



Sofia University „St. Kliment Ohridski”

Faculty of Mathematics and Informatics

Department „Software technologies”



SUMMARY

of graduation work

Subject: System for synthesis and visualization of text from wide variety of sources (Ultimate Speaker)

Student: Asen Georgiev Asenov, f.n. M24072, subject „Distributed Systems and Mobile Technologies“

Instructor: Assoc. Prof. Milen Petrov, Ph. D., FMI, Department „Software technologies“

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Keywords: *HTTPS, WAV, PPT, PPTX, Apache Tika, Elasticsearch, Restlet, SQLite.*

Annotation:

The graduation work represent web based, platform independent system, giving opportunity to transform wide variety of text files into reading. Presentation documents are transformed into online based presentations with embedded sound. The system works with user accounts, where registration and using is entirely free of charge.

The program architecture is client-server, where communication between the components is protected with secure channel, using *HTTPS*. Users use the client part to communicate with the server, and to explore system functionality. The server part provide access to the clients, by web services, which are well documented to facilitate the use.

Main functionality, that are provided by the system, can be summarized as follows:

- Reading of *HTML, TXT, PDF, DOC* and many other file types, generating and playing audio recordings (*WAV*).
- Decipher *PPT, PPTX* presentations and visualize them in web based presenter, with embedded slides reading.
- Adding file ratings.
- Enable searching in uploaded files name and content.

- Maintain user accounts, allowing registration, log in, log out, file sharing, custom settings.

The system use few third party libraries and resources. For file content extraction is used *Apache Tika*. For searching in extracted text is used *Elasticsearch*. Web services are developed using *Restlet* platform. Used database is *SQLite*.

The graduation work successfully combine all third party libraries and platforms used, extend and refine them, to accomplish the goal for maximum user satisfaction. The system can be successfully used from education institutions, disabled people and regular users. Architecture used facilitate adoption from other systems and extension, and this way further increase the possibility of use of the program.