INTEGRATED MOBILE DEVELOPMENT PLATFORM

Smartphone, Tablet, Mobile device
Android, iOS, Windows CE, UWP
All databases
Free deployment

MULTI-PLATFORM CODE:
Windows, .Net, Linux, Java, PHP, J2EE, Internet, Ajax, Android, UWP, iOS,...
WINDEV Mobile is fantastic for developing apps for Smartphones, Tablets, Industrial devices.

Thanks to WINDEV Mobile, you will develop native applications significantly faster.

Do you have existing WINDEV applications? You can retrieve them directly.

You can freely distribute your applications.

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CREATE NATIVE APPLICATIONS FOR ANY MOBILE DEVICE

WINDEV Mobile makes it easy to create native applications for all mobiles: smartphones, tablets and industrial terminals. And if you have existing WINDEV or WEBDEV code, you can reuse it.

DEVELOPMENT METHOD

A STANDALONE DEVELOPMENT ENVIRONMENT

The development method is similar, regardless of the target equipment and the operating system.

MOBILE-SPECIFIC FEATURES

WINDEV Mobile offers the most common development features and, of course, mobile-device-specific features such as: accelerometer, compass, GPS, 4G, SMS, bar codes, gestures...

Integrating the various connection technologies (Bluetooth, Wi-Fi, infrared, GPRS, 3G, 4G, replication, synchronization, etc.) with your company’s Information System is child’s play with WINDEV Mobile!

APPLICATION LIFECYCLE MANAGEMENT

WINDEV Mobile comes with all the tools needed to manage the entire application lifecycle: Window generator, 5GL, Debugger, Report Generator, Setup Generator but also UML Analysis Generator, Project Dashboard, Collaborative Source Code Manager, Programming Documentation Generator, Schedule Management,...

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PROGRAM IN 5GL: 90% LESS CODE

WLanguage, a 5th generation language, lets you develop faster than a traditional language. Its powerful functions make the code easier to write and read, simplifying both the development and the maintenance (see pages 14-15).

A mobile RAD even allows you to generate applications! (See page 10).

To discover the ease of use and the power of WLanguage, don’t hesitate to download the free Express version of WINDEV Mobile.

TOTAL OPENNESS

You can access the device’s APIs. If necessary, you can code very specific processes.

ARE YOU FAMILIAR WITH WINDEV?

You develop your way, in WLanguage, with the added benefit of a familiar environment and the possibility of re-using your existing code.

COMPATIBILITY WITH WINDEV APPLICATIONS

You have WINDEV applications? The compatibility between WINDEV and WINDEV Mobile is amazing: code, analyses, UML, classes, queries, controls! You can reuse and share most of the code, classes, queries and UI.

Database programming is identical. Given that the mobile screens are smaller, you just need to resize the WINDEV windows, and enlarge the buttons to easily tap on them... which is very easy! Thus, you re-use existing elements on mobiles.

YOUR APPLICATIONS ARE NATIVE & CROSS-PLATFORM

One single project (same code, same windows, same queries) allows you to compile a native application for Android, iOS, UWP, Windows CE. This same project also generates applications for Windows, Linux, and a dynamic website. This universal portability of your source code ensures the reusability of your company’s program history.

FREE EXPRESS VERSION

Download now!
PORTABILITY OF YOUR APPLICATIONS

WINDEV Mobile
Your code is multi-platform

ANDROID, IOS, WINDOWS UWP, WINDOWS CE
With WINDEV Mobile, one single project can be compiled for different mobile OS: IOS, Android, Windows, respecting their standards.

ANY TYPE OF MOBILE
Develop for any type of mobile: phones, smartphones, terminals, tablets, chromebooks,...

THE WINDOWS

THE "7 TABS": REVOLUTIONARY
Once the control is positioned, simply define its characteristics (required input, mask, graphic look, link with the database, anchor, etc.) using the "7 Tab" technology.

The interfaces you created always respect the style book you have chosen.
WINDEV Mobile comes with many skin templates, and you can also create your own (see page 13).

CREATE CONTROLS USING DRAG & DROP
Controls are created visually, by selecting the type of control from the ribbon and dropping it in the desired location inside the window.

THE POWERFUL VISUAL EDITOR FOR USER INTERFACE (WINDOWS AND CONTROLS)
First of all, note that the same window created with WINDEV Mobile works on all systems: IOS, Android, Windows, respecting their standards.
WINDEV Mobile offers the UI generator (User Interface: windows and their content) considered to be the most efficient in the world.
The assisted window construction is user friendly.
The WINDEV Mobile window generator enables you to create great-looking, user-friendly interfaces, quickly and without any specific skills.

TEST YOUR APPLICATIONS INSTANTLY
Clicking on the "GO" icon allows you to test the window and the application being developed, directly on the development computer.

CROSS-PLATFORM
Thanks to the Adaptive Design and the anchors, the windows of an application can be used on all devices and screen sizes.

ALL SCREEN RESOLUTIONS AND DPI
WINDEV Mobile supports all sizes, screen resolutions and DPIs. The portrait and landscape modes are supported.

WINDOW ANIMATIONS
Opening a window can be paired with an animation: right and left swipe, parallax, label flip, overlap, spin, zoom back/forward, scrolling panel, sweeps, rotating cube...

VERY POWERFUL CONTROLS
Controls allow you to create ergonomic windows, simply dragging and dropping them from the window editor.
In WINDEV Mobile, a control is a very powerful concept that saves hundreds of lines of code.
An edit control offers, without any programming, dozens of automatic features, input masks and security checks: mandatory input, convert to uppercase, allowed types of characters in input, direct link to the database,...

These features are defined from the window editor using the "7-tab" technology. They can also be modified by programming if necessary.

STYLE BOOK
A skin template defines the style book of an application. By default, the created controls adopt the characteristics of the current skin template, but can of course be modified.
The windows of an application must respect the standard of the devices on which they run.

For example, on Android, the application must have an "action bar" at the top of the windows.

On iOS, the application must have a navigation bar with a "Back" button.

WINDEV Mobile allows you to create windows that automatically comply with Android and iOS standards. No programming is required. When describing the window in the "7 tabs", simply define the common properties and those that are specific.

You edit and maintain one single window for both iOS and Android.

If there is one thing that varies among mobile devices is the size of their screens!

Even on the same mobile, there are 2 display options: portrait and landscape!

How to develop easily and only once for all these different modes?

It’s easy with the Adaptive Design feature in WINDEV Mobile.

The position of the controls often differs based on the device’s orientation. For example, in portrait mode texts are located below an image, but in landscape mode, they are located next to the image.

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You edit and maintain one single window for both iOS and Android.
VIEW AND CHECK YOUR WINDOWS ON ALL DEVICES: THE VIEW PANEL

Phones have different screen sizes and definitions. At any time, the view panel allows you to simulate the behavior of your windows (anchors and layouts) on a set of devices you have defined: iPhone X, iPhone 8, Samsung Galaxy S8, Google Pixel, iPad Pro, etc. You see the actual result on each device. The "panel" viewing mode allows you to make sure the interfaces fit the targeted devices:

- correctly positioned anchors
- management of landscape/portrait mode
- operating mode on screens with different resolutions
- checking layouts: proper dissolution of sizes, positions and anchors
- compatibility of fonts
-...

The viewing is performed in real time. Each device can be zoomed in. Clicking a device starts the "test" window (window Go) in order to test the behavior and navigation (UX).

MOBILE RAD: WONDERFUL WINDOWS

Need to quickly generate a Form Management from one or several data files of the analysis? That is what the RAD does! Tablets and phones do not have the same use mode. 2 types of RAD are proposed: a RAD for tablets, a RAD for phones. A single application can contain both windows for phones and windows for tablets: the appropriate window will be opened on the relevant device. The Window RAD offers 14 new templates, as well as a large number of pre-set windows.

MOBILE RAD FOR TABLETS

Several RAD templates for tablets are proposed. These templates are adapted to tablet screen sizes, as well as to their standard operating mode:

- Image + Read-only form
- Image + Editable form
- Image + Long text
- Editable form
- Form + Looper
- Image gallery
- Looper
- Multiline Zone
-...

THE CONTROLS

All types of mobile controls are available. Note that these controls are compatible with the applications and sites developed in WINDEV and WEBDEV.

Each control features dozens, even hundreds of automated features as well as integrated security.

The detailed features of each control are so rich that they take a few hundred pages of description!

To discover all the characteristics available for each control, we recommend trying the "7-tab" technology: a few clicks is all it takes to define controls and their granular and powerful characteristics.

The "7 tabs" technology

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STYLES

A style defines the characteristics of a control. Thanks to the notion of style, a control's look instantly respects the application's style book. A large number of styles are provided, and you can create your own.

Styles support inheritance. Among the many style parameters, you will find: character size and font, edit control background image, modification of the radio button and check box images, customization of the selection band for looper controls and list boxes, customization of the combo boxes display, support for simple and rounded borders, ...

CHECK BOX

The "Check Box" control allows you to make selections in a list.

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EDIT CONTROL

The "edit" control (input) is used for data entry and information display. The virtual keyboard comes up in edit mode if the device doesn't have a physical keyboard. Over 50 properties are available for edit controls: required input, data type, mask, alignment...

To discover all the properties available on each control, try WINDEV Mobile Express for free!

TOKEN EDIT CONTROL

The token "edit" control allows you to create modern interfaces: view choices, select options, ...

MOBILE RAD FOR PHONES

Several RAD templates for phones are available. These templates are adapted to phone screen sizes, as well as to their standard operating mode:

- Image + Read-only form
- Image + Editable form
- Image + Long text
- Editable form
- Form + Looper
- Image gallery
- Looper
- Multiline Zone
-...

The "Button" control lets you trigger an action. Like with all controls, this style is customizable: size, font, color, icon,...

The round buttons and the floating buttons are automatically generated.

THE VIEW PANEL

The panel is updated in real time in the editor: you can immediately see the results of your modifications.

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**COMBO BOX**
The “Combo Box” control is used to expand a list of choices in order for the user to choose one. When expanded by the user, a barrel may come up for the user to perform his or her selection.

**IMAGE**
The “Image” control lets you automatically display images and pictures. The photo can come from a database, be modified by programming...
The popular formats are supported: JPEG, PSD, PNG, PDF, SVG, BMP...
Different display modes are managed: homothetic, centered, 100%, ... Zooming and finger scrolling are also automatically managed.

**RATING CONTROL**
The “Rating” control lets you enter a rating preview. In addition to stars, several visual symbols are provided.

**SLIDER CONTROL**
The “Slider” control is available. A style can be applied to the slider.

**DASHBOARD CONTROL**
The “Dashboard” control automatically manages widgets. End users can arrange the widgets as they wish, delete them, resize them, ...

**HTML CONTROL**
The “HTML” control is used to display content in HTML format; the tags are interpreted, the links are automatically active. Ideal for presenting information. The HTML control can interact with WLanguage and Javascript.

**PERSISTENCE OF CONTROLS**
When the “persistence” option of the control is checked, the content of the control is stored between 2 starts of the application. This prevents the user from having to reenter a piece of information that comes back often.

**MANAGEMENT OF PLANES**
In the windows, it is possible to manage controls over multiple planes.

**CONTROL TEMPLATE : INHERITANCE**
The “control template” notion allows you to manage inheritance and to override code and properties for all the types of controls.

**SCHEDULE AND ORGANIZER**
The “Scheduler” control lets you easily manage schedules. You can literally manage tasks with one finger: create tasks, move them, ... same for organizers.

**LIST BOX**
The “List Box” control is used to display a list of information defined by the programming, sent by another process or read in a database.

**IMAGE GALLERY**
The “Image gallery” control allows you (without programming) to manage a set of images, how to cycle through them, how to display the selected image, etc.

**DATA SHEET**
The “Data sheet” control allows you to display and select dates or ranges of dates. The control supports gestures.

**INTERNAL WINDOW**
The “Internal Window” control allows you to display information from one window inside another window.

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THE PROGRAMMING LANGUAGE

WLAngage is also available in Chinese.

VARIABLES AND TYPES
Declaring variables is easy and intuitive.

Message is Email
CustomerArray is Array of Customers
WLLanguage offers all the types, including integer, boolean, currency, numeric, real number, character string...

THE STRING TYPE: POWERFUL
WLanage lets you manage different types of test such as ANSI, Unicode, UTF-8 or binary content thanks to the buffer string type. Conversions are automatically performed based on the functions or properties used.

Mag = UNICODE string
Mag = “Salut! ;你好 !”

OOP
The use of Object oriented programming (OOP) is optional with WINDEV Mobile.

The classes and the syntax of WLanguage allow for modern and efficient object-oriented programming.

Base class methods can be redefined visually from the project explorer; virtual methods are managed automatically.

Management of the instances' memory is automated in most cases, when allocating as well as when freeing memory.

SOAP & REST WEB SERVICES
Handling web services is very easy in WLanage.

The data handled by the web services appear as simple structures and the operations appear as simple procedures. JSOn is native.

MULTI-PLATFORM
Code written in WLanage is multi-platform: 32 or 64 bits, Android, iOS and UWP but also Windows, Linux, Java, Javascript, PHP…: an unrivalled advantage.

CONDITIONAL TARGET CODE
For a given process, the code editor lets you enter different lines of code depending on the runtime platform.

The correct code will be automatically compiled according to the target. Thus, a simple source code can contain platform-specific code: NFC, styus management...

CODE COVERAGE
The WINDEV Mobile code editor indicates the percentage of lines of code tested: code coverage.

Lines of code that have never been executed are listed in the code editor.

A VERY POWERFUL LANGUAGE
WLanage is rich and powerful. You can discover it via the "Express" version (free and without time limit) of WINDEV Mobile available for download at www.windev.com.

WSOAP REST WEB SERVICES

FUNCTION FAMILIES

Internal Window functions
Multiline Zone functions
Dates and times
Management of character strings
View table management
Mathematical functions
Action Bar management
Window management
Application testing is performed directly on the PC, thanks to a very powerful "simulation" mode.

A NATURAL LANGUAGE
WLanage is a programming language close to natural language. It is quick to learn. The code can be written quickly and it is easy to proofread. Codings and maintenance are therefore much easier to do.

Do you understand this code?
Yes, because WLanage is easy to read.

WLANGUAGE : 5TH GENERATION LANGUAGE

The integrated WINDEV Mobile language, WLanage, is powerful, simple and intuitive. It is a 5th generation cross-platform language (5GL): commands are powerful. A WLanage command can replace dozens or even hundreds of 4GL commands, making programming easier and more reliable.

EASE AND POWER: A NATURAL LANGUAGE

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TEST AND DEBUG

DIRECT DEBUGGING ON IPHONE/IPAD
In iOS, debugging can be done directly on the device; see page 25.

A POWERFUL DEBUGGER
The debugger offers advanced features: break points, resume, on the fly code modification, view variables' content... Bonus: the code editor can have a black background.

Beacon functions
Bluetooth LE functions
XML native functions
Clipboard
Project management
Socket functions (SSL, etc.)
System functions
Parallel Tasks, threads
Background tasks
Disks, files and directories
File archiving and compressing
ZIP, 7Z...
3-bar
Speech Synthesis functions
Voice recognition functions
Debugging functions
Array functions
Queue and Stack functions
Map functions
Facebook functions
Etc...

DISCOVER THE COMPLETE LIST OF WLanage commands on doc.windev.com

In addition to the traditional commands of a programming language (For, If Then Else, While, etc.) WLanage proposes 5th generation functions.

No need to constantly reinvent the wheel.
Details of these functions, as well as their syntax, are available on doc.windev.com.

These are the "Function families":
**MOBILE-SPECIFIC FEATURES**

**WLANGUAGE** : 90% LESS CODE
WINDEV Mobile uses 5th generation language : "WLanguage" (see previous pages).
All the usual features of a powerful programming language are available: variable declaration, assignment, loops, OOP, etc...

Easy to learn and very powerful, WLanguage saves precious time for development teams. Download the free Express version to discover WLanguage.

**ACCELEROMETER AND ORIENTATION SENSORS**
Some devices include an accelerometer and orientation sensors and can be controlled by the movements of the end user. The launches functions allow you to support this type of interface.

**COMPASS**
Some devices come with a built-in compass: WINDEV Mobile allows you to manage this compass in your applications.

**CUSTOMIZING THE VIRTUAL KEYBOARD**
The virtual keyboard comes up when needed if the device doesn't have a physical keyboard.
One button on this keyboard can be customized by your applications: key @,...

**WI-FI**
Wi-Fi support is very complete in WINDEV Mobile.
The Wi-Fi functions offer all the features required to manage Wi-Fi.

**BLUETOOTH**
Bluetooth support with WINDEV Mobile is also very complete.
The Bluetooth LE standard (for Low Energy), used mainly to manage connected devices (IoT), is supported.
BT functions offer many features, including:

- list of Bluetooth devices
- change in the phone's visibility
- accept connections
- get information about a device
-... (LOW ENERGY)

**CONNECTED OBJECTS**
THE BLUETOOTH OF IOT (INTERNET OF THINGS): is used to manage devices with low energy consumption.
The Bluetooth LE standard (for Low Energy) is used to manage devices with low energy consumption.
For example, a real estate agent can take pictures or record videos.
Video recording (then stopping it).
Photos and videos are supported.
The Camera control directly displays images captured by the phone camera.
What can be viewed can be saved (JPG and MPG formats, 3GP).
In addition to the powerful Multimedia control, some multimedia functions are available in WLanguage.

**ENABLE/DISABLE AN APPLICATION**
The application events Activation and Deactivation allow to define a process when the application is sent to the background or reactivated by the user.
This is used, for example, to refresh data automatically, or to request a password when the application is reactivated.

**SPASH SCREEN WHEN STARTING THE APPLICATION**
A splash screen can be automatically displayed when starting the application.
Several parameters can be used to customize the launching of the splash screen.

**CONTACT LIST ACCESS**
Reading, searching, creating, modifying and deleting contacts from the phone is managed by WLanguage through the Contact function family.
Your applications can therefore share information with the contacts. For example, your application can automatically add a contact into the list of contacts.

**ACTIVATION/NAVIGATION BAR**
To display a toast, simply use the ToastDisplay function.

Thanks to the WLanguage Toast functions, you can make the phone vibrate on demand.

**GESTURE & MULTI-TOUCH MANAGEMENT, 3D TOUCH...**
A mobile device is often touch-enabled: applications are at your finger tips.!
The applications developed with WINDEV Mobile recognize touch movements on the screen: scroll, pinch zoom,...
There are events to support these processes in your code: vertical or horizontal move with one or more fingers while keeping them in contact with the screen, small movement of one or more fingers on the screen, spreading or pinching on the screen.
Going from one window to another is now possible with a touch gesture.
The long press on a button or on an image is also supported.
On iOS, 3D Touch is supported.

**IoT (INTERNET OF THINGS): THE BLUETOOTH OF CONNECTED OBJECTS**
The Bluetooth LE standard (for Low Energy) is used to manage devices with low energy consumption.
For example, the application can add images to the phone album, or retrieve images by date from the photo album.

**MULTIMEDIA SUPPORT**
In addition to the powerful Multimedia control, some multimedia functions are available in WLanguage.

**SPEECH SYNTHESIS**
The SpeechSynthesia family of WLanguage functions lets your devices speak!
Simply pass a character string or a text file.

**SPEECH RECOGNITION**
Phones are also good listeners!
Simply talk to the function SpeechRecognizeText and the text that is spoken out is transformed into a string of characters!

**MQTT**
The MQTT (MQ Telemetry Transport) protocol is supported.

**BEACON**
The WLanguage Beacon functions make it possible to manage beacons.
FINGERPRINT RECOGNITION

The WLanguage function CheckUserIdentity allows authenticating fingerprints.

AUTOMATICALLY DIAL A PHONE NUMBER

The WLanguage function tapPhoneNumber allows you to trigger a call to the specified number.

SEND AN SMS

An app can open the SMS send window, which would already contain the text of the SMS and the recipient(s). The end user only has to validate the sending.

FINDING OUT THE CONNECTION TYPE AND THE NETWORK STATUS

The MobileNetworkStatus WLanguage function enables you to find out the network connection type, and the signal reception quality. It may be useful for an application to know whether it is connected to the internet via Wi-Fi or 3G/4G.

For example, if the signal is weak, a data transfer can be forbidden.

MANAGEMENT OF NON-LATIN LANGUAGES

Non-Latin languages (Russian, Chinese, etc.) are supported.

REST & SOAP WEB SERVICES

WINDEV Mobile offers integrated Webservice support. The call to WebServices is easy to implement.

The WebService is used to access the content of the source project and it is recognized by the WebService, procedures to call, ... Development is simplified.

GET AND POST

The function FileRequest allows, among other things, to send "get" or "post" requests to an application server (WEBDEV or any other type of Web server), which is useful for exchanging data between applications.

HTTP FORMS

An HTML form returns as a result, once validated by the user, an HTTP form which contains the data from the various controls in the HTML form.

LOG IN TO YOUR APPLICATIONS VIA TWITTER, FACEBOOK, INSTAGRAM...

You can program the process to be turned on, or a vibration triggered.

The application for sending notifications can be developed in WINDEV or WEBDEV. When sending the notification, you can specify an icon, a message, a sound to play, if a led must be turned on, or a vibration triggered.

The notification can also be sent from a third-party software.

You can program the process to perform when the end user clicks the button "save" in the source code. For example, if you set the "show this icon or not." The icon is displayed when the event is fired.

DISPLAY BAR CODES ON THE SCREEN

The Bar Code control allows you to display bar code on the screen: reward card, cafeteria card, door opening...

PRINTING IN PDF

It is easy to print in PDF format. In iOS and UWP printing is done either via programming or via a report. On Android, PDFs are printed by programming, or via a report.

When developing on the PC, WINDEV Mobile lets you use these specific fonts in the window editor.

If this font is not available on Windows, a substitute font is used temporarily.

The native font will be used when running the application.

BUNDLE/PACKAGE RESOURCE MANAGEMENT

There are functions to let you manage the resources embedded in the bundle more granularly (the bundle for iOS, package for Android). The application can list the resources and extract some.

RATING THE APP IN THE STORE

AppOpenForm allows you to ask the user to rate the application. This function opens the Store page requesting the ranking of the app.

HOURGLASS

In the system bar, an icon in the shape of a turning wheel comes up when an app sends data via a wireless network : WiFi, 4G,...

The NetworkHourglass function lets you show this icon or not.

GELOCATION WITHOUT DRAINING BATTERIES

This feature automatically calls a procedure when the device is moved a significant distance. This call is performed directly by the operating system, even if the device is closed. For example, this procedure can store the position, send the position, detect the proximity of a given point: another user, store, proximity of a given point: another user, store, charging station, gas station, bar, restaurant...

PAGE 19 • WINDEV Mobile

www.windev.com
MANAGE CONNECTION LOSS AND RECOVERY
A mobile device can lose its connection when entering a building, for example. WINDEV Mobile offers a mechanism for managing connection loss and reconnection. For example, the application can fall back to local data in case of a loss of connection, and start an instant synchronisation when the connection is reestablished.
You can specify the procedure to call in case of a connection loss or a reconnection.

PREVENT THE DEVICE FROM GOING TO SLEEP
The SysStandby function lets you prevent a device from going to sleep.
A function parameter allows you to authorize or not the device to go to sleep depending on whether it is uses AC power or batteries.
Therefore an application can remain active and visible all the time or during the amount of time allowed.

GESTURES ON CHARTS
Gestures are supported on charts.
The chart can be moved using a finger. With 2 fingers, the user can enlarge or reduce the size of the chart. A double "tap" restores the original scale.

TELEMETRY ON YOUR APPLICATIONS
Telemetry allows you to know precisely how your applications are used: frequency of launch, windows, controls and buttons used, equipment details, duration of actions, "top 10," etc.
This is particularly useful for mobile applications where designers do not necessarily have contact with users.
WINDEV Mobile offers powerful telemetry features as standard.

FINDING OUT A DEVICE’S UNIQUE IDENTIFIER
Each Android or iOS device (phone, tablet) has a unique number inserted by the manufacturer (the ROM provider specifically).
The sysIdentifier function lets you read this number.
This number can be used to allow an application to work only on identified devices.

SENDING AND RECEIVING EMAILS
Functions for sending and receiving emails are available in WLanguage.
It is also possible to trigger the opening of the standard outgoing mail window with the contents already filled out (subject, title, attachment, etc.) by programming.

SECURE HTTPS AND WEBSERVICES
The use of secure connections and Webservices is possible.

DEPLOYMENT BY DIRECT SETUP
The internal applications of a company are in most cases installed directly on the devices.
It’s easy thanks to WINDEV Mobile.
Each operating system has its own deployment policy, Android and Windows are rather flexible, Apple imposes particular constraints.
Everything is detailed in the "Specific features" sections of each system (p. 23, 24 and 27).

DISTRIBUTION OF YOUR APPLICATIONS

DEPLOYMENT VIA STORES
Applications developed with WINDEV Mobile can be easily deployed on PlayStore, Apple Store and Windows Store, for free or paid distribution.
Each operating system (iPhone, Android, Windows) has its own publishing policy.
Please check the "Specific features" section for each system in the following pages.

PACKAGE OR BUNDLE CREATION
WINDEV Mobile guides you through the creation of setup files, called "Package" (Android/Windows) or "Bundle" (Apple).
It is possible to include HFSOL data files, images, documents and more directly in the package (or bundle),... WLanguage functions allow the application to list resources, and extract them.

EASY DEPLOYMENT OF DATA FILES (TABLES)
If necessary, an automatic extraction mechanism from the downloaded package allows databases to be automatically installed on the mobile phone.
WINDEV MOBILE allows you to create native applications for iPhone, iPad and iPod Touch, Android, Windows 10 UWP, Windows CE, etc...

In addition to the controls and features presented before, WINDEV Mobile offers specific features for Android.

Therefore the features described below come in addition to the common features. To develop a cross-platform application and still use these specific features, simply use "conditional target code" (see p 14).

To create your windows even faster, WINDEV Mobile offers a set of predefined windows in the Android standard: simply start with a window that resembles what you want to create.

WINDEV MOBILE allows you to create Java applications for industrial use cases.

DEX DOCK
Applications developed with WINDEV Mobile work with DEX devices.

ANDROID SPECIFIC FEATURES

DEPLOYING AN ANDROID APPLICATION DEVELOPED WITH WINDEV MOBILE.

To be deployed, an application must be signed.

When deploying an Android application, the developer must indicate whether the application is free or not. If the application is not free, the application must be published on the Google Play Store. The applications deployed on Play Store can be downloaded, Check Box and Slider controls...

GOOGLE CLOUD PRINT FUNCTION
The GPrintDocument function allows you to print an existing document via Google’s cloud print.

CREATING WIDGETS
A widget is a window that can be pinned to a home screen. WINDEV Mobile allows you to create Widgets.

DEPLOYMENT: EASY
Your applications can be easily deployed: by using "Play Store".

ANDROID EXAMPLES
Examples of preset windows

GENERATE REVENUES : AD CONTROL
The "Ad" control is available for Android. It uses the Google "AdMob" protocol. Your applications can display ads served by Google and generate revenues.

NFC : DATA TRANSFER AND CONTACTLESS PAYMENT (READ / WRITE)
WINDEV Mobile brings easy NFC support to your applications.

NFC, an acronym for Near Field Communication, allows contactless data transfer between two mobile devices, or a mobile device and a chip that can be integrated almost anywhere (in a tag, bracelet or another device...).

On Android devices, it is possible to read, write and also write data.

The NFC family of functions makes programming easy: NFCReadTag, NFCWriteTag, NFCScanTag and NFCStatus used to manage the NFC standard.

Thanks to this standard, it is now possible to exchange data between 2 smartphones just by having them close to each other. Contactless payment also exists thanks to this standard.

CONTROL AN ANDROID OR TIZEN WATCH
It is easy to create notifications specifically for smart watches that use Android or Tizen. Notifications can launch actions.

NOTIFICATIONS
On Android, there is an additional type of notification by lighting the front LED. WINDEV Mobile also handles these notifications.

WINDEV MOBILE allows you to create Android applications for industrial use cases.

DEX DOCK
Applications developed with WINDEV Mobile work with DEX devices.

ANDROID DEPLOYMENT: EASY
A large number of examples are provided with Android.
Among these examples, you will find:

- WM Sports: sports tracking / distance calculation, average speed, display on a map, etc.
Available on the Play Store.
- FTP Client: FTP client for Android device.
Available on the Play Store.
- Explorer: file explorer for Android.
Available on the Play Store.
- Contact management: custom contact management example
- Order management: order taking example
- Attendance management: attendance example
- Speech synthesis features
- RSS reader
- WM Sports: manage a poll on a tablet.
- Shopping: Shopping list management.
Available on the Play Store.
- Quiz: Quiz management.
- ToDo List: management of a task list

ANDROID EXAMPLES

- Poll: manage a poll on a tablet.
- Shopping: Shopping list management.
Available on the Play Store.
- Quiz: Quiz management.
- ToDo List: management of a task list

NFC: DATA TRANSFER
The NFC standard allows exchange data between 2 smartphones just by having them close to each other. Thanks to this standard, it is now possible to exchange data between 2 smartphones just by having them close to each other.

NFC also writes data.

On Android devices, it is possible to read and write data on a chip that can be integrated almost anywhere (in a tag, bracelet or another device...).

NFCReadTag, NFCWriteTag, NFCScanTag and NFCStatus used to manage the NFC standard.

The strings are also encrypted: identifiers...

CALLING JAVA (AND MAVEN) LIBRARIES
It is possible to natively call Java libraries provided by third parties for example for managing a hardware device...

In the code editor, you can also directly enter Java code in lieu of WLanguage code (feature useful for troubleshooting).

Your applications can be easily deployed:

- by copying the application directly from the PC to the device,
- by using "Play Store.

The applications deployed on Play Store can be free or not. If the application is not free, you get revenues every time your application is downloaded.

To be deployed, an application must be signed.

The signature functionalities are provided by WINDEV Mobile.

Deploying an Android application developed with WINDEV Mobile is very easy!
APPLE MAP CONTROL
The Map control allows to display a map in formats supported by the iPhone: Google Maps and Apple Maps.
The map can be used in your applications, markers can be set, the display mode (map or satellite) can be changed, etc., all by programming...

Apple Watch
WINDEV Mobile allows you to create native applications for the Apple Watch. These applications can communicate with apps on iPhones or iPads. Over 300 WLanguage functions are already available.

CREATE PDF REPORTS
WINDEV Mobile allows you to create PDF reports with the powerful report editor. You have all the power of reports: visual positioning, bar codes, charts, tables, multi-columns, images, etc.

DLNA
DLNA means Digital Living Network Alliance, which is a collaborative trade organization that is responsible for defining interoperability guidelines to enable sharing of digital media between multimedia devices.
DLNA is based on Ethernet and Wi-Fi. WINDEV Mobile supports DLNA.

ARTIFICIAL INTELLIGENCE (AI) : MACHINE LEARNING ON IPHONE AND IPAD
The latest iPhone models are equipped with a processor that has features dedicated to neural networks, capable of performing 5 billion operations per second!
Apple provides an SDK (CoreML) that makes it possible to take advantage of these features.

WINDEV Mobile allows you to interface with this SDK, and thus implement AI features in your applications.

3D FACIAL RECOGNITION IN YOUR APPLICATIONS
Certain iPhone models have a 3D facial recognition scanner. The applications written with WINDEV Mobile can use this mechanism to verify the user’s identity using this device.

WINDEV Mobile allows you to create native applications for the iOS standard: simply start with a window that resembles what you want to create.

CHOOSE THE SYSTEM BAR AND NAVIGATION BAR
WINDEV Mobile allows the application to choose, for each window:
• not to have a system bar,
• have a system bar,
• choose its navigation bar.

SHARING FILES VIA ITUNES
An iOS application can be authorized to share files with a PC or a Mac.
The end user can work with his data on the hardware of his choice.
You can also copy HFSQL data files this way.

COMPILATION OF APPLICATIONS
Applications are compiled with WINDEV Mobile. They must be signed then.
To do so, use your "ios developer" certificate obtained from Apple to sign your application. This operation is performed on a Mac.

SWIFT IN YOUR WINDEV MOBILE APPLICATIONS
You can call or include Objective-C and Swift code natively in your applications.
You can also directly enter Swift code instead of WLanguage code (useful for troubleshooting!).

TEST AND DEBUG APPLICATION UNDER DEVELOPMENT DIRECTLY ON IPHONE, WITHOUT MAC
When developing an application for iOS (iPhone or iPad), WINDEV Mobile allows you to test the application being developed (launch a GO) without having to recompile it on Mac, but directly on the iPhone or iPad.
For debugging, the application on the phone is controlled by the debugger.
You can then access the debugger: breakpoints, step by step, content of variables, stacks...

WINDEV Mobile application on iPad mini
The following features are available in addition to the tile.

You can also display a counter in the corner and change the icon.

The Map control in UWP allows you to display "Bing" maps.

Any application deployed on the AppStore must be validated and accepted by Apple beforehand.

These 3 deployment methods depend only on Apple and may change at any time. You may need to have a license or a subscription with Apple, or to have special hardware from Apple. These conditions may change. Please visit Apple’s web site to check the accuracy of the information and the specific conditions at the time you’re reading this information.

You can add itineraries, mark-off and optionally some content.

A tile is made of an icon, a background color, and optionally some content. You can customize the background color and the icon.

The "Tile" family of functions lets you modify the format of the tile (text, image, text & image, etc.) and its content which can side and change. You can also display a counter in the corner of the tile.

A tile is made of an icon, a background color, and optionally some content. You can customize the background color and the icon.

Any application deployed on the AppStore must be validated and accepted by Apple beforehand.

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The distribution of an application via the AppStore depends on approval from Apple (your application must go through and pass a validation process).

An application distributed via the AppStore is visible and accessible by the public.

"Ad Hoc" and "In-House" type distributions (see below) let you distribute applications without having to validate them with Apple, and without having to share them publicly.

Your professional applications are protected this way from any unwanted publicity, and from download by third-parties.

You master the distribution of your applications and you don’t have to pay any commissions.

**AD HOC** DEPLOYMENT

The Ad Hoc deployment mode allows you to deploy an application on up to 100 devices of a given type (limit set by Apple).

The setup is performed manually from each device.

The application does not need to go through Apple’s validation process, and is not publicly available.

**IN-HOUSE** DEPLOYMENT

The "In-house" deployment mode remove the constraints on the maximum number of devices; the application can be deployed on as many devices as you want.

This type of deployment also removes the constraints of the physical installation. The deployment is performed via a web server, which eliminates manual operations on each device.

The application does not need to go through Apple's validation process.

This type of deployment requires acquiring a special license from Apple.

**DEPLOYMENT ON THE APPSTORE**

Of course, it is possible to deploy via the AppStore, Apple’s online store.

Any application deployed on the AppStore must be validated and accepted by Apple beforehand.

These 3 deployment methods depend only on Apple and may change at any time. You may need to have a license or a subscription with Apple, or to have special hardware from Apple. These conditions may change. Please visit Apple’s web site to check the accuracy of the information and the specific conditions at the time you’re reading this information.

**AVAILABLE EXAMPLES**

**AMONG THE IOS EXAMPLES**

A large number of examples and their source code are provided for iOS.

Among these examples, you will find:

- WM Sports
- Food
- GPS location
- Poll management
- Task List
- Shopping (bar code shopping list)
- Chronic
- Chat, CRM, Loan,
- Regular expressions,
- Financial functions,
- Contact management,
- Order management,
- Attendance,
- RSS reader,
- Password,
- Notes,
- Expense accounts,
- Poker,
- Stocks,
- System,
- Tic Tac Toe,
- FTP client
- Quiz
- Etc.

**AMONG THE UWP EXAMPLES**

Among the examples delivered in UWP you will find:

- Password management
- Note management
- Chrono
- Management of orders
- Quiz

**PDF REPORTS**

The report editor allows you to create PDF reports easily.

**ANCHORS**

Anchors and layouts let your applications adapt to the different screen sizes.

**DEBUGGING**

The debugger is available in "simulator" mode in the WINDEV Mobile editor.

**API: NATIVE CALL OF .NET ASSEMBLIES**

You can call .Net assemblies (universal Windows class libraries) and APIs (Universal Windows Components) from your WLanguage code.

The assembly classes can be manipulated through methods of these classes.

You can implement "delegate" methods that will be called back.

**WINDOWS STORE**

UWP applications developed with WINDEV Mobile are distributed either by direct copy on the device, or via Windows Store.

For deployment on the store, the conditions depend on Microsoft and may change at any time. You may need a license or a subscription with Microsoft.

Any application deployed on the AppStore must be validated and accepted by Apple beforehand.

These 3 deployment methods depend only on Apple and may change at any time. You may need to have a license or a subscription with Apple, or to have special hardware from Apple. These conditions may change. Please visit Apple’s web site to check the accuracy of the information and the specific conditions at the time you’re reading this information.

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This type of deployment requires acquiring a special license from Apple.
Selects a directory from a WINDEV application.

To access features specific to each of these mod-
els.

GANTT

dation phases.

WINDEV Mobile allows easy development and maintenance of applications designed to run on Windows CE.

WINDOWS CE TO ANDROID

Microsoft has announced the end of Windows CE support.

If you want to switch your industrial applications to Android, note that converting Windows CE applications to Android is incredibly easy with WINDEV Mobile: you keep your win-
dows and your code!

EASY CHARTS

A chart designer is available in CE: you can create charts without having to program.

TAI ACCESS (TELEPHONY)

Access to TAPI (telephony functions) is done natively via WLanguage: automatically dial a phone number; ...

CALL TO DLL AND .NET ASSEMBLIES

Most suppliers of add-on hardware (GPS, scanner, bar code reader, RFID reader, etc.) provide access drivers for their equipments. These drivers are provided in the form of native DLLs or sometimes as .Net assemblies. These communication modes via DLL or via a .Net assembly are supported by WINDEV Mobile.

DYNAMIC COMPILATION

Dynamic compilation (execution of code cre-
atend in an application) is available on WINDEV Mobile.

PRINTED REPORTS

WINDEV Mobile makes it easy to create reports thanks to the report generator included in the environment.

The report is created in the PCL mobile stan-
dard format.

You can also create reports using the print commands from the PCL family of WLanguage functions.

For printers that do not respect the PCL standard, you can also program the control sequences directly.

PRINTING BAR CODES : ALL

Printing a bar code from the device can be useful!

WINDEV Mobile allows you to do this directly.

The supported bar codes are: UPCA, UPCA, EAN13, EAN8, Interleaved 2 of 5, Codabar, MSI Code, Code 39, Code 93, Code 128, EAN 128, PDF 417, Datamatrix...

RFID

Thanks to WINDEV Mobile, you can eas-
ily develop applications that support "RFID" technology.

The application remotely reads and writes information stored on a chip with an inte-
gated antenna. The chip is embedded (or glued) inside an object or on packaging: full traceabil-
ity!

Your applications directly read and write in the Calendar, in Outlook, in the Task list...

ACCESS TO THE IS DATA-
BASES.

WINDEV Mobile provides easy access to existing I.S. databases. (Information System).

Applications access the current database in real time or via replication.

REPLICATION

WINDEV Mobile lets you synchronize files via "ActiveSync" (old Windows) or via the "Universal replication" mechanism, which allows replication between different data-
bases, for example, HFSQL and Oracle.

CE DEPLOYMENT: EASY

MSI AND CAB SETUP

The generation of mobile applications in CAB and MSI formats is supported.

APPLICATION UPDATE

Applications are automatically updated using a PC connection or a remote connection via ActiveSync (old Windows), 3G, 4G, Internet, WiFi.

WHAT LINK TO THE PC?

If a link to a PC must be created, the following modes are available:

- Unidirectional or bidirectional replication (synchronization)
- infrared link
- Bluetooth
- WiFi
- Cable (ActiveSync on older Windows or con-
trolled application)
- Modern or Internet link
- Telephone (Edge, 3G, 4G...)
- Other methods

DYNAMO:

This example explains how to implement a time limit on Windows CE.

This example explains how to implement a time limit, as well as a system for enabling the soft-
ware.

GPS

Used to interrogate a GPS to retrieve a longitude, a latitude, a speed, an altitude.

Specific: Falcon, Motorola, Paladin, Opticon, Datalogic, Flaway, Infone... to access features specific to each of these mod-
els

GANTT

Displays a GANTT chart.

Login Management

Manages the identification in an application from a login and a password.

PC Directory Picker

Selects a directory from a WINDEV application.

DATABASES

ACCESS TO DATA: LOCAL, REAL-TIME OR REPPLICATION

Data is accessed via the Hxxx functions: local (data on the device, or in real time where the device is used (wireless network), or in real time anywhere in the world (3G, 4G, etc.), or by replication, the data is synchronized then (via ActiveSync or via replication).

HFSQL

WINDEV Mobile 19 comes with the powerful HFSQL database.

This easily embedded database doesn't require any administration.

AS/400

Native AS/400 access is offered (additional).

CEDB

WINDEV Mobile natively supports "CEDB" files, which are used by a large number of standard applications (Outlook, for example).

Your applications directly read and write in the Calendar, in Outlook, in the Task list...

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TOOLS

SPECIAL TOOLS PROVIDED WITH THE PRODUCT

In addition to the common tools (supplied with WINDEV), WINDEV Mobile comes with tools for Windows CE, which are useful during the development, fine-tuning and presenta-
tion phases.

WDCLEXPLORER is a tool for viewing a mobile device's files and directories from a PC.

WDCEDB allows you to view and access the data found in the CEDB files (Cdb) of a mobile device: appointments, contacts...

WDCapture lets you capture screen shots or vid-
eos of what is displayed on the mobile device connected to the PC.

WDCRegistry allows you to easily view the content of a mobile device's registry.

COMPO-
NENTS AND EXAMPLES SUPPLIED

Since Windows CE is a relatively old operating system, many examples and components are provided to facilitate the use of devices that run on this system.

AMONG THE PROVIDED COMPONENTS :

Signature

Allows you to easily include a ready-to-use "signature" control in your WINDEV Mobile appli-
cations.

Time limit

This example explains how to implement a time limit, as well as a system for enabling the soft-
ware.

GPS

Used to interrogate a GPS to retrieve a longitude, a latitude, a speed, an altitude.

Specific: Falcon, Motorola, Paladin, Opticon, Datalogic, Flaway, Infone... to access features specific to each of these mod-
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THE PROVIDED EXAMPLES

Net

Use example for a .Net assembly (here to list the Wi-Fi network).

Contact management

Contact management

Order management

Simulation management of orders/invoices.

Inventory

Inventory management.

Attendance

Attendance manager: keeps track of attendance for a seminar.

Windows CE is still used in industrial settings
WINDEV Mobile comes with the powerful HFSQL database.
Distribution of HFSQL is free.

ACCESS TO SQLITE DATABASE
Accessing a third-party database (Oracle, SQL Server, ...) from a mobile is done via the SQLite family of functions.
Simply install a (provided) Web service that accesses the third-party database.

DATA STRUCTURE DESCRIPTION
The description of the database structures is done via the data model editor that comes with the development environment.

MANAGEMENT
Database management is easy. All necessary tools are provided: indexing, automatic data modification,...
The HFSQL Central Center centralizes the management for the Client/Server part.

SECURITY: ENCRYPTION
HFSQL lets you encrypt data and indexes. This is an important security feature for mobile devices, which can easily be taken away from their owners. The encryption key can be found in a view, in a program, entered by the user, or deduced from various elements.

MOBILE REPLICATION
Universal replication between a mobile phone and HFSQL Client/Server or third-party databases (Oracle, SQL Server, ...) is available. This feature allows mobile devices to update and retrieve data, without a permanent connection.
For instance, sales people are in the field, using their tablet to present products, take orders directly at the client's.
COMMUNICATION WITH MOBILES

TYPEs OF CONNECTION TO THE IS DATABASEs.

<table>
<thead>
<tr>
<th></th>
<th>HFSQL Classic</th>
<th>HFSQL C/S</th>
<th>SQL Server</th>
<th>Oracle</th>
<th>AS/400</th>
<th>SQLite</th>
<th>Text file</th>
<th>Binary file</th>
<th>XML</th>
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- Access by Web server
- Native access

With WINDEV Mobile, you access your mobile device's resources natively and easily. Your applications totally integrate with your existing code (IS, database, web services, email, ...). Thanks to WINDEV Mobile, your mobile device becomes an intelligent peripheral of your IS.

NATIVE COMPATIBILITY WINDEV / WINDEV Mobile

YOU HAVE EXISTING WINDEV CODE? MOVE IT OVER TO MOBILE IN A FEW HOURS!

WINDEV applications come over to the mobile side quickly: resize windows to adapt them to mobile screens, enlarge the buttons so that they become more touchscreen-friendly, delete the processes that are not needed on mobile, make little adjustments in your code, and voila! you now have a great mobile application!

A wizard analyzes your existing WINDEV elements, and indicates the code to modify or delete. Project portability allows you to have high-performance mobile applications in record time.

EVERYTHING IS NATIVE, WHICH MEANS POWERFUL, AND BATTERY EFFICIENT

With WINDEV your project are cross platform: the code of course, but also windows, reports, queries, databases, analyses..
QUESTIONS ANSWERS

The same copy of WINDEV Mobile lets you create applications for iPhone and iPad, Android, UWP, Windows 10 UWP, and even Windows CE.

Yes. And your code and windows are the same.

Do I need to own WINDEV?

No. WINDEV Mobile is a stand-alone software. If you have an existing WINDEV copy, you can switch your Windows or Linux applications directly to iOS, Android or Windows 10 UWP applications.

What is the main advantage of WINDEV Mobile?

First of all, the fact that you can create a mobile application with such ease is a phenomenal advantage! The portability of the code, windows, classes, data, etc. is another unmatched benefit.

Do I need to pay royalties on applications developed using WINDEV Mobile?

No. You can freely distribute your applications developed using WINDEV Mobile. Deploy without constraints!

Can I run the test of the application currently developed on the development PC?

Yes. All the development is done on a regular PC, and the application being developed can be tested at any time using the simulator.

How is it possible that Technical Support on WINDEV Mobile is free?

PC SOFT has confidence in the ease of development with its software, and therefore offers free technical support on WINDEV Mobile. Fifteen inquiries (by email) are offered.

Is there a rich community around WINDEV Mobile?

Yes, you ask your questions and share the experience of the professional developer community on a professional forum.

How long will it take me to get trained?

If you know WINDEV, you will need only one day. If you are not familiar with WINDEV, you will need one week.

Any other questions? Contact us, we are at your service!

EXAMPLES OF APPLICATIONS

Autonomous mobile application: order taking, delivery, meter reading, customer service...

Custom appointment management, link to the company’s IS

Quotation management, real-time invoicing on site (send invoice by email)

Bank account management, stock orders, portfolio management

Application with replication (physical, via Bluetooth, Wi-Fi, 4G, Internet or via the Cloud)

Wireless local area network application: mobile communication with the enterprise’s network in real time

Application with secure access to your enterprise’s data

Remote real-time application, via 4G

Real-time car inventory for auto dealerships

CROP MARKING of the vine with automated photos

Industrial machinery control

Geolocation application, route optimization

Real-time dashboard for decision makers

Atmospheric monitoring (temperature, humidity, gas, etc.) with data transmission by LoRa or Sigfox

Opening hotel room doors by NFC

Restaurant menu on tablet

Subscription management and app for reading magazines on tablet

Display TV program suggestions based on user’s profile

Game, quiz, MCQ, e-learning

Data aggregation

time tracker for service provider

Apps to be distributed on a Store

And any other application you may dream of: Price comparison, restaurant locator, real-estate application, work site location, catalog, wine list, telephone, address directory, post management, medication list, ideal weight calculation, car check, interactive rescuer, ...

ENVIRONMENTAL POLICIES

When PC SOFT prints “paper” documents, PC SOFT, the paper supplier or the printer, (FSC - Forest Stewardship Council - certified and PEFC - Program for the Endorsement of Forest Certification - certified) reprints as many trees as used for the printing. The FSC label was created by the FSC NGO, which includes among others Greenpeace, Friends of the Earth and the WWF. Also, we favor pulp coming mainly from recycled wood (from furniture mills for instance) and from controlled forest clearing.