RESEARCH ARTICLE | SEPTEMBER 05 2023

Text interpreter & converter

Madhavi Karanam; Sai Sumanth Kandagatla; Bharath Kumar Ippa; Sai Saketh Reddy Chirra; Trinetra Mopidevi

— Author & Article Information

b) Corresponding author: k.saisumanth95@gmail.com

a) bmadhaviranjan@yahoo.com

c) bharathippa02@gmail.com

d) sakethreddysai04@gmail.com

e) mopidevi.trinetra@gmail.com

AIP Conf. Proc. 2754, 110004 (2023)

https://doi.org/10.1063/5.0169347

With the exponential growth in data, it is essential to analyse it. The data is a valuable source of information and knowledge that should be effectively interpreted to be helpful. The data should be interpreted in different forms based on the user requirements to get precise information and knowledge. Nowadays smartphones are the most commonly used electronic device. A smartphone is not only a communication device, it is also a powerful computing device. So it is possible to apply translation, text extraction, summary, and much more techniques, which require much computational work. This paper presents an application to analyse the text from documents on smartphones. However, it is challenging to interpret the documents on smartphones. The proposed application converts the documents or images to searchable and editable digital text, and further, it can be used to analyse them into different forms. The objective of this application is four-fold 1) To recognize text from documents or images by using optical Character Recognition 2) Summarization of the text 3) Translate the extracted text to different languages 4) Generation of speech from the text by using a text-to-speech algorithm.

Topics

Speech communication, **Electronic devices**, **Knowledge**

REFERENCES

1. "*Android 0CR Application Based on Tesseract*", Codeproject.com, 2022. [Online]. Available: https://www.codeproject.com/Articles/1275580/Android-OCR-Application-Based-on-Tesseract.

2. "Automatic Text Summarization Using TextRank Algorithm", *Analytics Vidhya*, 2022. [Online]. Available: https://www.analyticsvidhya.com/blog/2018/11/introduction-text-summarization-textrank-python.

3. "Translation I ML Kit I Google Developers", *Google Developers*, 2022. [Online]. Available: https://developers.google.com/ml-kit/language/translation.

4. "TextToSpeech I Android Developers", *Android Developers*, 2022. [Online]. Available: https://developer.android.com/reference/android/speech/tts/TextToSpeech.

5. S. Dome and A. P. Sathe, "Optical Charater Recognition using Tesseract and Classification," in 2021 International Conference on Emerging Smart Computing and Informatics (ESCI) (2021), pp. 153–158.
Google Scholar Crossref

6. S. Pattnaik, S. R. Laha, B. K. Pattanayak and B. C. Pattanaik, "A Framework to Detect Digital Text Using Android Based Smartphone," in 2021 1st Odisha International Conference on Electrical Power Engineering, Communication and Computing Technology (ODICON), (2021) pp. 1–6.
Google Scholar Crossref

7. S. Revathy and S. Nath, "Android Live Text Recognition and Translation Application using Tesseract," in 2020 4th International Conference on Intelligent Computing and Control Systems (ICICCS) (2020), pp. 1259–1263.
Google Scholar Crossref

8. Ravindra Bandal, Adesh Jadhav, Vitthal Kale., 2014, *International Journal of Engineering Research & Technology* 3.1, (January 2014).

9. J. N. Madhuri and R. Ganesh Kumar, "Extractive Text Summarization Using Sentence Ranking," in 2019 International Conference on Data Science and Communication (IconDSC), (2019), pp. 1–3.
Google Scholar Crossref

10. Ahuja, D., Amesar, J., Gurav, A., Sachdev, S., & Zope, V. *International Journal of Innovative Research in Science, Engineering and Technology*, 7(1), (2018), pp. 176–179.

11. Zaki, Muhammad & Zai, Sammer & Ansari, Muhammad & Zaki, Urooba. *Journal of Theoretical and Applied Information Technology*, 97. (2019), pp. 2485–2496.

12. Sagar Patil, et al *International Journal of Engineering Research and Technology (IJERT).*, 5.4, (2016), pp. 85–87.