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COMPUTER MODELING SYSTEM FOR TEACHING ENGLISH FOR SPECIAL PURPOSES

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English for special purposes (ESP) assumes an orientation toward the learner and a profile learning process. Almost every professional activity nowadays involves the use of computer programming tools, mathematical methods, computer simulation and visualization. Computer algebra systems can be applied to implement teaching English for special purposes of developing computer and subject-based competencies. The universality of current symbol modeling in computer algebra systems (Maple, Sage, Maxima, Reduce, etc.) is substantiated in the epistemological NKS-paradigm [2]. Linguistics, that is one of the most promising areas for the successful advancement of symbolic computation, should rely on developments of computational algebra: computer programming tools, such as CAS Mathematica, the Wolfram programming language [6], Wolfram|Alpha [3], CDF (Computable Document Format) [1], and Wolfram Programming Cloud [7]. Files in the CDF format can be inserted into web pages and viewed directly in a browser as full-screen documents, their contents are updated when interacting with the user's graphic elements. Free CDF-Player contains Mathematica runtime library, the contents of the document may be generated in response to a user action by means

of any algorithms or visualizing functions [4]. This makes CDF convenient to visualize material operating with volumes of diverse data, including linguistic data. CAS Mathematica is simple to learn and makes it possible to visualize the results of language data processing in the form of a broad set of multimedia models (graphics, sound, animation, interactivity, etc.). Dozens of samples to create interactive models based on symbolic computation of various aspects of linguistic data which cover almost all areas of teaching English for special purposes are presented and available on the Internet [5].

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