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MEDIASOFT
DEVELOPMENT

eMedia CS2

Quick Start Guide

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The eMedia CS2 computer program has been designed to run on any IBM PC or compatible micro-computer running the Microsoft Windows Operating System, version 7 and later in 32 or 64 bit.

This software is a COM/DCOM Server component, strictly developed according to the COM/DCOM specifications defined by Microsoft Corporation.

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Should you have any question regarding this document, its contents or the eMedia CS2 software, please feel free to contact us:

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This Quick Start Guide is provided to you for free by Mediasoft Development to help you in your first steps using the eMedia CS2 software. This guide, as the computer program, may be freely downloaded from our internet web site.

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INTRODUCTION

1

Any documentation always begins with a little introduction text, in which we'll talk about some basic principles of the software: available editions, activation and some notices about the way to read this guide.

Please take a moment to read this introduction. You'll understand the role and the way the software runs so you'll be able to use it as efficiently as possible.

WHAT IS EMEDIA CS2?

The software is an integrated application that allows you to design and print plastic cards on any card printer.

Of course, you may use any existing and installed program on your computer to do, but eMedia CS2 also allows you to:

- Encode the magnetic strips, the Smart Card and the Contactless Smart Card,
- Help people with low skill level in computing to print out cards in just a few seconds,
- To print out data contained in your own databases,
- To print out calculated data,
- To store information that relates to the cards printouts and the program usage in a database or in a log file,
- To print in a single pass on cards: texts, images, barcodes, the holder's picture acquired from any Twain / WIA camera or webcam.

For these purposes, eMedia CS2 was developed to be used in three distinct modes:

The **design mode** allows the creation of the template. It contains all the information that relates to the contents of the card and the way to use it to print the plastic cards out.

This mode is used by the card creator, the application developer or the solution integrator, from the elements defined by the graphic team and from the available data.

The **operating mode** allows the user to enter the data that must be printed on the card or entered in the database linked to the card, and/or to be encoded. The information, defined in the card template, will be entered from a specific input window dedicated to this usage.

This mode will be used by the people in charge of printing the plastic cards out, from the templates defined by the designer. The utilization of this mode doesn't require any computer skill. The person in charge of entering the data has only to enter the information and to print the card out.

The **COM Server mode** (Component Object Model) allows you to add to a third-party program the ability to print and encode plastic cards, using eMedia as an expansion module.

This mode will be used by the application developer or the solutions integrator. It allows the printout and the encoding of plastic cards from a template defined in design mode and from code in his/her own program.

THE DIFFERENT EDITIONS OF EMEDIA CS2

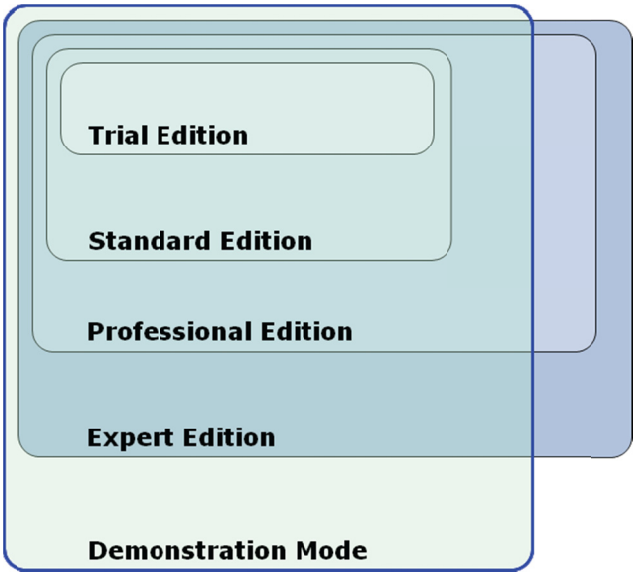
eMedia CS2 exists in four editions for different kinds of utilization and features needed. Three of these four editions require the user license to be activated, and this aspect of the software will be described below.

1

While installing the software on your computer, this one contains all the features of the Expert edition, but only the Trial edition features are enabled.

You may activate an edition at any time, just by entering in the software your license key. This key must only be entered once; its purpose is to unlock the corresponding features.

In addition to these four editions, eMedia CS2 also contains a specific functionality, called "demonstration mode", in which all the software features can be checked out. You may then define by yourself the edition that best fits your needs.



The "Trial" edition works like a "Standard" edition for 14 days after the program installation. After this initial period, this edition is not able to print out production cards anymore, but only demonstration cards.

In demonstration mode, the software cannot also print any production card, and only prints out demonstration cards. These ones look like the production cards, but they contain the label "DEMONSTRATION" on them, so they can't be used for a normal usage. In this mode, the encodings are not also performed (magnetic strips, smart card and contactless smart card).

The differences between the four editions of eMedia CS2 are displayed in this table.

A column, reserved to the demonstration mode, displays the features this mode allows.

	Trial	Standard	Professional	Expert	Demonstration
Design and printouts of plastic cards	✓	✓	✓	✓	✓
Printouts of demonstration cards (see below)	✓				✓
Magnetic strip encoding	✓	✓	✓	✓	
Smart card encoding (external program)			✓	✓	
Contactless smart card encoding (external program)			✓	✓	
Contactless smart card encoding (internal process)				✓	
Database utilization (MS-Excel worksheets)		✓	✓	✓	✓
Database utilization (all standard database types)			✓	✓	✓
Using formulas and scripts in text and barcode objects			✓	✓	✓
Using plug-ins			✓	✓	✓
Using COM Server features			✓	✓	✓

INSTALLATION OF EMEDIA CS2

The setup program can be downloaded here: https://www.emedia-cs.com/page/download

When you install eMedia CS2 on a workstation, all the features of the program are installed, but some are inactive. To be activated, these features require a license. The license key looks like a series of digits and letters separated with dashes.

When the program is started up for the first time, you are prompted to register your license key, if you have one.

If you do not have a license key, your copy of the software is limited to 14 days. This "Trial" version will function during 14 days like a "STANDARD" edition.

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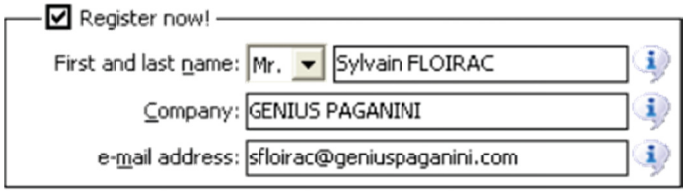
How to obtain a license?

Your local reseller of printer supplies can provide you with a license key, or you may contact us so we'll send you the address, mail and phone number of our nearest partner.

Otherwise, you may also buy a license from our 24/7 online shop, license provided immediately after payment: https://shop.emedia-cs.com

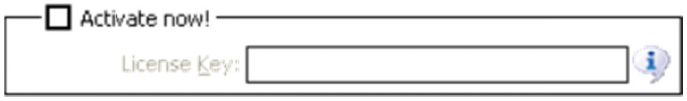
Registering your software copy

If you indeed have a License Key, open the "Help" menu and select the "Register your software copy" option. Enter your professional/personal information. These will be used for technical support only, we don't provide these to any third-party accordingly with our privacy policies.



Click on "Activate now!":

Enter your license key here:



Then click on "Next".

Automatic activation

If the computer is connected to the internet, just click "Next" again to allow eMedia CS2 to contact the license server. Once the activation done, the following message appears:

Thank you. Your software copy is now activated, and you have access to the features of the XXXX Edition of the software

Manual activation

If the workstation on which eMedia CS2 is installed does not have Internet access, or if the http or https ports are restricted behind a proxy or any other case, you must save the registration link on your hard disk or any other support (USB key, for example). An Internet shortcut is then created.

Double-click on the file on a computer connected to the internet and you receive back an e-mail to the address entered during registration (see above) containing an activation key (three lines of text enclosed with dashes):

```
-----------------------------------------------------------------
=ViEo+mwcwQusw2SBf0JbltYQt3XRE3b3EbrtxgdPdpb+Y1qYPGCQEfdsOxDRYuI
CahEsWDefTyVnmtTf4GjEKrraqpO03UkLGKj2DynAb29DEaTGCYcOATx1lrtyfVD
Q/WgPCLVfkz8PsokbRyB6pRSPsJMD9czdHh+0VwVptOYVBqp+gBmfFKQsG3gI+A=
-----------------------------------------------------------------
```

Open in eMedia CS2 the "Help" menu and select "Activate your license".

Copy the three lines of text from the e-mail and paste them in the "Activation key" area of the eMedia CS2 dialog box, then click OK.

Finished, your software copy is now activated and the corresponding features of your license are now fully available.

A video can be found here: https://youtu.be/4nn4Zqw5vHQ

1

ABOUT THE SAMPLES

This quick start guide comes with a few sample card templates to give you ideas or demonstrate how certain tasks can be easily implemented.

These examples are installed in the **Samples** sub-folder of the folder where you unzipped this guide.

These different card templates require a **Professional** or **Expert** edition to be fully functional (except for "Masking," which works regardless of the edition).

If you only have a **Standard** edition, or if you haven't yet activated your license, you can still test these templates BUT you won't be able to print them correctly. To do this, activate the demo mode from the "Help" menu (remember to deactivate this mode once you've tested these templates).

TEMPLATE USED IN THIS GUIDE

This template is the result of all the demonstrations and exercises in this guide. The file is named **Utopia RC.eccs**.

This is a sports club membership card, with each card displaying:

- The cardholder's first and last names,
- Their photograph,
- Their status (manager, coach, supporter, or player),
- A barcode identifying the card,
- The card's print date,
- The card's expiration date.

Club member information is stored in a Microsoft Excel™ spreadsheet so you can easily access this data.

This spreadsheet is located in the **Utopia RC.xlsx** file located in the same folder as the card template.

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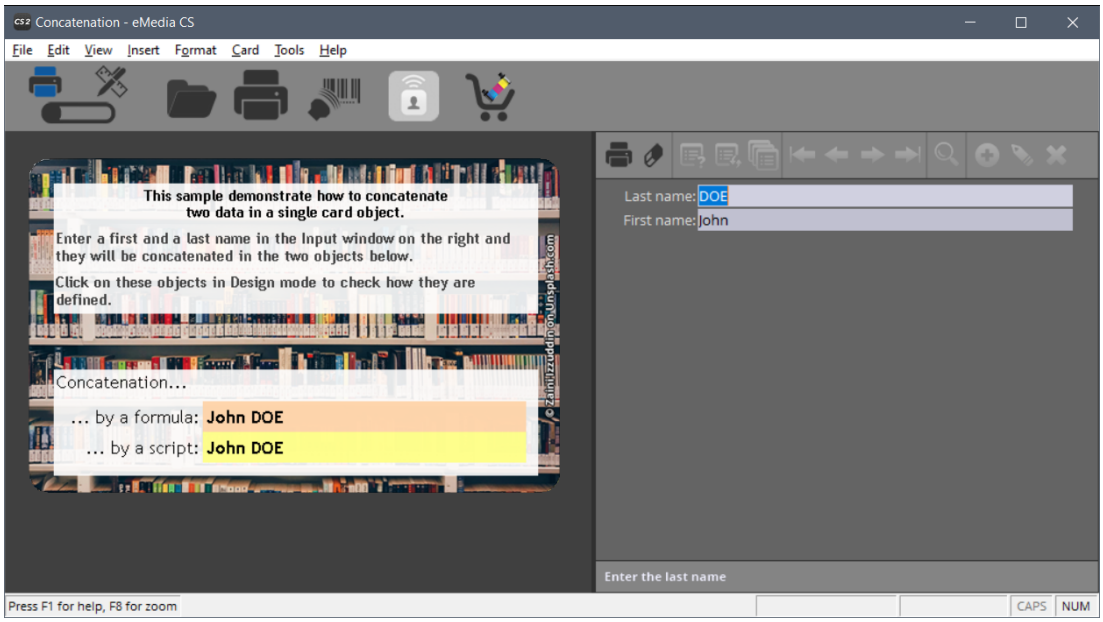
CONCATENATION

This template shows how to concatenate (join together) two pieces of information. It's particularly useful when, for example, you have a database containing a first name field and a last name field, and you want to display them all in a single object.

The file is named **Concatenation.eccs**



The input window allows you to enter first and last names independently.

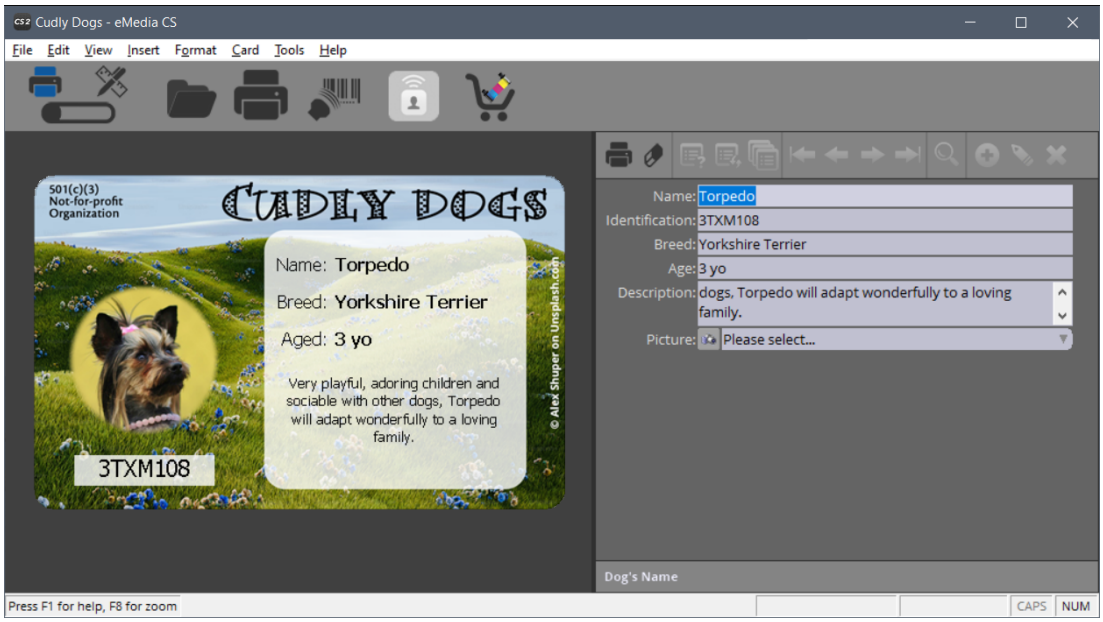
The text object with the orange background performs the concatenation using a simple formula.

The object with the yellow background performs the same concatenation, with some improvements, using a script.

Switch to design mode to view the properties of these two objects and see the formula/script that defines their contents. Note the off-card fields that allow input.

MASKING

This template shows how to partially mask an image by positioning it behind another. The file is named **Cudly Dogs.eccs**



Each printed card is a profile of a dog available for adoption from a shelter. It contains the dog's name, age, breed, photograph, a description, and authentication information.

In this template, the photograph must be enclosed within a circle. To avoid having to rework all the dog photos, the circle is actually a transparent part of another graphic object placed over a square or rectangular photograph.

To achieve this effect, the background image found in **Images/Cudly Dogs.png** contains a transparent circle. This image has been placed inside an Image object named **Background**, which is itself placed over another image object named **Picture**.

Tip: You can even move the photograph slightly. Right-click on the background near the photograph until the "Select" command appears in the context menu. Choose "Picture" from the submenu, then, while holding down the SHIFT key, move the photo to center it.

2

ADAPTIVE BACKGROUND & ICONS, VERSION 1

This complex template uses a script to layout the card background image and three formulas for the three icons at the bottom of the map. The file is named **Festival v1.eccs**.

This is a festival pass. Each cardholder is identified by a role (visitor, VIP, musician, reception staff, or technician), their first and last name, and access permissions to amenities: reserved parking, backstage access, and access to the staff cafeteria.

The organizer wanted each card to be colored differently depending on the visitor's status: brown for visitors, purple for musicians, green for VIPs, blue for reception staff, and black for technicians.

In addition, the access permissions to amenities must be presented as icons on the card.

And of course, entering this information must be simplified so that the team responsible for creating the cards can do so without any IT knowledge.

The script retrieves the selection made in the "Card Type" drop-down list and applies the appropriate image to the card background, based on that selection.

The formulas are almost identical: they retrieve the value from the "Access to..." drop-down list, and if this value is "Yes", the function returns the name of the icon file; otherwise, an empty file name. This file name is then injected into the corresponding icon object.

ADAPTIVE BACKGROUND & ICONS, VERSION 2

This complex template uses a script to layout the map background image and icons. The file is named **Festival v2.eccs**.

Version 1 is a good start, but it's necessary to define permissions for each card, although it would be possible to automate this process because permissions can be automatically granted depending on the holder's role. For example, a musician or technician must have permission to access the backstage.

Furthermore, permissions should be able to be manually adjusted in certain specific cases.

Finally, it would be nice if there were no gaps in the row of icons so that they would be automatically aligned to the right.

In this version, the script is improved so that depending on the selected role, the permissions are automatically defined, then modulated according to the choices made in the three "Access to..." drop-down lists. Finally, the script dynamically positions the icons starting from the right and displays or hides them.

QR-CODE

This simple template uses a formula to generate a QR code based on the information entered in the input window. The file is named **Wifi.eccs**

The cards generated allow guests to connect to a hotel's Wi-Fi by displaying a QR code that they can scan with their mobile phone to immediately access the Wi-Fi.

Connection information is also displayed at the bottom of the card so guests can enter it into devices that don't have QR code recognition (e.g., laptops).

This template mainly consists of two text objects whose values must be entered in the input window on the right, and a formula in the QR-Code object that generates the text string necessary for the phone to understand that this code contains connection information to a Wifi network.

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2

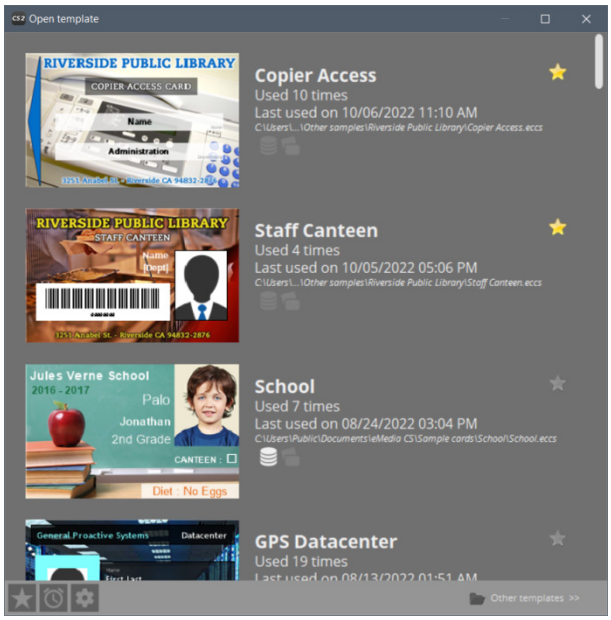
DESIGNING A CARD TEMPLATE

Let's start the software and review the first basic knowledge. In this chapter, we'll introduce the design mode and the operating mode, and we will print out our first cards.

LAUNCHING EMEDIA CS2

To start the application, we may either use the icon created on the desktop by the installation program or use the shortcut in the Windows "Start" menu, or double-click on a card template file (.eccs extension).

Upon loading, a splash screen appears, followed by the "Open template" window if you started the application from the shortcuts.



This window displays the last used templates with useful additional information:

- Preview
- Title
- Times opened
- Last used date
- Template path
- Connected to a database (or not connected)
- Simple or double sided
- Favorite

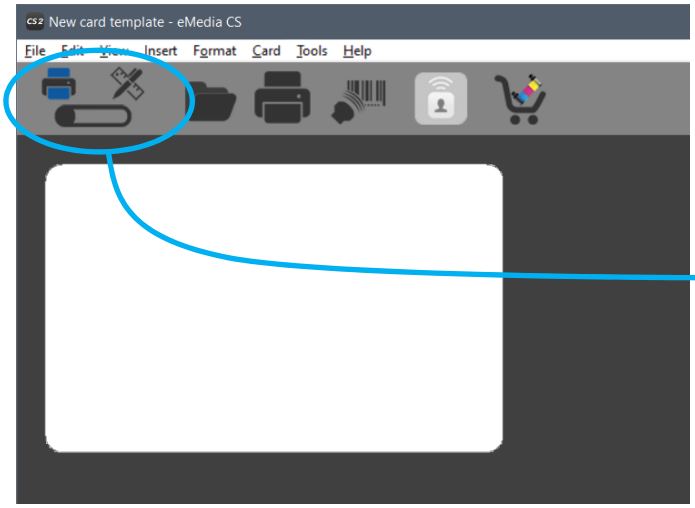
The bottom right buttons sort the list.

The bottom left button and link allows you to open a template file on disk, using the standard "Open file" dialog box.

The star on the right of a template shows a favorite template that will always be shown on the top of the list. Click on this star to set or unset the favorite status of a template.

Create a card template

When the application is launched, the active mode is the operating mode. We have to switch to the design mode to create our own template.



The operating mode allows the printout of the cards. In this mode, the template is displayed as it will be printed out, with all the objects created in design mode.

The design mode allows us to create or modify the template.

The switch located here allows us to change from the two modes.

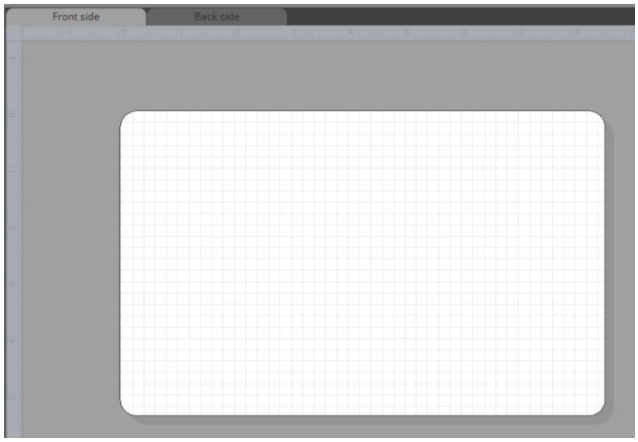
First launch of eMedia CS2 in operating mode

THE ELEMENTS DISPLAYED IN DESIGN MODE

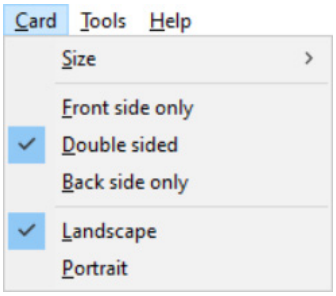
The application main window contains the common elements you may find in any application: title bar and menu bar at the top, status bar at the bottom with some useful information. The window also contains four specific elements: the card template, the toolbox, the layers panel and the properties panel.

The card template

It occupies the central part of the window, and should be empty at this moment. We'll add in this template a background picture and the objects to print out. The tabs above the template allow switching between the sides of the card.



To create a double-sided card or change the orientation of the current side, or to change the dimensions of the card, use the "Card" menu:



These options are not definitive, you'll be able to change them as any time.

From the "View" menu or using the F8 function key, you can change the preview zoom level.

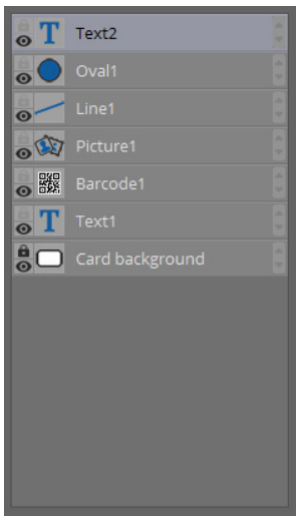
The grid in the background of the card helps you to place the objects and may be setup from the properties pane or from the "View" menu.

The toolbox (upper left side)

On the left side of the window, a vertical panel contains all the objects that can be added to the card during design: texts, barcodes, QR-Codes, images & photos, clipart, signature, geometric shapes and programming of the magnetic stripe, chip and contactless chip.

A tooltip describing the purpose of one of the icons is displayed when you place the mouse over it.

The layers panel (lower left side)



The graphic layers are like stacked sheets of transparent glass. Each sheet contains an object. You can see the layers below through the transparent areas of the above layers. You can move each of these layers relative to the others to reveal or hide its contents, either completely or partially.

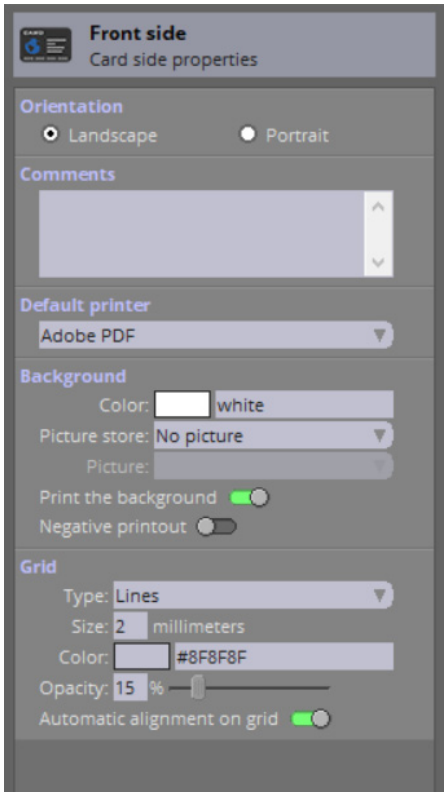
Graphical layers

Additionally, you can adjust the opacity level of each layer to make its content more or less transparent.

The Layers window lists all the layers on the current side of the card. You can show or hide layers, and you can move each layer up or

down on the card using the mouse. You can lock a layer to prevent it from being moved by mistake. Other commands and options are available from the properties of each object.

The properties panel (right side)



On the right side of the window, the Properties panel displays all the characteristics of the selected object and, if no object is selected, the card background properties.

These properties are specific to each object type, so the contents of this window changes each time you click on an object on the card. To deselect an object, simply click on the background of the window, in a location where no object is present.

The properties panel contains the selected object and an indication at the top. Here, the card side properties.

Below is a list of categorized characteristics with each property's respective value.

To change the value of a property, simply enter the desired value, click the radio button or checkbox, or click the button to the right of the property to select the desired value from a drop-down list.

This guide is not intended to explain all the properties of all objects. We will only explain some of the most commonly used properties.

We remind you that online help is accessible at any time by pressing the F1 key on the keyboard.

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THE CARD INFORMATION

Our card has properties that we can set at any time. The most important are the orientation, the default printer, and the background.

The card orientation

All new cards are oriented "landscape" by default, printing across the width. If you want to print across the height, check the "Portrait" box.

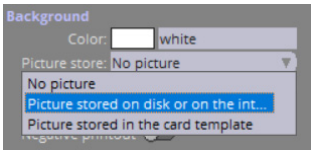
The default printer

eMedia CS remembers a default printer independent of the choice you made in Windows settings, as the card printer may not be the best choice for printing your Microsoft Word™ or Microsoft Excel™ documents.

In addition to this separate default printer, eMedia CS remembers the printer to use for each card template. To specify this printer, open the drop-down list in the "Default Printer" category and select yours. From then on, the user in production mode can use the print buttons to edit cards based on this template on this printer.

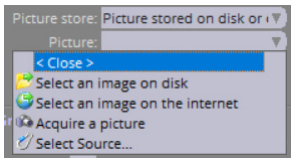
Our card background

Now a little practice: our card is empty, so let's insert a background.



Click on the card background to make sure the properties panel displays the characteristics of the card. Select then the "Picture store" property in the "Background" category and select "Picture stored on disk or on the internet".

Next, select the "Image" property and choose the image source: disk file, internet image, immediate image acquisition with the acquisition device defined in the application settings or the source if the device is Twain or WIA.



Select "Select an image from disk." The standard file open dialog box appears. Navigate through your disks and folders to find the appropriate background image for your template. The image appears as the background image, and its disk path is entered in the "Image" property.

Note that eMedia CS2 assumes the background image should cover the entire card. For best printing results, your image should be sized appropriately. For example, for a CR80 card on a 300 dpi printer, the image should be approximately 1011 x 649 pixels.

By selecting "Select an image from the Internet," eMedia CS2 will prompt you to enter a full URL to the image file.

Since the "Storage" property is set to "File on disk or the Internet," eMedia CS2 will search for the image each time the template is opened, whether on disk or the Internet. The image file is considered as dynamically linked.

If you want the image to be statically linked and included in the card template, change the "Storage" property to "Card Template". The link to the original file will be broken, and the image will be available even on another PC or a PC without internet access.

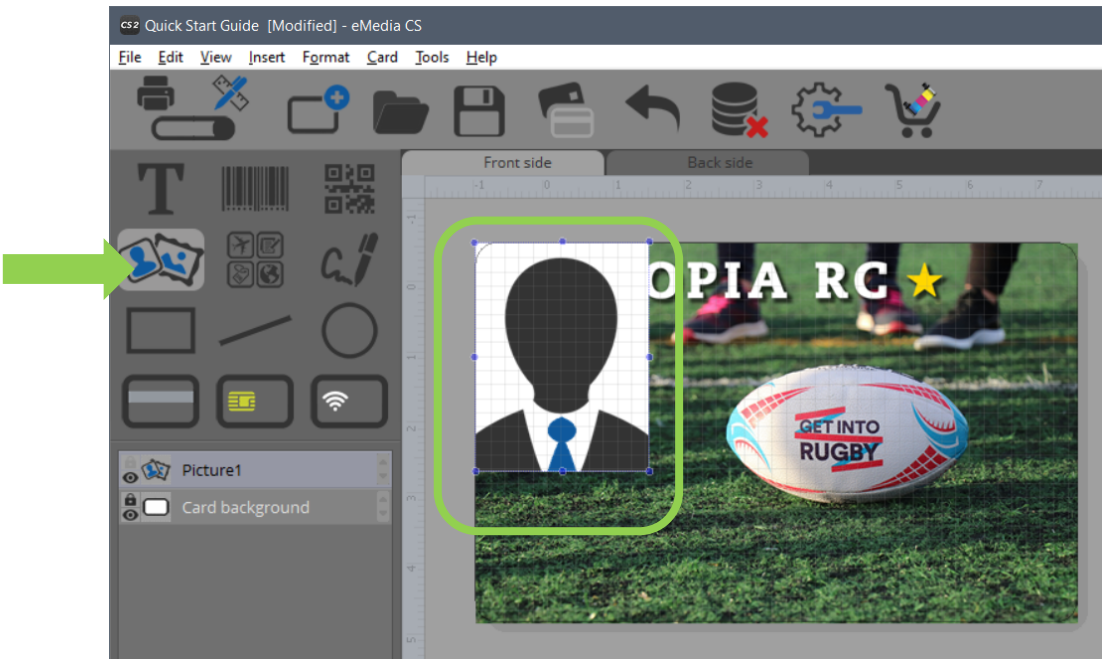
The background of the card is now defined

This is image is based on a picture
© 2018 Edgar Pimenta on Unsplash.com

THE IDENTITY PICTURE OF THE CARD HOLDER

Now let's add the cardholder's photo ID. We can use the "image" object from the toolbox for this purpose.

An image may be a fixed object, such as a logo or illustration that will be unchanged from one printed card to another, or may be a variable object, such as an ID photo that must be different from one card to another and can be changed in operation mode by allowing the user to select a disk file or to perform an acquisition from a scanner, a digital camera or a webcam.



A default image appears in the top left corner of the card. It is surrounded by handles (blue squares) that you can grab with the mouse to resize the object: click on the handle, hold down the mouse button, and drag it to the desired size.

To move the object, place the mouse over it, left-click, hold down the mouse button, and drag the mouse to the desired position.

The Properties panel displays the characteristics of this image. You will notice among these properties:

Object Name

Object Name allows you to name the selected object so you can identify it in the Layers panel or reference it in a formula or script.

An object name must begin with a letter and must contain only letters, numbers, and underscores. For example, the newly created object could be named "IdPicture".

Image Type

Image Type indicates whether the object is intended to contain a fixed image, which remains the same from one card to the next, or a photograph or signature, which vary from one card to the next.

The difference between "Picture" and "Signature" lies in the way the image is acquired in operating mode. Two separate settings are available in the application's configuration to define the photo acquisition device and the signature acquisition device.

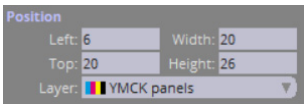
Picture store and Picture

These two properties have the same role as those described for the background of the card. "Storage" defines where the image is located, while "Image" contains the image file name or storage specification in the card template.

Regarding image storage, if the card template is linked to a database, two additional options will be offered: in a database field as an image file name, and in a database field in binary format. You will then have to enter the name of the corresponding field in the "Database Field" property.

3

Position



The five properties here define the object's position on the map, its width and height, and the type of ribbon to use when printing.

The dimensions are expressed in millimeters from the top left corner of the card.

Here the object is located at 6 mm from the left side, at 22 mm from the top and its dimension is 20 mm x 26 mm.

Aspect

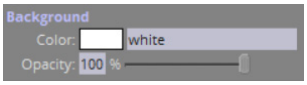
By default, image objects are automatically zoomed, allowing you to center them within the object's boundaries, if necessary by cropping the right and left sides of the original image (or the top and bottom).

You can switch to manual zoom and set the magnification level and cropping yourself. However, be careful with photos and signatures: switching to manual zoom will apply to all printed cards, and it's your responsibility to only use images of similar dimensions to ensure optimal results.

Opacity allows you to set the transparency level for the object. At 100%, the object will be fully visible; at 0%, it will be hidden. Between these two extremes, what's beneath the object will show through.

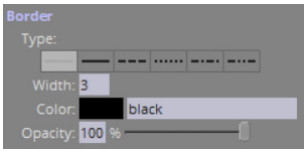
Rotation allows you to vary the angle of the object relative to the vertical so that it is printed sideways, upside down, or at any angle you like.

Background



Transparent areas of the object can be colored. With these two properties, you can select the background color and the opacity of this background.

Border



You can frame the object with a border. **Type** allows you to select the border type, **Width** allows you to specify the thickness of this border in points, **Color** allows you to choose the color, and **Opacity** selects the saturation level.

Caption

When this card template is defined, the person in charge of printing the cards won't necessarily have the skills you will have with this guide. We will provide them with information so they can enter the data correctly. For this purpose, three properties have been included in the Properties pane:

Text is a very short label that will appear in the input window next to the area where the information should be entered.

Order indicates the position of the input area among all those defined in the template. You can thus define that the last name must be entered first, then the first name, then the photo, etc., even though the objects will have been created in a different order during the design of the template. The first-order object will be the first presented in the input window.

Tooltip will be displayed as a tooltip and in the status bar when the user places the cursor in the input area. He will thus be able to have information concerning the nature of the information to be entered in this location.

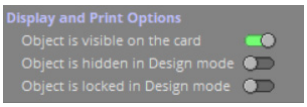
For instance, here are two input windows for the same card.

In this first window, the **Text**, **Order** and **Tooltip** properties have not been defined for any object, the input is not so easy:

In the following one, the **Text**, **Order** and **Tooltip** properties have been set by the card designer for the objects, the input is easy. Notice the help text under the input boxes:

Display and Print Options

These options allow for some comfort when designing the card:



Object is visible on the card is enabled by default. If disabled, the object will not appear on the printed card. This can be useful for objects that need to be used as calculation intermediaries in formulas and scripts.

Object is hidden in Design mode is disabled by default. If enabled, the object disappears in Design mode, which can be useful for making space. It will be visible in Operating mode, of course. To make this object visible again in Design mode, click on it in the Layers panel and uncheck the property.

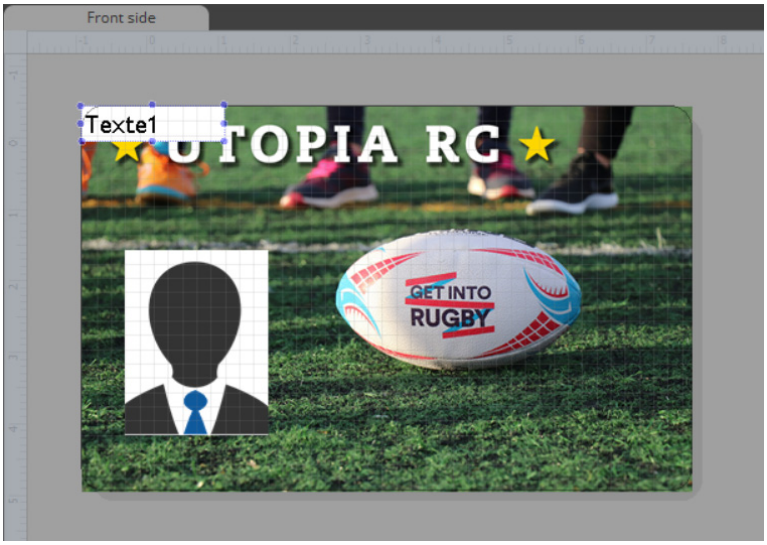
Object is locked in Design mode is disabled by default and the object can be moved or resized. When enabled, the object can no longer be moved or resized (useful to avoid errors).

THE HOLDER'S NAME AND OTHER TEXTS

3

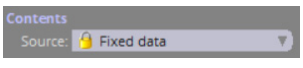
Let's add some information to our card template, such as the cardholder's name. To do this, we'll add a text object and then set its properties so that it can display the information as we want.

In the toolbox on the left, click "Text Object." It appears in the top left corner of the current template. Note that for double-sided cards, the object appears on the currently selected side. To ensure that the creation is done on the correct side, click first on the tab for the side where you want to create the object before clicking in the toolbox icon. The display then looks like:



The Properties panel allows you to specify the characteristics of this object. We won't revisit the properties already discussed in the previous paragraph; they have similar roles across object types.

Remember to start by naming the object using the first property: **Object Name**. This good habit will save you a lot of time later.



Source allows you to define the origin of the information contained in the object. This can be one of the values defined below.

Data in this object defines the default information displayed in operating mode. Depending on the chosen source, this property can appear as a simple input field or a drop-down list.

If the chosen source is "fixed data", indicating that it is a static, non-modifiable object, this property displays the value presented in the object.

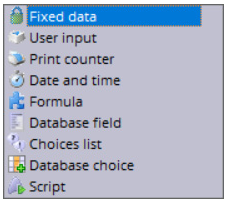
If the chosen source indicates a variable value, the user in operating mode will see the updated data, such as the contents of a database field, the result of a calculation, etc.

The data sources

Multiple sources are possible; however, an object can only have one source at a time. For instance, it is impossible to have an object containing the result of a calculation performed against a database field.

While it is not possible to combine two data sources, you may, however, in the Professional and Expert editions of the software, create calculation formulas to achieve this functionality: create first an invisible object displaying the content of a database field, then a second visible object performing the calculation on the value displayed by the first one.

Possible data sources include:



- **Fixed data** indicates that the content of the object is fixed and cannot be changed by the user in operating mode. The "Data in this object" property contains the information to be displayed.
- **User Input** specifies that the text will be entered by the user in operating mode, from a text box located in an input window. The property "Data in this object" contains the default value.
- **Print counter** indicates that the object contains a numeric value. This value is automatically changed each time the card is printed. This allows, for example, numbering the cards. You can define the first value and the added value for each print in the dialog box displayed from the "Print counter" command in the "Tools" menu. The "Data in this object" property is not used.
- **Date and Time** causes the date and/or time of the map printout to be printed. The "Data in this object" property is not used.
- **Formula** specifies that the object contains a formula, which is recalculated each time data is entered by the user, or print time. The result of this calculation is displayed in the object. The "Data in this object" property contains the calculation formula to be evaluated.
- **Database field** specifies that the object should display the value of a database field linked to the card template. The "Data in this object" property should contain the name of the database field.
- **Choices list** allows the user in operating mode to select a choice from a list of possible values. The "Data in this object" property allows you to specify the list of proposed values.
- **Database choice** is a little more complex: this source tells the software that the user will be able to select a value from a set of possibilities. This set is extracted from a second table in the database. Once the value is selected, this one or the contents of another field in the table will be automatically stored in a field of the main table.
- **Script** indicates that the value displayed by the object is the result of executing a function written in VBScript.

Note however that while simple sources are usable in all editions of the software, others require a Professional or Expert edition of the application.

Additionally, the "Formula" and "Script" sources require some programming skills.

While the "Formula" source is quite similar to the calculation formulas in your favorite spreadsheet, the "Script" source requires a good knowledge of the VBScript programming language.

The "Database choice" source, for its part, requires a minimum of knowledge in relational databases.

These concepts are outside the scope of this guide, which must remain accessible to all.

	Trial & Standard Editions	Professional or Expert Editions Demonstration mode
Fixed data	✓	✓
User input	✓	✓
Print counter	✓	✓
Date and time	✓	✓
Formula		✓
Database field	✓	✓
Choices list	✓	✓
Database choice		✓
Script		✓

3

The cardholder's name

We want the card to display the cardholder's name to ensure their identity.

Since this information will be specific to each cardholder, and therefore to each printed card, we'll use a variable data source so that the user in production mode can enter the identity before printing.

We'll therefore define the property values:

• **Object Name** to name it,

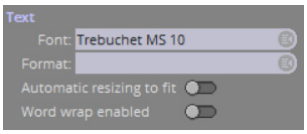
• Select as **Source**: "User Input",

• Enter in **Data in this object** a default value,

• Provide help with the properties in the **Caption** category.

Let's then place the text in its final position and make some aesthetic adjustments to maximize its visibility (text color white and black background with 50% opacity):

Let's review the available properties not already covered in this document for this text object:

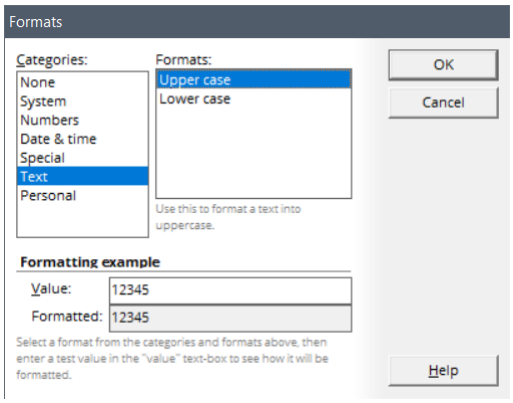


- **Font** allows you to define the font and its characteristics (size, bold, italics, etc.).
- **Format** will be discussed below.
- **Automatic resizing to fit** specifies that the font size can be automatically adjusted so that the entire text is displayed, either by reducing the font size if there is a lot of text, or by enlarging it otherwise.
- **Word wrap enabled** allows you to specify that the text can be written on multiple lines, as by default text objects are only displayed on a single line. This allows you to place long texts on the card, such as instructions for returning the card in case of loss.

Data format

The Format property allows you to define an automatic layout mask, which is very useful for numeric values, dates, and text. In operating mode, the user enters the information as needed, and eMedia CS2 adapts the data presentation according to your specifications.

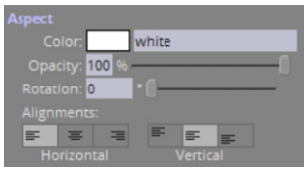
To specify a format, click the button to the right of the property. In the dialog box that appears, select the desired category and then select the desired format from the central list.



If you use Microsoft Office™, you'll find all these formats very familiar; the eMedia CS2 formats are identical to those found in Microsoft Excel™.

The sample area at the bottom of the dialog box allows you to instantly check in the "Formatted" input box what the data entered in the "Value" text-box looks like once formatted.

Text Appearance



By default, text is written in black, completely opaque, and aligned to the center and left of the area.

You can change this by specifying new properties in the "Appearance" category of the properties panel.

Horizontal alignment allows you to specify the text's position within the object (left, center, right); vertical alignment allows you to specify the text's vertical position within the same object (top, middle, or bottom). Rotation allows you to rotate the text from 0° to 359°.

A little exercise

Now try adding 90°-oriented text to your card containing the printing date. This date will change each time a new card is printed out.

The screenshot opposite shows the expected result.

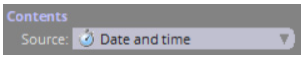
If you think you're not able to do this exercise... Please read.

There are several ways to do this. We won't describe the easiest, but the most powerful:

❶ Let's start by creating a text object using the corresponding button in the toolbox on the left. The new object is automatically placed at the top left of the card, let's move it to its final position.

❷ Next, let's give this object a name so it's easy to find later. Let's call it `Printout_date` using the **Object Name** property.

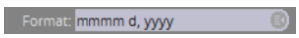
❸ Let's then modify its **Source** property to specify that this object should display the date and/or time of printing.

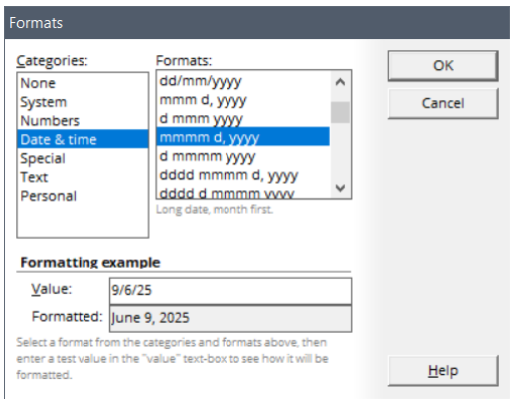


❹ To display the date in the format we want instead of using the standard Windows format, let's change the **Format** property.

Click the button to the right of the property box and select the option "mmmm d, yyyy" in the "Date & Time" category to obtain a short date.

Once OK clicked, the **Format** property is updated with the format we selected:

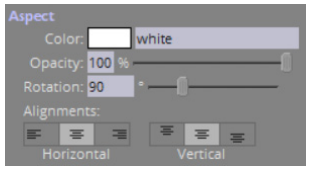




❺ We may optionally change the font or size using the properties in the **Text** category.

❻ Set the font color and then change the text rotation angle using the **Color** and **Rotation** properties in the **Aspect** category. For rotation, you can drag the rotation slider or type the desired angle in the input box.

You may also set the alignments to center, center.



We could be perfectionists and manually enter the exact values for **Top**, **Left**, **Width** and **Height**, by entering them in millimeters. Note that these values indicate the position of the upper left corner of the object IF IT WERE ORIENTED AT 0°.

The properties of the **Caption** category are useless in our case because as the source of the object implies an automatic calculation, no information will be requested from the user in exploitation mode. We don't set them.

Let's go a little further

With a Professional or Expert edition of eMedia CS2, we can use more powerful features such as formulas and scripts, as well as advanced database functions. We'll come back to databases a little later in this guide.

> Note that you can test these advanced features with a Trial or Standard edition of eMedia CS2 by activating the demonstration mode from the "Help" menu. In this special mode, the software behaves like an Expert edition, but is unable to print cards correctly. An unsightly label is affixed to each card.

3

Let's add the card's expiration date to our template. Located below the photo and preceded by the text "Expires on", it will perform a calculation based on a validity start date requested from the user, with an offset of one year minus one day in the future.

An object for entering the start date

Let's start by adding a text object named "Start_Date" that will be used to ask the user for the card's start date in exploitation mode. Let's configure this object as follows (in this screenshot, the unnecessary property categories have been hidden; simply click on the title to do so):

> Note that it is possible to simplify the interface by hiding certain property categories just by clicking on the category title. In the screenshot above, we have closed the **Text**, **Aspect** and **Border** categories.

- **Object Name** is set to "Start_date".
- **Source** contains "User Input" since the user will need to enter the value.
- **Default data** is set to today's date, this will be the default value.
- **Background** is set to white color and 50% opacity for better visibility.
- The three properties in the **Legend** category provide assistance to the user.

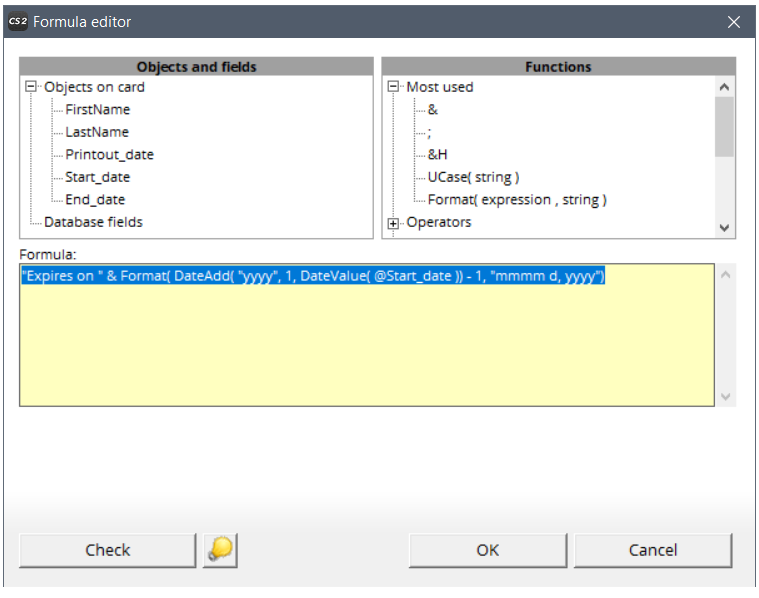
Furthermore, to prevent the user-entered value from appearing on the printed card, we position this object outside the card, because yes, this is allowed and even recommended for objects created for intermediate input or calculations.

Another object for calculation and printing

Now let's place another text object, which will be positioned on the card and thus printed. Let's assign properties to it so that its presentation is appropriate:

- **Object Name** is set to "End_date".
- **Source** contain is set to "Formula" to allow an automatic calculation.
- **Formula** contains the formula (see below).
- The **Text** & **Apect** categories are set to better visibility (color: white, smaller font size).
- The **Caption** category is useless as nothing will be asked to the user. The calculation is performed automatically.

Finally, let's enter the calculation formula using the Formula Wizard, which appears when you click the button to the right of the **Formula** property.



This wizard assists in formula entry by displaying the text of the calculation formula, topped with two lists:

The left list contains all the card objects and database fields (see below).

The right list contains all the functions that can be used to create your formula. These functions perform similar functions to those found in Microsoft Excel™, for example, and can be combined.

The "Check" button below the formula allows you to verify the correct syntax of the entered formula and displays the result of the evaluation, or reports any errors encountered.

Enter the following calculation formula:

```
"Expires on " & Format(DateAdd("yyyy", 1, DateValue(@Start_date)) - 1, "mmmm d,yyyy")
```

Let's explain this formula: First, as in Microsoft Excel™, the evaluation is done from the inside out: What's in parentheses is calculated first. Calculation functions, much like the SUM function in Microsoft Excel™, must be followed by parameters in parentheses and separated by commas.

```
"Expires on " & Format(DateAdd("yyyy", 1, DateValue(@Start_date)) - 1, "mmmm d,yyyy")
```

The "@" symbol indicates that the adjacent word is the name of an object on the card, and that the evaluation should return the value displayed by that object.

```
"Expires on " & Format(DateAdd("yyyy", 1, DateValue(@Start_date)) - 1, "mmmm d,yyyy")
```

The **DateValue** function requires a parameter, and its role is to transform the value of the parameter into an acceptable date to the computer (i.e. a number of days since 01/01/1900), regardless of how the date was formatted, here in the "Start_Date" object.

```
"Expires on " & Format(DateAdd("yyyy", 1, DateValue(@Start_date)) - 1, "mmmm d,yyyy")
```

DateAdd is a function that allows to add a certain number of intervals to a date: days, weeks, months, years, etc. The first parameter indicates the type of interval to add ("yyyy" = years), the second parameter indicates the number of intervals (here 1 interval, i.e., one year). The third parameter indicates the date to which this interval should be added.

At this stage of the calculation, the formula evaluation indicates that the value of the "Start_Date" object must be read, considered as a date, then one year must be added to this date.

```
"Expires on " & Format(DateAdd("yyyy", 1, DateValue(@Start_date)) - 1, "mmmm d,yyyy")
```

Subtracting 1 from the calculated date gives the previous day's date, since dates and times are considered as numbers of days since 01/01/1900. So, if the date displayed by the "Start_Date" object is January 1, 2030, adding one year gives January 1, 2031, subtracting one day gives the expected result: the card will be valid from 01/01/2030 to 12/31/2030.

```
"Expires on " & Format(DateAdd("yyyy", 1, DateValue(@Start_date)) - 1, "mmmm d,yyyy")
```

The **Format** function has exactly the same role as the **Format** property of objects. It allows you to present information by applying formatting. The function requires two parameters: the first one is the value to be formatted, and the second one is the format to be applied. The available formats are the same as those for the **Format** property.

With the expression in green above, the calculated date at 1 year – 1 day will be returned by the function as text in month day year format.

```
"Expires on " & Format(DateAdd("yyyy", 1, DateValue(@Start_date)) - 1, "mmmm d,yyyy")
```

The "**&**" symbol is an operator, like the well-known arithmetic operators +, -, /, and *. This operator allows the evaluator to concatenate (i.e., join) two texts together.

The final formula will therefore return the text "Expires on December 31, 2025" if the user entered 01/01/2025 in the "Start_Date" object:

A BARCODE CONTAINING AN IDENTIFIER

Barcodes are created and used like text objects. In this section, we'll add one containing our cardholder's license number.

Click the Barcode icon in the toolbox on the left. The object appears at the top left of our map. As with the previous objects, we start by giving it a name.

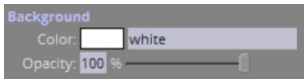
Then we specify its **Source**, the **Data in this object**, and the **Caption** information.

It's important to know the type of device that will read this barcode in the future.

For laser barcode readers, the barcode can be left on a colored background.

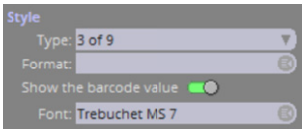
However, for the more common LED or infrared readers, it's important that the bars are drawn on a white background.

This white background can be enforced using the **Color** and **Opacity** properties in the **Background** category:



However, since the application minimizes the border around the barcode to ensure the bars have standardized dimensions, the white background may be too close to the bars, resulting in an unattractive rendering. We'll see later that the solution may be to add a rectangular shape under the object for a more polished look.

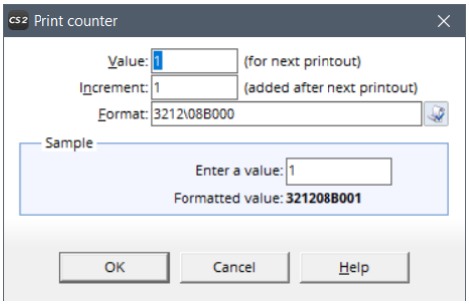
Let's now define the **Style** of our barcode using the following properties:



- **Type** specifies the type of barcode to generate. The choice will depend on the code's intended purpose, the supported character set and compactness requirements, and will primarily depend on the reader used for reading, as not all readers necessarily support all barcode types.
- **Show the barcode value** indicates that the value represented by the barcode should be written below it to allow manual entry if the reader is unable to read it.
- **Font** defines the font, size, and characteristics of the barcode value if the previous option has been enabled.

Print Counter Characteristics

From the "Tools" menu, select the "Print Counter..." command to specify how the counter should behave:



• **Value** sets the value to use on the next card that we will print out.

• **Increment** specifies the value to add to the counter once a printout has been performed. By default, the increment is 1, and the counter will have the values: 1, 2, 3, etc. If the Increment is set to 2, the counter will have the values; 1, 3, 5, etc.

• **Format** specifies how the value should be presented in the object, as well as the format for each text or barcode object.

In this example, we want the values to be preceded by a fixed data item corresponding to a club number: "321208B," and the counter to be a three-digit number.

Therefore, we specify the format to apply; the "\" character before the zero in "321208B" indicates that the number "0" should be displayed and not replaced by one of the digits in the counter value.

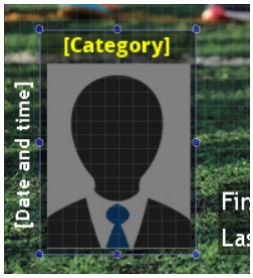
The "Example" box below allows you to check the validity of our format. Enter a possible value for the counter in the box and notice that its formatted value is then displayed below.

A CHOICE LIST

For our card, we want the user to be able to select information from a set of possible values.

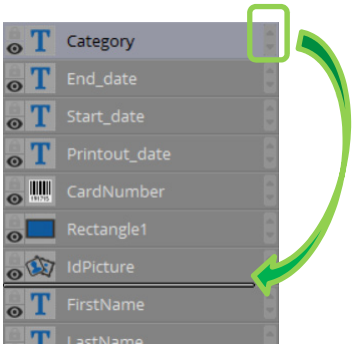
Not only will this be easier for the user, but it will also prevent typos.

Let's create a text object, name it, and display it as this one:

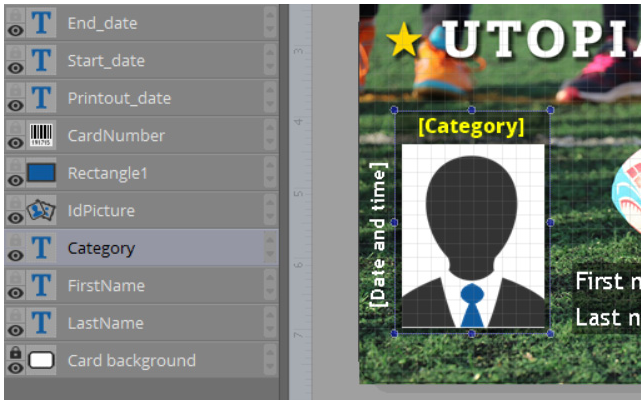


- This object is called "Category",
- It is written in yellow on a 50% black background,
- It is vertically aligned "top",
- We've sized it to encompass the passport photo and overflow slightly to give the photo a framed effect.

Problem: Our object is over the identity picture. Let's move it in the Graphics Layers window to place it *under* the photography.

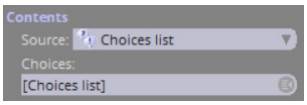


To do this, in the Graphics Layers window, place the mouse over the two arrows to the right of the object, click and hold, then move the object just below the "IdPicture" object before releasing the mouse:

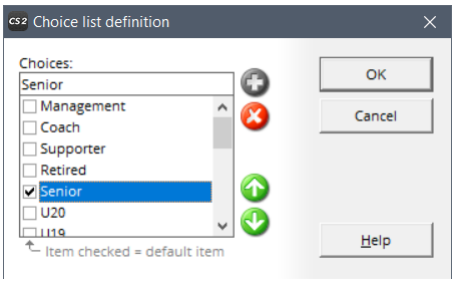


Now the category is located under the Identity picture, the black background of the "Category" object doesn't obscure the picture.

Now let's set the **Source** property to "Choice List" to indicate that the user in operating mode will have to choose a value from a predefined list, and then click the button to the right of the **Choice** box to bring up the input window:



This window allows you to enter the possible choices. They are displayed in the list on the left.



To add a choice, enter its value in the input field above the list, then click the "+" button.

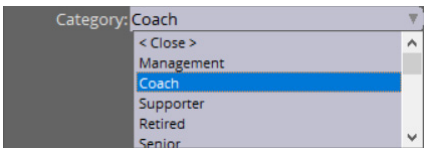
To delete a choice, click on it in the list, then click the "X" button.

To reorder the choices, select the one to move in the list on the left, then use the arrow buttons.

Finally, to set the default choice, the one displayed if no choice is selected, check the box next to it.

Click OK once your list of possibilities is created.

The user may now select the correct answer by clicking the button at the end of the input field, then choose the appropriate value from the list.



He may also click on "< Close >" to close the list without changing the previous or default selection.

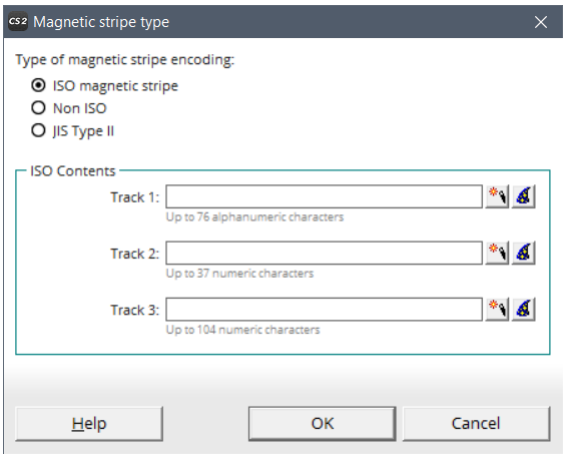
THE MAGNETIC STRIPE

The magnetic stripe on the back of the card (front for Japanese cards) is considered a series of three objects whose **Source** properties are formulas.

A wizard is available to help you create the encoding formula(s).

To specify the contents of the magnetic stripe, click the corresponding button in the toolbox on the left.

The "Magnetic Encoding" window appears:



The radio buttons at the top allow you to select the type of encoding to perform:

- **ISO**: The encoding complies with ISO standards; eMedia CS2 verifies the data to be encoded.
- **Non ISO**: The encoding does not comply with ISO standards; eMedia CS2 does not verify the data to be encoded.
- **JIS Type II**: The encoding complies with the Japanese JIS Type II standard.

The three input fields allow you to enter the three formulas (one for each track) or the formula on a single track on the front of the card if the "JIS Type II" standard has been selected.

A help text below each field indicates the maximum dimension accepted by the track, as well as the permitted data type. You will notice that with non ISO encoding, the formula can return any number of arbitrary characters since eMedia CS2 does not verify the validity of what is to be sent to the encoder.

When encoding the card, eMedia CS2 sends the result of the formula evaluation to the encoder, replacing prohibited characters with spaces for ISO track 1 and eliminating prohibited characters for ISO tracks 2 and 3.

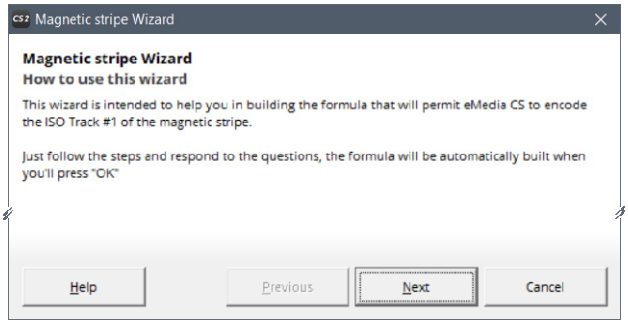
The buttons at the end of the field allow you to:

 Opens the "Formula Editor" window seen previously, in order to enter a formula and test it.

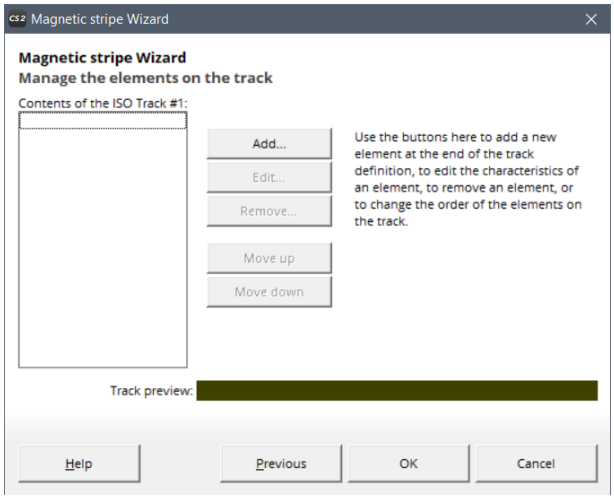
 Opens a specialized wizard that allows you to build the track content step by step. At each step, you will indicate whether you want to add or concatenate map objects, database fields, fixed data, etc.

Now let's use this button to call the Magnetic Stripe Wizard:

On the home page, read the instructions displayed and then click on the "Next" button to begin composing the contents of the magnetic strip.



Note that once a magnetic stripe has been set up, it is shown on the back side of the template (ISO and Non ISO cards) or on the front side of the template (JIS Type II cards) to help you not to add any object at the same location.



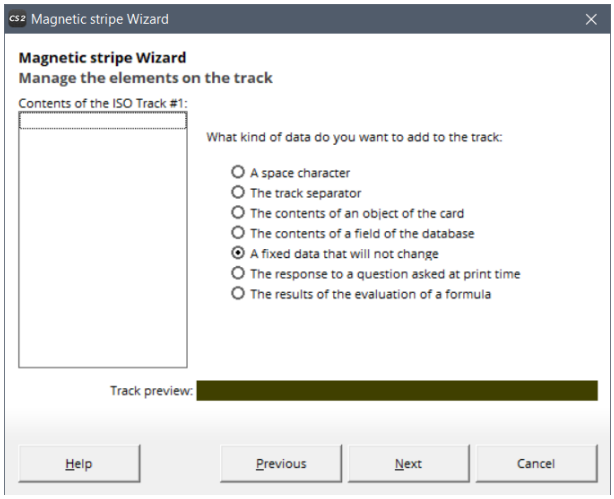
This screen serves as a pivot. Each time an element is modified or added to the track, we are returned back to this display with the updated content in the left list.

Note the presence at the bottom of the window of a preview showing the data as it will be encoded on the track.

To add an element, just click "Add"

To modify, delete, or change the position of an element (move to the previous or next location on the track), select it in the list and then click the needed command button below.

Let's start by adding data to encode. Click the "Add" button:

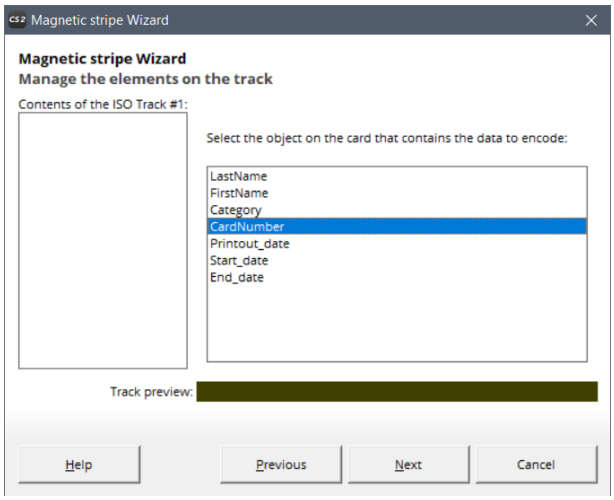


This screen allows you to select the type of information to add to the track.

It can be:

- A spacing,
- The standard separator for the track,
- The content of an object already present on the card,
- The content of a database field (see below),
- A fixed data item,
- The answer to a question that will be asked at print time,
- The result of a calculation.

We want the content of the magnetic stripe to begin with the card number. So, let's select "The content of an object on the card" and click "Next":

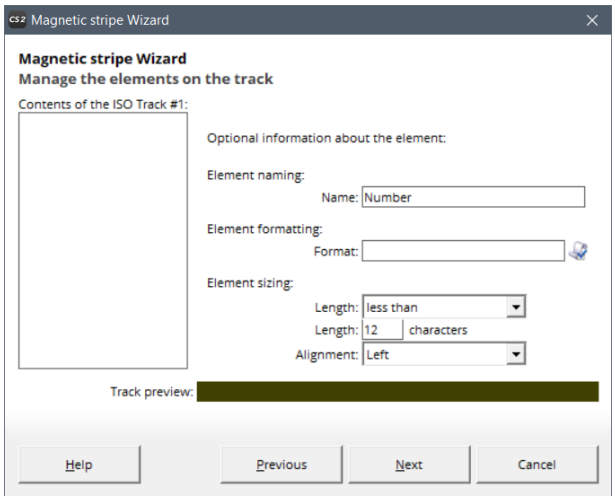


The list of objects on the card appears.

Here we can clearly see the importance of naming the objects. Imagine this list containing "Text1", "Text2", "Text3", etc.

Let's click on the "CardNumber" object, which is the barcode containing the card number.

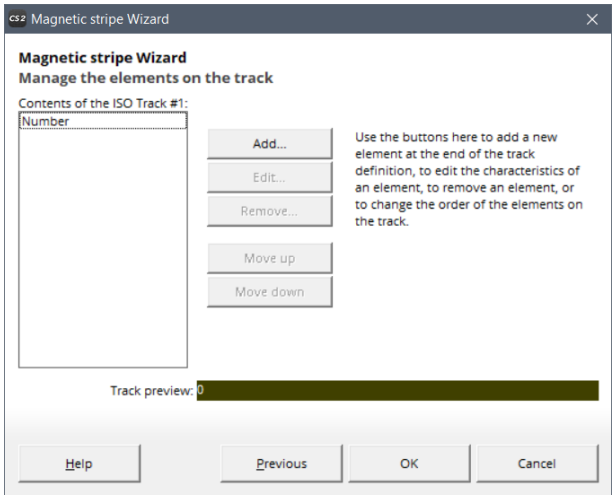
Then let's click "Next".



Each addition made to the magnetic stripe is an object, like those on the card. You can therefore:

- Give it a name (for possible reuse),
- Define a formatting,
- Define whether the object should have a variable, fixed, or maximum length,
- Indicate the fixed or maximum dimension in terms of the number of characters,
- Specify the alignment (by adding spaces to the left or right in the case of a fixed dimension).

Let's call this first object "Number" with a maximum length of 12 characters, then click "Next":



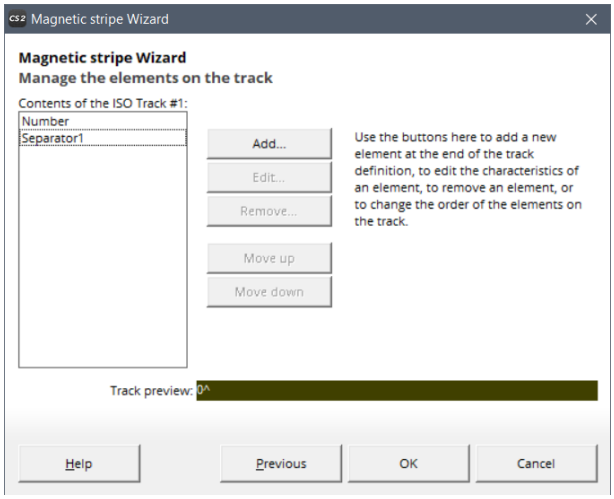
We return to the main page to move on to the second object or to finish.

Note that at the bottom of the window, the preview area begins to display an encoding example based on the currently known data.

For now, only a zero appears there because the "CardNumber" object is currently unknown.

We have never printed it, and the object's formatting will only be taken into account in operating mode).

Let's continue. We will now add a track separator. For track number 1, this standard separator is the "^" character:



The procedure is identical to the one above:

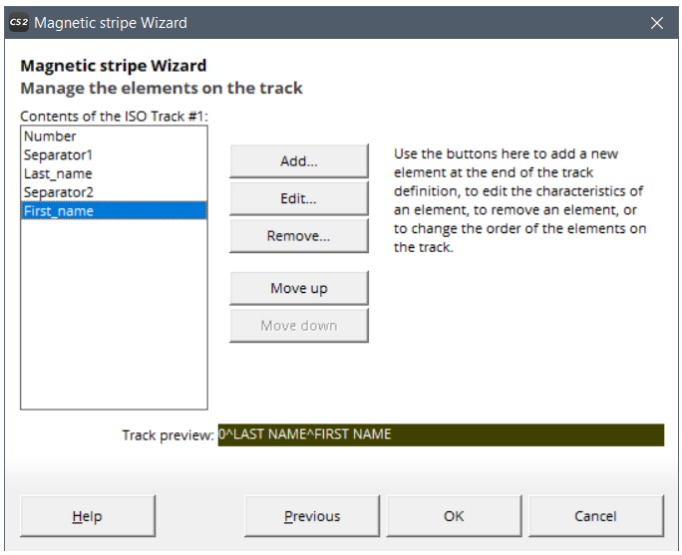
1. Click "Add",
2. Select "The track Separator" and click "Next",
3. Name it "Separator1", no format, the length information is not editable, click "Next".

The result is shown here.

Exercise

Continue the process to add the holder's last name (up to 12 characters), a separator, and the holder's first name (up to 10 characters) to the track:

The final window should look like this:



Stuck? Let's go step by step:

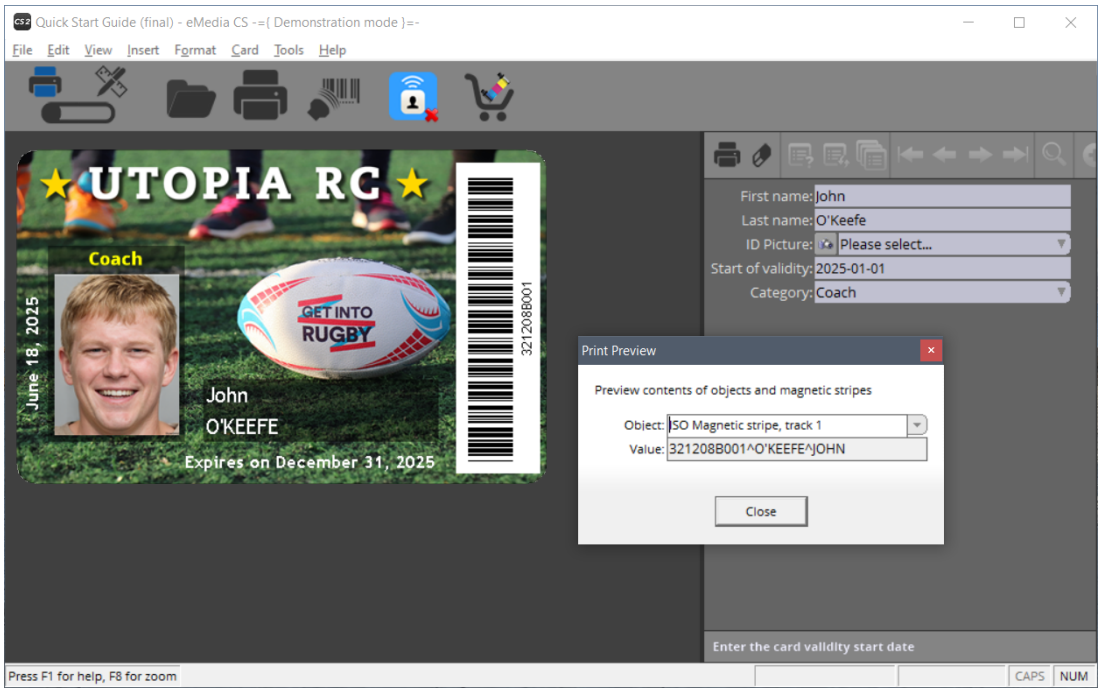
Let's start by adding the cardholder's name: In operating mode, the cardholder's name is located in the "LastName" object. We'll reuse the value of this object: Click "Add", select "The contents of an object on the card", select "LastName", and then enter the following size information: "less than 12 characters".

Let's add a separator: We proceed exactly as before: Add, track separator, name it "Separator2".

Let's add the first name: Click "Add", select "The contents of an object on the card", select "FirstName", and then enter the following size information: "less than 10 characters".

Real-time magnetic stripe preview

In operating mode, when filling a card, you can view the contents of the magnetic stripe using the "Print preview..." command in the "File" menu:



Select "Magnetic stripe, track 1", "Magnetic stripe, track 2", or "Magnetic stripe, track 3" from the drop-down list, and the value ready to be encoded on the magnetic stripe will be displayed below.

In the example above, we see the card number, the track separator "^", the first 12 characters of the last name (in uppercase as the magnetic stripe doesn't support lowercase letters), the separator, and the first name.

Please note also that ISO Standard for magnetic stripe doesn't also support accented letters, so eMedia CS2 will comply to the standard by replacing accented letters with spaces.

CONNECTING TO A DATABASE

All the editions of eMedia CS2 support access to data stored in a database.

The Starter and Standard editions only support Microsoft Excel™ datasheets. However, note that Microsoft Excel™ is a spreadsheet program and its data storage capabilities are very limited: no data type support, no ability to manage relational databases, etc. This solution allows you to manage a simple set of data provided you meet the requirements set by Microsoft.

The Professional and Expert editions of eMedia CS2 can connect to any database using OLEDB or ODBC drivers developed either by the database software publisher, by third-party companies, or by enthusiasts under Open Source licenses.

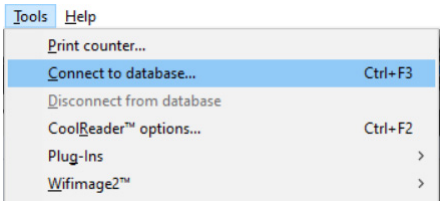
This highly flexible solution provides access to all the possibilities for storing and managing large amounts of data.

Connection Configuration

There are several ways to connect to a database in design mode. You may:

- Use the "Connect to database" command located in the "Tools" menu (see on the right),
- Click the "Connect to batabase" button in the toolbar located immediately below the menu bar,

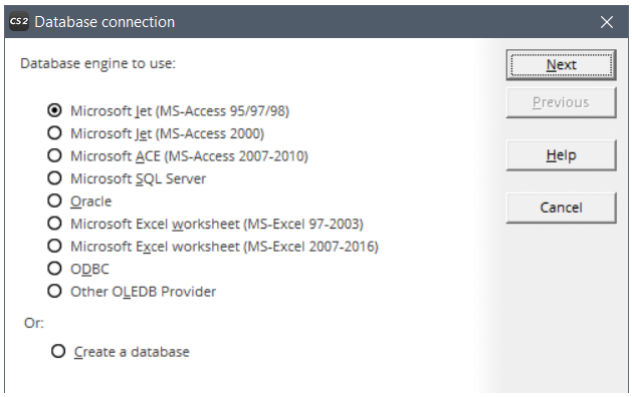
- Use the keyboard shortcut CTRL + F3



In all cases, the Database Connection Wizard window appears:

This step allows you to select the type of database to link to the current card template:

- Microsoft Access™
- Microsoft SQL Server™
- Oracle™
- Microsoft Excel™
- Database with an ODBC driver (MySQL, SQLLite, etc.)
- Database with an OLEDB driver (MySQL, Active Directory, etc.)



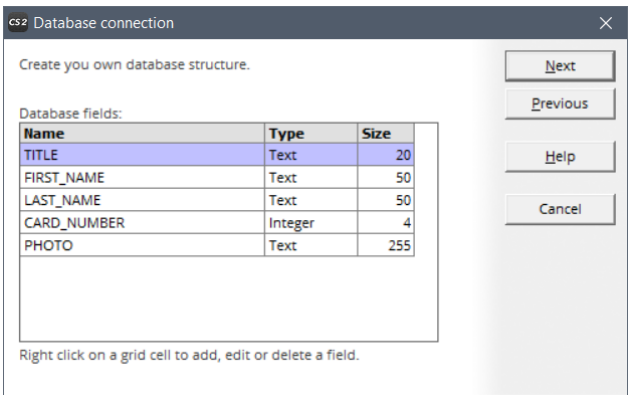
The last option even allows you to create a database from scratch by specifying all its characteristics (tables, fields, etc.). The resulting Microsoft Access™ database will allow you to benefit from a real database without requiring Microsoft Access™ to be installed.

With a Starter or Standard Edition of eMedia CS, you can only connect to a Microsoft Excel™ datasheet (XLS or XLSX file).

However, you can test all connection types by activating the demo mode from the "Help" menu. Be careful, however, eMedia CS in demo mode does not print cards correctly by overloading them with a "DEMONSTRATION" label. The demo mode can be disabled from the same "Help" menu, "Demo Mode".

Create a Database

Selecting the last option in the list, "Create a Database," displays the following window:



This window allows you to define the table structure to use for the current card template.

When opened, five fields are already available to store the cardholder's information.

You may modify this structure as you need by adding new fields at the end of the list or at the selected location, changing the type, name, or length of existing fields, or deleting those you don't need. You may even reorganize your list. All of these actions can be performed by right-clicking on the relevant field.

Once you click "Next," a database will be created in Microsoft Access™ format and will be automatically linked to your card template.

Warning: This feature requires a Professional or Expert edition of the application.

Online help can be accessed from any drop-down menu, topic, or Object Property by pressing the F1 key on your keyboard. In "Contents" click "Database Connection" / "Create Database".

Database Example

For the purposes of the rest of this guide, we will use a database provided with this guide.

It is located on your hard drive in the `Samples` folder and is named: `Utopia RC.xlsx`

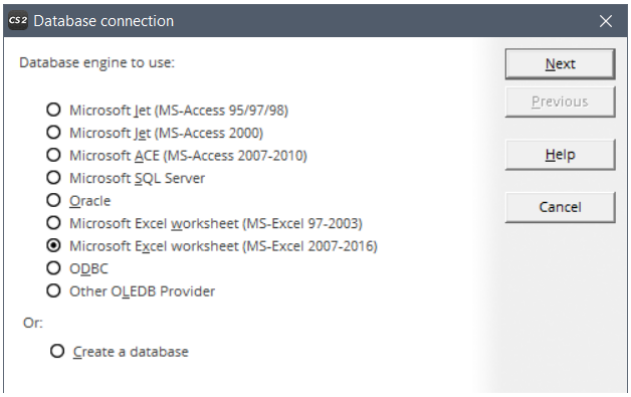
Let's connect to this database.

To do this, open the "Tools" menu and select "Database Connection."

Choose "Microsoft Excel Worksheet (MS-Excel 2007-2016)."

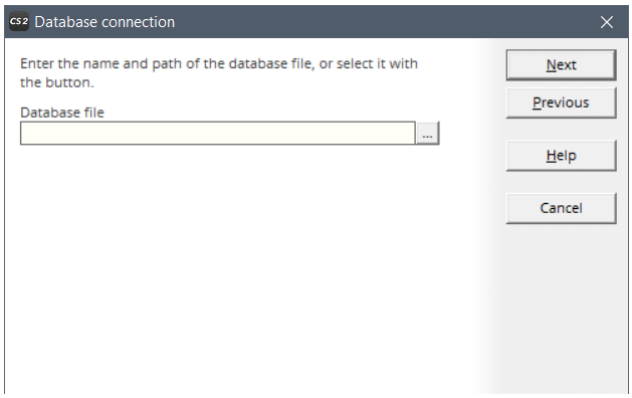
Then click "Next."

The next page depends on the type of database selected:



- For file-based databases such as MS-Excel™ or MS-Access™, the pathname of the file must be provided,
- For ODBC databases, the ODBC Connection String must be provided (with additional information regarding the exact type of database),
- For advanced databases such as MS-SQL Server™ or Oracle™, the server name and server database must be provided,
- For OLEDB databases, the connection string must be entered.

Page 2

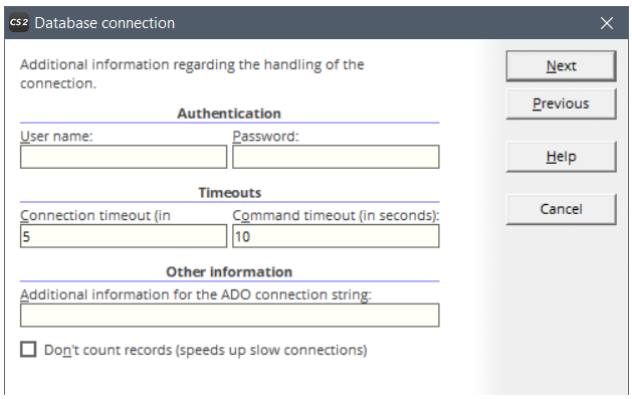


As we've selected a Microsoft Excel™ datasheet, the page asks for the name of the file containing the data.

Fill in the input field with the path and name of the XLSX file, or click the "..." button and select the XLSX file to use from the standard dialog box.

Then click "Next."

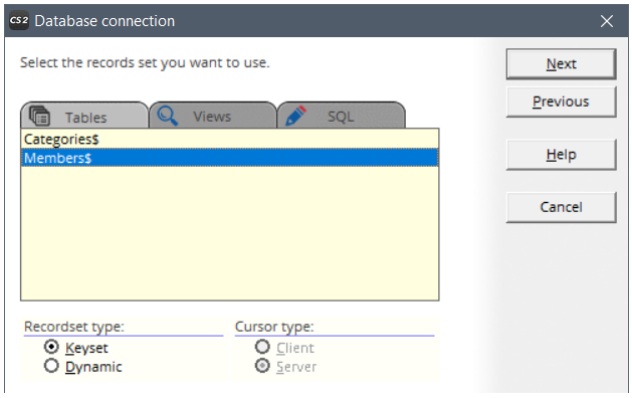
Page 3



On this page, we're prompted to enter additional optional information to enable an efficient connection to our database, such as authentication information if necessary, custom timeouts, or other information to provide to the database manager.

Then click "Next."

Page 4



This page allows us to specify:

1. How records should be retrieved from the database (see below),
2. The table name, command text, or view name to use,
3. The recordset type and location of the records.

The record retrieval mode can be selected by clicking on the tabs:

- **Table** allows you to specify that you want to retrieve all records stored in a database table. For Microsoft Excel™, this is a spreadsheet.
- **View** can be selected with powerful database managers and allows you to retrieve all records selected by a view or a SELECT-type stored procedure.
- **SQL** allows you to enter a SELECT SQL statement returning a selection of records from a table or from several related tables.

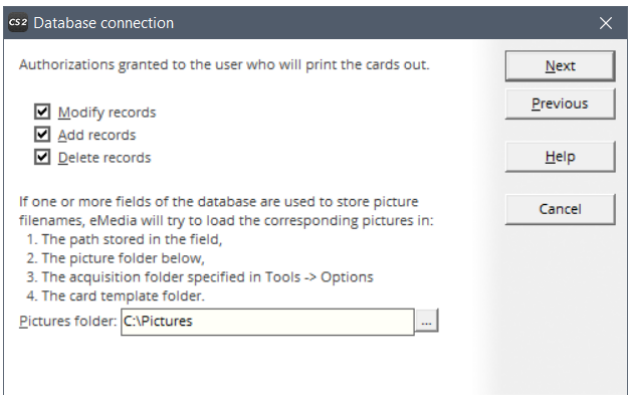
The list below the mode selection tabs indicates the available elements for the selected mode: list of tables, list of views, and SQL statement entry area.

At the bottom of the dialog box, you'll find options for selecting the recordset type and cursor location, which you may need to modify for specific use cases, although the default (Keyset, server) is suitable for 95% of those.

Select the "Members$" spreadsheet and click "Next."

3

Page 5

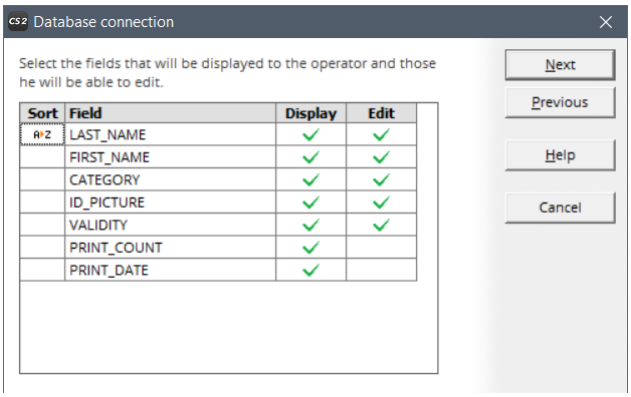


This page allows you to authorize certain user actions in operating mode: modifying records, adding new records, and deleting records.

These rights granted here do not override the permissions granted to the user specified at login (see page 3: Username and Password), which take precedence. The three checkboxes present here only apply if the corresponding rights have been assigned in the table itself and define the presence of active/inactive buttons for modifying, adding, or deleting records in eMedia CS.

The image folder allows you to specify the location where image files are stored when the path is not specified in the records.

Page 6



This page allows you to specify:

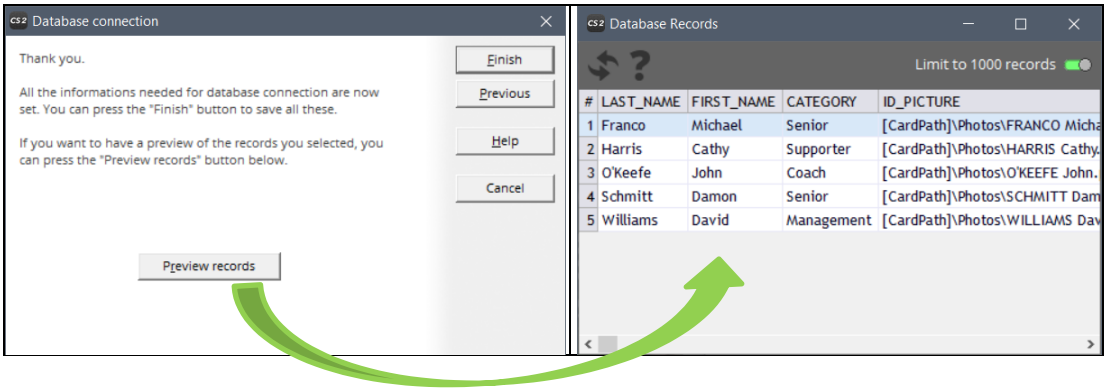
- Column 1: The field that will be used to sort records in alphabetical or reverse order.
- Column 3: The fields that should be displayed in the input window in operating mode.
- Column 4: The fields that can be modified in operating mode.

Please note that if there is an automatically numbered "record identifier" field, it is strongly recommended to uncheck the "Edit" box to avoid any errors when saving the record..

Then click on the "Next" button.

Page 7

This page allows you to confirm all the choices made previously and to display a preview of the selected records:



This record preview window can be accessed at any time in design mode by pressing the F3 function key. The "Limit to 1000 records" checkbox allows you to display only the first 1000 records to improve performance.

Linking objects and database fields

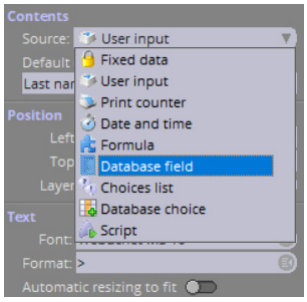
The previous steps allowed us to link the map template to a database. Now, in order for the card objects to display the data, we need to specify which objects display which fields.

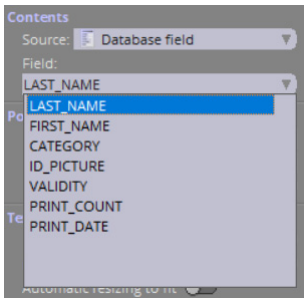
This process applies to text objects, barcodes, and images.

Text and Barcode Objects

Click on the text object we want to associate with a database field. For example, click on the "LastName" object.

In the Properties window, change the **Source** property and select "Database Field."





In the **Field** property that appears, click the arrow to the right of the box to open the drop-down list.

This list lists all the fields in the previously created connection.

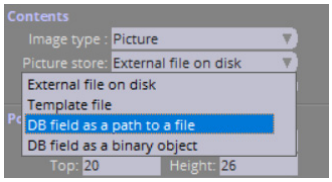
Click on the desired field: LAST_NAME.

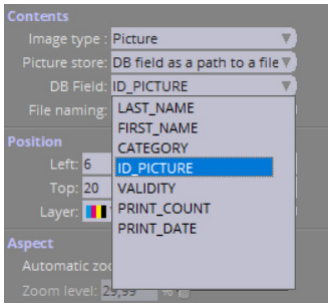
Done! Linking a database field to a map object is as simple as that!

Image Objects

The procedure is similar. However, depending on the database type, images may (or may not) be saved in tables as large binary objects. While this is possible for Microsoft SQL Server™, Oracle™, MySQL™, etc., it is strictly impossible in Microsoft Excel™. In this case, you can save the name of the disk file containing the image.

Click on the holder's picture ("IdPicture" object), then in the properties window, click the arrow to the right of the **Picture Store** property to reveal the drop-down list and select "DB field as a path to a file". Selecting "DB field as a binary object" performs a binary save, as previously indicated, but this is not possible with MS-Excel™.

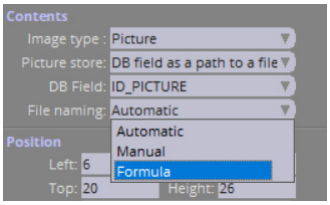




Click the arrow to the right of the **DB Field** property and select "ID_PICTURE" to specify the name of the field that will contain the path to the image file.

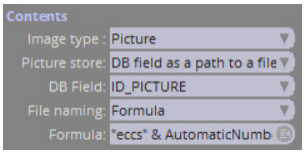
You may now specify how to name the image file when it is created by eMedia CS following an acquisition in production mode.

Click the button to the right of the **File naming** property and select in the drop-down list one of the following options:



- **Automatic**: eMedia CS will assign a name to the file on its own,
- **Manual**: A dialog box will prompt the user in operating mode to name the file,
- **Formula**: A calculation formula will be used to name the file.

In this case, the **Formula** property becomes available and allows you to enter the calculation formula used to name the image file when it is acquired by the user in production mode.



The default value is "eccs" followed by an automatically generated number. The extension depends on the image file type.

3

Exercise 1

The cardholder's name and photo are now linked to the fields in our database. Let's add the following links:

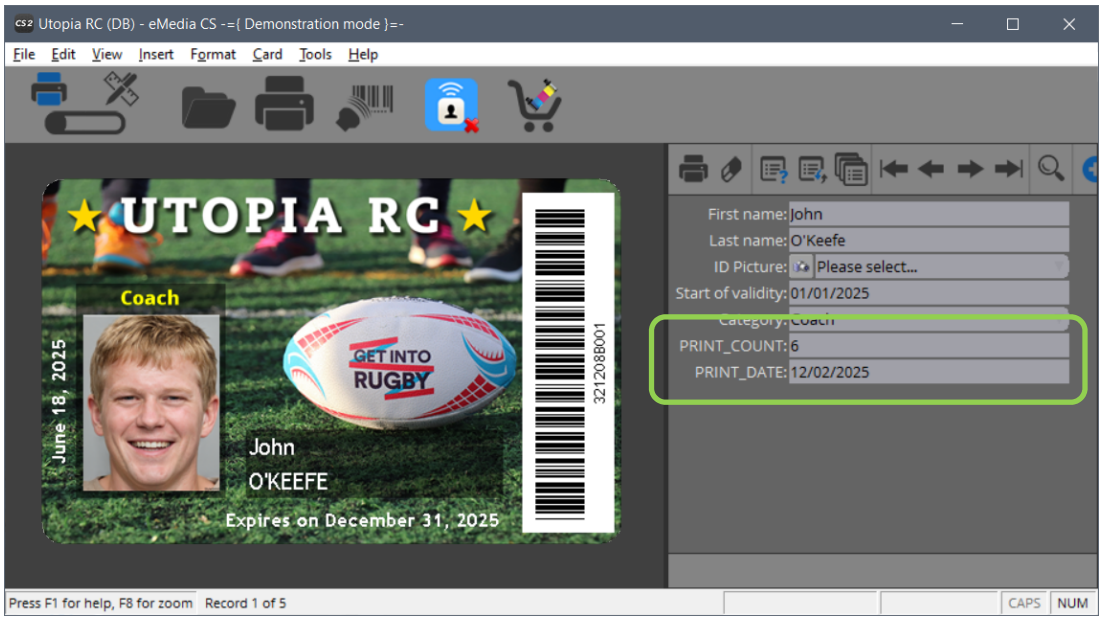
- The cardholder's first name,
- The cardholder's category,
- The validity date.

If you're successful, congratulations, go to exercise 2! Otherwise, continue below.

1. Click on the "FirstName" object that should contain the cardholder's first name to select it, and then change the **Source** property to "Database field". Open the **Field** property drop-down list and select "FIRST_NAME".
2. Click on the "Category" object, the yellow text above the photo, to select it, and then change the **Source** property to "Database field". Open the **Field** property drop-down list and select "CATEGORY".
3. Click on the "Start_Date" object located below the card to select it, and then change the **Source** property to "Database field". Open the **Field** property drop-down list and select "START_DATE".

Exercise 2

If you switch to operating mode, you'll notice a strange phenomenon: the presence of two unexpected input fields in the window on the right:



These two input fields are due to the presence of database fields unrelated to card objects. When the input window appears, it first lists all editable card objects, whether or not they are linked to database fields, then displays the unlinked database fields, labeled with the field name.

The goal of this exercise: to create labels those are a little more understandable for the average person, such as "Number of printouts" and "Last printed on".

If you've done it, congratulations! Continue to the next paragraph. Otherwise, continue reading.

Solution

1. Create two new objects. Place them outside the card, like the "Start_date" object.
2. Change their **Source** property to "Database Field" and set their **Field** property to "PRINT_COUNT" and "PRINT_DATE" respectively.
3. Finally, change their **Text**, **Order**, and **Tooltip** properties in the **Caption** category to values that are easier for humans to read.

Let's go further with the database choice

The "Database choice" **Source** allows the user in operating mode to choose a value from a list, with two additional, very useful options:

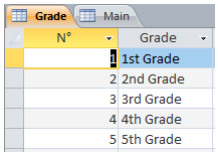
1. The list of choices will be defined in a secondary table of the database,

2. The choice made will be saved in a field of the main table.

Let's take our card as an example: we want each card to display the cardholder's category from a predefined list: manager, coach, supporter, or age group. And of course, this choice can be made from a list without having to retype the category for each card.

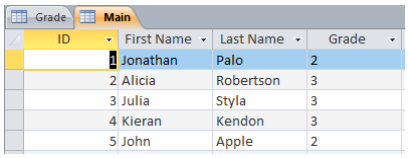
This is what we will detail below.

The database choice also allows you to track relationships between two tables. It is possible to save a secondary value from another field in the main table field, not the information selected from the list. Explanations using the "Database.mdb" database, included among the examples provided with the software, in the "School/Files" folder.



This database contains, among other things, a table named "Grade". In this table with 5 records, each has a grade name ("Grade" field) and a number ("N°" field):

Still in this database, another table named "Main" contains the list of students.



For each student, we have a "Grade" field containing not the Grade name, but its number. This number is the one appearing next to the grade name in the "Grade" table.

For example, student Jonathan Palo is in Grade number 2, meaning 2nd Grade class.

This technique of referencing codes located in another table allows the creation of "relational" databases, meaning that the data maintains relationships between them across different tables.

What are the benefits of this technique?

1. Compactness. A number uses less storage space than text. When dealing with huge databases, storing codes saves valuable space.
2. Consistency. No matter which second-grade student is considered, their grade number will always be identical, no more uppercase or lowercase letters or typos.
3. Speed of modification. If tomorrow a change is decided to reform grade names, there will be no need to modify all the records; just changing the labels in the Grade table will be sufficient.

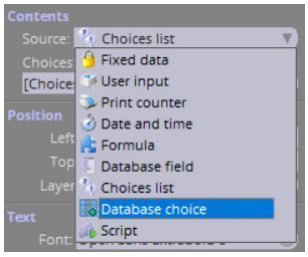
The "Database Choice" source is only available in the Professional and Expert editions of eMedia CS2, or in demo mode.

Let's define our "database choice" field.

We will now modify our template so that the cardholder's category (the yellow text above the photograph) is of this type and allows selection from a list.

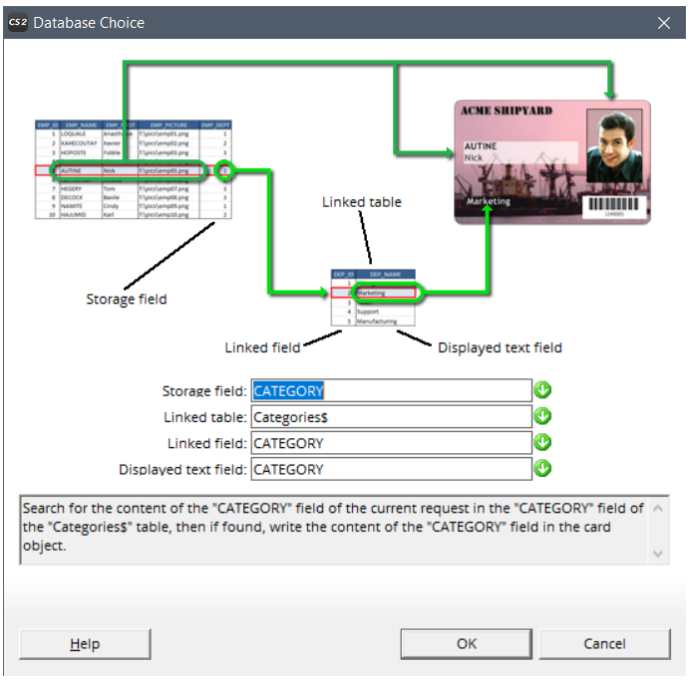
To do this, we created another sheet in our Excel workbook containing a column with a title and possible values for the CATEGORY field: Manager, Coach, Supporter, etc.

For simplicity, we didn't create a field to establish a relationship between the tables.



Let's select the "Category" object and then change its **Source** property to "Database Choice":

Now click on the button on the right of the **DB choice** property, the following window appears:



Database choice window

- **Storage field** defines the name of the field in the main table where the value selected by the user in operating mode should be stored. The button on the right allows you to select the field.
- **Linked table** defines the name of the table containing the various choices offered to the user in operating mode. The button on the right displays the list of database tables.
- **Linked field** specifies the name of the field in the linked table containing the value to be stored in the main table. The button on the right allows you to select the field.
- **Displayed text field** selects the name of the field in the linked table containing the values to be displayed in the choice list. The button on the right allows you to select the field name.

Below these four input fields, a text summarizes the choices made.

In our example, the list presented to the user will be all the values in the displayed text field, namely the CATEGORY field of the "Categories" table. When the user selects a value, the contents of the CATEGORY field in the "Categories" table will be inserted into the CATEGORY field in the main table.

When browsing, the value of the CATEGORY field in the main table will be searched for in the linked field in the "Categories" table, and once found, the value of the displayed text field in the "Categories" table will be shown on the card.

In the school example, we would specify:

- Storage field: Class (from the main table)
- Linked table: Class (table name, not field)
- Linked field: N°
- Displayed text field: Class (from the Class table)

Thus, when creating the record, the user in operating mode will scroll through the list, which will contain all the values in the Class field of the "Class" table, i.e. 1st Grade, 2nd Grade, 3rd Grade, 4th Grade and 5th Grade. The user will choose one of these options. When selecting 2nd Grade for instance, the value in the "Class" table's N° field will be copied to the "Class" field in the main table, i.e., the value 2.

When navigating to the record, eMedia CS2 reads the value in the "Class" field in the main table, finds 2, and looks for this value in the "Class" table's N° field. It finds this number in the second record and displays the contents of the corresponding displayed text field, i.e., 2nd Grade.

Always further, always higher

Could we imagine even more powerful things, such as displaying images based on a field value, changing the colors of text on the card based on information stored in the database, or even creating portrait or landscape cards based on other information?

Yes, absolutely.

All these operations can be performed either by creating calculation formulas in card objects or using scripts developed in VBScript, a simple programming language based on Basic.

eMedia CS provides the formulas with the values of card objects and the values of database fields for the current record.

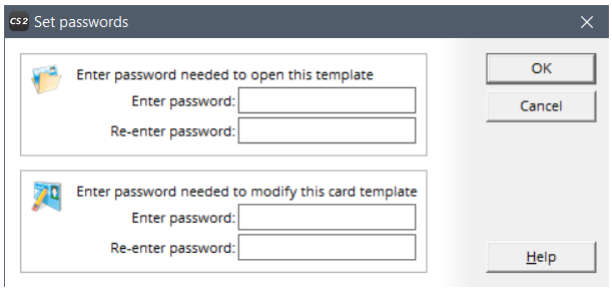
eMedia CS provides the scripting language with all the properties of all objects on the card, allowing not only the modification of the information displayed by an object, but also its position, colors, opacity and visibility, fonts, etc.

The only limit to the imagination is the designer's capabilities.

And if these capabilities seem outdated, remember that online help is available, we have examples & software development kits available upon request, and a technical support team ready to provide any additional assistance.

THE FINAL TOUCH

We can lock the card template by assigning it a password, so users cannot modify it. To do this, open the "Edit" menu and select the "Set password" command:



Two passwords can be defined, each requiring two entries to prevent typing errors:

- **Enter password needed to open this template** prevents unauthorized users from opening the template and therefore printing cards based on it.
- **Enter password needed to modify this card template** prevents unauthorized users from switching to design mode to edit the template.

3

THE OPERATING MODE

The operating mode is intended to be used for printing and/or encoding cards (magnetic stripes, smart cards, contactless smart cards) from one of the templates already created in design mode.

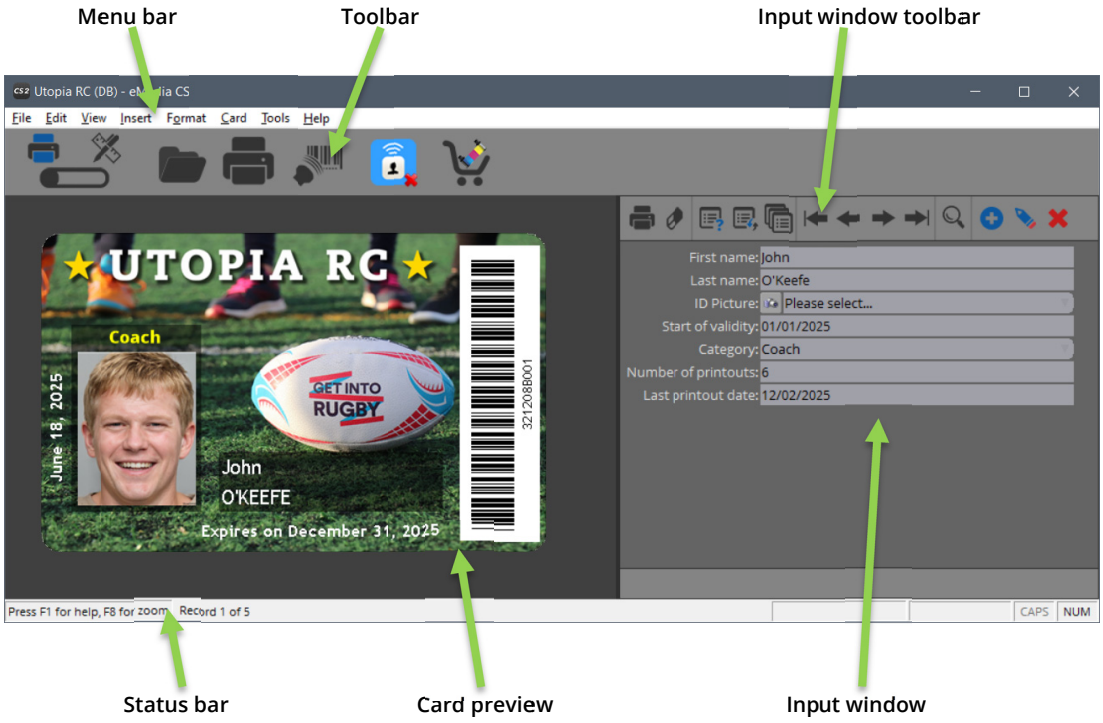
Operation mode requires no special skills (the user must only be able to use a mouse and a keyboard). In this mode, the user simply enters data from the keyboard (e.g., name, company, etc.) and clicks buttons to select the data and print the card.

STARTING EMEDIA CS2 IN OPERATING MODE

eMedia CS2 can be launched from the "Start" menu. If an icon was created on the desktop during installation, it can also be used. Finally, you can launch eMedia CS and open a map template by double-clicking on a template file with the .eccs extension.

The switch on the left of the toolbar allows you to switch between operating mode and design mode, as do the first two commands in the "View" menu.

The main software window in operating mode looks like this:

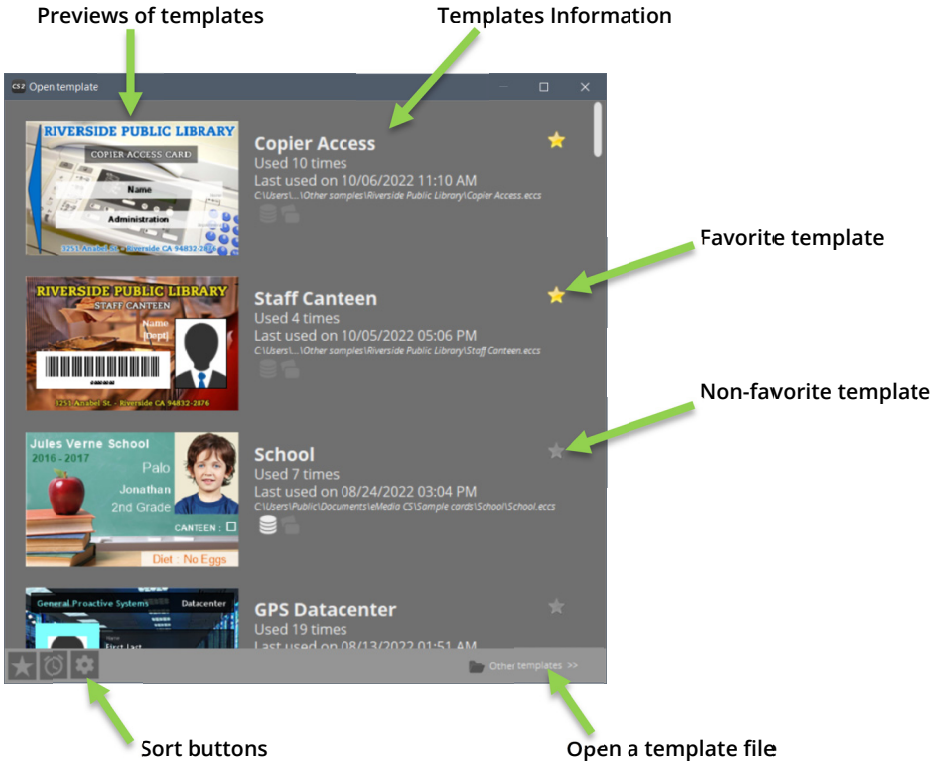


This window mainly contains the following elements:

- The **menu bar** provides access to all the software's features,
- The **toolbar** provides access to the main functions,
- The **card preview** shows at any time the card as it will be printed.
- The **Input window** allows you to enter information related to the current card and/or the current database record.
- The **Input window toolbar** allows you to move between records, create, modify, or delete the current record, or perform a search.
- The **status bar** indicates the location in the database and provides additional information.

OPENING A CARD TEMPLATE

When eMedia CS is launched without any template opened, the "Previous & favorites templates" window appears. Similarly, if you want to open another template, you can use the 3rd button (showing a folder) in the toolbar or use the "Open" command from the "File" menu. The window looks like this:



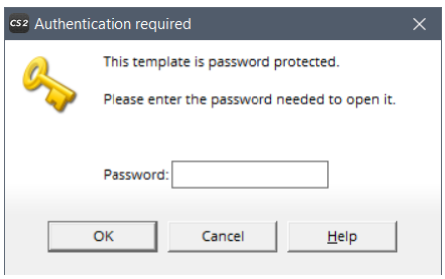
This window lists all recently opened templates. Information is displayed for each template:

- A preview of the template,
- Its title,
- The number of times it has been used,
- The date and time of last use,
- The disk path of the file,
- A marker indicating whether the template is linked to a database,
- A marker indicating whether the template is double-sided,
- A marker of favorite template. You can click this marker at any time to toggle the template's status. Favorite templates are displayed at the top of the list by default.

The three buttons at the bottom of the window allow you to change the order of the list: favorites first/last, documents by date of use ascending/descending, most/least used documents.

Finally, the button at the bottom right displays the standard open file dialog box, allowing you to select a disk, a folder, and finally the desired file within that folder.

The template designer may have locked the document with a password to restrict its use to authorized individuals.



In this case, the authentication window appears and you are intended to enter the corresponding password, which the designer has provided to you by any convenient way. Click OK once the password entered, or Cancel to refuse to open the document and open

another card template. If the password is entered correctly, the template is displayed and you can begin printing your cards.

THE INPUT WINDOW

This window allows you to enter information about the map to be printed, as well as additional information if the card is linked to a database. The window is topped with a toolbar with the following buttons:

Printing
Starts printing the card displayed on the screen.

Reset
Resets all objects to their initial value (if not connected to a database).

Refresh the database connection
Refreshes the data in memory with the current contents of the database. Use if the data has been modified by other database users.

Refresh the current record
Ask the server to resupply the current record and refresh the display. Use if another database user has modified the record.

Display the contents of the database
Opens a window containing a grid with all the records in the database. This allows you to quickly jump to a record or select one.

First record
Returns to the first record in the database and refreshes the display.

Previous record
Moves back one record in the database and refreshes the display.

Next record
Moves forward one record in the database and refreshes the display.

Last record
Advances to the last record in the database and refreshes the display.

Search records
Allows the selection of records and printing them.

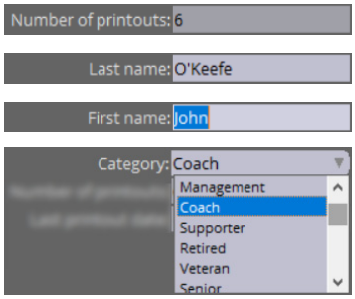
Create a new record
This button clears all fields and prepares the entry of a new record.

Edit this record
Allows you to edit the data of the currently displayed record.

Delete this record
Deletes the currently displayed record (confirmation is requested).

The print button is also present on the top toolbar.

Below the toolbar, the input window displays information in colored boxes:



Areas with a medium gray background cannot be edited.

Areas with a light gray background are editable.

The area with a very light gray background is being modified.

Some areas have a button on the right. Click this button to display a list of possible choices.

Select the desired choice and click on it. The list disappears and the selected choice is displayed in the area..

IMAGE ACQUISITION

To acquire an image, whether a photo or a signature, click on the button next to the input area:

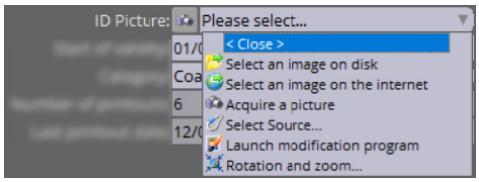
Picture acquisition.

Signature acquisition.

Your device's capture interface appears (if your device has been properly installed), and the image can be captured immediately. Once this is done, the image appears in the card object.

If the interface doesn't appear when you press the button, or if another device's interface appears, ask your system administrator to adjust the capture settings. This can be done using the "Options" command in the "Tools" menu, under the "Acquisition" and "Signature pads" categories.

You may access additional options by clicking the button to the right of the photo or signature area:



- **Select an image on disk** opens an image file located on disk,
- **Select an image on the internet** opens an image file from the internet by providing its URL,
- **Acquire picture** or **Acquire signature** work like the button indicated above,
- **Select Source** selects the acquisition source if TWain or WIA devices are present on the computer,
- **Launch modification program** sends the image currently in the object to the editing program selected in the eMedia CS options ("Tools" menu, "Options" command),
- **Rotation and Zoom** changes the image angle and magnification so that the useful part of a poorly cropped image is properly displayed in the object.

4

PRINTING THE CARD

Once the data has been entered and displayed on the screen, you can print the card. There are four options:

- The "Print" button located in the toolbar of the Input window,
- The "Print" button located in the main toolbar,
- The keyboard shortcut CTRL + P
- The "Print" command from the "File" menu.

Note that this last option allows you to benefit from additional options, as a submenu is then displayed, offering:

- **All** prints the card on both sides, performing the encodings. This is what the toolbar buttons and the CTRL + P shortcut offer.
- **Front side only** prints only the front of the card.
- **Back side only** prints only the back of the card.
- **Card only** prints both the front and back, but without performing the encodings.
- **Magnetic Stripe only** encodes only the magnetic stripe.
- **Smart Card only** encodes only the smart card.
- **Contactless Smart Card only** encodes only the contactless card.

In addition, from the "File" menu, you have access to additional commands:

- **Print setup** allows you to adjust printer settings such as the ribbon used, the presence or absence of a varnish, the use of black ribbon, etc.

- **Print Preview** displays a window showing the contents of each printed or encoded object (see Real-time magnetic stripe preview, page 34).
- **Print count** allows you to specify the number of cards to print.

Bulk Printing

To specify the number of copies to print for each card, you can use the "Number of Copies" field in the print dialog box.

Note, however, that these copies will be identical: they will have the same number if you use the "Print Counter" feature and the same serial number for contactless cards, since only the first card in the series will be read and encoded.

The "Number of Copies" command, for its part, correctly increments the print counter value and correctly reads and encodes contactless cards.

> Only use the "Copies" option in the print dialog box if you want to print a series of completely identical cards on which no encoding or reading of pre-written data is required.

Finally, note that combining the number of copies from the print dialog box with the number of copies from the "File" menu will result in printing a number of cards equal to the multiplication of the two values. 3 copies of 4 copies = 12 cards!

USING A DATABASE

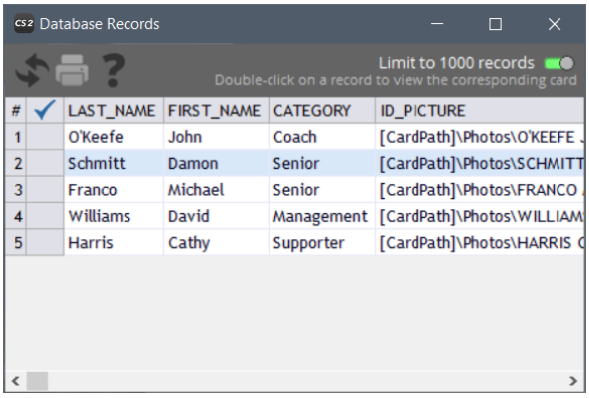
When your card data is stored in a database, the buttons in the toolbar of the Input window are enabled.

Two of these require special attention: the "Show Database Contents" and "Search Records" buttons.

Displaying the database contents

Clicking the toolbar button in the Input window shown here displays the full contents of the source table, the contents of the view, or the records selected by the source SQL query.

The following window appears:



The data is arranged in a grid, in rows and columns, with rows corresponding to records and columns to fields.

It displays up to 1,000 records to avoid excessive performance degradation. Click the slider next to "Limit to 1,000 records" to display all records.

The presence of this window does not affect the application's functionality, which remains usable even when it's present. You can move it around the screen, set it as an icon, and/or continue typing.

Double-click a record in this table to place the record pointer on the selected one. The background map updates to reflect the contents of the new current record.

The column with a check mark allows you to select/deselect one or more records. Once you've made your selection, click the printer button to print the corresponding cards. This is a quick way to batch print from disparate records.

Searching for records

Clicking the toolbar button in the data entry window shown opposite brings up a dialog box allowing you to select records:

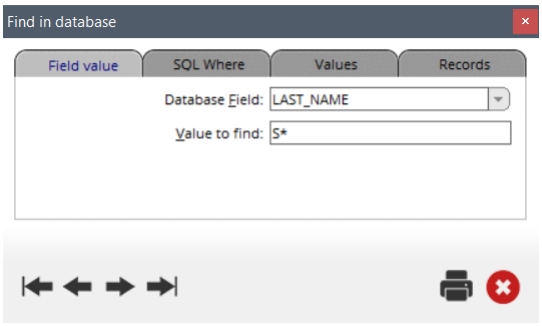
The window is topped with four tabs allowing you to perform searches in several modes. Once you have entered your criteria, click the navigation buttons at the bottom of the window to move to the first, previous, next, or last record. The button with a printer allows you to print all the selected cards.

The different search methods available are as follows:

- **Field value** selects all records for which a particular field contains a certain value.

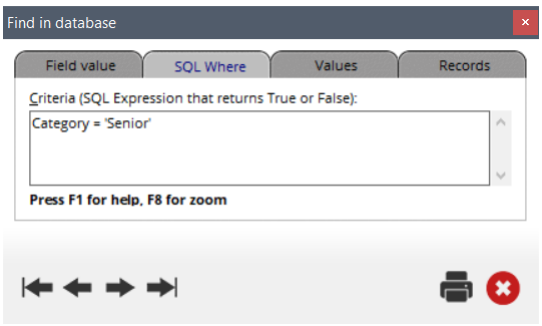
  Select the field to search, then specify the value to search for.

  This value can contain one or more asterisks, which signify "any sequence of characters."



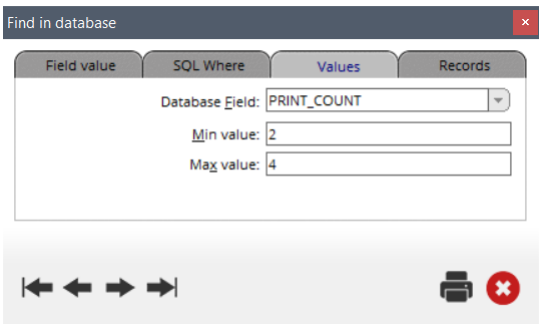
- **SQL Where** allows you to enter the selection criteria for an SQL query (i.e., what follows the WHERE statement of a SELECT).

  This is the most powerful search method, but it requires some knowledge of SQL syntax.



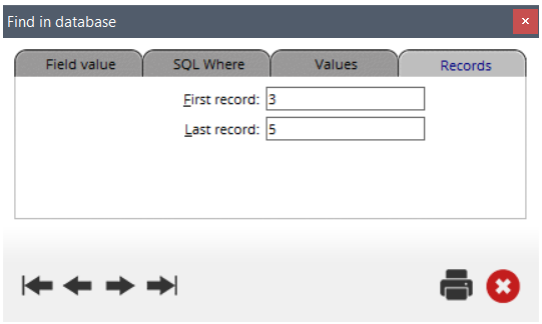
- **Values** allows you to select all records for which the contents of a field fall within a certain range of values.

  Select the field and then enter the minimum and maximum allowed values.



- **Records** allows you to select records based on their position in the recordset.

  In this example, you want to select records number 3, 4 and 5.



Regardless of the search method used, after entering the search information, you must click one of the four navigation buttons located at the bottom of the window to navigate to the first record that meets the criteria, the previous, the next, or the last one.

Only by pressing one of these buttons will the search be initiated and one of the matching records selected and displayed by the application.

If no record matches the criteria, a beep signals that nothing has been found.

Batch printing

Batch printing involves printing a set of cards that share a common criterion.

You must first use the "Display the contents of the database" window and select the ones you want to print, or use the "Search records" window and enter the criteria to select the desired records.

Once you've made your selection, click the button with the printer icon (both windows have this button) to bring up a menu, which is identical to the one displayed when you use the "Print" command in the "File" menu.

This menu allows you to tell the software what you want to print/encode for all the selected records: front only, back only, print only, encodings, etc.

Note, however, that printing in large quantities is not necessarily a good idea. While eMedia CS is able to print very large volumes with encoding, printing, multiple copies, etc., the printer has its own limitations, particularly in terms of feeder capacity, print head cooling, and so on. Several small batches are preferable to one large print.

In any case, if a problem occurs during printing, you always have the option of pressing the "Cancel" button displayed on the screen in the print dialog box. Pressing this button even slightly stops the printing process. However, wait a few seconds or tens of seconds for the machine to finish processing what it cannot interrupt, for the queue to empty, and for the last card to be ejected from the printer.

HAVING ANY TECHNICAL ISSUE?

Should you have any issue with the software or the printer, your first point of contact will be your company's IT department.

With their help, you can determine whether the issue is hardware-related or related to eMedia CS. If the problem is purely hardware-related, contact the manufacturer's customer service department. If the issue is software-related, we will be happy to help you.

Our software is not bug-free, but we do our best to avoid and resolve them when they arise.

So please feel free to contact us via our website https://www.emedia-cs.com or by email at support@emedia-cs.com.

We don't provide phone support, as email allows for greater flexibility by allowing the sending of card templates, database extracts, images, and other information. Thank you for your understanding.

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NOTES

NOTES

MEDIASOFT
DEVELOPMENT

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