice libraries.
- Multilingual Translation
 Uses Deep Translator to translate text into 30+languages.
- Audio/Video Transcription
 Whisper-based transcription of spoken content in audio/video files.
- File Encryption & Password Protection Protects files using AES encryption with password setup and recovery.
- AI Content Generation Integrates Ollama's LLaMA3 for contextual AI-powered writing

VII.ALGORITHMS

- **Text Formatting**: Applies font settings and themes via UI menus.
- Live Spell Correction: Dynamically fetches suggestions for last typed word.
- Grammar Analysis: Detects grammar issues, underlines them, and shows suggestions.
- Voice-to-Text Conversion: Streams microphone input into real-time text using KaldiRecognizer.
- AI Text Generation: Sends current content to LLaMA3 and appends the generated result to the document.
- Secure Storage: Uses PBKDF2 + AES (CFB mode) for password-based encryption and decryption of files.
- **Transcription Recognition:** Uses **Whisper** model to transcribe speech from selected media files.
- Format Conversion: Converts editor text into various structured file formats (e.g., .docx, .pdf, .html).
- Auto-Save Engine: Stores snapshots of the document every 10 seconds.

VIII.SYSTEM ARCHITECTURE



IARJSET

386



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IX.DATAFLOW DIAGRAM



X.RESULT AND ANALYSIS



Fig 1: AI Content Generation



Fig 2: Saving Files in Any Format



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Fig 3: Sentence Restructuring

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Fig 4: Live Word Suggestion Feature

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Fig 5: Language Translation

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Fig 6: Saving File With Encryption

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Fig 7: Real Time Voice Conversion

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Fig 8: Audio/Video Transcription

XI.CONCLUSION

TextCraft AI simplifies and smartens the way we edit documents using powerful AI features like real-time suggestions, voice-to-text, and secure file handling. With the support of deep learning, it offers fast, accurate, and user-friendly editing. As AI continues to grow, TextCraft AI is ready to lead the future of smart document editing.

XII.FUTURE SCOPE

TextCraft AI will evolve with features like multilingual voice translation, voice-based file control, and mood-based theme changes to create a more personalized experience. It will also include emotion-aware typing help, real-time collaboration, and e-signature with PDF editing, making it a complete, smart document solution.

These innovations aim to boost both productivity and user comfort, turning editing into an enjoyable experience.

REFERENCES

- [1]. Chen et al., "A Survey of Audio-to- Text Conversion Techniques for Real-Time Applications," *IEEE Transactions on Audio, Speech, and Language Processing*, 2020.
- [2]. Dong et al., "Speech-to-Text Models: A Survey," IEEE Access, 2020.
- [3]. Johnson et al., "Deep Learning Models for Real-Time Language Translation," Proceedings of ACL, 2020.
- [4]. Zhang et al., "Auto-Save and Document History Management for Collaborative Writing," *Journal of Computer Science and Technology*, 2018.
- [5]. Kumar et al., "Password Protection and Encryption for Document Security," *International Journal of Information Security*, 2018.

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