The ABBYY Lingvo Platform as a convenient tool for end users and a comprehensive solution for publishers

Vera Kuzmina

Strategic Partnership Development Group ABBYY Headquarters[1]

Current paper is devoted to ABBYY Lingvo electronic dictionary, which is not only a dictionary software, but a family of software products, jointly termed the ABBYY Lingvo Platform. The ABBYY Lingvo Platform includes a range of dictionary software components, which are aimed at meeting same dictionary users' needs – finding an appropriate translation to the word in the given context. The software parts of ABBYY Lingvo Platform are available in different technological realization and for different usage scenarios: as a mobile software, a software for desktop computers or laptops, and as a client-server software made both for professional translators and language learning beginners. The components of ABBYY Lingvo Platform are: ABBYY Lingvo Desktop, ABBYY Lingvo Mobile, ABBYY Lingvo Server, and ABBYY Lingvo Content dictionary writing system. These products operate as well as in connection with each other through ABBYY data centre and independently from each other, for example when the internet connection is unavailable. The applications enable quick and easy access to the dictionary and reference content provided by dictionary publishers, other content providers and also to the content created by the dictionary users themselves. The main needs of dictionary users are covered, such as the ability to use dictionary content stored on different media (online, desktop and mobile), convenient tools for its usage – wide range of search and lookup capabilities together with user-friendly interface, and the possibility to use dictionary content from different content providers in one format and in the same software 'shell'. We believe that the ABBYY Lingvo Platform will cover the main market needs and help end users to get answer to their questions and give new ideas to content providers how to manage the content.

1. Introduction

The ABBYY Lingvo Platform includes a range of dictionary software components, which are aimed at meeting same dictionary users' needs – finding an appropriate translation to the word in the given context. The software parts of ABBYY Lingvo Platform are available in different technological realization and for different usage scenarios: as a mobile software, a software for desktop computers or laptops, and as a client-server software made both for professional translators and language learning beginners. The components of ABBYY Lingvo Platform are: ABBYY Lingvo Desktop, ABBYY Lingvo Mobile, ABBYY Lingvo Server, and ABBYY Lingvo Content dictionary writing system. These products operate as well as in connection with each other through ABBYY data centre and independently from each other, for example when the internet connection is unavailable. The applications enable quick and easy access to the dictionary and reference content provided by dictionary publishers, other content providers and also to the content created by the dictionary users themselves. The main needs of dictionary users are covered, such as the ability to use dictionary content stored on different media (online, desktop and mobile), convenient tools for its usage – wide range of search and lookup capabilities together with user-friendly interface, and the last but not the least, the

---

[1] ABBYY is a world-leading developer of optical character recognition, text processing, and language software. It was founded in Moscow in 1989 and was originally focused on English-Russian electronic dictionaries. ABBYY Lingvo was the company's first product. Since then, ABBYY Lingvo has considerably evolved, with significant improvements made to each new version. Now ABBYY Lingvo is available as a desktop software, as mobile electronic dictionary and for online and intranet, these applications including ABBYY Lingvo Content dictionary writing system make up a comprehensive solution of ABBYY Lingvo Platform. Now the company has a 20-year history of developing software products and conducting research in linguistics, semantics, syntax, morphology and lexicography (http://www.abbyy.com).

possibility to use dictionary content from different content providers in one format and in the same software "shell". Each type of software has a specially developed interface and usage possibilities, which are crucially important for dictionary users on electronic media, similar to the way of dictionary content structure, which should be different for paper dictionaries and mobile dictionary application users (mentioned in Spohr (2008) and in Atkins and Rundell (2008: 23). At the same time, the ABBYY Lingvo Platform is intended to help publishers and individual authors to manage, publish, and distribute dictionary and reference content digitally by using dictionary making tools ABBYY Lingvo Content and other software components as one coherent solution.

2. Accessing dictionary content with ABBYY Lingvo Desktop

ABBYY Lingvo dictionary software for desktop computers combines powerful look-up capabilities, and intuitive interface and dictionary content, in a single software application. It has an integrated morphology engine and a sophisticated full-text search facility. According to ABBYY's own research, 7 million people use ABBYY Lingvo dictionaries worldwide.

Throughout the 20 years of developing ABBYY Lingvo, ABBYY has been paying a lot of attention to the product's ease of use and graphical interface, striving to cover as many usage scenarios as possible: checking translations, finding appropriate translation equivalents, looking up the meaning of a word in a particular subject domain, checking spelling, learning new words, and even enjoying oneself while browsing the dictionaries. The full-text search facility, which can be launched automatically, helps users find real usage examples, collocations, or typical word combinations shown in their context. Searches are carried out in the following entry sections: headwords, translation equivalents, examples, and comments.

ABBYY Lingvo can be integrated with Microsoft Word, Outlook, and Internet Explorer (from which it can be launched by pressing a combination of hot keys) and with other Windows applications, allowing users to look up unfamiliar words by hovering the mouse cursor over them.

ABBYY Lingvo aims at integrating monolingual and bilingual content and reference materials, for example encyclopaedias, thematic dictionaries, glossaries, and guides collected from various publishers, including Oxford University Press, HarperCollins Publishers, and other well-known publishing houses. The single-window view enables the end user to create their own user profile and a unique combination of dictionaries in one software shell according to the user specific needs and skills; such kinds of 'customizability' and 'personalizability' are important and useful for dictionary users and represent the personalized approach to each user individually (as mentioned in Atkins and Rundell 2008: 239, 245), thus helping first of all create own dictionary and reference content library of different sources in one application. For each dictionary source, the appropriate copyright notices and date of publication are indicated. Additionally, the user can look up a word or its translation in Wikipedia or by sending a query to an Internet search engine directly from ABBYY Lingvo with just one mouse-click.

ABBYY Lingvo's integrated morphology module for about 40 languages offers a whole range of useful options for end users. For example, users can verify inflected word forms, look up words in "non-dictionary" form, or find words even if they are not sure how to spell them.

ABBYY's morphology specialists have also developed a method of translating German composite words into languages that do not have composite forms.

All these additional options of electronic media such as inflection form table for each word, giving audio sound to word entries, context example search within search engines and other are representing the advantages for dictionary users of modern electronic media (Atkins and Rundell 2008: 238-246).

3. Surfing dictionary content online with ABBYY Lingvo Server

ABBYY Lingvo Server is a cloud-ready technology for making online dictionary and intranet dictionary solutions. ABBYY Lingvo Server is located on a Web server and enables easy and comfortable access to dictionary and reference content directly in a browser regardless if it is a www or closed intranet. Examples of practical implementations of ABBYY Lingvo Server are the Lingvo Online dictionary available at http://www.abbyyonline.com (see Fig.1) and http://www.abbyyonline.ru, and the online Lingvo dictionaries available on various third-party websites, for example: http://lingvo.yandex.ru, which has 3 million users per month.

ABBYY Lingvo Server has built-in morphology support same as in the desktop, and its multi-threading full-text search feature can quickly search the entire content of dictionaries of any size, allowing users to look up words in any inflected form. Information from all available dictionaries is retrieved immediately, providing dictionary users with usage examples, synonyms, antonyms, idioms, and phrasal verbs related to the search term. The system offers spelling suggestions for misspelled queries. These technical specification is a revolutionary implementation in online dictionary content representation, because many online portals support dictionary browsing, but not sophisticated search possibilities (as mentioned in Heid 2009). Most of the online functionality is the same as in the desktop version of ABBYY Lingvo. Other useful features include XML entry structure, word-by-word translation, word forms, and audio pronunciations directly on the website.

The ABBYY Lingvo Server technology makes it possible to run and control promotions on the website running online dictionary. This feature is useful for dictionary publishers, who can easily manage presentation of the content thank to the digital marketing model built inside the technology. Any type of dictionary view is possible on the website: free lookup, trial lookup, restricted lookup, closed lookup or subscription-based payable lookup. So different types of promotions and advertising
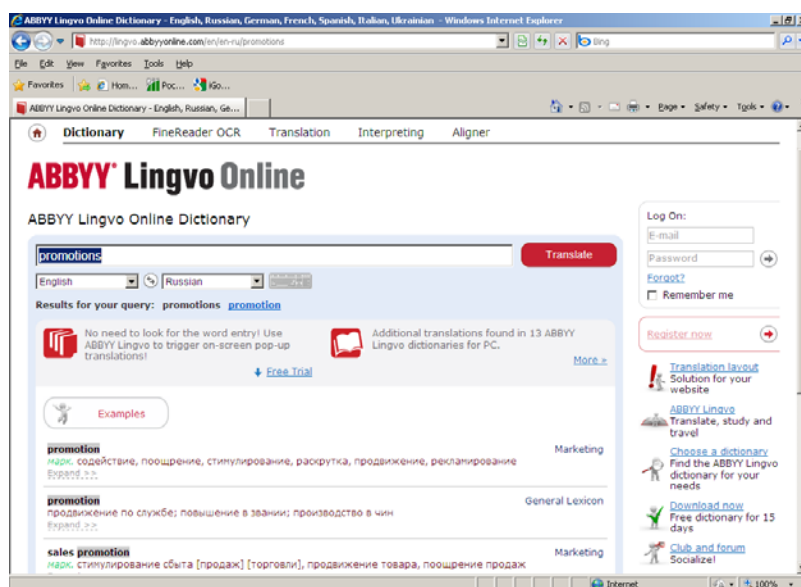

Figure 1. ABBYY Lingvo Server example

are supported, including picture banners, text banners, and targeted offerings of high quality dictionary content stored on the data centre.

In combination with ABBYY Lingvo Content dictionary making system the server solution is an easy way to make a live dictionary project which can be pre-moderated. ABBYY Lingvo Content allows working with dictionaries on different stages of their creation, as well as managing workflow and lexicographers work (Kuzmina and Rylova 2009).

4. Accessing dictionary content through mobile devices

The usage of dictionary content on mobile handheld devices differs from the using the same content in paper or on a desktop computer (Piotrowski 2009). The scenario and the aim of dictionary usage on mobile are not the same, that is why ABBYY developed three independent mobile applications to access dictionary content on mobile devices according to specific usage needs: quick translation without input of foreign words (ABBYY FotoTranslate), look-up in a mobile dictionary (ABBYY Lingvo Mobile), and learning foreign words (ABBYY Lingvo Tutor).

ABBYY FotoTranslate is a unique combination of ABBYY's optical character recognition (OCR) technology and mobile dictionary software. This product allows users to translate words by simply photographing them with the built-in camera of their mobile device. The program automatically recognizes the photographed word, looks it up in the dictionary, and shows the definition or translation on the smartphone screen. (see Fig. 2) With this application, the user can translate words without typing them manually, without opening a separate dictionary application, and without the need to establish an Internet connection.

Figure 2. ABBYY FotoTranslate

ABBYY Lingvo Mobile is electronic dictionary software for mobile devices with a wide range of possibilities and an intuitive interface. The software includes the possibility to customize dictionary entry view, which is convenient for users of mobile devices with smaller screens. Audio files with recorded pronunciations of words and phrases can be loaded into the application, which makes ABBYY Lingvo Mobile a useful tool for learning words and improving one's speech skills.

ABBYY Lingvo Tutor for mobile devices is an application for memorizing words. It offers several exercises to help users to memorize new words. Users can create their own vocabularies to learn. Lingvo Tutor is an excellent way to memorize foreign words even when one is away from a desktop computer.

The mobile products can be installed on the main mobile operating systems: Symbian, Windows Mobile, and iPhone. A lot of attention has been paid to the usability and user-
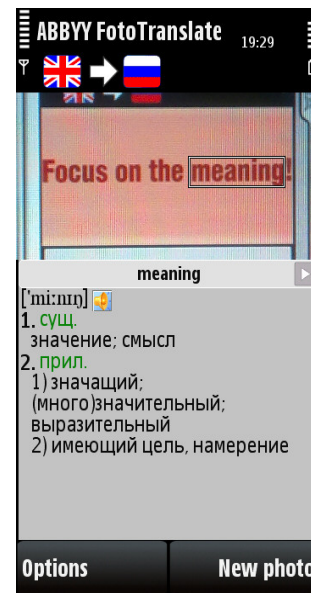
friendliness of the interface, as it is a key factor for end users and publishers. For this reason FotoTranslate, Lingvo Mobile, and Tutor Mobile have been released as three independent applications.

Another reason of creating independent applications is to differentiate dictionary and reference content in accordance with the needs of target audiences. From the publishers' perspective, it is an additional way of meeting multiple user needs by using the same dictionary content in different media.

5. ABBYY Lingvo Platform: accessing dictionaries though the ABBYY data centre

The above described software applications and solutions for desktop computers, mobile devices, online, and intranet are based on a client-server architecture, which means that they can work online being connected to ABBYY data center, but they also can be used offline and work as completely independent applications without having to connect to the data centre. The unique feature of the ABBYY Lingvo Platform is the ability to make promotions and distribute dictionary and reference content through desktop, mobile, and online dictionary applications, without any additional effort on the part of the publisher. The idea is that while searching the word the user will be proposed to lookup this word in other sources, this is how the promotion will be targeted and the user will get an answer to the question, which is very important for such kind of distribution (Mechura 2008).

Figure 3. ABBYY Lingvo

This model works as follows: ABBYY Lingvo software (desktop, online, and mobile) connects to the data centre, where all the dictionary content is stored. This connection is organized in such a manner as to offer the content stored in the data centre to the user each time he/she enters a search term. Basic packs of desktop, mobile or Web products with predefined sets of dictionaries enables the users have access to high-quality premium dictionary and reference content (see Fig. 3).

Thus ABBYY Lingvo client-server dictionary software can be used to automatically give access to additional content to end users. ABBYY Lingvo software connects via the Internet to the data centre and retrieves information from various content sources. The requested reference data are transferred from the data centre directly to the end user, giving the publisher the opportunity to meet all customers' needs, depending on the actual query.

ABBYY Lingvo Content dictionary writing system can also be connected to the same data centre, making it is possible to immediately upload newly created or updated dictionary content into the Lingvo dictionary applications. This makes the publishers' digital business easier and helps them keep their dictionary and reference content up-to-date, making their proposal competitive, up-to-date, and targeted.
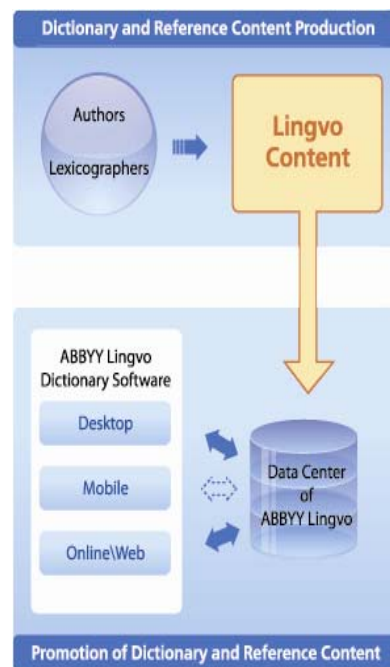
6. Conclusion

To conclude, I would like to outline that the user can choose the Platform for creating his own library of different content and combine them in one application on any media he needs. The end users are looking for the most simple and easy-to-use solution: look-ups in a dictionary or other reference books, learning new words, or finding the meanings of words in a foreign language. That is why ABBYY has developed many different and targeted software products. At the same time, ABBYY Lingvo is only a "shell" for content coming from the publishers, and now it is possible to deliver various types of content in many different ways and combine the shell for its representation.

In this paper, I have attempted to describe the ABBYY Lingvo Platform from the points of view of end users and publishers. Currently this model is successfully used within ABBYY Software House with dictionary and reference content which is either prepared by ABBYY lexicographers or is licensed from ABBYY partners.

The current situation in the area of dictionary and reference content oversees more and more new ideas and technologies. And we believe that the ABBYY Lingvo Platform will cover the main market needs and help end users to get answer to their questions and give new ideas to content providers how to manage the content. Whereas end users, including lexicographers, terminologists, translators, interpreters, and language learners, will get a simple to use, but sophisticated solution for accessing dictionary content on their PCs, mobile devices, and online.

References

Atkins, S and Michael Rundell (2008). *The Oxford Guide to Practical Lexicography*. Oxford University Press Inc., New York.

Heid, U. (2009). 'Aspects of Lexical Description for Electronic Dictionaries'. In *Proceedings of eLexicography in the 21st century: New challenges, new applications*. Louvain-la-Neuve. 1-3

Kuzmina, V. and A. Rylova (2009). 'The ABBYY Lingvo Electronic Dictionary and the ABBYY Lingvo Content Dictionary Writing System as Lexicographic Tools'. In *Proceedings of eLexicography in the 21st century: New challenges, new applications*. Louvain-la-Neuve. 131-133.

Mechura, M.B. (2008). 'Giving Them What They Want: Search Strategies for Electronic Dictionaries'. In *Proceedings of XIII EURALEX International Congres*s, (CD-ROM). Barcelona.

Piotrowski, T. (2009). 'Mobile Dictionaries: Situations of Use'. In *Proceedings of eLexicography in the 21st century: New challenges, new applications*. Louvain-la-Neuve. 181-182.

Spohr, D. (2008). 'Requirements for the Design of Electronic Dictionaries and a Proposal for their Formalisation'. In *Proceedings of XIII EURALEX International Congress*. Barcelona. 617-629.

http://www.abbyy.com
http://www.abbyyonline.com
http://www.abbyyonline.ru
http://www.lingvo.com
http://www.lingvo.ru