

ReadME – Your Personal Writing Assistant

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Topic and domain. *ReadME* (Toma, Cotet, Dascalu, & Trausan-Matu, 2019a, 2019b) is an online interactive application created to improve the quality of users' writing. The application is designed for Romanian language but supports also English and can easily be extended to other languages. The evaluated texts are diverse and vary from essays to magazine texts, or blogs.

Pedagogical activity. *ReadME* blends the features of an Automated Writing Evaluation (AWE) system and a Learning Management System (LMS). As an AWE system, *ReadME* provides scoring and generates personalized feedback for each user uploaded essay. The personalized feedback is generated in a modern-looking interface, on different levels: diacritics (for Romanian language), morphology, syntax, and semantics. From an LMS perspective, *ReadME* offers three types of users: administrator, mentor, and trainee. Each type of user has a particular set of permissions and roles in the application. For example, the administrator oversees user management, mentors supervise the learning process (add and check homework, manages trainee lists) and trainees upload the essays and go through the feedback pipeline.

Collected data. Two corpora were assembled for follow-up experiments: one for training the regression models used by the scoring component, and one for calculating the benchmark values required by the feedback system. The first corpus consists of essays available online on two platforms – clopotel.ro and ereferat.org. These websites provide, free of charge, the full text of the essays written in Romanian, together with a mean user score. The second corpus represents a collection of freely available plain texts extracted from several online resources.

Instrumentation and evaluation. The *ReadME* system is available online as a beta version and is accepting feedback and feature suggestions from all users.

Implementation details. Scoring is performed using the textual complexity indices provided by the ReaderBench framework, calibrated either for Romanian, or for English. Several regression models were evaluated in terms of essay scoring accuracy, out of which Gradient Boosting Regression was selected based on its performance ($R^2 = .42$, MAE = 1.10 on a 10-point scale).

Novel technologies. *ReadME* uses Java 11, MySQL and Elasticsearch for managing users and texts, Python for machine learning and Angular 7 for the graphical interface.

Availability. *ReadME* is available online at <https://readme-ai.ro/>.

The screenshot displays the ReadME web application interface. On the left, there is a sidebar with navigation options: 'Pagina Principală', 'Descriere', 'Obiective', 'Publicații', 'Caracteristici', and 'Abonament'. The main content area is titled 'Scrie eseul tău aici' and contains a sample text about Single Page Application (SPA). The text discusses the logic of business problems, the structure of monoliths, and the benefits of SPA. On the right side, there is a 'Satisfacător' (Satisfactory) status indicator and a 'Nivel de feedback' (Feedback Level) section with 'Micro' and 'Macro' options. Below this, there are three feedback sections: 'Diversitatea conceptelor' (Concept Diversity), 'Diversitate lexicală' (Lexical Diversity), and 'Complexitatea cuvintelor' (Word Complexity). Each section provides a score and a brief explanation. At the bottom right, there are buttons for 'PROPOZIȚIE' (Sentence), 'PARAGRAF' (Paragraph), and 'DOCUMENT' (Document), along with a 'Hartă concepte' (Concept Map) button.

Toma, I., Cotet, T.-M., Dascalu, M., & Trausan-Matu, S. (2019a). ReadME – A System for Automated Writing Evaluation and Learning Management. *International Journal of User-System Interaction*, 12(2), 99–119.

Toma, I., Cotet, T.-M., Dascalu, M., & Trausan-Matu, S. (2019b). ReadME – Your Personal Writing Assistant. In M. Scheffel, J. Broisin, V. Pammer-Schindler, A. Ioannou & J. Schneider (Eds.), *14th European Conference on Technology Enhanced Learning (EC-TEL 2019)* (pp. 751–755). Delft, Netherlands: Springer.