

ABBYY Mobile OCR SDK 3.0



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Overview

ABBYY Mobile OCR Engine is an award-winning software development kit (SDK) for creating small-footprint optical character recognition (OCR) and business card recognition (BCR) applications. Based on ABBYY's widely renowned OCR technology, the SDK delivers highly accurate and fast text recognition combined with low requirements for hardware resources. ABBYY Mobile OCR Engine is the ideal solution for mobile application developers enabling them to increase the efficiency, expand functionality and application areas of their products.

Who Uses ABBYY Mobile OCR Engine

With the ABBYY's SDK, mobile software and hardware developers, manufacturers of scanning and image processing devices, and developers of «instant» PC applications can create high-quality OCR and BCR applications and add value to their software solutions and mobile devices.

What Does ABBYY Mobile OCR Engine Do?

Mobile OCR Engine provides powerful development tools for creating small-footprint applications with integrated OCR functions. The OCR technology transforms images of text and documents into editable and searchable text which can be stored, edited, or sent via email or SMS. With integrated OCR functions, mobile applications can accurately convert notes, business cards, clippings from magazines and books, menus, receipts and other documents captured with a digital camera into useful and manageable data.

Key Benefits

- **Innovative compact code OCR technology** — Combines powerful recognition functions and unmatched accuracy with small software footprint. This compact code OCR technology is capable to operate in strictly limited conditions like low memory, particular operational system or non-standard processor type. This makes it ideal for embedding into mobile phones, small handheld devices and portable imaging solutions.
- **Support for multiple platforms** — ABBYY Mobile OCR Engine 3.0 can be used in applications for various platforms (both mobile and PC-based): popular and commonly used OS like Windows Mobile or Symbian, as well as rarely used or new OS like iPhone, Android or Linux. Porting to other platforms is also possible.
- **Creation of truly international solutions** — The product supports text recognition in 58 languages enabling developers to create multilingual OCR applications or integrate the technology into their own international applications.
- **Powerful business card reading capabilities** — Mobile OCR Engine allows creation of unique products for business audience with a special module for business card recognition.
- **Creation of wide range of applications** — The SDK enables developers to create a wide range of smart, easy-to-integrate mobile applications, from simple end user programs to complex business solutions.
- **Integration into various portable devices** — The SDK enables mobile hardware manufactures to expand the functionality of their products, be it devices based on popular and commonly used OS such as Windows Mobile or Symbian, or devices with rarely used OS such as iPhone, Android or Linux. It also allows mobile application developers to expand their business by entering new device markets: small memory size devices, devices based on various mobile platforms, portable scanning devices and so on.



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Key features

High Accuracy of Text Recognition

ABBYY Mobile OCR Engine's innovative technology ensures the best recognition results for images captured with camera phones, digital cameras and portable scanners:

- ABBYY Mobile OCR Engine **is based on ABBYY's world-renowned OCR technology**, which provides high quality and accuracy of mobile recognition of images.
- The product includes an **automated image skew correction function. *New!*** Taking photographs with a mobile device camera or scanning images with a portable scanner on-the-run, image skews occur fairly often, which has a negative impact on the recognition quality. ABBYY Mobile OCR Engine 3.0 allows detection and correction of skews within one degree of precision, which results in a significant improvement of the quality and accuracy of mobile OCR.
- **Improved Data Analysis Algorithm *New!*** Thanks to the new image processing algorithm, Data Analysis discards all the unnecessary information in the image and thus provides more accurate recognition on mobile devices.
- **Spell checking** during text recognition also considerably improves the quality of the output text.

Low Resource Requirements

The ABBYY Mobile OCR Engine is a compact code OCR technology and is optimized to work with small memory size systems (mobile phones or portable scanners):

- **Enhanced memory management *New!*** The new algorithm for memory management allows the system to determine the exact memory size required to process an image. This eliminates the necessity to allocate significant memory segments in advance, which has an impact on the recognition speed and the application's capability to work reliably, ensuring efficiency and fast performance speed. The ABBYY Mobile OCR Engine's code is very compact, it occupies 2.5 MB of ROM and 2.5 MB of RAM (or more, depending on the desired functionality).

Support for Multiple Languages

ABBYY Mobile OCR Engine 3.0 provides **text recognition in 58 languages**, which enables developers to create international mobile applications:

- 20 languages with dictionary support:
Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Indonesian, Italian, Norwegian (both Bokmal, and Nynorsk), Polish, Portuguese, Portuguese Brazilian, Russian, Spanish, Swedish, Turkish, and Ukrainian.
- 38 additional languages with Latin, Cyrillic or Greek characters:
Afrikaans, Albanian, Basque, Breton, Byelorussian, Bulgarian, Catalan, Chechen, CrimeanTatar, Croatian, Fijian, Hawaiian, Hungarian, Icelandic, Irish, Kabardian, Latin, Latvian, Lithuanian, Macedonian, Malay, Maori, Mixed, Moldavian, Mongol, Ossetic, Provençal, Rhaeto Romanic, Romanian, Samoan, Serbian, Slovak, Slovenian, Swahili, Tagalog, Tatar, Welsh, and Yiddish.

Integration with any Mobile Platform *New!*

ABBYY Mobile OCR Engine 3.0 can be used in applications **for various platforms** (mobile and PC-based): Android, LINUX, ucLinux, Symbian, Windows Mobile, Windows. **The new version also supports iPhone OS.** Porting to other platforms is also possible.

New Data Analysis Algorithm *New!*

The new data analysis algorithm of ABBYY Mobile OCR Engine 3.0 allows faster text recognition and provides the output text in a format as close as possible to the format of the source document:

- **Preserving multi-column text**
In the previous versions of the SDK, text was recognized left to right top to bottom strictly, which resulted



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in placing all the recognized data into one linear massive. ABBYY Mobile OCR Engine 3.0 has a function called «Paragraph Assembly», thanks to which the new DA identifies text block borders and recognizes each block separately, recognizing text left to right and top to bottom only within a separate block, thus preserving the format of a multi-column text, paragraphs, and text segmenting.

- **Preserving Character Fonts**

ABBYY Mobile OCR Engine identifies the font properties of a source text, i.e. «bold type», «italic» or «underlined».

Capabilities of Business Card Recognition (BCR) **New!**

ABBYY Mobile OCR Engine 3.0 is more than a high-accuracy text recognition technology, it also makes it possible to process business card images taken with built-in phone cameras or portable scanners. This function allows retrieving information from business card images such as *first name, last name, position of the cardholder, various types of phone numbers, e-mail, company name, and Web site and postal address of the company.*

ABBYY BCR recognizes business cards in 16 languages: **New!**

- English
- Dutch - *New*
- Danish - *New*
- Indonesian
- Spanish
- Italian
- German
- Norwegian (Bokmål and Nynorsk) - *New*
- Portuguese (Brazilian) - *New*
- Portuguese
- Russian
- Turkish - *New*
- Ukrainian
- Finnish - *New*
- French
- Swedish - *New*

Two Recognition Modes

ABBYY Mobile OCR Engine provides a flexible technology that provides a capability **to change the settings depending on the task and quality of original images**. You can select one of the two mobile recognition modes:

- Fast mode for express recognition – it is most useful when the image is of good quality and allows cutting down the time required for its recognition and processing.
- Full mode – it is best for low-quality images, when more time is required to achieve the optimal result.

Solutions

ABBYY Mobile OCR Engine can be integrated into a variety of devices and applications providing the powerful text recognition functionality:

- **Mobile Devices with Digital Cameras**

Mobile software development companies or manufacturers of such devices as mobile phones, smart phones, communicators or PDA with built-in digital cameras, who strive to improve their functionality and emphasize their uniqueness in the market, can «teach» mobile devices to read by means of recognizing and processing photos in texts. Using the functionality of ABBYY Mobile OCR Engine, it is easy to develop applications that can be used to input text or business card information into phone books, send fragments of newspaper articles via e-mail or sms, or store them in text formats or as notes, in a calendar, notepad etc.

- **Scanning Devices**

Manufacturers of portable scanners or business card scanners, scanning pens, scanning translators and other devices will appreciate the high quality of text and business card recognition and low memory requirements of ABBYY Mobile OCR Engine. This award-winning mobile OCR technology can be built into



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these devices allowing them to recognize scanned text and process business cards with the help of a special BCR module.

- **Image Processing Devices**
Using the ABBYY Mobile OCR Engine technology, manufacturers of standard scanners, digital photo- and video cameras that want to add useful and compact programs to their equipment, can develop a compact and fast application that would instantly recognize text in an image and not waste time on processing illustrations, charts, and other graphical objects by skipping them while processing a document.
- **«Instant» text recognition applications for PC**
The text recognition capabilities can be integrated into various PC-based applications such as dictionaries, text reading applications, search systems, spam filters, and other applications for which there are strict performance speed and memory usage requirements. The compact code mobile OCR technology will provide the fast and accurate text recognition for these solutions.

Specifications

Development Environment

Can be used under any development environment for C/C++, C# and .NET, including Microsoft Visual Studio 2005.

Supported Operating Systems

The Mobile OCR Engine is cross-platform technology and supports the following operating systems:

- Android
- iPhone
- LINUX
- Symbian
- ucLinux
- Windows
- Windows Mobile
- propriety OSs for GSM and CDMA phone platforms

ABBYY offers professional services to port the software to other platforms and to customize the software for special tasks.

Memory

ABBYY Mobile OCR Engine is a compact code OCR solution and requires minimal resources:

- ROM: 2.5 – 3Mb for program installation plus 0.5-1 Mb per recognition language.
- RAM: 2.5 – 3Mb for program storage plus 0.5-1 Mb for each recognition language used; 1.5 – 5Mb for program operation; 1 – 3Mb for storing the input picture/image file.
- Exact memory requirements vary depending on the operating system and specific recognition tasks (e.g. multilingual recognition requires more memory).

Supported recognition languages

- ABBYY Mobile OCR Engine 2.6 provides **text recognition in 58 languages**
 - 20 languages with dictionary support: Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Indonesian, Italian, Norwegian (both Bokmal, and Nynorsk), Polish, Portuguese, Portuguese Brazilian, Russian, Spanish, Swedish, Turkish, Ukrainian
 - 38 additional languages with Latin, Cyrillic or Greek characters: Afrikaans, Albanian, Basque, Breton, Byelorussian, Bulgarian, Catalan, Chechen, CrimeanTatar, Croatian, Fijian, Hawaiian, Hungarian, Icelandic, Irish, Kabardian, Latin, Latvian, Lithuanian, Macedonian, Malay, Maori, Mixed, Moldavian, Mongol, Ossetic, Provencal, Rhaeto Romanic, Romanian, Samoan, Serbian, Slovak, Slovenian, Swahili, Tagalog, Tatar, Welsh, Yiddish
- **Business card recognition** module allows to recognize business cards in 16 languages: English, Dutch, Danish, Indonesian, Spanish, Italian, German, Norwegian (Bokmål and Nynorsk), Portuguese (Brazilian), Portuguese, Russian, Turkish, Ukrainian, Finnish, French, Swedish



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Licensing Policy

The use of ABBYY Mobile OCR SDK is governed by License Agreements for development and/or distribution. There are two types of licenses:

Developer Licenses

A Developer License grants developers the right to install ABBYY Mobile OCR SDK development tools for the purpose of creating their own software with integrated ABBYY Mobile OCR SDK parts. Developers do not have the right to transfer their licenses to third parties.

The Developer License is protected either by a USB protection key or by a software protection key.

Runtime Licenses

A Runtime License (RTL) allows the end user to use the ABBYY Mobile OCR SDK components as part of the application created by the developer. The developer must purchase RTLs from ABBYY and redistribute the licenses with the application which uses ABBYY FineReader Engine components.

RTLs differ in types and cost.

Please contact ABBYY Ukraine by e-mail engine@abbyy.ua to get a quotation for runtime licenses.

Trial Version

ABBYY offers a fully-functional trial version for developers interested in testing ABBYY FineReader Engine. The trial version is time-limited and will run for 60 days, allowing you to process only a certain number of pages. To use a trial version, you need to sign a Trial Software License Agreement. To receive a copy of the Trial Software License Agreement, please contact ABBYY Ukraine by e-mail engine@abbyy.ua or fill out the electronic form at www.abbyy.com.



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